TOWN OF SOUTHAMPTON
WATER DEPARTMENT

PUBLIC DRINKING WATER DISTRIBUTION SYSTEM SPECIFICATIONS

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I. MATERIAL SPECIFICATIONS

Purchase Description:

All materials must be manufactured and supplied in accordance with applicable ANSI/AWWA standards latest revisions ***and must be made in United States unless otherwise approved by the Water Department.***

All products that may have contact with drinking water must be certified to be in compliance with *NSF/ANSI* Standard 61(NSF 61) Annex G and must meet the weighted average lead content requirement and meet the new low lead requirements of the U.S. Safe Drinking Water Act, in effect since January 2014. Note: *NSF/ANSI* Standard 61, Annex G (NSF 61-G) references NSF 372. Proof of certification must be furnished upon request.

PIPE – All polyvinyl chloride (PVC) pressure pipe shall be DR18, Class 150 and conform to AWWA C900-07

a. Size: Pipe size shall be as approved by the Board of Water Commissioners.

b. Joint: Push on unless otherwise approved.

c. Gaskets: Use only gaskets supplied by the pipe manufacturer for potable water use.

d. Maximum Length: 20 feet.

e. Identification: Each pipe length and fitting shall be clearly marked with:

- Manufacturer's name and trademark.
- Nominal pipe size.
- Material designation.

*Pipe shall conform to AWWA C-900-07 and shall be UL and FM approved for sizes 4” thru 12”

2. FITTINGS- DUCTILE IRON

a. **Size:** As approved.

b. **Minimum pressure rating:** 350 psi for ductile iron fittings.

c. **Lining:** Cement lining minimum two times thickness specified in ANSI A21.4/AWWA C104.

d. **Coating:** Bituminous coating inside and outside, ANSI A2l.4/AWWA C 104.

e. **Joint:** Mechanical joint with ductile iron retainer gland, ANSI A2l.51/AWWA C151.

f. **Retainer glands:** GRIP RING Retainer glands.

g. **Gland** (Follower) Ductile iron, meeting or exceeding ASTM A 536, Grade 65-45-12.

h. **Ring:** Ductile iron, meeting or exceeding ASTM A 536, Grade 65-45-12. Heat treated using a proprietary process to assure proper penetration of rigid pipe materials.

i. **Gasket:** A standard MJ gasket is used with this fitting. See ANSI/AWWA C111/A21.11 for specifications. Transition gaskets may be used for steel (IPS) pipe size PVC.

j. **Coatings and Colors:** Shop coat applied to castings for corrosion protection in transit. Glands are yellow to distinguish them from standard MJ fittings. Rings are coded BLACK for ductile iron size.

k. **Bolts and Nuts:** Standard MJ tee bolts and nuts are used with this fitting. See ANSI/AWWA C111/21.11 for specifications.

l. The retainer gland shall be **GRIP RING** as manufactured by Romac Industries, Inc., or approved equal.

m. **Performance**: May be used up to pressure rating of pipe when used on ductile iron, CI and PVC pipe.

n. **FM Approved:** FM approved C pipe. for cast iron and ductile iron pipe at 175psi working pressure (4:1 test). Also approved for PVC C900 pipe at the pressure rating of the pipe.

o. **UL Listed:** UL listed for cast iron and ductile iron pipe at 350 psi working pressure. Also listed for PVC C900 pipe at the pressure rating of the pipe. UL reference number is 6M46.

p. **Fittings:** Ductile Iron Fittings Class 53.

q. All flanged joints shall be Full Face 125-lb standard with neoprene rubber gaskets minimum 1/8 thick.

3. COUPLINGS

a. Couplings shall only be allowed when connecting standard outside diameter pipe to oversize or pit cast pipe. The coupling shall be of a type equal to Romac Style 501, or an approved equal. Couplings shall be provided with plain, Grade 27, rubber gaskets and with black, steel, track- head bolts with nuts.

4. GATE VALVES -RESILIENT SEATED TYPE

a. All valves supplied shall be designed, manufactured and supplied in accordance with requirements of AWWA C509. Reduced wall gate valves may be supplied in accordance with AWWA C515. A certificate of compliance with the applicable specifications and NSF 61 is required.

b. Size: 4-inch through 12-inch.

c. Ductile Iron mechanical joint conforming to AWWA C111 with Romac grip ring restrainer.

d. Non-rising stem.

e. 200 psi working pressure.

f. 2" operating nut, open left (counterclockwise).

g. Valve body and Bonnet bolting shall be high strength stainless steel.

h. Double "O" ring seal

1. Fusion applied epoxy coating inside and out, NSF 61 approved

i. J. UL listed and FM approved.

5. GATE BOXES

a. Valve boxes shall be cast iron, heavy pattern, sliding adjustable type with cast iron cover.

b. The upper section shall have a flange to prevent settling.

c. Valve boxes shall have barrels not less than 5-inch inside diameter and lengths adapted to valve depth. The barrels shall lap at least 6 inches when in the most extended position.

d. The word "WATER" shall be cast into the cover.

e. The bottom of the lower section shall enclose the valve bonnet and operating nut.

f. Acceptable manufacturers are Clow Corporation, Tyler Union and Bingham & Taylor.

g. Valve gate boxes shall be American made.

h. Hydrants shall be UL listed and FM approved.

6. TAPPING SLEEVES

a. Tapping Sleeves with test port shall be stainless steel type 304 conforming to ASTM A-276. Bolts nuts and washers shall be shall be stainless steel type 304 in conformance to ASTM A-276.

b. Tapping sleeves shall have a flanged outlet end to be used with a tapping valve with flanged end by mechanical joint end.

c. Tapping sleeves shall conform to the latest revision of the following standards:

- AWWA C111 Standard for Rubber Gasket Joints for Ductile Iron and Pressure Pipe
- AWWA C207 Standard for Steel Pipe Flanges for Water Work Service
- AWWA C220 Standard for Stainless Steel Pipe
- AWWA C223 Standard for Fabricated Steel and Stainless-Steel Tapping Sleeves

7. FIRE HYDRANTS

a. Hydrants shall meet or exceed requirements of AWWA C502.

b. Inlet connection shall be 6-inch, mechanical joint.

c. Valve opening shall be 5-1/4 inches minimum.

d. Barrel ID shall be 7 inches minimum. Barrel shall have an integrally cast flange

which attaches to the hydrant shoe.

e. Depth of bury shall be 5' 0" minimum, unless otherwise shown on the Drawings.

f. Shall be dry barrel type with removable drain plugs.

g. Outlets - Shall have two 2 1/2-inch, one 4 1/2-inch, and National Standard thread with chained caps.

h. Operating nut shall be pentagon, 1 1/2-inch, open left (counterclockwise).

i. Shall have square valve rods and bronze to bronze sub seats.

j. Coatings: fire hydrant shall be fusion epoxy coated inside and outside in accordance with A WW A C550. The hydrant barrel, caps and bonnet shall be painted the color red two coats.

k. Hydrants shall have safety breakaway construction at grade.

l. Acceptable fire hydrants in the Town of Southampton are:

- American Darling - B84B
- Kennedy K81D Guardian
- Mueller Super Centurion 250

m. Each hydrant must have a 48" long Lexan flag attached to them. Flags shall be connected to the hydrant with a nozzle mount connection.

8. HYDRANT TEES

a. Hydrant tees shall be ductile iron anchor type conforming to AWWA C 110.

9. DOMESTIC SERVICE PIPING AND CONNECTIONS

NOTE: All service line installations must be scheduled and inspected by the Water Department prior to back filling the trench and all material shall be compliant with National Sanitation Foundation International (NSF) standard *NSF/ANSI* 61 including Annex G (Weighed Average Lead Content Evaluation Procedure to a 0.25 Lead Requirement and meet the revised lead leach limits of National Sanitation Foundation International (NSF) standard *NSF/ANSI* 61 Annex F

a. Size of Water Service Lines: The minimum service line size for new water

service installations shall be 1". The Water Department may require larger line sizes to meet the minimum flow requirements of the user.

b. Service Line Material 2" and Smaller: Service line material shall be as follows:

- Water main to curb stop and Curb stop to building:
- high density polyethylene CTS

c. Service Line Material 4" and Larger Service line material for services 4" and larger shall be AWWA C-900-07 DR-18 Polyvinyl chloride (PVC) Pressure Pipe.

d. High Density Polyethylene Tubing shall be copper tube size (CTS) meeting the requirements of AWWA C901 and ASTM D 3350 and rated to 300 psi.

e. Corporation stops shall be equal to McDonald Brass 74701BQ.

f. Curb stops shall be equal to McDonald Brass 76100Q

g. Curb boxes shall be Erie type and adjustable in length consistent with pipe depths.

h. Three-piece coupling shall be equal to McDonald Brass 4758Q

i. Brass plug shall be equal to Mueller H-10033 for CC thread or H-10035 for LP, threads.

10. WATER METERS

Water meters used on water services will be sized and furnished by the Southampton Water Department. The Department will be reimbursed by the property owner for the cost of all water meters and necessary appurtenances. The water meter can only be installed in a warm, clean, dry, and accessible location. The water meter and valves must be installed with adequate clearance from floors, walls, and other obstructions and restrained as necessary. A quarter turn ball valve at the inlet must be the first fitting inside the serviced building, unless otherwise approved by the Water Department. A meter set will be provided by the Water Department and must be the next device installed with a quarter turn ball valve installed near the outlet of the meter set to permit removal of the meter without backflow from the dwelling. The consumer is responsible for the installation of the meter set which will be provided by the Water Department. The Water Department is responsible for setting and sealing the water meter. Water meter and appurtenances cost is included in the new service connection fee unless otherwise specified. All installations will be inspected and approved by the Water Department.

Long or difficult to access service locations, such as those where the distance from the curb stop/utility easement to the building is greater than 400 ft will require a meter pit set at the property line and will incur an extra charge.

All damage to water meters and supporting appurtenances from freezing, hot water or external forces under the control of the consumer, shall be charged to the consumer.

II. INSTALLATION

1. PVC PIPE AND FITTINGS

a. The CONTRACTOR shall have on the job site with each pipe laying crew, all the proper tools to handle and cut the pipe.

b. All pipe and fittings shall be thoroughly cleaned before laying and shall be kept clean until installed. Non pressure pipe plugs, Taylor Sp-28 #3 or equal shall be used to keep pipe internal areas clean prior to and during installation.

c. Pipe shall be laid in the dry trench conditions. At no time shall water in the trench be permitted to flow into the pipe. At any time that work is not in progress, or the trench is unattended, the end of the pipe shall be suitably closed to prevent the entry of animals, earth, water, etc.

d. Lay pipe and fittings in accordance with the requirements of AWWA C600, except as provided herein.

e. As soon as excavation has been completed to the proper depth, the pipe bed shall be prepared as follows:

1. Pipe Laid on Undisturbed Subgrade: Manually excavate for pipe bells along the trench bottom as necessary to provide a uniform bearing surface along the entire length of the pipe barrels.

2. Pipe Laid on Bedding Material: Place and compact bedding materials, to the elevation necessary to bring the pipe to grade. The compacted material shall be shaped so that the bottom quadrant of the pipe rests firmly on the bedding for the entire length of pipe barrels. Suitable holes shall be dug for bells or couplings to provide ample space for jointing pipe. The remainder of the pipe zone shall be backfilled with sand or l" minus common fill free of deleterious materials and compacted.

f. When ledge is encountered in the bottom of the trench, pipe shall be bedded on a layer of crushed gravel having a minimum thickness of 6 inches. Blocking is not permitted.

g. Each pipe section shall be placed into position on the pipe bed in such a manner and by such means required to avoid injury to persons, any property or the pipe.

h. Permanent blocking under the pipe is not permitted except where a concrete cradle is required, in which case precast concrete blocks shall be used.

i. Jointing shall conform to the manufacturer's instructions and appropriate ASTM Standards.

j. Any debris, tools, etc. shall be removed from the pipe.

k. Place blanket material.

l. After placement of the blanket material the pipe shall be checked for alignment and grade. If the pipe has been properly installed, the CONTRACTOR may refill or backfill the remainder of the trench.

m. Backfill: All backfill shall be free from cinders ashes, refuse, frozen soil, vegetable or organic materials. The trench above the pipe zone shall be backfilled with excavated material containing only a small amount of loam or clay and with rock size not exceeding 2 inch or with clean well graded course to fine, 2 inch minus crushed rock. Backfill shall be compacted in 12-inch layers.

n. Once each day, or at other intervals to be determined, the Water Department with the CONTRACTOR will inspect the pipe installation. Unsatisfactory work shall be dug up and reinstalled.

o. When cutting of pipe is required, the cutting shall be done by machine (power cutter) without damage to the pipe. Cut ends shall be smooth and at right angles to the axis of the pipe. Pipe ends to be used with a rubber gasket joint shall be beveled and filed or ground smoothly to conform to a manufactured spigot end.

p. Install concrete thrust blocks at all fittings and other locations, as directed by the Water Department. Minimum bearing area shall be as shown on the Drawings. Joints shall be protected by felt roofing paper prior to placing concrete. Place concrete against undisturbed material, and do not cover joints, bolts or nuts, or place concrete so as it interferes with the subsequent removal of any fitting. Provide wooden side forms for thrust blocks, precast thrust blocks may also be used.

q. Valve and hydrant anchor tees shall be utilized at all hydrant installations. Hydrant and valve tees shall have an integrally attached, rotatable gland which, after bolting to valve or adjoining fitting, the joint is effectively restrained from separation.

r. The maximum distance allowed between valves is 1,000 feet. Three valves at each tee and four at each cross are required. Gate valves should line up with adjacent property lines when possible.

s. The maximum distance between hydrants is 500 feet. Wherever possible, hydrants should be installed on the same side of the street as the water main and should be located on the lot line between adjacent lots and on the property line which defines the front of the lots. Hydrants are required to be installed with anchor tees, which allow the gate valve to be bolted to the tee. On dead ends, however, hydrants should be installed with a reducer and a gate valve straight into the hydrant. Each hydrant must have a 48-inch long red Lexan flag bolted to the nozzle.

t. Proposed water mains which will tie-in to the Town of Southampton public supply. Must be submitted to the Board of Water Commissioners on acceptable engineering plans which show all water main appurtenances and details. The plans shall be stamped and signed by a professional Engineer, registered in the State of Massachusetts.

u. Connections to the existing water system shall be made by a "cut-in" and shall have a 3 valve set up, unless otherwise approved by the Water Superintendent.

v. Dead ends shall be avoided by the looping of all water mains. No dead ended water mains over 1,000 feet in length will be permitted in the system unless said main is capable of being looped in the near future.

w. All water mains and service pipe shall be laid in a trench separate from any other utility (gas, electric, telephone, etc.) and shall at a minimum be no less than five (5) feet from another utility and shall be no less than ten feet from any sanitary sewer or septic systems. The distance shall be measured edge to edge.

x. All material shall be in accordance with Section I **"Material Specifications".**

y. All construction shall be in accordance with the **"Commonwealth of Massachusetts, Department** of Public **Works – Standard Specifications for Highways and Bridges 1988.**

2. JOINTING PIPE (PUSH-ON TYPE)

Make push-on joints in strict accordance with the manufacturer's instructions. Lay pipe with bell ends looking ahead. Insert a rubber gasket in the groove of the bell end of the pipe and clean and lubricate the joint surfaces. The plain end of the pipe to be entered shall then be inserted in alignment with the bell of the pipe to which it is to be jointed and pushed home with a bar and block, using only manufacturer's PVC pipe lubricant.

3. JOINTING MECHANICAL JOINT FITTINGS

Mechanical joints at valves, fittings and where designated, shall be in

accordance with ANSI A2l.lll AWWA C 111 Appendix A - Notes on Installation of Mechanical Joints and the instructions of the manufacturer. To assemble the joints in the field, thoroughly clean the joint surfaces and rubber gasket with soapy water before tightening the bolts. Tightening torque for bolts shall be 75-90 ft-lbs. Under no condition shall extension wrenches or pipe over handle or ordinary ratchet wrenches be used to secure greater leverage. After installation, apply a bituminous coating to bolts and nuts. A Grip Ring retainer gland instead of a common follower gland shall be used whenever mechanical joints are used.

4. FLANGED JOINTS

Tighten bolts in flanged joints alternately and evenly as specified for mechanical joints. Apply a bituminous coating to bolts and nuts for buried joints.

5. FLUSHING

All newly installed water mains shall be thoroughly flushed prior to disinfection and after disinfection. All newly installed water mains shall be flushed at a minimum velocity of 2.5 ft /sec before and after disinfection or as specified by the Water Department.

6. PRESSURE AND LEAKAGE TESTING

a. General: The CONTRACTOR shall test all installed pipe in accordance with the requirements of AWWA C600, except as amended or added below:

1. The CONTRACTOR shall furnish all labor, materials and equipment necessary for any and all required pipe taps for testing, and as necessary for testing as specified. Water to be furnished by the Water Department.

2. A pressure test and leakage test are required for all pipe.

3. Water to be furnished by the Water Department.

b. Testing requirements:

1. Test duration: 2 hours.

2. Test pressure: 150% of maximum operating pressure as determined
by the ENGINEER but in no case less than 200 psi.

3. Allowable pressure loss: Pressure shall not vary more than ±5 psi for duration of the pressure test.

4. Allowable leakage: Allowable leakage shall be determined by the Following formula:

5. Allowable leakage in gallon per hour per 1,000 feet of pipeline can be determined from the following chart.

$$L = SD\sqrt{P} \text{ divided by } 133200$$

L = allowable leakage, in gallons per hour.

S = length of pipe tested, in feet.
D = nominal pipe diameter, in inches.
P = average test pressure, in psi (gauge

Avg. Test Pressure psi	Nominal Pipe Diameter-in.										
	3	4	6	8	10	12	14	16	18	20	24
450	0.48	0.64	0.95	1.27	1.59	1.91	2.23	2.55	2.87	3.18	3.82
400	0.45	0.60	0.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.60
350	0.42	0.56	0.84	1.12	1.40	1.69	1.97	2.25	2.53	2.81	3.37
300	0.39	0.52	0.78	1.04	1.30	1.56	1.82	2.08	2.34	2.60	3.12
275	0.37	0.50	0.75	1.00	1.24	1.49	1.74	1.99	2.24	2.49	2.99
250	0.36	0.47	0.71	0.95	1.19	1.42	1.66	1.90	2.14	2.37	2.85
225	0.34	0.45	0.68	0.90	1.13	1.35	1.58	1.80	2.03	2.25	2.70
200	0.32	0.43	0.64	0.85	1.06	1.28	1.48	1.70	1.91	2.12	2.55
175	0.30	0.40	0.59	0.80	0.99	1.19	1.39	. 1.59	1.79	1.98	2.38
150	0.28	0.37	0.55	0.74	0.92	1.10	1.29	1.47	1.66	1.84	2.21
125	0.25	0.34	0.50	0.67	0.84	1.01	1.18	1.34	1.51	1.68	2.01
100	0.23	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.80

A REPORT CONTAINING CALCULATIONS AND DOCUMENTATION PERTAINING TO THE PRESSURE AND LEAKAGE TESTING SHALL BE SUBMITTED TO THE SOUTHAMPTON WATER DEPARTMENT.

If in the judgment of the Superintendent, it is impractical to follow the fore-going

procedure exactly, for any reason, modification in the procedures may be made as required or approved, but in any event the Contractor shall be responsible for the ultimate tightness of the line within the above leakage requirements.

7. DISINFECTING WATER MAINS

a. The CONTRACTOR shall provide all labor, materials, equipment as necessary to complete disinfecting the mains, as specified herein; including installation of pipe taps necessary for chlorination or taking samples and including paying for all bacteriological testing by an approved independent laboratory.

b. The CONTRACTOR shall disinfect all installed water mains and services in accordance with the requirements of AWWA C651, except as amended or added below:

1. Discuss the procedure with the Water Department and obtain approval before doing the work.

2. All newly installed water mains shall be flushed at a minimum velocity of 2.5 ft/sec before and after disinfection.

3. Form of chlorine: sodium hypochlorite solution.

4. Method of chlorine application: Continuous feed method or slug method.

c. Test results for chlorine residuals for times as specified in the method of disinfection, must be submitted to the Southampton Water Department. All valves and hydrants should be operated during treatment to insure their thorough contact with the disinfecting solution.

The pipe line and all branches shall then be flushed free of all heavily chlorinated water. This chlorinated water shall be neutralized if there is any possibility of the discharge causing damage to the environment. Tests results for chlorine residual will determine when flushing is complete.

Twenty-four hours after this flushing, the water should be tested chemically for residual chlorine and bacteriologically for coliform group bacteria. Testing must be done by a Massachusetts state certified laboratory and results of all tests must be submitted to the Southampton Water Department. The contractor shall be solely responsible for all costs associated with disinfection.

Satisfactory bacteriological sample results must be received by the Water Department prior to any permanent connections being made to

the active drinking water distribution system.

A report containing amounts of water flushed, amounts of chlorine used and chlorine residuals during and after the test period and at the time of bacteriological sampling must be submitted to the Water Southampton Department.

If the initial treatment fails to produce the desired result, the chlorination procedure must be repeated.

This work shall be done under the direction and supervision of a representative of the Southampton Water Department. For this work, the Contractor shall furnish all equipment, material and labor required.

8. **HYDRANT INSTALLATION**

a. Hydrants shall be set at the location shown and bedded on a firm foundation. Each hydrant shall be set in true vertical alignment and properly braced. All nuts and bolts located below finish grade shall be given a heavy bituminous coating after installation.

b. A drainage pit, three feet in diameter and two feet deep below and to the rear of the hydrant, shall be filled with pea stone and compacted.

c. Concrete thrust blocks shall be placed between the rear of the hydrant inlet and undisturbed soil at the end of the trench. Minimum bearing area shall be as shown on the Drawings. Roofing felt shall be placed around hydrant elbow before placing concrete. Care shall be taken to insure that concrete does not plug the drain ports.

d. No hydrant shall be backfilled until directed by the WATER DEPARTMENT. During backfilling, additional pea stone shall be placed to a point 6 inches above the drain port.

e. Where directed by the Water Department, the CONTRACTOR shall install plugs in the hydrant drain ports.

f. Pipe used for hydrant branches shall be at least 6" in diameter and shall be restrained the entire length of the branch.

g. Each fire hydrant shall be provided with a 48" flexible post mounted to the hydrant. Posts shall be as manufactured by Safe Hit or equal.

9. **WATER SERVICE INSTALLATION**

a. Tapping pipe:

1. Tapping ductile iron pipe: Corporation stops shall be installed in ductile iron pipe with a direct tap except for Class 50 or Class 51 pipe where a service saddle shall be installed.

2. Tapping C-900 or AC pipe: Corporation stops shall be installed in C-900 or AC pipe using a service saddle in accordance with the recommendations of the pipe manufacturer.

b. Install corporation stops in the new water main either at the time of installation or later when service connections are constructed. Service connections shall be constructed after the street water main has been tested and disinfected.

c. Corporation stops shall be installed in the pipe at the 9 o' clock or 3 o' clock position. The length of travel of the tap should be so established that when the corporation stop is inserted and tightened with a 14-inch wrench, a minimum of one thread and a maximum of three threads will be exposed on the outside. When a wet tapping machine is used, the corporation stop shall be inserted with the machine while it is still in place. Stops shall be tightened only sufficiently to be watertight.

d. All work on service connections shall be properly coordinated with Water Department. The Contractor shall notify users 24 hours in advance of when he proposes to interrupt service.

e. Install plastic tubing from the corporation stop to the curb stop for a new service changeover. Install to a depth of 5 feet. Care shall be exercised in the placing and laying of tubing to be sure that the pipe does not have any kinks and is not installed near sharp stones or ledge which would cause damage to the pipe. Place at least 12 inches of sand adjacent to and above the tubing. The service line must not be any deeper than 5.5 feet below finish grade or less than 4.5' below finish grade.

f. Install curb stop and curb box (new service installation) at the approximate property line or as otherwise directed by the Water Department and connect with new tubing. Install curb box vertically, centered over the operating key, with the elevation of the top adjusted to conform to the finished grade. Adequately support the box during backfilling to maintain vertical alignment. Care must be taken to insure that the curb box does not rest on the curb stop. Curb stops must not be installed in driveways.

g. All water service lines must be visually inspected by a Water Department inspector prior to backfill. Each single family residence requires an individual water tap. Duplex homes require two separate water taps. The domestic service line must be tapped separately from the fire line off the water main, unless otherwise approved by the Water Superintendent.

10. RESTORATION

Town streets, roadways and "right of ways" shall be restored to the conditions specified by the Water and Highway Departments.

11. DISCONTINUANCE OF WATER SERVICE LINES

Discontinued water service lines must be cut and capped at the water main. This work will be at the expense of the property owner.

III. WATER MAIN EXTENSION REQUESTS

1. All requests for extensions to water transmission mains shall be in writing to the Board of Water Commissioners.

2. Requests shall include the following minimum information: date of request, name of petitioner, organization, firm of business, mailing address, location of property requiring water and date required.

3. The petitioner or delegated representative shall submit the request, be available for a meeting with the Board, and have the authority to contract with the Board. Request for extensions in subdivisions must be submitted and approved prior to any submission of Definitive Subdivision Plans to the Planning Board.

4. Requests shall be classified by the Board as minor and major extensions.

   A minor extension is an addition to an existing transmission main not requiring significant amounts of water from the distribution system. An example of a minor extension is a simple addition to an existing 8-inch main for a single-family dwelling.

   A major extension is an addition to an existing transmission main requiring significant amounts of water from the distribution system. Examples of major extensions include sub-divisions on accepted, private or proposed streets; multiples or series of residential units of a permanent or temporary status, and business or industrial parks.

   Major extension requests will be reviewed by the Water Department Superintendent and the Board of Water Commissioners.

5. Requests for major extensions shall include two copies of engineering plan and profile drawings or blueprints of the plan, in accordance with the standard drafting

practices, stamped by a professional engineer for review and evaluation by the Board.

IV. PROJECT DESIGN

1. Engineering proposals shall be designed or approved by a reputable firm with expertise in water distribution. Minimum engineering drawing data shall include name of petitioner, organization, firm or business; location of property requiring water; type, location and size of existing mains, hydrants valves or appurtenances; type, location and size of proposed mains, hydrants, valves or appurtenances; floor plans; utility layouts; type and use of units; existing property lines; extension or options for expansion potential; meter type, size, quantity and location; pressure controls; and any other pertinent information necessary to make practical and technical decisions.

2. A model simulation must be performed using the Town's hydraulic computer model demonstrating that the proposed project would have no adverse impact on the Town's water system and other users on the system. Simulation must be performed using "worst case" scenarios. The cost of this model run is the responsibility of the project proponent.

3. Project design must incorporate the following features:

   A. All water mains shall be laid at least ten (10) feet horizontally from any existing or proposed sewer. The distance shall be measured edge to edge.

   B. Air releases must be located at the system high points.

   C. Loops must be made to the existing system whenever possible.

   D. Gate valves will be required on each branch of any intersection of water mains.

   E. Hydrants must be located at five hundred feet (500 ft.) intervals on the main.

   F. Division gates must be located at one thousand feet (1,000 ft) intervals on the main or at locations to be specified by the Water Superintendent.

   G. All water mains must be looped wherever possible. The Board will not consider any request for extension of a main 1,000' or longer which is not capable of eventually being looped.

5. Special units or accessories attached to or affecting the water distribution system shall be
designed or approved by a reputable firm with expertise in that field and engineering drawings shall be submitted for evaluation by the Board.

6. Engineering change orders, design changes or engineering drawing corrections and revisions shall be resubmitted for concurrence by the Board.

7. All engineering drawings and related records shall be kept current with construction. Costs related to recording and filing of engineering change orders shall be borne by the petitioners.

8. A copy of all the finalized engineering drawing shall be submitted for Water Department files. A legible blueprint or commercially duplicated copy will be considered acceptable. Finalized engineering drawing data shall include all subsurface utility locations vital to all service and maintenance features.

9. A Mylar record copy of finalized engineering drawings shall be submitted for the for Water Department files.

10. Material sizes and specifications shall be determined by an Engineer. Selections such as type and size shall be based upon individual and community needs.

In general, extensions shall be continuations of the same size, but not less than 8-inch diameter, as the existing main to a termination point determined by the Board. The length of a requested extension shall be at least equal to the length of the petitioner's property from which a water service is connected.

V. PETITIONER'S RESPONSIBILITIES

1. Petitioners are responsible for cost of materials and installation on private property. Extensions are subject to inspection approval by the Department. Inspections may be scheduled or non-scheduled and will be under the control of the Department Superintendent. Inspection approval does not waive petitioner responsibilities in case of subsequent deficiencies, failures or latent defects.

2. Petitioners are responsible for cost of material installed on public ways.

3. Related and unforeseen expenses such as Police service fill material, extraordinary excavation, structural reinforcements, borings or special materials and services, shall be the responsibility of the petitioner for all water line installations.

4. Materials shall be procured by the petitioner. Pipe, fittings, hydrants, controls or appurtenances shall be of a brand and quality acceptable and compatible to Department standards. Information or assistance on material procurement may be obtained from the Water Department upon request.

5. Terrain shall be brought to proper subgrade, which is within one foot of finish grade, prior to installation of pipe so as to assure adequate cover of pipe and practical mounting of hydrants or appurtenances.

6. All lines shall have a minimum of five feet of acceptable cover to prevent freezing.

7. Performance bonds may be required when deemed necessary by the Board. Bonding may be integrated and controlled by the Planning Board when practical or under conditions and amounts determined by the Board of Water Commissioners. Performance bonds that include water mains shall not be released unless approved by majority vote of the Board of Water Commissioners.

8. The petitioner shall pay the Water Department an administrative fee equal to *$.50/foot* of main installed to defray the Town's administrative, legal and engineering expenses associated with the extension.

9. The petitioner shall enter into written contract with the Board acknowledging responsibilities.

VI. PROJECT APPROVAL

1. Requests for water line extensions shall be approved by a majority vote of the Board of Water Commissioners.

   Note: Approval of a water line extension is an indication that an acceptable proposal for the distribution of water has been submitted but is not to be construed as an endorsement of any project.

2. Conferences for information on basic guidelines and policies of the Water Department Superintendent, Planning Board, Health Department, Fire Department and Water Commissioners are encouraged prior to initiating requests for water transmission line extensions. Comments from officials shall be forwarded to the Water Department for evaluating when considering approval.

3. A significant milestone of work on a petitioner's water line extension is to commence within one hundred eighty (180) calendar days from the date of Board approval. The Water Department Superintendent shall determine and verify a commencement date by reviewing evidence of a significant starting event. A petitioner's water line extension shall be completed within seven hundred thirty (730) calendar days from date of Board approval. The Water Department Superintendent shall determine and verify a completion date by reviewing project requirements with the petitioner and

Board of Water Commissioners.

Failure to comply with commencement or completion dates shall require re-approval for the extension by the Board.

4. A completed water transmission line shall pass an acceptable 365 calendar days performance test. No significant defects shall be observed during the test period. Classification of defects (significant or non-significant) shall be determined by the Board. The petitioner will be responsible for repairs and replacement of materials up to 365 calendar days from date of project completion. The Water Department Superintendent
shall be notified, shall verify and record a project completion date. If a completion date is not recorded or is under dispute for a project, a probable completion date shall be established by the Board based upon available evidence and information and used as a project completion date to initiate the performance test.

   Repair or replacement of any part of the extension within the performance test period shall initiate a re-test period of 365 calendar days, repeated as necessary, for that item only. Quality tests and checks of materials or installations may be imposed by the Board as part of a performance test when deemed practical. Materials and installations classified sub- standard by the Board shall be replaced by the petitioner.

5. The petitioner shall be responsible for complying with all laws, regulations, hearings, ordinances, permits, rules or licenses of the Federal, State, County and Municipal authorities.

6. The Town of Southampton Water Department shall totally control water service and fees to all subscribers on any water transmission line extension started, under construction, completed, in a performance test phase, or under dispute.

   A water service connection to any water main shall be requested of and approved by the Water Department Superintendent.

7. Approvals of water line extensions are not transferable to another agent or successor.

   Transfers shall be resubmitted as an original petition for reconsideration and appropriate action by the Board.

8. The Board of Water Commissioners shall control the right to supplement, revise or waive any of the aforementioned guidelines as conditions of approval when considered beneficial to the interests of the Town of Southampton or public health and welfare.

9. The Board of Water Commissioners may nullify any previously approved water line extension or appurtenance in total or in part for failure to complete any requirement.

   Nullifications of previous approvals will be by vote of a majority of the Board.

Nullified approvals shall be resubmitted as an original petition for reconsideration and appropriate action by the Board.

VII. FINAL ACCEPTANCE OF INSTALLED MAINS

1. The petitioner shall submit a written request for final acceptance of a water line extension upon fulfillment of all requirements including a performance test.

2. Criteria for acceptance shall include satisfactory completion of the performance test; fulfillment of all contracts, agreements and obligations as approved or amended; assurance that design layouts and specifications of all appurtenances are adequate by design and construction, and functioning properly and submittal of Mylar "AS BUILT" plans and digital ".dwg" files to the City Engineer. As built drawings are required within two weeks of completion of the project.

3. "AS BUILT" plans shall include surface & in-line ties to all valves, fittings, service corporations and curb boxes. Final "AS BUILT" plans shall contain all information shown on the approved construction drawings and shall clearly indicate where changes were made during construction. Completed plans shall be titled "AS BUILT" and be stamped and dated by a Professional Engineer registered in the Commonwealth of Massachusetts. The Professional Engineers stamp is required to certify any changes made to the contract drawings and shall not dictate responsibility for the original design drawings. The Contractor may elect to use a combination of reproducible duplicates of the design drawings and revised CAD drawings to provide a complete set of "AS BUILT" plans.

4. Approved extensions of water mains on public ways shall become the responsibility of the Water Department upon an acceptance vote by a majority of the Board of Water Commissioners. The Board will not consider acceptance for responsibility of water lines on private property. Acceptance of a private way as a public way by the Town of Southampton shall not preclude a contractor's obligations to the Board.

VIII. PUBLIC / PRIVATE SERVICE LINE OWNERSHIP

The Southampton Water Department owns and is responsible for the portion of the service line beginning at the water main, continuing up to, and including the curb stop valve and curb stop box (typically at the property line). The customer is responsible for the portion of the service line beginning after the curb stop, and on both sides of the water meter. The water meter, and the water meter pit box (if applicable), are owned by the Southampton Water Department.

END OF SECTION