

Amston Lake Sewer Project Update



Lebanon WPCA - Neighborhood Workshop #1



February 26, 2011

Agenda

- Project Status
- Low Pressure Sewers and Grinder Pumps
- Grinder Pump Location Forms
- Grinder Pump Agreement Forms
- Questions and Answers



Project Goals

- Provide sewers to replace septic systems around the Amston Lake Area – 307 homes
- Satisfy outstanding DEP Consent Order #5663
- Abandon discharges from septic systems, many of which are substandard
- Protect public health and the environment
- Improve quality of the groundwater and the Lake



Amston Lake Sewer System

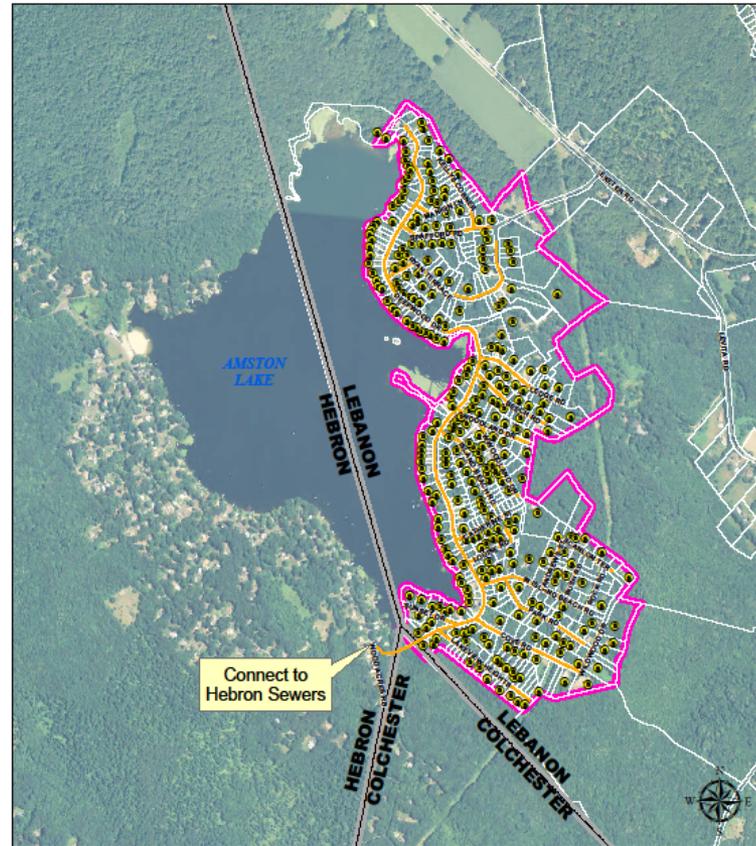
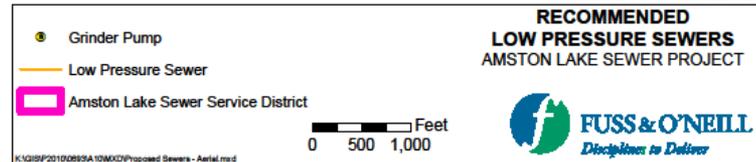


FIGURE 7-1 OCTOBER 2010



Project Status

- Draft Preliminary Design completed in February 2011
 - *Established preliminary sewer layouts*
- Detailed Design is currently in process
 - *Layout of facilities*
 - *Siting grinder pumps*
 - *Obtaining grinder pump agreements*
 - *Obtaining permits and approvals*



Shared Sewer Alignment

- LPS connects to existing sanitary sewer manhole on Deepwood Drive at Lebanon border
- Flow meter at Lebanon town line
- The sewage eventually discharges through Hebron Colchester to the East Hampton - Colchester Joint Facility located in East Hampton



Shared Sewer Alignment

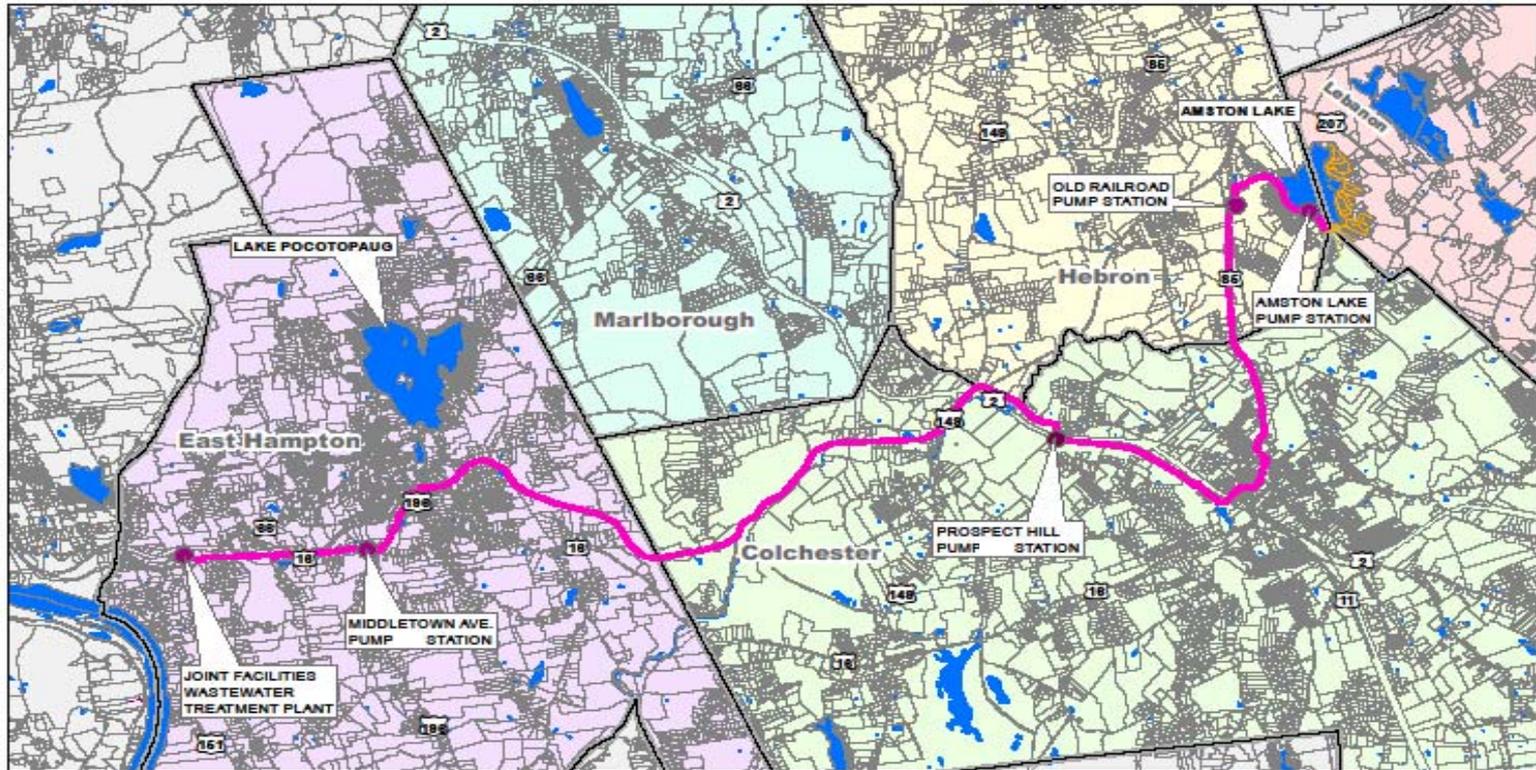
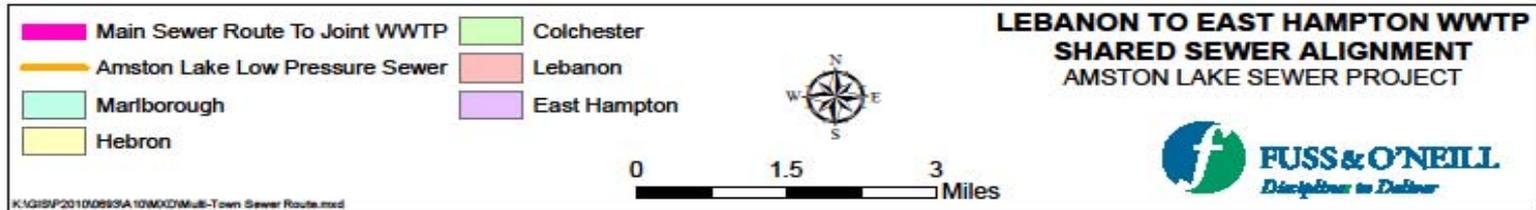


FIGURE 2-2 OCTOBER 2010



K:\GIS\SP2010\0863A\10\MXD\Multi-Town Sewer Route.mxd

Design and Construction Activities

Detailed Design by Fall 2011

- Construction Start in Fall/Winter 2011
 - *Install main line sewer*
 - *Test mainline pipes*
 - *Install grinder pumps and service connections*
 - *Re-pave and restore disturbed areas*
 - *Start up and commission facilities*
- Construction Complete by 2013



Construction Impacts

- There will be temporary inconveniences
- Work hours: From 7:00 am to 6:00 pm,
Monday – Friday

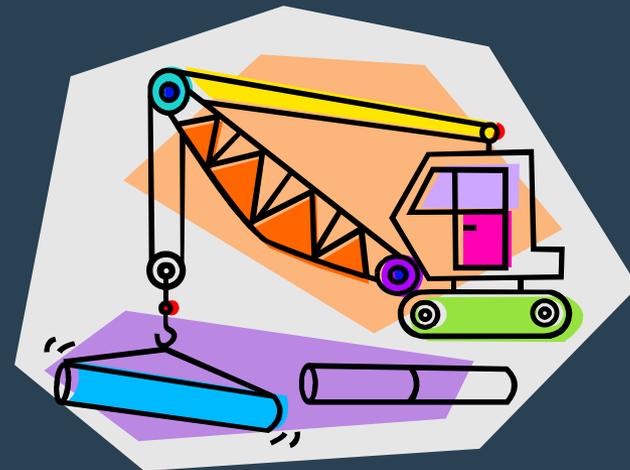


F&O will provide full time on-site representatives. They work for WPCA and can assist you.



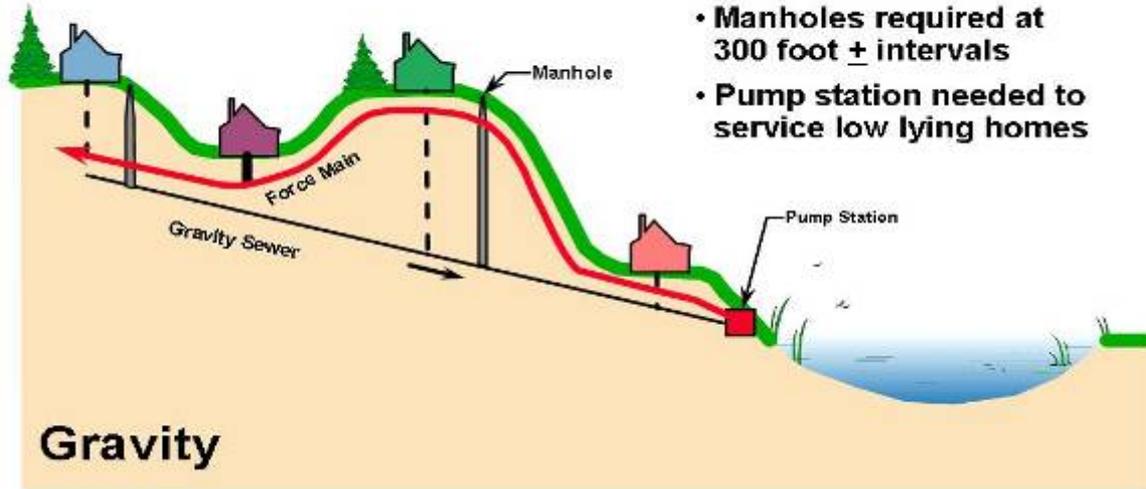
Low Pressure Sewers (LPS)

- Small diameter sewer piping
- Shallow installations
- Sewer pipes can follow topography
- Replaces deep, larger diameter gravity sewers

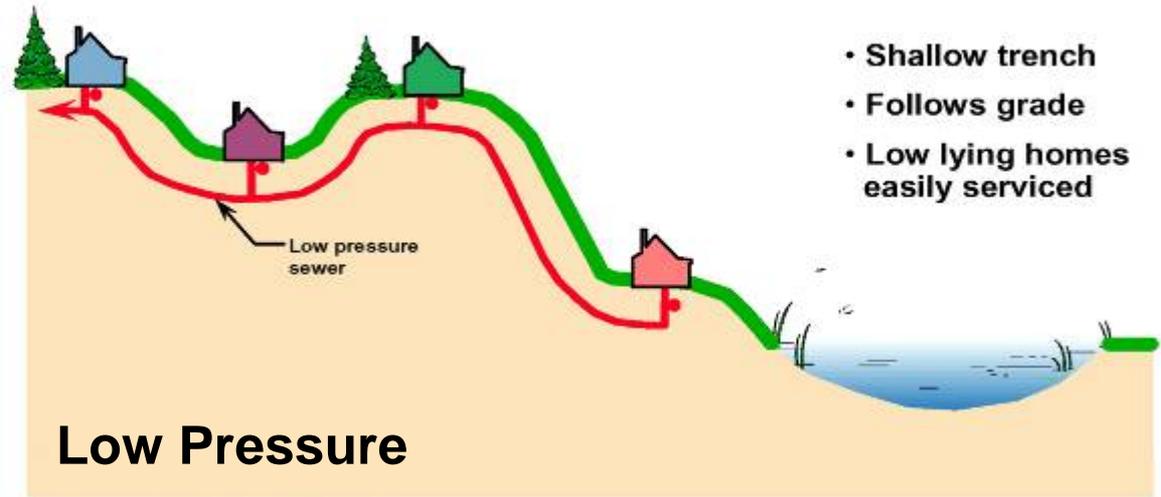


Why Low Pressure Sewers?

Common Sewer Collection Systems



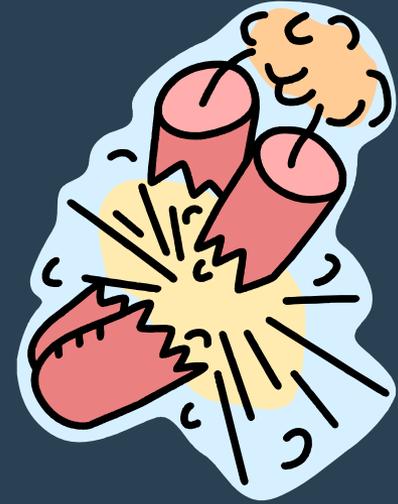
- Deep trench
- Manholes required at 300 foot ± intervals
- Pump station needed to service low lying homes



- Shallow trench
- Follows grade
- Low lying homes easily serviced

Why LPS & Grinder Pumps for Amston Lake?

- Less expensive
- Less disruption, less intrusive
 - *Minimize bedrock blasting*
 - *Minimize groundwater pumping*
- Smaller diameter Pipe
- Shallower piping than gravity sewers
- Flexible vertically and horizontally
- Avoids multiple large pump stations



Grinder Pumps

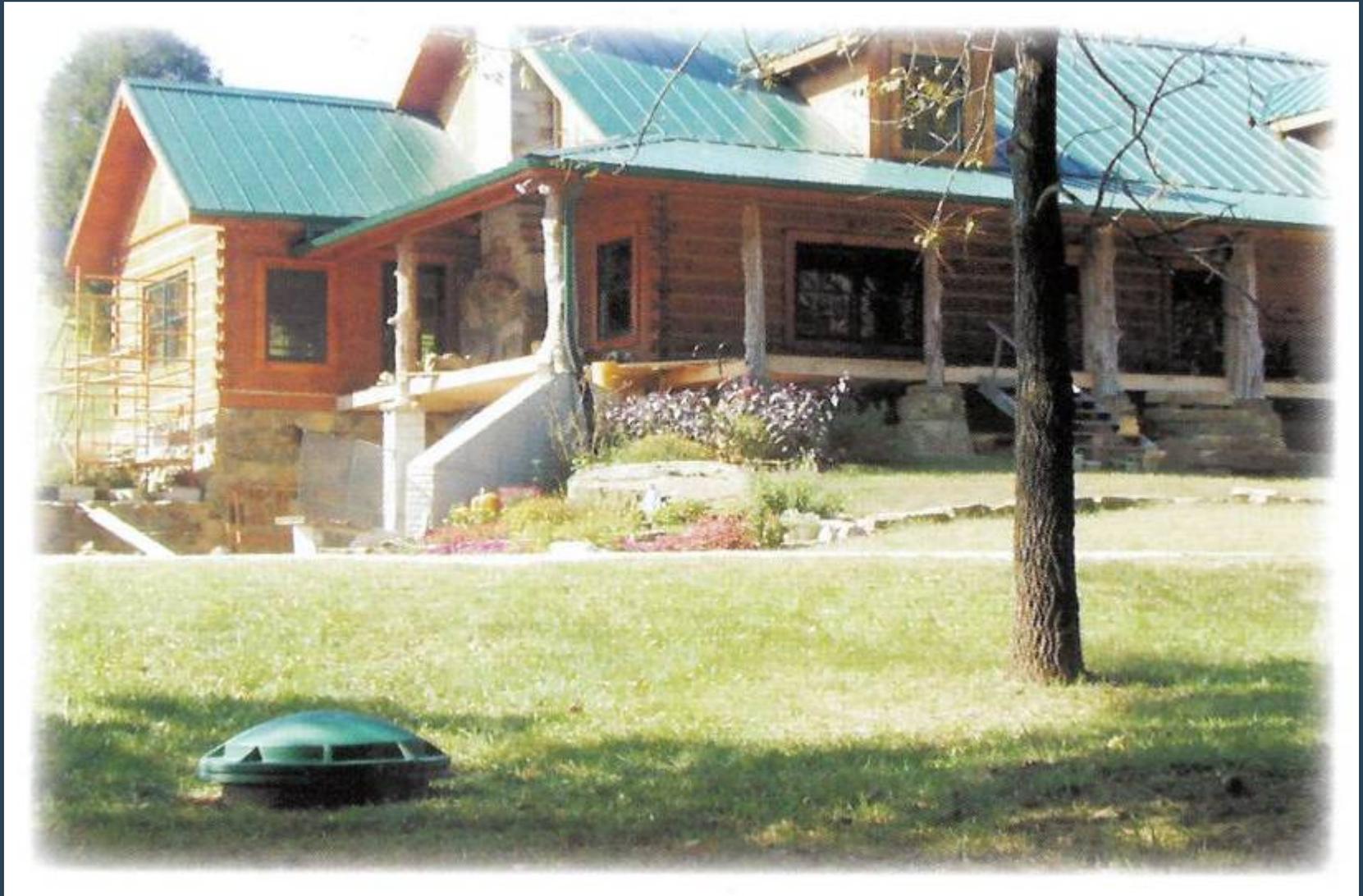
- Small submersible pumps with cutter blades
- Grind up and pump wastewater to sewer pipes in the street
- Situated in cylindrical tank
- Buried in the ground
- One grinder pump per house
- Control and alarm panel



mounted outside
on house



Typical Grinder Pump Location



Typical Grinder Pump Location



Typical Grinder Pump Location



Typical Grinder Pump Location



Typical Grinder Pump Control and Alarm Panel



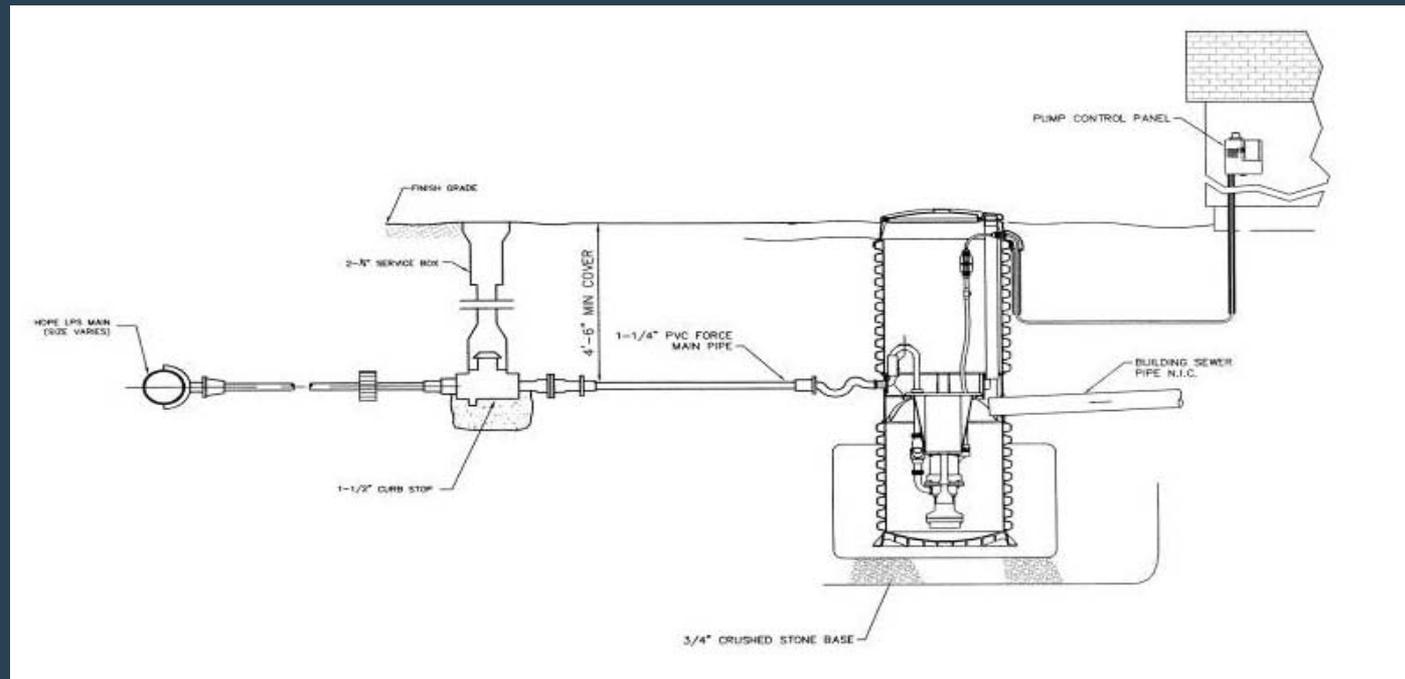
Who Will Install the Grinder Pumps?

- WPCA will install main line sewers in the street
- WPCA will install grinder pumps and service connection pipe to main line sewer
- Property owner may need to hire contractor to:
 - *Re-route building sewer from septic tank to the grinder pump chamber*
 - *Crush and fill the septic tank*
 - *Provide dedicated exterior electrical connection*
- It is possible, depending on the construction bid price, that the connection will be made by the WPCA's Contractor.



Grinder Pump Installation

- Each grinder pump has:
 - *Small service connection (1-¼" diameter) to LPS*
 - *Curb stop*
 - *Check valves*



Grinder Pump Location

- Generally located near the current septic tank
- Owners requested:
 - *To complete “Grinder Pump and Sewer Lateral Location Form”*
 - *To provide desired GP location*
 - *To provide septic system locations*
 - *To Sketch Well location*



Grinder Pump & Connection Lateral Location

Grinder Pump and Sewer Lateral Location Form

Existing Sewage Pipe of the Existing House is 30 inches below foundation wall

SAMPLE

WELL 9'

75' Min.

Proposed Grinder Pump

Existing Septic System

35'

Flower Garden

60 Amp Electric Service

Proposed Sewer Main

Road Name: Deepwood Drive

Name: John T. Smith

Property Address: 73 Deepwood Drive

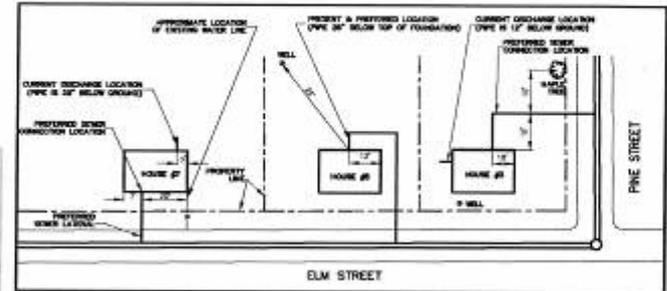
Daytime Phone: 646-2469 Return By: **March XX, 2011**

Signature: John T. Smith Date: 03/XX/2011

Note: This form is not a permit and does not constitute permission to connect to the sanitary sewer system.

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Grinder Pump and Sewer Lateral Location Form Instructions



Completed
Unknown
Not Applicable

- Draw additional roadway(s) if a corner lot
- Add the outlines of any buildings on the property
- Add the approximate septic tank and leaching field location
- Add electric service location and amperage
- Add water pipes and/or drinking water wells
- Add a preferred sewer connection path from the building to the road
- Add dimensions from the sewer pipe leaving your house to one building corner, and the vertical distance from the finished floor
- Add dimensions from the water well location to two building corners
- Add significant trees/plantings you would like saved
- Add your house number and road name(s) to the drawing

Please Note:

1. Additional information can be added directly to the drawing or attached as separate sheets.
2. Building sewer connections should be 25 feet from drinking water wells & 10 feet from water pipes.
3. Field conditions may require modification of your preferred sewer connection path and are subject to regulatory approval.
4. It may not be possible to save all trees/plantings. Considerations will be made to minimize site impact.
5. Grinder Pumps need to be 75 feet away from drinking supply wells.

Grinder Pump Agreements

- Provides permission for WPCA to enter property to install and maintain grinder pumps
- Documents location of grinder pump and piping
- Essentially an informal version of an easement
- Will be recorded in Town records



Grinder Pump Easement Agreement

LEBANON WATER POLLUTION CONTROL AUTHORITY GRINDER PUMP EASEMENT AGREEMENT

THIS AGREEMENT (the "Agreement"), made this _____ day of _____, 20____, by and between the Town of Lebanon, a municipality located within the County of New London in the State of Connecticut, acting through the Water Pollution Control Authority, hereinafter referred to as the "TOWN", and the following property owner, hereinafter referred to as the "OWNER", with respect to the premises (the "Premises") described below:

(Premises address)

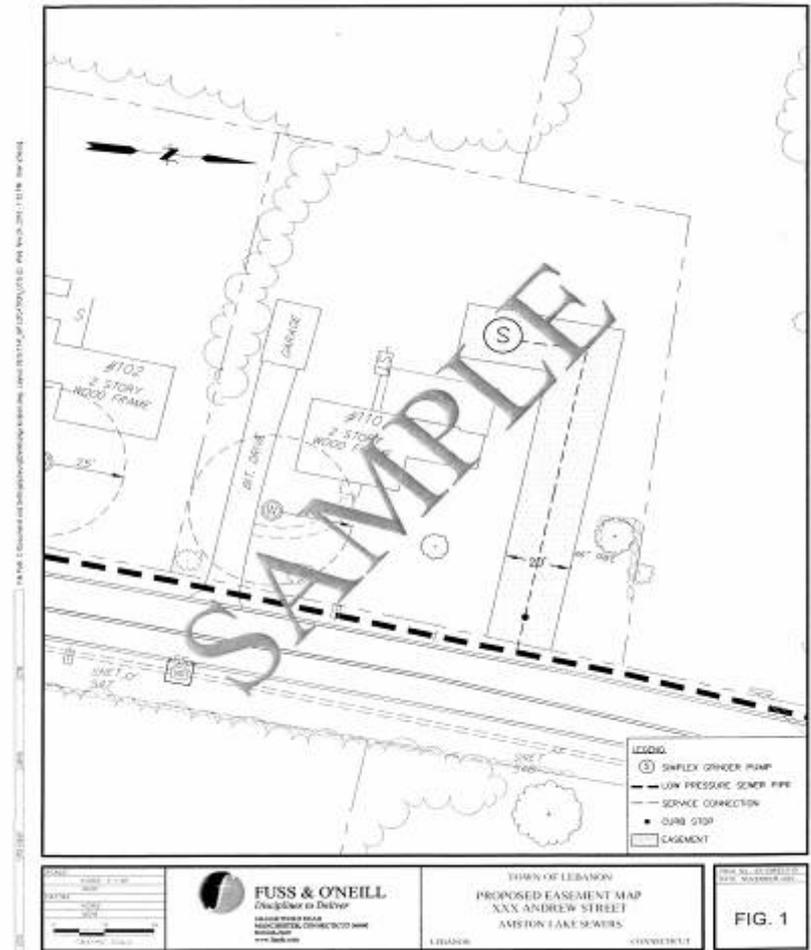
(Owner's name and address)

(Volume and page)

WITNESSETH: The OWNER, for the consideration of One Dollar (\$1.00) and other valuable considerations received to its full satisfaction of the TOWN, does hereby give, grant, bargain, sell and confirm unto the TOWN, its successors and assigns forever, a permanent easement to lay, install, maintain, operate, construct, use, alter, repair and replace on the Premises a sewage grinder pump and service connection from the grinder pump to the sewer in the street abutting the Premises, with all necessary appurtenances on the Premises related thereto (collectively, the "grinder pump facility"), and to enter the Premises to maintain the grinder pump facility, all in the area (the "Easement Area") shown and designated on the map or plan attached hereto as Figure No. 1, dated _____ (the "Easement Map") and agrees with the TOWN that:

1. The location or proposed location of the grinder pump and service connection pipe in, on and under the Premises of the OWNER, in the Easement Area as shown on the Easement Map, is hereby approved by the OWNER. If reasonably required by the TOWN, the exact placement of the Easement Area may be changed or altered, in whole or in part, and in such event, a supplement to this Agreement reflecting such change or alteration shall be executed by the TOWN and the OWNER.
2. Ownership of the grinder pump facility shall be and remain in the TOWN, and the OWNER shall have no title thereto or interest therein.
3. No structures, improvements, trees or bushes, which might, in the TOWN'S reasonable opinion, interfere with the grinder pump facility and the proper operation thereof shall be permitted or hereafter placed or installed by OWNER within the Easement Area and the TOWN shall have the right to remove any such structures, improvements, trees or bushes.
4. The OWNER hereby agrees to adhere to the maintenance instructions regarding the grinder pump facility and shall promptly notify the TOWN, in writing or by other means of communication acceptable to the TOWN, of any indication that inspection or repair thereof is necessary. Following such notice the TOWN shall make any necessary repairs. The TOWN shall not be responsible for repair or maintenance of wiring or plumbing not a part of the grinder pump facility nor for any repairs made necessary by the fault of the OWNER, any member of the OWNER'S household or any tenant or licensee of the OWNER. OWNER hereby acknowledges receipt of the Town's maintenance instructions for the grinder pump facility.

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Grinder Pump Maintenance

- WPCA will maintain the grinder pumps.
- Relatively little maintenance required.
- Grinder pumps alarms, would be called in to WPCA in the case of a malfunction

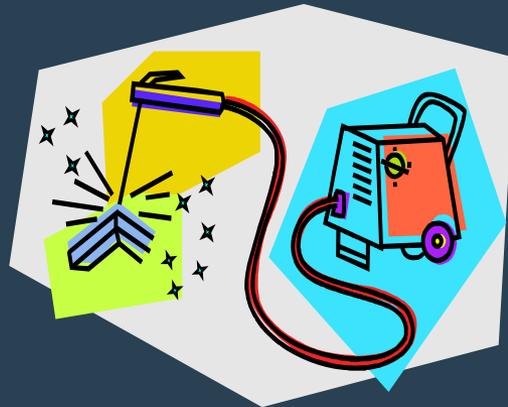


Pressure Sewer System Features

1. Level control
2. Guide rail for pumps and level control
3. High strength poly lid
4. Rigid fiberglass basin
5. Grinder pump
6. Removeable discharge/
check valve assembly

Grinder Pump Electrical Power

- Small horsepower pump 1-2 hp
- Power will come via property owner's electrical service
- In the event of a power outage:
 - *Grinder pump will not operate*
 - *Pump chamber has storage capacity*
 - *WPCA will provide response plan*



Information Sources

- For More Information Contact:
 - wpca@lebanontownhall.org



Questions and Comments

