Town of Canadice

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Springwater, NY 14560

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WATER SERVICE CONNECTION SPECIFICATIONS

REVISED JUNE 28, 2019

REVISIONS MADE SINCE THE JULY 27, 2018 VERSION ARE HIGHLIGHTED AND UNDERLINED

Since the City of Rochester Water Bureau will be operating the system we have generally been following their construction standards for the project. This extends to the individual service connections by property owners to the water mains.

Dig Safely!

Prior to excavating contact Dig Safely NY to mark locations of public utilities, especially sewer mains, sewer services and electric services. www.digsafelynewyork.com

Also, locate and mark private utilities (power lines to outbuildings, propane lines/tanks, phone/CATV lines, stormwater drainage lines, etc.).

Service Connection Pipe

Service tubing shall be high density polyethylene (HDPE), copper tube size (CTS), SDR 9 (Standard Dimension Ratio), PE 4710 - pressure class 250 psi blue outer layer or blued striped, in conformance with the requirements of ANSI/AWWA C901 and ASTM D2737 Standard Specification for Polyethylene (PE) Plastic Tubing, in sizes 1 inch, 1-1/2 inch and 2 inches.

HDPE water service tubing shall bear permanent identification markings that will remain legible during normal handling, storage, installation and service life and that will not reduce strength or otherwise damage tubing. Markings shall be applied at intervals not more than 5 feet and shall include: nominal size, standard material designation (PE 4710), pressure class (DR9 and 250 psi), AWWA designation number (C901 for PE), manufacturer's name or trademark and production record code, seal or mark of testing agency that certified suitability of tubing material for potable water products. Include PE compound oxidative resistance classification per ASTM D3350 (i.e., CC2 or CC3).

Joint couplings for HDPE shall be Quick Joint compression type with solid stainless steel internal stiffeners inside ends of the HDPE tubing.

Pipe Diameters

All diameters indicated below are minimum PEDR9 copper tubing size (CTS) equivalents.

All services from the main to the curb stop, installed by the project contractor, will be 1 inch diameter and all meters (supplied by the town) will be 5/8" x 3/4" with the following exceptions:

The following properties will have 1.25 inch services installed by the project contractor between the main and the curb stop; street address numbers 5452 CR36, 5468 CR36, 5480 CR36, 5489 Graywood Ln., 5498 CR36 & 5526 CR36. Meter size will be 5/8" x 3/4".

Parcel tax ID #174.07-1-34.110, Six-In-Cove, Inc. will have a 1.25 inch service installed by the project contractor between the main and the curb stop to serve 5999, 6001, 6003, 6005, 6007 & 6009 Pine Haven Lane. Meter size will be 1".

Parcel tax ID #164.11-1-37.111, Honeoye Valley Properties, Inc. will have a 2 inch service installed by the project contractor between the main and the curb stop to serve the Honeoye Valley Mobile Home Park. Meter size will be 2".

Parcel tax ID #164.19-1-21.100, 5844 Sleepy Hollow, LLC will have a 1.25 inch service installed by the project contractor between the main and the curb stop.

All services from the curb stop, through the meter pit (if required or used) and into the dwelling will be 1 inch diameter minimum. Service points on the west side of County Road 36 (Honeoye West Lake Road) may want to consider larger diameter services from the curb stop to the dwelling due to the lower system operating pressure that is encountered as the service point elevation increases. This should be discussed with the project's Resident Engineer, Tom Guerin, cell 585-729-9075, office 585-454-6110, TGuerin@LaBellaPC.com .

Installation

Minimum cover over water service tubing and fittings, as measured between finished grade and top of exterior limit of water service tubing and fittings, is to be 4 feet 6 inches.

Property owners have the option to install water service tubing by means of open trenching or "trenchless" tunneling, or a combination. It is also acceptable to "thread" or "sleeve" the new service tubing through an existing plastic service pipe or through a newly installed larger diameter plastic pipe, either part way (through a foundation wall) or entirely, provided that the pipe is of a large enough diameter to accommodate the new HDPE service tubing and tracer wire. If there is a disused power line that runs with the old service (that was used for powering the old water supply system's pump) it may be repurposed as a tracer wire.

Water service tubing shall be installed in a single piece without joints between the curb stop, meter pit (if used) and the dwelling. Water service tubing may be curved around obstructions in the trench. Water service tubing shall be laid at a right angle to the water main and in a straight path from the curb stop. There shall be no kinks, joints, gouges or crimps in the water service tubing. Avoid any unnecessary flexing and bending of the water service tubing. Bending radius shall not be less than 30 times pipe diameter. Tubing should be laid with moderate slack or snaking to accommodate any contraction. Tubing should be allowed to cool in trench before cutting to required length between fittings to reduce stress from thermal contraction. Distance between bends and fittings in HDPE tubing should not be less than 10 pipe diameters to minimize bending stresses at connection points.

Water service tubing shall be connected using approved and appropriate gaskets, joint and connection materials, or fittings required to make the connections. Water service connections and appurtenances shall be made watertight. Internal stiffener shall be required at ends of

HDPE tubing and stiffener shall not extend beyond end of connection fitting. Prior to connecting new water service to existing service in the property owner's dwelling, new service line shall be flushed with clean water assuring that all debris is removed from the line.

Warning tape must be installed 12 inches above the pipe with all open-cut trenched water services.

Upon completion of the work and testing of the water service, a layer of sand 12" thick will be used to cover the service pipe (6" below the pipe and 6" over the pipe), the excavation shall be backfilled and the disturbed surface area restored. Backfilling of the trench shall be done in a manner so as to avoid damage to the water service. The property owner is responsible for removal of all left over debris and excess soil (spoil, rocks, etc.). The project contractor or town will not remove or otherwise dispose of this material.

In lieu of sand, a "conduit" or "sleeve" of larger diameter pipe may be used to protect the service pipe and tracer wire.

"Trenchless" Installation

At locations where non-open trench installation is performed, the property owner's contractor shall open cut and excavate both boring and receiving pits. Pit excavations shall be kept as small as practical, but large enough so as not to jeopardize safe tunneling operations. Excavations and tunneling operation shall be to a depth to ensure that the water service tubing will be installed at required minimum depth. Contractor has the option of tunneling-in the water service tubing by either boring, drilling or missiling. "Washing-in" of water service tubing is not allowed under any circumstances.

Contractor shall open cut and excavate a sight pit at any location where an existing underground utility line is in the direct path of the tunneling operation. Sight pit shall be large enough and deep enough to be able to ensure that no damage occurs to the existing underground utility line during the tunneling operation.

Tracer Wire

Tracer wire, insulated #12 gauge minimum, shall be installed with the water service tubing and secured to the top of the tubing using nylon cable zip ties at intervals not to exceed 8 feet. Tracer wire shall be installed in such a manner as to enable its detection with electronic locating equipment.

Tracer wire shall run from the curb stop, meter pit (if used), extended continuously along the water service tubing up to and inside the dwelling. Leave enough extra tracer wire to extend a distance of 4 feet beyond the entrance to the dwelling. The extra tracer wire shall be coiled and stored at the dwelling.

Meters

One meter per property tax ID is supplied at no extra charge by the town. Additional curb stops, meters and billing accounts for a single property tax ID are available for an extra charge. Meters will be supplied to the property owner at the completion of testing, inspection and flushing.

Meter Pits

Property owners may use meter pits at their discretion. Meter pits are required if the structure where service is to be provided is:

A. Greater than 200 feet from the curb stop; or

B. Not on a basement that is at least five feet high; or

C. Subject to freezing temperatures (structure is on pilings, slab, crawl space or basement less than five feet high).

The water meter pit shall be installed on private property, as close as possible to the curb stop, typically within 5 feet of the curb stop.

Water meter pits are to be installed in lawn areas that are not subject to vehicular traffic. If this is not possible then a more robust pit is required, as noted below.

Meter pits that are installed on water services used exclusively to supply yard hydrants shall have an angle cartridge dual check valve installed on the outlet side of the meter instead of an angle ball valve.

Refer to the meter pit illustrations located toward the end of this document.

The meter pit setter shall be pre-fabricated and shall be designed for cold weather climates. Pit setter shall include PVC tile, Type K copper tube risers, inlet and outlet angle ball valves with padlock wings and meter swivel nuts and an interior support bracket. The risers and valves shall be located at least 2 inches from the tile wall. The risers shall be constructed such that the meter will be centered within the tile. For meter pits 1 inch and smaller, the centerline of the water meter will be approximately 14 inches below the top lid of the cover. For 1½ inch and 2 inch meter pits, the centerline of the water meter will be approximately 20 inches below the top lid of the cover.

Solid concrete blocks shall be used as a base to support the tile. The tile shall be installed on the solid concrete blocks such that the walls are vertical and the top lid flush with finished grade. Concrete blocks shall be solid 16 inches long by 8 inches wide by 4 inches deep in conformance with the requirements of ASTM C145. Place solid concrete blocks around the perimeter of the tile on a level 6 inch layer of compacted sand.

PVC tile shall not be used for meter pits that must be located in sidewalks, driveways and paved areas. Specially designed tiles that will accommodate AASHTO HS20 loading will be required in these areas.

Minimum inside diameter of the tile shall be 18 inches for 5/8 inch and 5/8 inch x ¾ inch water meters, 20 inches for ¾ inch and 1 inch water meters and 36 inches for 1½ inch and 2 inch meters.

Cover shall be cast iron frame and top lid with inner frost lid. Top lid shall have locking mechanism that utilizes pentagon bolt, cast iron “worm” type lock and a plugged hole for electronic meter read module. The words “WATER METER” shall be cast into the top lid. For meters 1 inch and smaller, top lid shall be 11½ inch minimum diameter and inner lid shall be plastic. For 1½ inch and 2 inch meters, top lid shall be 20 inch minimum diameter and inner lid shall be steel.

Specially designed covers that will accommodate AASHTO HS20 loading will be required in sidewalks, driveways and paved areas and shall be approved by the Project Manager.

Prior to backfilling, installation shall be pressure tested under line pressure with all joints exposed in the presence of the inspector. Installation shall be made watertight. Tracer wire function will also be verified prior to backfilling.

Before backfilling, brace water meter pit setter to insure that it remains in a vertical position centered on the water meter during and after backfilling. Backfilling of the trench shall be done in a manner so as to avoid damage to water meter pit setter and all appurtenances.

Install top of water meter pit cover flush with the finished grade.

Check Valves

Check valves are required for all installations, located just inside the dwelling's water service entry point (basement, crawlspace, at slab, etc.) downstream of the dwelling's quarter turn shutoff valve and meter (if meter is not located in a meter pit).

Pressure Reducers

The operating pressure of the system will in most cases be greater than the pressure provided by existing private water systems. Along the lake front it will be on the order of 100 psi. Older plumbing may not withstand the higher pressure. Pressure reducers shall be required for all service points. This requirement may be waived for service points on the west side of CR36 should the reducer interfere with providing at least 60 psi within the dwelling.

Pressure reducing valves shall conform to ASSE 1003 and be installed with a strainer. Property owners should assess the condition of their plumbing in setting the pressure level. Typically, this would not be higher than the high pressure cut-off setting on the dwelling's previous pump & pressure tank system.

Pressure reducers are installed just inside the dwelling's water service entry point (basement, crawlspace, at slab, etc.) downstream of the dwelling's quarter turn shutoff valve, meter (if meter not located in a meter pit) and check valve.

Testing/Inspection & Flushing

NOTE: Only the Town or their agent is authorized to operate the curb stop valve. Property owners or their agents (plumbers, contractors, etc.) are NOT authorized to operate the curb stop valve.

Prior to backfilling the trench, water service work, including but not limited to connections, joints and unions, shall be tested for leaks under line pressure in the presence of the Town's Inspector. Tracer wire function will also be verified prior to backfilling. Any defective work shall be repaired and retested until installation is accepted.

After installation of the new water service the property owner's Private Contractor shall flush the new service line. The water service may not be flushed through the water meter. This will require the temporary installation of a splice pipe in place of the meter at service points that do not use a meter pit. Each service shall be flushed for a period of at least 10 minutes prior to installation of the water meter inside the dwelling (for service points that do not use a meter pit).

Flushing water shall travel from the charged water main through the new water service and the existing inside water service, through a portion of the internal plumbing and flushed out through an outside hose bib or laundry tub on the inside of the dwelling. The water service curb stop must be left in the full open position for the duration of the flush. Precautions must be taken to

ensure the flushing water is directed to the street and directed away from the building and lawn areas.

Following the flush, for service points that do not have meter pits, the splice piece shall be removed and the meter installed. The same service flushing procedure will apply in cases where the meter is located in a meter pit.

The inspection will also verify that the existing water supply has been disconnected and completely removed from the dwelling, or is isolated from the new public water supply, per NY State Department of Health regulations (refer to the section on Existing Water Supply).

Existing Water Supply

Property owners who connect to the new system are able to keep their pre-existing water supply **BUT** it is ***strongly discouraged*** that it remain active *within* the same structure where water from the public system is also available. Per the New York State Department of Health it ***must*** be totally isolated from the potable water piping within the structure that is connected to the new public water supply. *There must not be any opportunity for cross contamination between the public water supply and a user's pre-existing private water supply.*

If a property owner wishes to maintain access to their existing private source for outdoor uses then it is suggested that the pump and pressure tank are sheltered *outside* the dwelling, in a totally separated shed, garage or similar location.

Property owners who wish to maintain their existing source of water *within* the same structure where public water is supplied are required to install a specific type of backflow preventer, known as a "reduced pressure zone device" (RPZ), where the public water system enters the structure even though the two piping systems must not be cross connected.

Prior to installation, plans must be submitted to NYSDOH for approval. Plans must be signed and sealed by a professional engineer licensed by the state of New York. A certified tester is required to test the device annually. The District may also periodically perform a fee based inspection of the installation.

Activating Service

Property owners will be notified when they can actually install their services and connect to the water mains. This will not be possible until the bulk of construction is complete, the system has been pressure tested and sanitized.

Financial Assistance

Financial assistance *may* be available from these sources to help property owners cover out-of-pocket expenses for their service connections:

USDA-Rural Development
3037 County Road 10
Canandaigua, NY 14424
Cynthia Newcomb; 585-394-0525 x5589
Eligibility guidelines and other information are available on-line at www.rd.usda.gov/programs-services. Click the link for single family direct loans. Very low income seniors may qualify for some grant assistance.

PathStone
400 East Avenue
Rochester, NY 14607
1-800-888-6770
saveenergy@pathstone.org

Bishop Sheen Ecumenical Housing Foundation
200 Bloomfield Industrial Park
PO Box 460
Bloomfield, NY 14469
585-657-4114
Email: sheen2@rochester.rr.com
Bishop Sheen EHF asks homeowners to submit a home repair survey to be placed on the waiting list. The survey form is available on line at www.sheenhousing.org. Click the link for Forms, then Home Repair Assistance. (Note: Grants may be available for only a portion of the cost of the work and the applicant will be expected to provide the difference.

Additional Information

Additional project information is available from these sources:

Construction specific: Project Resident Engineer, Tom Guerin, cell 585-729-9075, office 585-454-6110, TGuerin@LaBellaPC.com

http://www.canadice.org/

http://www.canadice.org/water-district-project-home-page.html

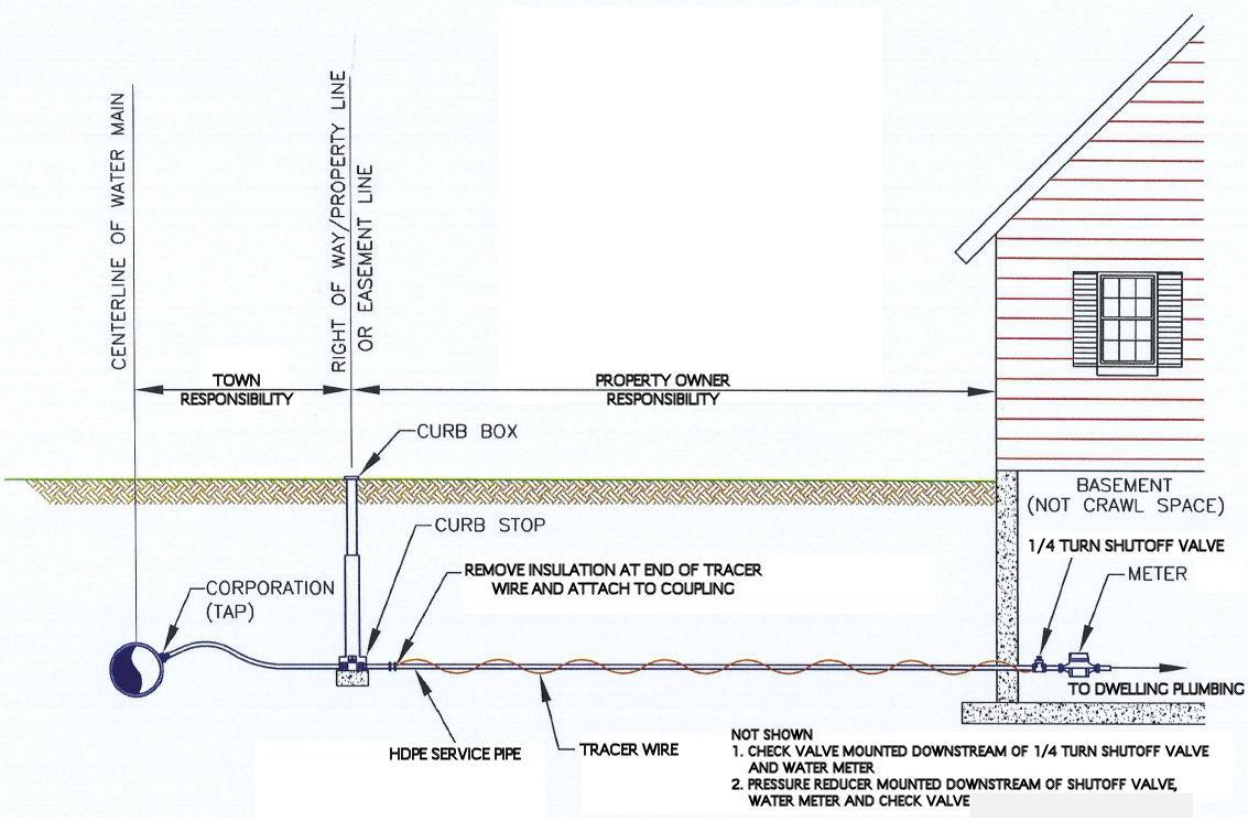
At the Canadice Town Hall (to review paper copies of project drawings and documents)

Town Councilman, Mark Malmendier, 585-367-2111, mmalmendier@frontiernet.net

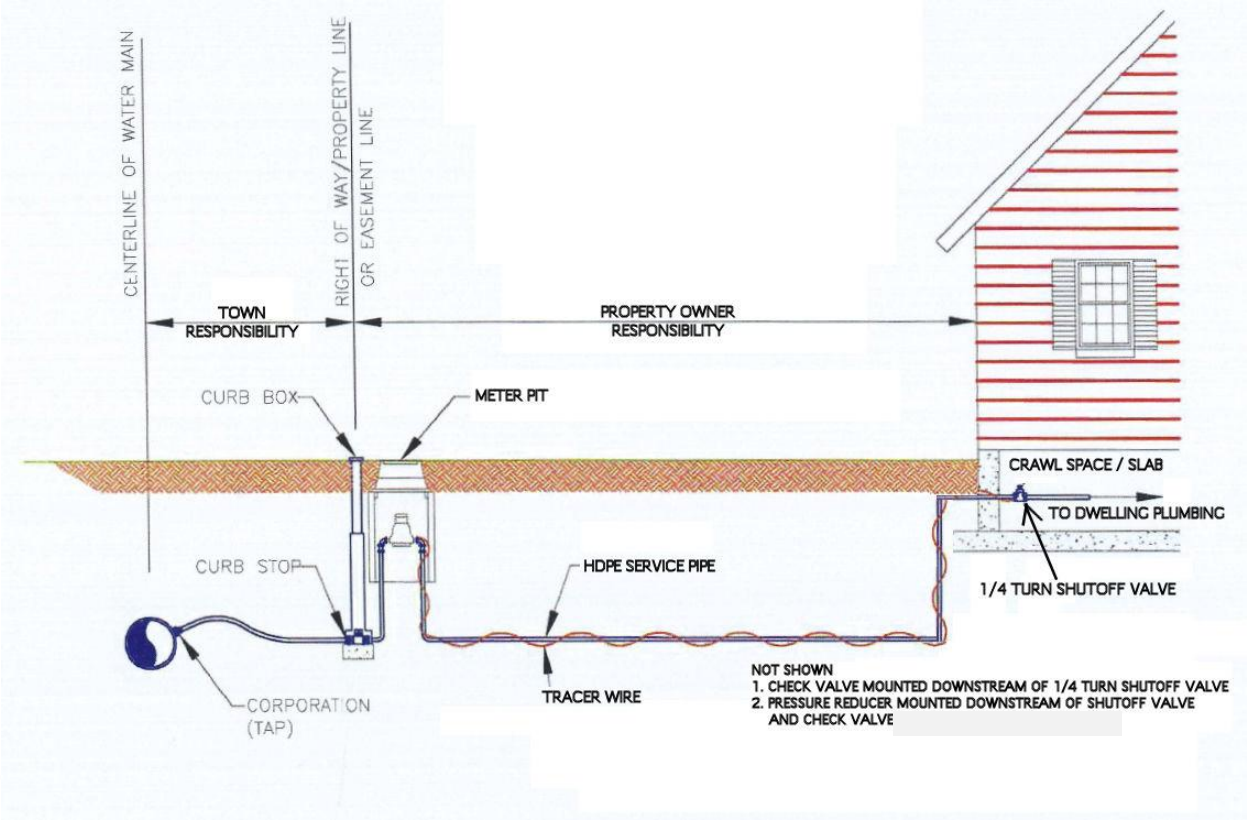
Town Supervisor, Kristine Singer, 585-367-2050 press 1#, supervisor@canadice.org

Account sign-up: Town Clerk/Tax Collector, Eileen Schaefer, 585-367-2050 press 2#

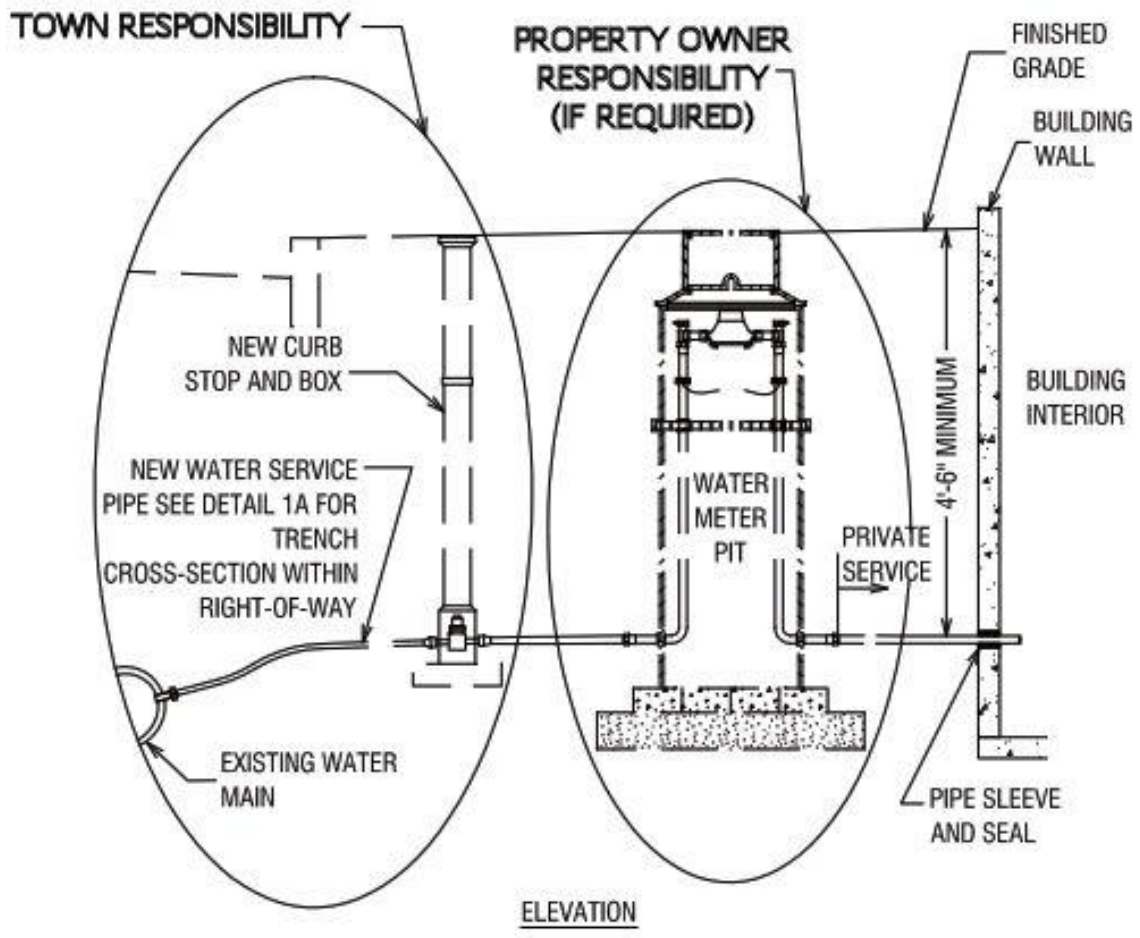
Concept Illustration – Full Basement (no meter pit)



Concept Illustration – Crawlspace/Slab (with meter pit)



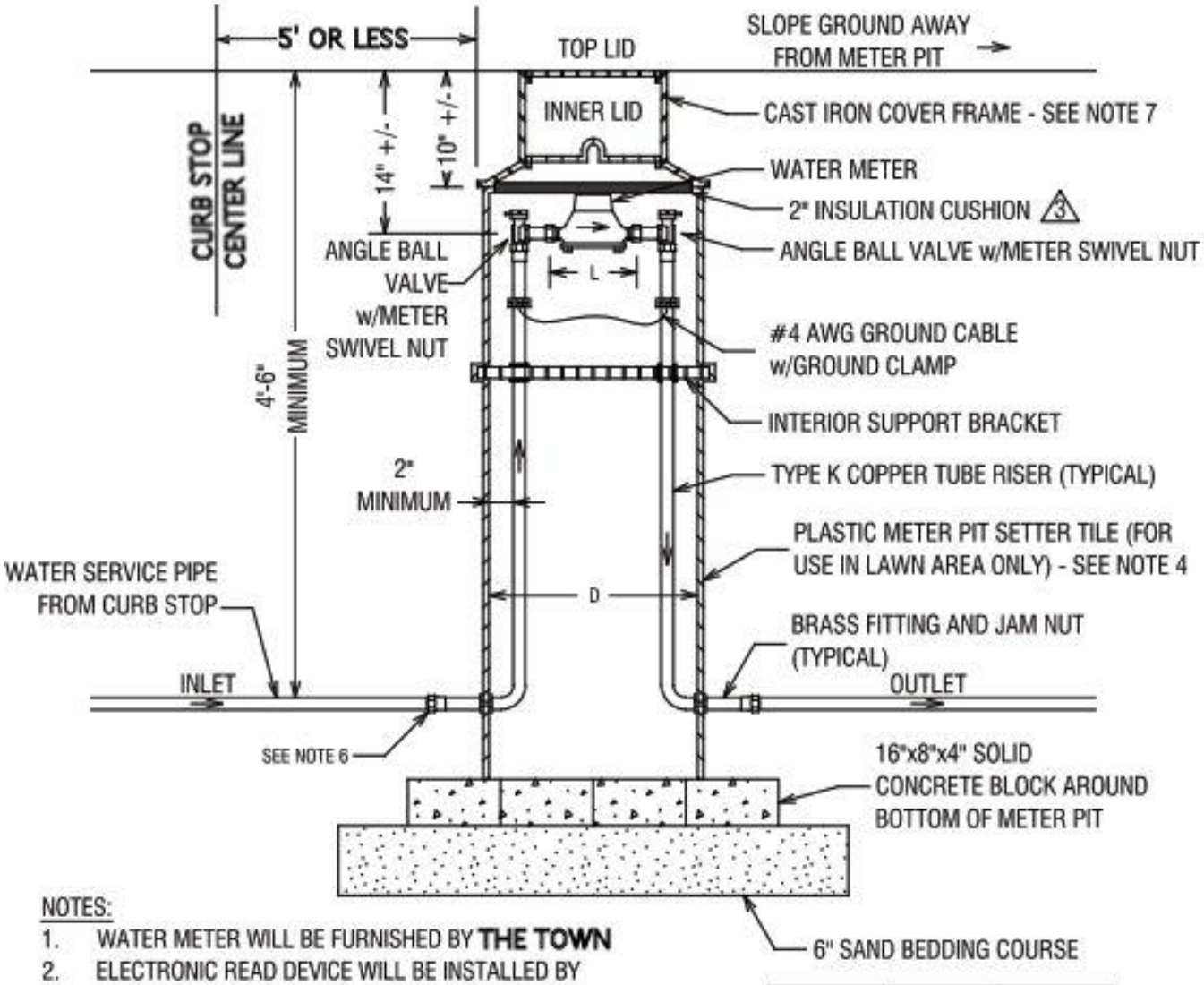
More Detailed Service Drawing



NOTES:

1. ONE CONTINUOUS PIECE OF WATER SERVICE PIPE IS TO BE INSTALLED BETWEEN THE CORPORATION STOP AND CURB STOP AND BETWEEN THE CURB STOP AND METER PIT.

Detailed Drawing – Meter Pit for 1 Inch and Smaller Meters

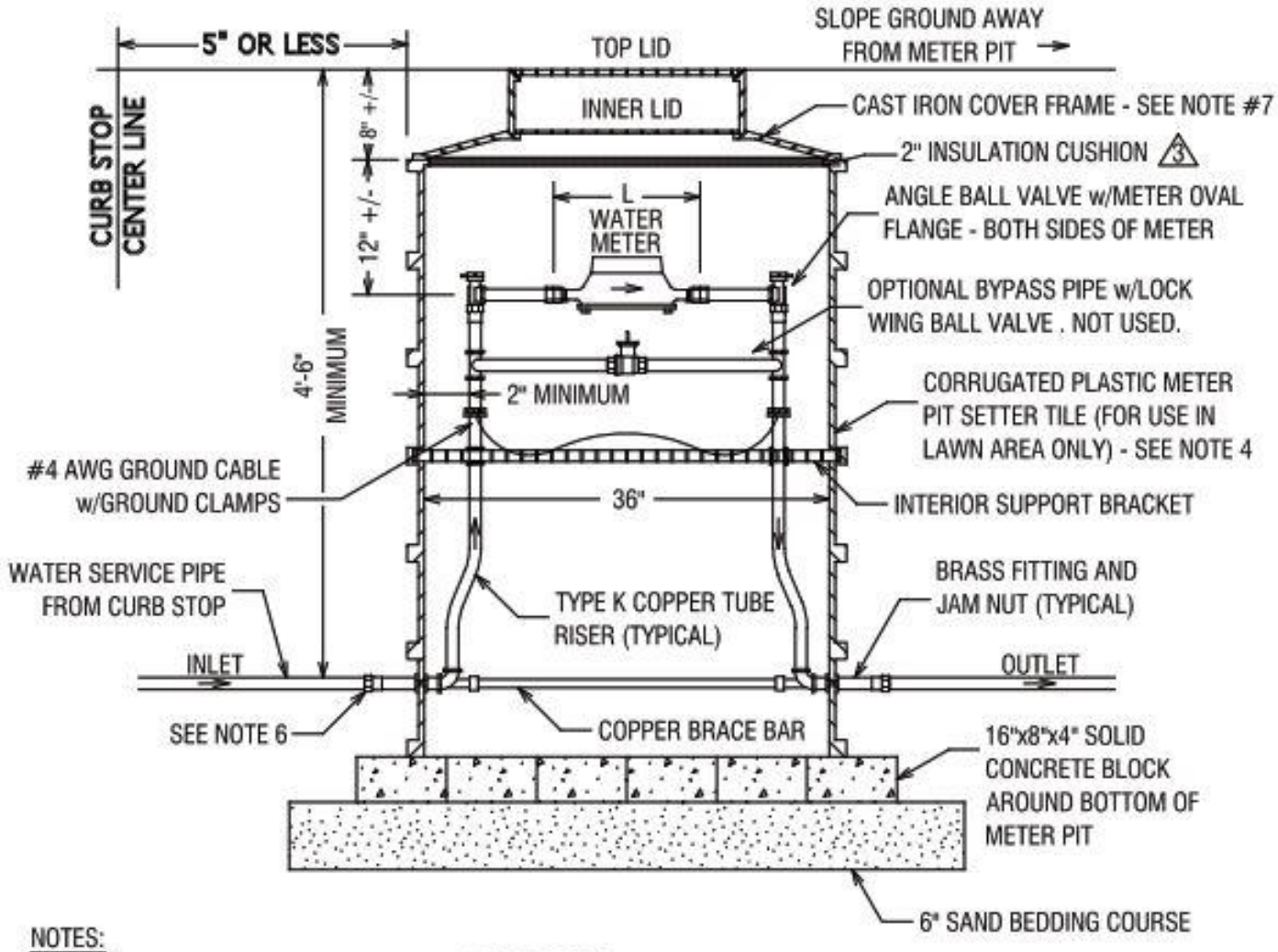


NOTES:

1. WATER METER WILL BE FURNISHED BY **THE TOWN**
2. ELECTRONIC READ DEVICE WILL BE INSTALLED BY **THE TOWN**
3. WATER PIPE, VALVES AND FITTINGS (EXCLUDING WATER METER) ARE TO BE ASSEMBLED INSIDE METER PIT AT FACTORY.
4. WHEN INSTALLED IN PAVED AREA, WATER METER PIT IS TO BE DESIGNED TO SUPPORT AASHTO HS-20-44 WHEEL LOADING.
5. SAND BACKFILL AROUND EXTERIOR WALLS OF METER PIT IS TO BE CAREFULLY PLACED AND COMPACTED.
6. BOTTOM INLET AND OUTLET CONNECTIONS ARE TO ACCOMMODATE EITHER FLARED COPPER JOINT OR PLASTIC CTS "QUICK" COMPRESSION JOINT, DEPENDING ON WATER SERVICE PIPE MATERIAL.
7. TOP LID IS TO BE 11½ INCH DIAMETER LOCKING CAST IRON WITH HOLE AND PLUG FOR ELECTRONIC METER READ MODULE. INNER LID IS TO BE PLASTIC. COVER FRAME IS TO BE SIZED TO FIT REQUIRED DIAMETER OF METER PIT SETTER TILE.
8. ALL METER PITS ARE TO BE SUPPLIED AND INSTALLED BY THE PROPERTY OWNER.

METER SIZE (INCHES)	"L" (INCHES)	"D" (INCHES) MINIMUM
⅝"	7½"	18"
⅝"x¾"	7½"	18"
¾"	9"	20"
1"	10¾"	20"
SEE NOTE 7 FOR COVER TYPE		

Detailed Drawing – Meter Pit for 1.5 Inch and 2 Inch Meters



NOTES:

1. WATER METER WILL BE FURNISHED BY **THE TOWN**
2. ELECTRONIC READ DEVICE WILL BE INSTALLED BY **THE TOWN**
3. WATER PIPE, VALVES AND FITTINGS (EXCLUDING WATER METER) ARE TO BE ASSEMBLED INSIDE METER PIT AT FACTORY.
4. WHEN INSTALLED IN PAVED AREA, WATER METER PIT IS TO BE DESIGNED TO SUPPORT AASHTO HS-20-44 WHEEL LOADING.
5. SAND BACKFILL AROUND EXTERIOR WALLS OF METER PIT IS TO BE CAREFULLY PLACED AND COMPACTED.
6. BOTTOM INLET AND OUTLET CONNECTIONS ARE TO ACCOMMODATE EITHER FLARED COPPER JOINT OR PLASTIC CTS "QUICK" COMPRESSION JOINT, DEPENDING ON WATER SERVICE PIPE MATERIAL.
7. TOP LID IS TO BE 20 INCH DIAMETER LOCKING CAST IRON WITH HOLE AND PLUG FOR ELECTRONIC METER READ MODULE. COVER FRAME IS TO BE SIZED TO FIT 36 INCH DIAMETER OF METER PIT SETTER TILE.
8. ALL METER PITS ARE TO BE SUPPLIED AND INSTALLED BY THE PROPERTY OWNER.

METER SIZE (INCHES)	"L" (INCHES)
1½"	13"
2"	17"
SEE NOTE 8 FOR COVER TYPE	