



John Livsey, P.E.  
Town Engineer

## ENGINEERING DIVISION Town of Lexington, Massachusetts

201 Bedford Street  
Lexington, MA 02420  
(781) 274-8305

### WATER, SEWER & DRAIN REGULATIONS AND SPECIFICATIONS

#### General Work Rules:

- No work shall be started before 7:00 a.m.
- No work shall be done on Saturday or Sunday or Holidays observed by the Town of Lexington
- All water and sewer construction work must be done by a Town of Lexington Licensed Drainlayer
- All underground pipe work must be inspected by the Engineering Division prior to being backfilled
- Inspections can be requested from the Engineering Division between 8:00 a.m. and 1:00 p.m. by calling (781) 274-8305. 48 hours notice is required to schedule inspections
- A Water and/or Sewer Connection Permit must be issued before work is started
- All requirements of Town of Lexington Health Department Septic Tank Abandonment Regulations must be complied with.
- A Water and/or Sewer Connection Permit will be issued only to Town of Lexington Licensed Drainlayers
- Where work will be done in a public way, a Right of Way Excavation permit must be obtained.
- The Contractor must identify a "Competent Person" who understands and can enforce OSHA excavation requirements and Commonwealth trench excavation law and regulations.

#### Residential Sewer Service Connections:

Min. pipe size	6"
Pipe material	PVC
Min. Pipe thickness	SDR 35
Min. pipe size when more than one structure is served	8-inch
Min. cover over pipe	4-feet
Min. pipe slope	2%; 1/4" per ft.
Min. horizontal separation from water service	10 feet
Min. horizontal separation from gas, electric and other utilities	5 feet
Pipe bedding	Stone; 6" below pipe to top of pipe
Min. distance below water service	18 inches
Max. distance between cleanouts:	100'
Max. bend without cleanout	22°
Max. depth of cleanout (deeper requires a manhole)	5 feet
Cleanout at building exterior	Required
Manhole at junction of 2 services	Required
Max. length of service without manhole	200 feet
Max. bend without manhole	45-degree
Min. distance between bends	10 feet

Min. manhole inner diameter outside Town ROW	2'-6"
6" Service connection to vitrified clay Town main	Cut in Wye
6" Service connection to asbestos cement Town main	Wye or Saddle
8" Service connection to Town main	Manhole
Buried traceable warning tape	Provide warning tape in trench 2-feet above pipe
Design sketch	Required
Professional Engineer design for service length > 250'	Required
Certified "As-Built" plan for service length > 250'	Required
Pressure Test for Service Length > 250'	Required

Notes:

1. For new sewer services all underground piping from the structure to the property line must be brought to Town Standards and comply with the State Plumbing code within 10' of the building.
2. For Sewer Service Renewal or Repair the existing services shall be brought to current Town standards. Existing clay services shall be replaced to the main in the street with connection details approved in advance by the Town Engineer. Asbestos Cement services may be left in place unless otherwise required by the Engineering Division. All sewer services shall be video inspected prior to reconnection. The completed video inspection must be submitted to the engineering division for review at the time of permit application. The video recording must be in a digital format and stored on USB drive or DVD. It will be at the Town's discretion if improvements will be required on the existing sewer line.
3. Applicants proposing to make connections that cross over other parcels must furnish proof that the proper easements have been obtained.
4. Tie cards must be created showing ties to any manholes, cleanouts, and bends as well as house corners

**Sewer Pump & Force Main Connections:**

Approval by Engineering Division	Required
Professional Engineer design	Required
Certified "As-Built" plan	Required
Min. cover over pipe	4'-6"
Flushing manhole(s)	As Required By Engineering Division
Min. pipe diameter	2"
Pipe material	SDR 21 PVC
Layout	No 90-degree bends
Buried traceable warning tape	Provide warning tape in trench 2-feet above pipe

**Extension of Town Sewer Main:**

Min. pipe diameter	8"
Pipe material	PVC
Min. pipe thickness	SDR 35
Pipe bedding	Stone; 6" below pipe to top of pipe
Max. distance between manholes	300'
Min. cover over pipe	4'-6"
Min. design flow velocity	2 fps
Design by Professional Engineer	Required
"As-Built" Plan	Required
Video Inspection	Required
Pipe Deflection Test	Required: 7 1/2% max
Manhole Vacuum Test	Required: 10" Hg for 1" lengths <10'; 1 1/2" lengths > 10'

Pressure Testing  
Min. horizontal separation from water main  
Min. distance above water main  
Buried traceable warning tape  
Sewer manhole frame & cover

Required: 4psi for 8 minutes, 8" line  
10'  
18"  
Provide warning tape in trench 2-feet  
above pipe  
LeBaron LT 105 or Approved Equal

**Residential Water Service Connections:**

Min. cover over pipe	4'-6"
Pipe bedding	Sand; 6" below to 6" above top of pipe
Tubing material	Type K Copper
Min. tubing diameter	1"
Buried traceable warning tape	Provide warning tape in trench 2-feet above pipe
Min. Horizontal Separation from Sewer Service	10'
Min. Distance Above Sewer Service	18"
Min. Horizontal Separation from gas, electric and other utilities	5'
Curb Stops	Open right ball valves rated 300 psi Cambridge Brass only
Corporations shall be ball valve type rated to 300 psi	Ball valve type rated to 300 psi AWWA approved
Service boxes	Slide type, Buffalo style

Notes:

1. For Water Service Renewal or Repair the existing services shall be brought to current Town standards to the extent possible. For existing services of material other than copper or less than 1" this shall mean replacement of the service from the structure to the curb box and replacement of the curb box.
2. If the Contractor encounters a lead service from the main to the curb box he must notify the Water and Sewer Division.
3. 1" Service Taps shall be performed by the Water Division see fee below.
4. Where an existing service is being replaced to the main, the old service shall be capped at the main.
5. Services taps greater than 1" will require a saddle and are subject to the approval of the Engineering Division.
6. Tie cards must be created showing ties to the service box, any unions and corners of the house

**Extension of Town Water Main:**

Min. pipe diameter	8"
Pipe material	Cement Lined Ductile Iron
Min. pipe thickness	Thickness Class 52
Bedding	Sand; 6" below pipe to 12" above crown
Gate Valves	Open Right 200 psi resilient wedge AWWA approved
Hydrants	AVK 2780 Nostalgic Style, all stainless stem rods and bolts, black/white paint, see Town specification
Valve Box Top	Heavy duty; 2" recessed top flange; manufactured by Quality Water Products or approved equal
Valve Box Lid	Heavy duty; solid interface between lid and top without fluted or scalloped design; manufactured by Quality Water Product or approved equal

Valve box base section  
Valves and fittings

Buried traceable warning tape

Belled type  
Secured with mechanical joint  
with restraint  
Provide warning tape in trench 2-  
feet above pipe

**Domestic Drain Connections:**

Approval by Engineering Division and Conservation Commission	Required
Pipe material (force main)	PVC or HDPE
Min. pipe diameter (gravity)	8"
Min. cover over pipe (gravity)	2'-6"
Min. cover over pipe (force main)	4'-6"
Min. slope	1%
Pipe material (gravity connection)	RCP or PVC
Pipe Thickness (gravity)	Class V or SDR 35
Sketch Showing Elevations and Drainage Area	Required
Manhole at Connection to Town Main	Required

**Extension of Town Drain:**

Pipe material	RCP Class V
Min. pipe diameter	12"
Min. cover over pipe	2'-6"
Min. design flow velocity	2 fps
Drain manhole frame & cover	LeBarron LT 105 or approved equal
Catch basin frame & grate	LeBarron LF 248-2 or approved equal

**Fees:**

Water, Sewer or Drain Connection Permit

- First 50' \$100.00
- Each additional foot \$0.30

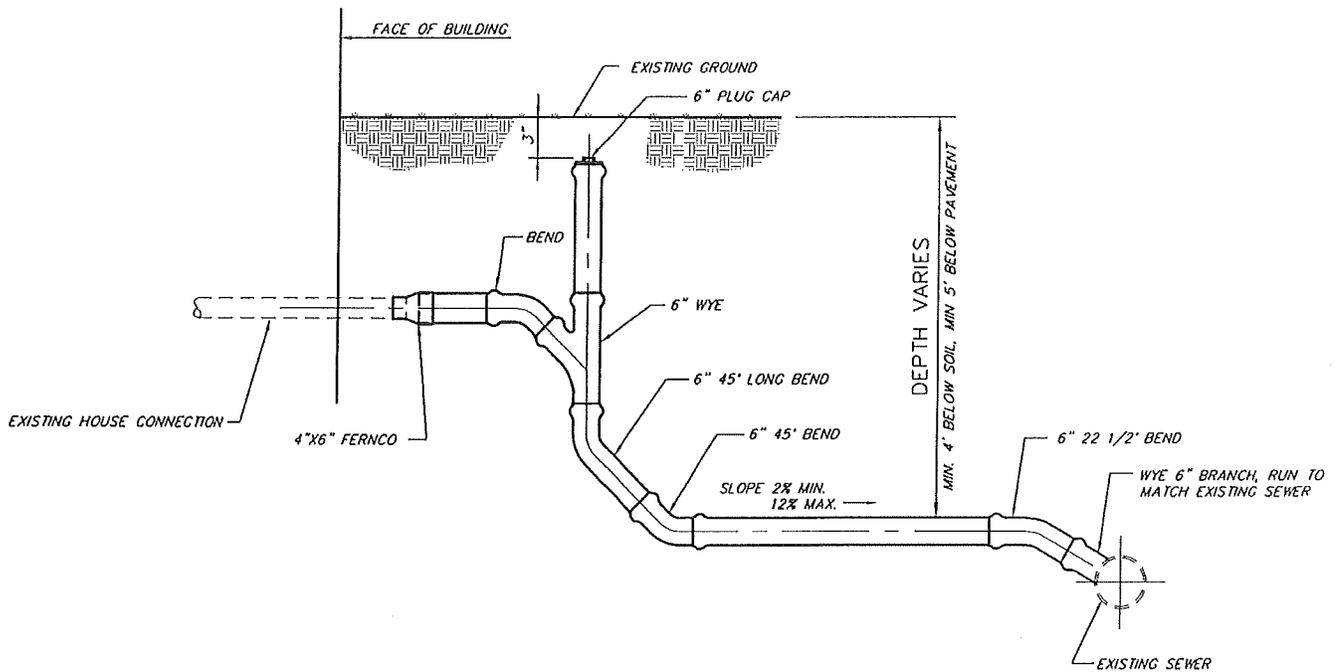
Previous Charge (Fee for sewer stub previously installed by Town from main to property line)

- Only applies to some properties, if applicable charge is available by address at DPW Operations Building

Betterment or Charge in Lieu of Betterment (Fee for construction of the sewer main)

- Only applies to some properties, if applicable fee is calculated by Engineering Division

Tapping Fee



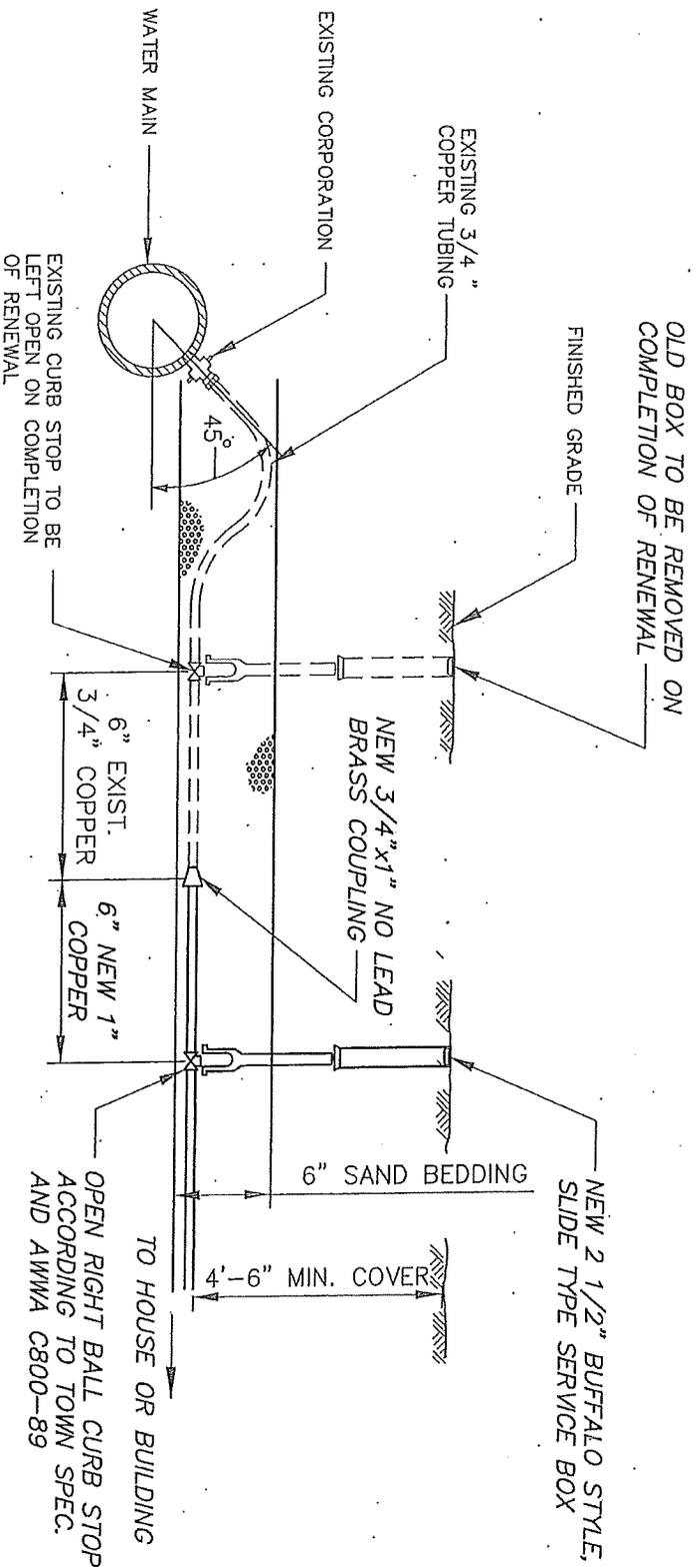
ELEVATION

CLEAN OUT RISER

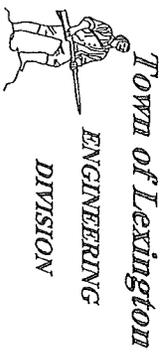
NO SCALE

Town of Lexington  
 ENGINEERING  
 DIVISION  
 DESIGNED BY: P.K.  
 DATE: 5-23-08  
 SCALE: AS NOTED

DETAIL  
 SEWER SERVICE  
 CONNECTION AND RISER  
 LEXINGTON, MA.



1. A 10' HORIZONTAL SEPARATION MUST BE MAINTAINED FROM THE SEWER SERVICE UNLESS OTHERWISE AUTHORIZED BY THE ENGINEERING DIVISION.
2. WATER SERVICE SHALL INCLUDE A BALL VALVE WITH COMPRESSION FITTING JUST BEFORE METER.



**WATER SERVICE RENEWAL STANDARD**

DRAWN BY: P.K.	DATE: 6/10/2011	SCALE: NONE
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