

# TOWN OF BELMONT WATER DEPARTMENT



## RULES & REGULATIONS

## SYSTEM DEVELOPMENT CHARGES

In order for one new dwelling of any type to have a new water service provided, a connection fee must be paid.

### A. New Services

Each new dwelling will be assessed a service charge per meter.

<u>Meter size</u>	<u>Cost</u>
3/4 inch or under	\$1500
1 inch	\$1500
1 1/2 inch	\$1500+COST
2 inch	\$1500+COST
3 inch	\$1500+COST
4 inch	\$1500+COST

## METERS

### B. Water Rates

	Fixed Quarterly	Consumption
5/8" Meter	\$44.00	\$3.36/1000 gal.
3/4" Meter	\$44.00	\$3.36/1000 gal.
1" Meter	\$61.60	\$3.36/1000 gal.
1 1/2" Meter	\$79.20	\$3.36/1000 gal.
2" Meter	\$127.60	\$3.36/1000 gal.
3" Meter	\$484.00	\$3.36/1000 gal.
4" Meter	\$616.00	\$3.36/1000 gal.
6" Meter	\$924.00	\$3.36/1000 gal.
8" Meter	\$1,276.00	\$3.36/1000 gal.
Flat Charge	\$80.00	N/A

C. Test Meter at customer request \$45.00

### D. Water On/Off

Regular hours	\$45.00
After 4 p.m. or weekends	\$65.00

E. Water on after shut off for Non-payment \$45.00

### F. Service Charges

Regular hours	\$45.00/hr
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	After 4 p.m. or weekends	\$65.00/hr
G.	Sprinkler Systems and Hydrant Charges	
	Hydrant	\$80/Q
	Sprinklers	\$0.13/HEAD/Q
H.	Fire Flow Tests	
	Fire flow tests shall be made by appointment 3 days in advance to the water works manager.	
	Charges	\$45/HR

### **INSPECTION CHARGES**

I.	One free on all jobs	
	Second inspections and all others	\$45/HR
J.	Renewal of permit	\$75.00
K.	Design/Construction Phase Technical Review Services	COST

Note: The customer COST is defined as all costs associated with labor, materials, testing services, equipment and outside technical services.

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## **General**

The following rules and regulations shall be considered a part of the Contract with every consumer supplied with water from the Belmont Water Department; herein called the Belmont Water Department (BWD). Every person or property owner, contractor, and/or applicant involved with taking water shall be considered as having expressed their consent to be thereby bound.

All applications for the use of water must be made at the BWD, and state fully the purpose for which it is intended to be used. The water permit shall be void after 6 months if not used. For renewal of water permits, there shall be a charge as contained in the billing section of these rules and regulations.

Failure by the BWD to enforce or to have knowledge of violations in whole or part of these rules and regulations does not relieve consumer from liability or penalties for failing to abide by same.

References to Contractor in this document refers to a duly acting agent of the applicant or property owner. References to the Contractor are made for simplicity. The responsibility to comply with these regulations lies with all parties involved in construction, installation or use of the BWD. This includes the consumer, applicant, Contractor and/or property owner.

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These rules and regulations may be modified by vote of the Belmont Board of Selectmen at a duly noticed Public Meeting.

## **User Responsibility**

### General

Parties using water for domestic or manufacturing purposes may erect hydrants, standpipes or sprinkler systems to be used only as protection against fire, subject to inspection and approval by the BWD.

No cross connection shall be permitted between pipes connected to the public water supply. Backflow prevention devices or air gap separation methods must be utilized.

The BWD shall not be held responsible or liable to any person or persons for any loss or damage from interruptions, or from any excess or deficiency in the pressure, volume or supply of water due to any causes whatsoever.

The occupant of any premises, when unnecessary waste occurs, shall be notified in writing. If said waste is not prevented within two days of said notice, the water shall be shut off subject to RSA 38:31. The occupant shall be subject to all costs as determined under the billing section of these rules and regulations.

No persons shall operate any hydrant of the water works system without written permission from the BWD, except the Chief of the Fire Department, or persons acting under his stead, in case of fire or practice.

Persons requesting to have a hydrant moved shall do so in writing, and at their own expense.

The BWD shall not be held liable to any person or persons for any damage caused by contaminated water resulting from the opening or closing of gate valves, hydrants, the breaking of any pipe or fixture, heavy demand or from any other cause whatsoever.

The BWD reserves the right to restrict, limit or shut off water in all cases when it becomes necessary to do so, for repairs, violation of the regulations or whenever they deem expedient.

The property owner is responsible to guard against leaks occurring whenever a house is closed for any length of time.

No water service shall be turned on until an application has been entered at the BWD office stating that approval has been granted, a plan has been provided and all monies due, have been paid in full.

Inspection of a water service shall be made free of charge. Additional inspection of the same service shall carry a charge as contained in the billing section of these regulations. 12 hours notice is required.

All persons or firms having private fire connections for sprinklers and private hydrants on the premises or in building are forbidden to use the water for any other purpose excepting fires, except where metered.

All service lines, connected into a sprinkler water main shall be tapped outside the building, and provided with a curb box and shutoff, in order to isolate the meter and provide fire protection if the service line is shut off.

\* \* \* \* \*

## **Meters**

### General

Every water service shall be metered with a shutoff on each side of meter and backflow preventer on exit side as approved by the BWD.

All meters shall be installed by the BWD and sealed against tampering or alteration. The breaking of the seal shall constitute a violation of these regulations.

All meters shall be kept in repair by the BWD, free of charge, except when damage is done maliciously, by freezing, steam, frost or by hot water. The cost for repair shall be borne by the consumer.

The consumer or property owner shall be responsible for loss of a meter that is registered to his property.

The consumer or property owner shall avoid unnecessary waste of water, including leaving water running to prevent freezing. Customers leaving their premises for a long time are warned to close the stop cock, to reduce the risk of water escaping by accident or otherwise.

All property owners shall grant access to a representative of the BWD to all buildings, and premises supplied with water for the purpose of making repairs and inspection of pipes, stopping the waste of water and for reading, repairing or changing water meters.

Whenever feasible, the water meter shall be set at a point where the service enters the building, in full cellars or utility rooms and shall be easily accessible for inspection and removal, the location to be approved by the BWD. If in the opinion of the BWD, the meter location should be changed, the right is reserved to have it done at the expense of the consumer. All new meter locations shall be approved by the BWD.

No valves or devices of any sort shall be set on the street side of the meter, except an approved type of shut off.

The consumer shall be responsible for free access to the meter by the BWD at all times upon reasonable notice. Failure to remove any obstruction preventing access shall constitute a cause for shutting off the water within three days.

If for any cause the meter of any water consumer breaks or the indicator thereon fails to record the amount of water used for any quarter, the quantity used shall be determined by the BWD. In determining the quantity, the BWD shall make reasonable reference to the quantity used in the corresponding quarter of preceding years, until necessary repairs can be made.

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### **House Plumbing**

#### General

All apparatus and places supplied with water by the owner must be accessible at all times to allow for the BWD to examine the pipes and fixtures and ascertain the quantity and manner of water used.

All consumers taking water must keep water pipes and fixtures in good repair and protected from frost at their expense. Consumers shall be held liable for any damages resulting in failure to do so.

The BWD shall not be held liable or responsible, for any loss and or damage to any consumer's pipe system or property.

Provisions shall be made in plumbing and heating systems to prevent the return of hot water to the meter when water system pressure fails due to whatever reason. A backflow preventer after the meter is required. The water system must not be employed in any manner to provide against excessive plumbing pressures from steam, hot water or heating systems.

The customer/owner is responsible for furnishing and maintaining the backflow preventer and for the elimination of all cross-connection hazards. BWD shall determine the degree of hazard and approve the type of backflow prevention device required. Owners shall be responsible for installing and maintaining expansion tanks or other devices to prevent over pressurization of house plumbing due to thermal expansion or other causes. The owner shall allow BWD to conduct inspections of backflow prevention devices. The owner shall be responsible for periodic testing of backflow prevention devices, as determined by BWD.

If the water is shut off, a faucet should be left open until water is turned on. This will prevent damage to the piping and hot water tank.

All air conditioning systems shall require a recirculation condenser.



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## **Distribution System**

### **1. General**

No water supply main shall be connected to any public water supply main of the BWD except as specifically directed, inspected and approved by the BWD.

The approval of any private subdivision water supply system shall in no way make the BWD, their agents or the Town of Belmont responsible or liable for the operation, maintenance or satisfactory performance of the installation. Such responsibility shall rest with the applicant.

All supply mains and appurtenances for private subdivisions shall be installed strictly in conformity with the standards and specifications of the American Water Works Association and those as determined by the BWD.

Parties using water for domestic or manufacturing purposes may erect hydrants on their own grounds, or standpipes on their buildings to be used only as a protection against fire, subject to approval by the BWD. The entire cost shall be borne by the proprietor.

Whenever a subdivision's water main connects to the BWD system, said connection shall be made by sleeves and gates located within the BWD boundary lines. All installation shall adhere strictly to BWD guidelines.

On approved dead end water mains a gate valve and a gated hydrant shall be located within fifteen (15) feet of the dead end and shall be properly restrained.

Water mains at all street intersections shall have valves installed on all sides of each tee or cross, fitted with gate boxes adjusted to the finished grade.

Sectional isolating gate valves shall be installed in all lines of the water mains at five hundred (500) foot intervals

Approved fire hydrants shall be installed at intervals of not more than five hundred (500) feet by way of proposed streets. All hydrant locations must be approved by the BWD and Belmont Fire Department.

No one shall operate gate valves in water mains except the BWD. Violators shall be prosecuted according to law.

On dead end streets the full size water main shall be extended through easements to connect with existing water mains whenever possible. All easements must be approved by the BWD. If no easement is provided, hydrant and gate valve must be installed within 15' of dead end.

The BWD may designate a duly authorized agent to supervise, inspect or approve work in accordance with the BWD regulations. All expenses shall be borne by the applicant, not to exceed the cost stated in the Inspection Charges section of these regulations.

The minimum size for water new mains shall be 8" diameter (ductile Class #52) and must be installed following BWD Rules and Regulations and conform to AWWA Standards.

The BWD reserves the right to shut off service temporarily whenever it becomes necessary to make extensions, alterations, or repairs, or to curtail the use of water whenever conditions so require.

BWD reserves the right to restrict the use of water in case of shortage. Notice of interruptions in service shall be given when possible; however, in emergencies advance notice may not be necessarily given.

1. Subdivisions

There shall be no subdivision water application approved unless the following information is provided to the BWD at least three (3) weeks prior to start of work. Any disapproval will be made within seven (7) days. All water extensions must be approved by the Department of Environmental Services, Water Supply and Pollution Control Division.

Application

1. Full name and address of the property owner of all properties involved.
2. Names of proposed streets.
3. Length, type and size of pipe to be installed.
4. Number, distance between and type of hydrants to be installed.
5. Number of house lots to be serviced by the new water main.
6. Any such data as required by the BWD
7. The plan shall be a scale of forty (40) feet to the inch, showing the exact location of the water mains, valves, hydrants, services, points of junction with the public water supply system and any other information that may be required by the BWD.
8. Name and address of the contractor who shall install water mains and appurtenances.
9. Name and address of the manufacturer of all materials which shall conform to the specification section of these rules and regulations.

Wherever the subdivision main connects with the BWD system, connection shall be made by sleeves and gates located within the BWD property line.

The BWD shall decide the size of mains, hydrants and services, taking into consideration the pressure level hydraulic gradients of the distribution system.

## 2. Approval

If such approval to proceed with construction is not granted, the BWD shall inform the applicant of such and shall specify what measures if any, that must be taken to obtain approval.

Final Approval for water service shall not be granted until the BWD has inspected installation of water mains and appurtenances in an opened trench.

No construction of line extensions will be permitted from December 1 to March 30.

Upon completion of the construction of all water mains and appurtenances, prior to final approval, the applicant shall certify in writing to the BWD that the installation complies in all respects to the BWD rules and regulations.

One inspection shall be granted by the BWD free of charge. Additional inspections of the same job shall be charged according to the billing section of these rules and regulations.

The BWD shall notify the applicant in writing that the installation has been approved, and water service shall be turned on by the BWD, only if all billing charges have been paid and the work approved.

All contractors working on Town roads shall comply with the Town of Belmont's rules and regulations regarding bonding, cross trenches, police protection and all safety requirements.

## **House Services**

### General

The property owner is responsible for the house service from the curb box and shut-off to the house. The BWD is responsible from the curb box to the water main.

No one except the BWD shall tap the water main pipe for service connections. The property owner shall pay all expenses incurred for making the tap.

There shall be no water turned on to any property until a meter has been installed, along with a shut-off, and a backflow preventer on the discharge side of the meter, and the hook-up approved by the BWD. The shut-off shall be supplied by the applicant or bought from the BWD. Compliance with all the BWD rules and regulations must be made.

One inspection of a house service shall be made by the BWD. Additional inspections of the same service shall be chargeable according to the billing section of these rules and regulations.

The location of all water services must be planned to avoid the placing of service valves and boxes in driveways or sidewalks. Water will not be supplied to services located in these areas.

All expense from curb service to house building shall be borne by the owner of the property.

The sizes of service pipes shall be determined by the BWD.

In all cases water mains shall be in front of the property before service connections shall be made. If no main exists, the property owner may apply to extend the line to their property at full expense of the property owner.

Services shall be subject to all charges according to the billing section of these rules and regulations.

A system development charge shall be assessed to all new services as contained in the billing section.

No service pipe shall be installed before the building foundation has been completed or a permit obtained.

No one except the BWD representative shall turn on or off a curb stop, or main gate valve.

There shall be one supply service per one dwelling.

The owner of a new home or building erected beyond the existing water main in any town street shall apply to extend the main at full cost to the applicant, to the middle of his property before a service is supplied.

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## Valves, Hydrants and Appurtenances

### A-1 General

The contractor shall furnish and install valves, hydrants and appurtenances as indicated on the submitted drawings and as herein specified.

### A-2 Gate Valves

The gate valves shall be the products of American Flow Control Co., or approved equal.

Buried gate valves shall be non-rising stem, ductile iron-body, resilient wedge gate valves with mechanical joint pipe ends as indicated on the drawings or herein specified. Gate valves shall conform to AWWA Standard Specification for Gate Valves for Ordinary Water Works Service, Designation: C509 and C515. Valves shall be designed for a minimum working water pressure of 175 psi for sizes up to 16 inches in diameter.

Operating nuts shall be turned to the left (counter-clock wise) to open all valves. Stuffing box follower bolts shall be of steel and the nuts shall be of bronze. O-ring stuffing boxes may be used.

The design and machining of the valves shall be as such as to permit packing the valves without undue leakage while they are wide open and in service.

### A-3 Installation

All valves shall be carefully erected and supported in their respective positions free from all distortion and strain. Care shall be taken to prevent damage or injury to the valves or appurtenances during handling and installation.

All material shall be carefully inspected for defects in workmanship and materials, all debris and foreign material cleaned out of valve openings and seats, all operating mechanisms operated to check their proper functioning, and all nuts and bolts checked for tightness. Valves and other equipment which do not operate easily or are otherwise defective shall be repaired or replaced at the Contractor's expense.

### A-4 Valve Boxes

Each valve shall be provided with a box. Covers shall be closed fitting and substantially dirt-tight. The top of the cover shall be flush with the top of the box rim. An arrow and the word OPEN to indicate the direction of turning to open the valve shall be cast in the top of the cover.

Valve boxes shall be of cast iron, made in the USA for the purposes of quality and standardization, and of the adjustable threaded, heavy pattern type. They shall be so designed and constructed as to prevent the direction transmission of traffic loads to the pipe or valve. The upper or sliding section of the box shall be provided with a flange having sufficient bearing area

to prevent undue settlement. The lower section of the box shall be designed to enclose the operating nut and stuffing box of the valve and rest on the backfill. The boxes shall be adjustable through at least 6-inches vertically without reduction of lap between sections to less than 4-inches.

The inside diameter of boxes shall be at least 4 1/2-inches and the lengths shall be as necessary to suit the ground elevation (normal pipe cover 4.5 feet).

#### A-5 Setting Buried Valves

Buried valves and valve boxes shall be set plumb and centered with the valve boxes directly over the valves. Earth fill shall be carefully tamped around the valve box to a distance of 4 feet on all sides of the box or to undisturbed trench face, if less than 4 feet.

#### A-6 Tapping Sleeve and Valve

The tapping sleeve and valve shall consist of a split cast iron sleeve tee with mechanical joint ends on the main and a flange and one mechanical joint end. The valve shall, conform to the requirements hereinbefore specified for gate valves and shall be furnished with a 2-inch square operating nut. The Contractor shall be responsible for verifying the outside diameter of the pipe to be tapped.

The valve shall be provided with an oversized seat to permit the use of full size cutters. Before backfilling, all exposed portions of any bolts used to hold the two halves of the sleeve together shall be heavily coated with two coats of bituminous paint comparable to Inertol No. 66 Special Heavy. Sleeves shall be of cast iron furnished with lead gaskets equipped with embossed rubber stripping. Gaskets shall cover the entire area of flange surfaces.

Tapping Sleeves and valves shall be made by Ludlow-Rensselaer Valve Co., Inc., Troy, New York; Eddy-Iowa Division, James B. Clow & Sons, Inc., Chicago, Il., A.P. Smith Mfg. Co., East Orange N.J.; or Mueller Valve Co., Decatur, Il., or be approved equal products.

#### A-7 Hydrants

The hydrants shall conform to the requirements of AWWA Standard for Fire Hydrants for Ordinary Water Works Service, Designation: C502-85.

The hydrants shall have one 4-1/2 inch pumper and two 2-1/2 inch hose connections with a 6 inch mechanical joint connection. The hydrant shall be equipped with a 5-1/4 inch main valve and shall open right (clockwise).

For the purposes of standardization, hydrants shall be the Eddy Hydrant Model F 2640. Manufactured by the Clow Valve Company.



The hydrants shall be thoroughly cleaned and given two shop coats of paint in accordance with the above-mentioned AWWA Specification C502-85. Paint color shall be the standard hydrant color of the Town of Belmont, red

The hydrant with buried valve and the valve box shall be set plumb and centered with the valve box directly over the valve. Backfill around the hydrant and valve shall be thoroughly compacted to a distance of 4 feet on all sides of the box, or to the undisturbed trench face at least the same depth of cover as the distributing main. The hydrant shall be set upon a slab of stone or concrete not less than 4 inches thick and 15 inches square. The side of the hydrant opposite the pipe connections shall be firmly wedged against the vertical face of the trench with a concrete thrust block as indicated on the drawings. Drain holes must be plugged. Backfill around the base of the hydrant shall thoroughly be compacted to the grade line in a satisfactory manner. Hydrant and valve shall have the interiors cleaned of all foreign matter before installation, and shall be inspected in open and closed position. The bury of the hydrant shall be of sufficient length to allow the hydrant to be set at the proper elevation, as shown on the plans.

Extensions shall be furnished and installed at the Contractor's expense, when required for greater depths.

All hydrants shall be mechanically connected to the water mains using a main line tee, fitted to take a 6" inch gate mechanically connected on the side outlet and a 6" inch mechanical joint cement lined ductile iron pipe to the hydrant.

#### A-8 Corporation Stops

Corporation stops shall comply with AWWA Standard C800-84. Inlet thread shall be AWWA CC or IP, outlet shall be pack joint or quik connect.

#### A-9 Copper

Type K copper shall be required from water main to curb stop 200 psi HDPE CTS, or Type K copper (if less than 300 ft.) may be used from the curb stop to the structure. Minimum size shall be ¾".

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## **Cement-Lined Ductile-Iron Pipe and Fittings**

### **B-1 General**

The Contractor shall furnish, handle, haul, lay, joint, test and disinfect all cement-lined ductile iron or approved equal pipe, including fitting and appurtenant work.

Whenever a thickness classification (e.g. Class 2) is indicated or specified, it shall mean that thickness for laying condition B under 5 feet of cover as defined by the applicable standard specification for the type of pipe to which it pertains.

The pipe shall be installed with a minimum of 5 feet 6 inches of cover. Where the pipe is installed at less than 5 feet 6 inches of cover, the Contractor shall furnish and install insulation as directed by the BWD. The Contractor must have permission from the BWD to install any pipe with less than 5 feet 6 inches of cover, prior to installation.

The Contractor shall use ductile-iron for pipe and fittings. Cast-iron, fittings may not be substituted for ductile-iron mechanical joint fittings.

For buried ductile-iron pipelines, the Contractor shall use push-on-joint type pipe. All fittings for push-on-joint pipe shall have all bell mechanical joint ends. The pipe and fittings shall be cement lined and coated. The actual size of pipe shall be determined by the BWD and shall be no less than 7.85 inches.

The pipe shall be furnished with the necessary rubber gaskets. Gaskets shall be of a composition suitable for exposure to the liquid within the pipe.

In all cases, water mains shall be installed 12 feet from the property line on proposed streets.

Two bronze wedges per joint shall be installed, as shall copper jumpers on couplings to provide electrical continuity through the line.

### **B-2 Standard Specifications**

All pipe fittings and accessories shall conform to the requirements of the AWWA.

### **B-3 Pipe Joints**

Where so indicated, pipe and fittings shall be furnished with approved lugs or hooks cast integrally for use with bolts or bridle rods and socket clamps to keep the piping from pulling apart under pressure.

- a. Flange joints shall conform to AWWA C110 except that special drilling or tapping shall be as necessary to ensure correct alignment and bolting.

Flanged pipe shall use long-hub flanges which shall be screwed on tight at the foundry by machines before they are faced and drilled.

- b. Mechanical joints and accessories shall conform to AWWA C111.
- c. Push-on joints shall conform to AWWA C111.

#### B-4 Fittings

Fittings shall be ductile iron and conform to the requirements of AWWA C110 and shall be of a pressure classification at least equal to that of the pipe with which they are used.

Unless otherwise indicated, fittings shall have all-bell mechanical joint ends.

Flanged fittings shall be faced and drilled in accordance with AWWA C110 except that special drilling or tapping shall be provided as necessary to ensure correct alignment and bolting.

#### B-5 Pipe For Use with Couplings

Pipe for use with sleeve-type couplings shall be as specified above except that the ends shall be plain (without bells or beads).

#### B-6 Sleeve-Type Couplings

To ensure correct fitting of pipe and couplings, all sleeve-type couplings and accessories shall be furnished by the supplier of the pipe and shall be of a pressure rating at least equal to that of the pipeline in which they are to be installed. Sleeve-type couplings shall be made by Hymax Co., Dresser Style 262 or approved equal products.

Couplings for buried pipe shall be of ductile iron and shall be Dresser Style 262, or approved equal products. The couplings shall be provided with stainless steel bolts and nuts.

All couplings shall be provided with gaskets of a composition suitable for exposure to the liquid within the pipe.

The gaskets shall have metallic tips to provide electrical continuity through the joint.

#### B-7 Lining and Coating

All pipe and fittings shall be lined and coated as specified below

The inside of pipe and fittings shall be given a cement lining and bituminous seal coat on the exterior of the pipe in accordance with AWWA C140.

The outside of pipe and fittings shall be coated with the standard bituminous coating specified under the appropriate AWWA for the pipe and fittings.

Machined surfaces shall be cleaned and coated with a suitable rust-preventative coating at the shop immediately after being machined.

The thickness of lining shall be double that specified in, the above referenced specification.

#### B-8 Inspection and Testing

All pipe and fittings shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured. The Contractor shall furnish in duplicate to the BWD sworn certificates of such tests.

In addition, the BWD reserves the right to have any or all pipe, fittings, and special castings inspected and/or tested by an independent service at either the manufacturer's plant or elsewhere. Such inspection and/or tests shall be at the BWD expense.

Pipes and fittings shall be subjected to a careful inspection and a hammer test just before being laid or installed.

#### B-9 Handling and Cutting Pipe

Any fitting showing a crack and any fitting or pipe which has received a severe blow that may have caused an incipient fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work area.

In any pipe showing distinct cracks and in which it is believed there is no incipient fracture beyond the limits of the visible crack, the cracked portions, if so approved, may be cut off by and at the expense of the Contractor before the pipe is laid so that the pipe used may be perfectly sound. The cut shall be made in the sound barrel at a point at least 12 inches from the visible limits of the crack.

Except as otherwise approved, all cutting shall be done with a machine suitable for cutting ductile iron pipe.

Hydraulic squeeze cutters are not acceptable for cutting ductile iron pipe. Travel type cutters and guillotine or rotary type abrasive saws may be used. All cut ends shall be examined for possible cracks by cutting.

The Contractor's attention is directed to the fact that damage to the lining of pipe or fittings will render them unfit for use; he shall use the utmost care in handling and installing lined and coated pipe and fittings to prevent damage. Protective guards shall not be removed until the pipe is to be installed.

Lined and coated pipe and fittings shall be installed as, and assembled with approved packing or gaskets of the type, recommended by the pipe manufacturer for the particular lining used.

#### B-10 Installing Pipe and Fittings

No defective pipe or fittings shall be laid or placed in the trench, and any piece discovered to be defective after having been laid or placed shall be removed and replaced by a sound and satisfactory piece at the expense of the contractor.

Each pipe and fitting shall be cleared of all debris, dirt, etc., before being laid and shall be kept clean until accepted in the complete work.

Pipe and fittings shall be laid accurately to the lines and grades indicated on the drawings or required. Care shall be taken to ensure a good alignment both horizontally and vertically.

In buried-pipelines, each pipe shall have a firm bearing along its entire length.

The deflection of alignment at a joint shall not exceed the appropriate permissible deflection as specified in the pipe manufacturer's specifications.

Castings to be encased in masonry shall be accurately set with the bolt holes, if any, carefully aligned.

Immediately prior to being set, castings shall be thoroughly, cleaned of all rust, scale and other foreign material.

#### B-11 Assembling-Push-on Joint Pipe

Joining of push-on joint pipe shall conform to the American Water Works Association AWWA Standard Specifications, Designation C600-64, Section 9C.

Two bronze wedges shall be inserted at each joint for purpose of providing electrical continuity through the joints the wedges shall be located on opposite sides of the joint.

If effective sealing of the joint is not attained, the joint shall be disassembled thoroughly cleaned, a new gasket inserted and joint re-assembled.

#### B-12 Assembling Mechanical Joint Fittings

Assembling of fittings with mechanical joint ends shall conform to AWWA Standard Specification: C600-64, Section 9B.

#### B-13 Temporary Plugs

At all times when pipe laying is not actually in progress, the open ends of pipe shall be closed by temporary water-tight plugs or other approved means. If water is in the trench when work is resumed, the plug shall not be removed until all danger of water entering the pipe has passed.

#### B-14 Bolted Joints

Materials for bolted joints shall be as hereinbefore specified.

Before the pieces are assembled, rust-preventative coatings shall be removed from machined surfaces. Pipe ends, sockets, sleeves, housing, and gaskets shall be thoroughly cleaned and all burrs and other defects shall be carefully smoothed.

If effective sealing of the joint is not attained at the maximum torque recommended by the manufacturer, the joint shall not be overstressed to tighten a leaking joint.

#### B-15 Pressure and Leakage Tests

Except as otherwise directed, all pipelines shall be given combined pressure and leakage tests in sections of approved length. The Contractor shall furnish and install suitable temporary testing plugs or caps; all necessary pressure pumps, pipe connections, meters, gates and other necessary equipment; and all other labor required.

Subject to approval and provided that the tests are made within a reasonable time considering the progress of the project as a whole, and the need to put the section into service, the Contractor may make the tests when he desires.

Pipelines in excavation or embedded in concrete shall be tested prior to the backfilling of the excavation or placing of the concrete and exposed piping shall be tested prior to field painting.

Unless it has already been done, the section of pipe to be tested shall be filled with water of approved quality, and all air shall be expelled from the pipe. If hydrants or blow offs are not available at high points for releasing air, the Contractor shall make the necessary excavations and do the necessary backfilling and make the necessary taps at such points and shall plug said holes after completion of the test.

The section under test shall be maintained full of water for a period of 24 hours prior to the combined pressure and leakage test being applied.

The pressure and leakage test shall consist of first raising the water pressure (based on the elevation of the lowest point of the section under test and corrected to the gauge location) to a pressure of 200 pounds per square inch. If the Contractor cannot achieve the specified pressure and maintain it for a period of one hour, the section shall be considered as having failed to pass the pressure test.

Following or during the pressure test, the Contractor shall make a two hour leakage test by metering the flow of water into the pipe while maintaining in the section being tested a pressure of 150 pounds per square inch. If the average leakage is less than one half that allowed under Section 13-7 of AWWA Standard for installation of that specific pipe, the section shall be considered as having failed the leakage test.

If the section fails to pass the pressure and leakage tests, the Contractor shall do everything necessary to locate, uncover, and repair or replace the defective pipe, fitting or joint, all at his own expense and without extension or time for completion of the work. Additional tests and repairs shall be made until the section passes the specified test.

#### B-16 Disinfecting and Flushing

The Contractor shall disinfect the lines carrying potable water.

The Contractor shall furnish all equipment and materials necessary to do the work of disinfecting, and shall perform the work in accordance with the procedure outlined in the AWWA Standard for Disinfecting Water Mains, Designation: C601-68 as approved by the BWD representative. The Contractor shall be responsible for the expenses of sampling and analysis. A copy of bacteria test results shall be provided to BWD from a certified laboratory.

The dosage shall be as such to produce not less than 10mg/L after a contact time of not less than 24 hours.

After treatment, the main shall be flushed with clean water until the residual chlorine does not exceed 0.2 mg/L.

During the disinfection period, care shall be exercised to, prevent contamination of water in existing mains.

The Contractor shall dispose of the water used in disinfecting and flushing in an approved manner.

#### B-17 Failure of System,

The Contractor will be required to make test excavations to ascertain that the proposed position of the connections will be clear of joints, fittings, or other obstructions.

If any failure occurs in connecting to existing mains, service shall be restored in the shortest possible time, the Contractor working around the clock, if necessary. He shall cooperate with the BWD in notifying the consumers or supplying emergency water. If required by the BWD, the Contractor shall make connections to water mains during the night hours, on Sunday or at another off-peak time for the demand for water. The contractor shall be responsible for maintaining all existing services and repairing any damages to existing utilities.



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## C-1 Backfilling Pipe Trenches

As soon as practical, after pipes have been laid and inspected by BWD, backfilling shall be started. The Contractor's attention is directed to backfilling trenches at pipe joints. At his own risk the Contractor may backfill the entire trench including backfill joints. He shall, however, be responsible for removing and replacing such backfill, at his own expense, in order to locate, repair or replace leaking or defective joints or pipes.

Tree stumps or roots will be considered unsuitable material for backfilling of trenches. No stone, rock, frozen material, or pieces of bituminous pavement larger than 6 inches in greatest dimension shall be placed in the backfill nor shall large masses of backfill be dropped into the trench in such a manner as to endanger the pipeline.

Should a sufficient quantity of excavated material be classified by the owner as unsuitable for backfilling such that backfilling of the trench cannot be completed with the excavated material, the Contractor shall supply gravel, and sand to complete the backfilling.

Pipe must be laid on a minimum 6" bedding of sand and surrounded with a minimum 12" layer compacted sand or comparable select material approved by the BWD.

This area of backfill is considered the zone around the pipe and shall be thoroughly compacted before the remainder of the trench is backfilled. Compaction of the zone around pipe shall be done by use of power-driven tampers weighing at least 20 pounds. Care shall be taken that material close to the bank, as well as in all other portions of the trench, is thoroughly compacted to a density of 95 percent.

The remainder of the trench above the zone around the pipe shall be backfilled and compacted. Compaction of backfill in the remainder of the trench shall be done in layers not exceeding 12 inches in depth and by use of power driven tampers weighing at least 20 pounds. Water jetting and puddling shall be used only when approved by the BWD.

## C-2 Restoring Trench Surface

Where the trench occurs adjacent to paved streets in shoulders, sidewalks, or in cross-country areas, the Contractor shall thoroughly consolidate the backfill and shall maintain the surface as the work progresses. If settlement takes place he shall immediately deposit additional fill to restore the level of the ground. Adjacent to streets and highways the top 12 inch layer of trench backfill shall consist of 1 1/2" compacted crushed gravel. If in the opinion of the BWD the top 12 inch layer is unsuitable for use as sub-grade or shoulder material, the contractor may be ordered to remove this layer and to provide gravel sub-base. Surfacing will be in kind or 2" compacted binder (3/4) and 1" compacted 3/8 wearing course. The Contractor shall maintain repair to the trench for one year from the date of surfacing or backfilling.

## **BILLING**

- A. Address/Ownership Notification: Consumers shall be responsible for furnishing the BWD with a correct address and ownership information. All changes in billing addresses or ownership information shall be in writing. Failure to receive bills due to the consumer's failure to provide correct information shall not constitute a reason for extension of time for payment.
- B. Meters will be read before the end of each quarter. Quarterly periods end on August 31, November 30, February 28, and May 31.
- C. Water bills will be sent out the first of the month following the end of each quarter.
- D. All bills are due and payable within 30 days from the date of the billing.
- E. Bills not paid within the thirty days will be considered overdue and an initial collection letter may be issued.
- F. If the outstanding amount remains unpaid after 30 days, the BWD may discontinue service until the account is brought up to date, provided however that if any part of the water service accrues to the benefit of one or more parties known by the BWD to be residential tenants, service shall not be disconnected unless the BWD gives written notice to the tenants pursuant to RSA 38:31.

Amended this 16<sup>th</sup> day of June, 2008 by the Belmont Board of Selectmen.

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Ronald Cormier, Chairman

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Reginald Caldwell, Vice-Chairman

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Jon Pike, Selectman