



Topsfield Water Department

279 Boston Street
Topsfield, MA 01983

July 1, 2012

This packet contains specifications and Water Department permits needed for the installation of new domestic service lines and fire sprinkler mains. A summary of the process is as follows:

1. Complete the Domestic Water Connection permit and/or Fire Service Connection Permit and submit the permit(s) along with payment for the permit fee.
2. If work is being done in the Town's Right of Way, obtain a Road Opening Permit from the Board of Selectmen's Office located in Town Hall (978.887.1500).
3. If work is being done on a State road, please contact the MassDOT District 4 Office in Arlington to obtain the proper permits.
4. Obtain a Trench Permit from the Topsfield Fire Department located at 27 High Street (978.887.5148).
5. Notify the Water Department two days prior to commencing work, excluding weekends and holidays.
6. Schedule inspections of the work in a timely manner. New installations are typically inspected when the trench is open and pipe exposed. Arrangements can be made to make multiple inspections if needed.

Do I need to file a cross connection permit?

The Water Department is required by Massachusetts Department of Environmental Protection Regulations to fully implement a Cross Connection Control Program. This program includes permitting the installation of Reduced Pressure Backflow Preventers (RP) and Double Check Valve Assemblies (DCVA). This requirement effects installation of new services in the following manner:

1. Due to local fire sprinkler requirements, virtually all new fire sprinkler service connections, both domestic & commercial, require an RP or DCVA. An RP is required if chemical additives are used, typically to prevent freezing.
2. Connections serving non-residential properties must be surveyed for cross connections. There is no fee for this service. We recommend discussing the use of the property with the Water Department prior to construction since some plumbing changes may reduce or eliminate the need for any backflow devices.
3. All backflow devices must be inspected by the Water Department and tested by a MassDEP Certified Backflow Device Tester prior to occupancy of the building.

Please call the Water Department at 978.887.1517 or send us an email at water@topsfildpublicworks.org if you have any questions about our permitting requirements.



TOPSFIELD WATER DEPARTMENT

Tel: (978) 887-1517

Fax: (978) 887-1543

DOMESTIC WATER PERMIT APPLICATION

Date Applied _____ Amt. Due **\$1,000.00** Date Paid _____

TO THE BOARD OF WATER COMMISSIONERS:

I hereby apply for a supply of water to:

Street Address: _____

Lot Number: _____

Owned by: _____

To be used for the following purposes:

Agricultural: No. of Bldgs. _____

Residential: No. of Units _____

Commercial: No. of Units _____

Industrial: No. of Units _____

Other: (Please specify Type of Connection, No. of Rooms, Units, etc.): _____

The Water Commissioners require an 8 ½" x 11" plot plan and proposed installation data sheet.

Installation fees must accompany this application and be in accordance with the fee schedule set by the Board of Water Commissioners, for which I agree to pay for the same, according to the rules and regulations now in force or to be established by the Board of Water Commissioners.

Signature: _____

(Owner only)



TOPSFIELD WATER DEPARTMENT

Tel: (978) 887-1517

Fax: (978) 887-1543

FIRE SERVICE PERMIT APPLICATION

Date Applied _____ Amt. Due **\$300.00** Date Paid _____

TO THE BOARD OF WATER COMMISSIONERS:

I hereby apply for a supply of water to:

Street Address: _____

Lot Number: _____

Owned by: _____

To be used for the following purposes:

Agricultural: No. of Bldgs. _____

Residential: No. of Units _____

Commercial: No. of Units _____

Industrial: No. of Units _____

Other: (Please specify Type of Connection, No. of Rooms, Units, etc.): _____

The Water Commissioners require an 8 ½" x 11" plot plan and proposed installation data sheet.

Installation fees must accompany this application and be in accordance with the fee schedule set by the Board of Water Commissioners, for which I agree to pay for the same, according to the rules and regulations now in force or to be established by the Board of Water Commissioners.

Signature: _____

(Owner only)



TOPSFIELD WATER DEPARTMENT

CROSS CONNECTION PERMIT APPLICATION

Service Address:	For Water Department Use Only
Facility Name:	Permit Fee: \$50.00
Owners Name:	Connection Serial #:
Owner's Address:	Classification #:
Contact Person:	Drawings Reviewed By:
Phone Number:	Permit Granted On:
Installers Name:	Notes:
Number of Attachments:	
Date Submitted:	

Please attach all design drawings, device information and other required documents to this permit. The owner must receive written approval from the Water Department and obtain all necessary permits prior to installation of any devices. Once approval is received and the device installed, the owner has 14 days to have the device inspected and tested.

Description and Location of Connection:

Backflow Device Information

	Manufacturer	Model	Type	Size (in)	Testable (y/n)
1.					

Devices must be approved by the Massachusetts Department of Environmental Protection.

AG = Air Gap, RPBP = Reduced Pressure Backflow Preventer, DCVA = Double Check Valve Assembly,

Responsibilities of the Installer and Owner

1. All required permits must be filed with the local Plumbing Inspector and/or the local Fire Department before work begins.
2. The Owner, Owner's Agent and Device Installer agree to follow the requirements of 310 CMR 22.22. Copies of these regulations are available at <http://www.mass.gov/dep/water/ccdefreg.pdf>.

Signature of Owner/Designee

Cross Connection Agent

TOPSFIELD WATER DEPARTMENT

Standard Procedure for the Installation of Water Mains and Accessories

The following instructions as to methods and materials for the furnishing and the installation of water mains and accessories as part of the Topsfield Water System, and are hereby issued as a guide to and a requirement for all individuals and private contractors engaged in this type of work and shall be followed unless otherwise approved by the Superintendent.

PREAMBLE

The Property Owner shall be held responsible in insuring the following procedures and requirements are observed:

1. GENERAL

- a. No connections shall be made to existing water mains or services without the permission of the Water Department.
- b. Before proceeding with the work, the Owner shall have provided grade stakes marked for finish grade of road at intervals of 50' +/- and lot line stakes at the street line.
- c. Before proceeding with the installation of the water main and appurtenances, all drainage in said street shall be constructed in order to avoid any breakage and rupture of said water line. In all cases the water main shall not be placed closer than 3' from the barrel of a catch basin in order to prevent freezing.

2. PROTECTION

Insurance certificates shall be furnished as may be required by the Superintendent of the Water Department in order to save the Town harmless from all claims, demands, suits and actions for, or on account of any inquiries or damages occasioned by acts or neglects in doing the work.

Furnish and maintain all barricades, signs, warning lights and other safety devices to protect the public from accidents or injuries on account of operations. Wherever it is deemed necessary on heavily traveled ways to direct traffic around excavations, in the opinion of the Chief of Police, the Contractor shall, at his own expense, obtain the services of a policeman at such times as may be designated. The Contractor shall have a valid Dig-Safe number on file before commencing any excavation. The Contractor shall determine the location, size and extent of all sub-surface pipes and conduits of any nature, whether or not they are noted on the accompanying plans, and shall be solely responsible for their proper protection.

3. PERMITS AND NOTICES

- a. The Contractor shall secure a permit to excavate public ways from the Board of Selectmen before proceeding with the work.
- b. Notice shall be given the Highway Superintendent before cutting surfaces of public ways. Notice shall be given the Superintendent of the Water Department at least seven (7) days before beginning work on the project in order to arrange for inspection during the process.
- c. The Tree Warden shall be notified before tree removal proceeds on Public Ways. The responsibility for notifying Public Utility Companies servicing the area shall also be the responsibility of the Contractor.

4. MATERIALS AND EQUIPMENT

Insofar as possible, it is recommended that water construction shall include the use of standardized materials and equipment as approved by the Board of Water Commissioners as follows:

- A. Water Main shall be double cement lined, class 52 Ductile Iron Pipe.
- B. Hydrant laterals shall be 6 inch double cement lined, Class 52 Ductile Iron Pipe.
- C. Fittings including Tees, Bends, Caps, etc. shall be ductile iron, short body type, and shall be cement lined and tar coated. All fittings shall be standard mechanical joint type.
- D. Restrained Joints shall be by restraining rod or MegaLug fittings or approved equal.
- E. Hydrant Tees shall be of the anchor or restrained type.
- F. Hydrants shall be "Darling B50B", "Waterous Pacer WB-67", or "AVK" Model 27M (now standard products approved for use in the Topsfield Water System by the Board of Water Commissioners) designed for 5'-6" of bury and so marked on the ground line, and having 5" valve opening, one 4 ½" pumper connection, 2-2 ½" hose connections, with 6" mechanical joint pipe connection, counter clockwise to open (left), and without ground line flange. Hydrants shall be painted to match the Topsfield Water System. (yellow and white)
- G. Gate Valves shall be American Flow Control Model 2500 or approved equal, and of approved size for the mains and shall be Resilient Seat or Wedge type.
All gate valves shall open left. (counter-clockwise)
- H. Valve Boxes shall be Buffalo Type, cast iron, tar coated, sliding type, adjustable for 4' to 6' of cover, designed to fit 6" and 8" valves, covers shall fit flush to rims and be marked with the word "WATER", shaft diameter 5 ¼" and as made by Buffalo Pipe and Foundry Co., size 5666-S or equal.
- I. Caps shall be of cast iron and for pipe ends, installed in location as indicated, and as made by Pioneer Foundry, Clow, or equal as approved. Caps shall be installed using restraining rods, or MegaLug fittings, or approved equal.

5. CONSTRUCTION DETAILS

- A. Pipe Installation - All water mains shall be installed according to manufacture's specifications for the pipe used. Water mains shall be installed at such depths as will provide not less than 5 feet of cover from the top of the pipe to the finished grade of the street or area. All fill materials shall be free of rock. All water pipe shall be marked with traceable early warning tape installed not more than 18" below the finished grade. Water mains shall be tested at 150 psi pressure for 2 hours, shall be chlorinated, flushed, and tested clean for bacteria before the installation can be approved, or the pipe put into service.
- B. Hydrants shall be installed in locations as indicated and in accordance with the drawing for such. Prove proper concrete anchorage for valves and hydrants and surround the base of the hydrant with not less than 7 cu. Feet of crushed rock and extending same for a height of at least 6 inches above the drainage holes.

- C. Gate Valves shall be furnished and set in locations as indicated and anchored with rods in concrete, if required by the inspector, and as shown on the detail attached hereto.
- D. Chlorine Taps and Air Vents shall be furnished and installed in locations as directed by the Town, and shall be constructed as detailed and attached hereto.
- E. Water Service Lines shall be installed in strict accordance with the "Standard Procedure for the Installation of Water Service Lines", as adopted by the Board of Water Commissioners.
- F. Cutting and Patching of existing street surfaces shall be done in strict accordance with the directions of the Highway Superintendent.
- G. Topping out Trenches - All trenches off the pavement on the shoulders shall be topped out with gravel, not less than 12" in depth, well compacted and left slightly mounded for settlement.
- H. Disinfection of Mains and Services - The Contractor shall disinfect all new pipe lines and services involved in the installation as specified herein in conformity with A.W.W.A. C-601 - "Disinfect on of water mains" and as required by the Town. The locations for chlorination and sampling points shall be as determined by the Town and taps for such work shall be installed by uncovering pipe lines and backfilling of such points by the Contractor as required. Flush out all dirty or discolored water from all lines, introduce chlorine in approved dosages through the tap at one end while water is being withdrawn at the other end. The chlorine solution shall remain in the pipe line for at least 24 hours. Following chlorination, all treated water shall be flushed from the lines and replaced with water from the distribution system. Bacterial sampling and analysis of the replacement water shall be made by the Contractor, acting through a Department of Environmental Protection certified laboratory and the lines shall not be placed in service until all health requirements have been met.
- I. Clean Up - The Contractor shall confine his operations to as small an area as possible, and shall keep the area neat and free from waste materials and from excess earth. Pavements shall be kept clear of earth and rock as the work progresses and shall be swept clean in a timely manner and on completion of the work.

6. INSPECTION

Continuous inspection of the construction will be proved by the Board of Water Commissioners, the cost of such inspection services and plans shall be paid by the developer, the amount to be determined by the Board of Water, Commissioners and deposited with the Town in the form of a check before the work begins.

7. SELECTION OF CONTRACTORS

It is extremely desirable that the developer be encouraged to select a Contractor who is experienced in the installation of water mains and accessories as specified herein, and who possesses and operates the proper equipment for such work. It should be understood that rubber tired vehicles shall be used on public paved streets to prevent damage to pavements, but should tracked equipment be proved necessary, it shall have treads or tracks without cleats.

8. PROPERTY OWNERSHIP

Water main and other appurtenances installed on existing public ways, existing right of ways, or on public property will become property of the Town upon successful completion of the flushing, chlorination, pressure testing, and bacteriological testing procedures, and the main being put into service. The contractor/installer will be responsible for maintaining and repairing the water mains, services, hydrants, and other associated equipment as well as road repairs for a period of one year beginning when the main is put into service. This includes but is not limited to repairing leaks, replacement of defective equipment, and repairing trench settlement.

Property owners installing water main and other appurtenances on private property will be responsible for maintaining and repairing the water mains, services, hydrants, and other associated equipment. In cases where the property will be transferred to the Town, such as subdivisions, the property owner/developer will be responsible for the maintenance and repair of the mains and associated equipment until the Town accepts the roadway/development.

Voted and accepted by the Board of Water Commissioners, July 19, 2000

TOPSFIELD WATER DEPARTMENT

Standard Procedures for the Installation of Water Service Lines

PREAMBLE

The *Property Owner* shall be held responsible for insuring that the following procedures and requirements are observed:

- No connections shall be made to the Town's water mains, services, or hydrants without the permission of the Water Department.
- All new homes require an occupancy permit signed by various departments of the Town. No occupancy permit shall be issued without the approval of the Water Superintendent to insure that all Water Department rules and regulations have been complied with.
- All fittings for copper pipe shall be of the compression or flared type. All fittings for plastic pipe shall be of the compression type only. All valves shall open left (counter-clockwise). All fittings and valves shall be approved by the Water Superintendent prior to their installation.
- The following instructions as to methods and materials for the furnishing and installation of service lines from water mains to house connections are hereby issued as a guide to and a requirement for all individuals and private contractors engaged in this type of work and shall be followed unless otherwise approved by the Superintendent.

1. GENERAL

A) Permit for Service Connection

Before proceeding with the work, a Connection Permit shall be applied for and obtained at the office of the Water Department at the Town Hall and the required fee shall be paid.

B) Permit to Excavate in a Public Way

A Road Opening Permit shall be obtained from the Board of Selectmen to excavate in any public way in the Town for purposes of constructing a water service line. Any decision relative to the exact location for such service line shall be approved by the Superintendent of the Water Department.

C) Protections

Insurance certificates shall be furnished by the petitioner as may be required by the Board of Water Commissioners, in order to save the Town and its employees harmless from all claims, demands, suits, and actions for or on account of any injuries or damages occasioned by acts or neglects in doing work.

The petitioner shall furnish and maintain all barricades, signs, warning lights, and other safety devices to protect the public from accidents or injuries on account of operations.

Wherever it is deemed necessary on heavily traveled ways to direct traffic around excavations, in the opinion of the Chief of Police, the Owner shall, at his own expense, obtain the services of police officers at such times as may be designated.

D) Excavation and Backfilling in Public Ways

Excavation and backfilling in public ways shall be done in accordance with the “Conditions” and “Rules and Standards” sections outlined in the Road Opening Permit. The replacement of street surfaces shall be as directed by the Highway Superintendent, and shall be approved by him before leaving the site. No backfilling shall be started until the pipe installation has been approved by the Superintendent of the Water Department.

E) Notification to the Superintendent

The Superintendent of the Water Department shall be notified at least two working days before the work is to commence, Saturdays, Sundays, and Holidays excluded.

F) Final Approval of Service Installation

The water shall not be turned on until the installation has been approved by the Superintendent of the Water Department, who shall be properly notified that the work is complete and ready for inspection.

G) Special Conditions

Special Conditions encountered at the site which may be at variance with the requirements as set forth herein, shall be referred to the Superintendent who shall decide on the methods and operations to be followed. In general, water service lines will not be approved if installed on private property under paved areas such as sidewalks, driveways, or in exposed locations subject to freezing or possible disturbance.

2. MATERIAL DETAILS

A. General

A sketch of a typical water service installation is available at the Water Department Office.

B. Materials

1. Saddle Clamp: Direct pressure taps for service connections are permitted for Ductile Iron Class 52 water pipe only. Saddle clamps for Asbestos-Cement, Cast Iron, and Ductile Iron pipe shall be “Ford” #F202 double strap service saddles or approved equal. For Filament Wound Reinforced Thermosetting Resin pipe saddle clamps shall be as recommended in the manufacturers installation guide (stainless steel wrap around type).
2. Corporation Stop shall be a ball valve type and be equal to those made by “Ford”. The size shall be as directed by the Water Superintendent.
3. Curb Stop shall be “Ford” #B44-444SW or approved equal and shall be of size directed by the Superintendent.
4. Curb Box shall be extra heavy duty, sliding type with a three and one half inch inside diameter shaft, length for specified trench depths, and as manufactured by Buffalo Pipe Foundry or approved equal.
5. Couplings between the curb stop and the cellar shut-off valve are not permitted unless approved in advance by the Superintendent. Couplings shall be equal to “Ford” #C-44.
6. Sleeves shall be furnished and installed through foundation walls wherever possible, to receive piping for water service; said sleeves shall be of a size sufficient to allow the pipe to pass easily through without forcing or binding. Sleeves may be of clay pipe, plastic pipe, or other non-metallic

material. The inside and outside orifices around the water service line shall be sealed with a non-corrosive material as approved.

7. Cellar Valve shall be a ball valve and approved in advance by the Superintendent. Valves shall be equal to "Ford", lever handle cellar stop #B11-444.
8. The Water Meter will be furnished and installed by the Water Department in a location as selected by the Superintendent. No meter shall be installed in a location subject to *freezing or damage*. Cellar Valves and Meters are not to be boxed in by the Homeowner and should be accessible at all times.
9. Pipe for Water Service Line shall be Type "K" soft temper copper tubing or Class 200 Polyethylene pipe. If plastic pipe is used then it shall be marked with traceable early warning tape for its entire length and stainless steel insert stiffeners shall be used at all connections. All pipes shall be marked to show type and character. Minimum size shall be not less than one-inch nominal diameter. Details for connections larger than one inch shall be approved by the Superintendent.

3. CONSTRUCTION DETAILS

A) Depth of Cover

Depth of cover for all service water lines and connections shall be a minimum of five feet. Water service lines must be run in a separate trench at least five feet away from *storm drain lines, electric lines, telephone lines, gas lines*, and ten feet away from *septic lines*.

B) Pipe Details

The installer shall use copper service pipe to connect the corporation to the curb stop. There shall not be any couplings installed between the corporation and the curb stop. All service lines shall come off the water main and come into the curb box at a ninety-degree angle.

Either copper or plastic service pipe may be used to connect the curb stop to the house. If plastic pipe is used then it shall be bedded in clean sand, from two inches below the pipe to one foot above, and marked for the entire length by traceable warning tape buried above the service line no more than two feet below grade.

C) Backfilling of trenches

Backfilling of trenches over water service lines shall be by hand for a depth of at least one foot using clean, sharp, fine material free from large stones, frozen earth, etc. Materials used for bedding pipe shall receive the approval of the Superintendent or Inspector. Backfilling from at least one foot above the pipe to the surface shall be done in layers of not more than eight inches in depth and thoroughly compacted. No large stones or boulders greater than twelve inches in diameter shall be used in backfilling the trenches.

D) Setting the Curb Box

All curb boxes shall be set to the *finished ground level* and shall be backfilled by hand and tamped as set forth above. It is the responsibility of the Owner to insure that the top of the box easily accessible and at the surface of the ground at all times.

E) Meter Installation Details

There shall be at least three feet of undisturbed service pipe between the inside of the foundation and the cellar valve. If plastic service pipe is used then it shall be firmly secured to the foundation maintaining at least four inches clearance between the pipe and wall. The Water Department will provide meter couplings and a temporary meter spacer that will be installed by the Owner's plumber. The Water Department will install a permanent water meter and reclaim the meter spacer prior to final inspection. The Water Department will supply one $\frac{5}{8}$ " x $\frac{3}{4}$ " meter per service connection. The Water Department will determine the size and number of meters required. If additional meters or a larger meter is required, they are to be supplied at the owner's expense.

F) Long/Large Diameter Services

Services longer than one hundred fifty feet (150') or greater than 1 $\frac{1}{2}$ " in diameter may require the installation of a meter pit. The size and location of the pit shall be as directed by the Superintendent.

Voted and accepted by the Board of Water Commissioners, July 19, 2000.