

# Town of Old Lyme Water Pollution Control Authority

## Presentation Regarding Community Sewerage Systems

### Town of Old Lyme - Water Pollution Control Authority

- Definition of Community Sewerage Systems
- Reasons to consider possible use of a Community Sewerage Systems
- Example of a Municipal Community Sewerage System
- Construction and post-construction photos of large scale Subsurface Sewage Disposal Systems
- Area of Old Lyme with soils favorable for large scale Community Sewerage Systems

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### What is a Community Sewerage System?

Definition - Section 7-245 Connecticut General Statutes

“Community Sewerage System means any sewerage system serving two or more residences in separate structures which is not connected to a municipal sewerage system or which is connected to a municipal sewerage system as a distinct and separately managed district or segment of such system.”

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### Why Consider Use of Community Sewerage Systems?

Some areas of existing homes and businesses may require off-site wastewater disposal rather than on-site wastewater disposal due to a combination of factors:

- Poor Soil Conditions
- Small Lot Size

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### Factors Favoring Off-Site Wastewater Disposal

- Soil conditions and lot size that are unsuitable for a Health Code compliant subsurface sewage disposal system repair
  - a. Depth to seasonal high groundwater less than 18 inches below ground surface
  - b. Tight soils with a slow percolation rate and inadequate hydraulic capacity to handle daily wastewater flow
  - c. Depth of original soils less than 2 ft. above bedrock
  - d. Depth of original soils less than 18 inches above groundwater
  - e. Inadequate lot area available to accommodate a properly sized subsurface sewage disposal system - lot is too small

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### Factors Favoring Off-Site Wastewater Disposal - cont'd

- Groundwater or surface water nitrogen or bacterial pollution caused by:
  - a. Subsurface sewage disposal systems situated below groundwater
  - b. Subsurface sewage disposal systems located too close to surface waters for adequate renovation
  - c. Excessive density of subsurface sewage disposal systems with inadequate Nitrogen dilution
- Concentration of properties with a high percentage of failing subsurface sewage disposal systems that cannot be effectively repaired on-site

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### Options for “Off-Site” Wastewater Disposal

- Community Sewerage Systems
- Extension of Municipal Sewers

Choice of a Community Sewerage System vs. Extension of Municipal Sewers based on:

- Environmental considerations
- Cost effectiveness analysis

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### Environmental and Related Benefits of Community Sewerage Systems

- Recycles treated wastewater to same drainage basin, as opposed to export of water to another watershed
- Provides open space over subsurface wastewater absorption system area
- Protects groundwater and surface water quality by meeting stringent CTDEEP water quality standards and criteria
- System monitoring of groundwater quality and quarterly reporting to CTDEEP
- Local Control

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Example of a Community Sewerage System

Town of Somers, Connecticut Community Sewerage System –  
Maple Ridge Drive Sewer Service Area

Background - Original Setting and Pollution Problem

- Post World War II home construction
- Health Code at the time of subsurface sewage disposal system construction non-existent or not comparable to today's Health Code
- Small lot sizes - generally 1/4 acre or less
- Poor soil conditions - tight soils, seasonal high groundwater
- High percentage of failing subsurface sewage disposal systems and poor success rate with system repairs
- Nitrogen contamination of downgradient household water supply wells due to septic system nitrogen overload of the area; Nitrogen > 10 mg/l
- Surface water bacterial contamination from failed system runoff

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Solution (implemented late 1980's)

- Create sewer service area to serve concentration of 55 homes in problem area
- Construct Community Sewerage System
- Off-Site Subsurface Wastewater Absorption System

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Town of Somers, Maple Ridge Community Sewerage System

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Large Scale Subsurface  
Wastewater Absorption System  
Construction - Pressure  
Distribution of Effluent to  
Leaching Gallery System

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Large Scale Subsurface Wastewater Absorption System  
Construction - Leaching Galleries and Access Manholes

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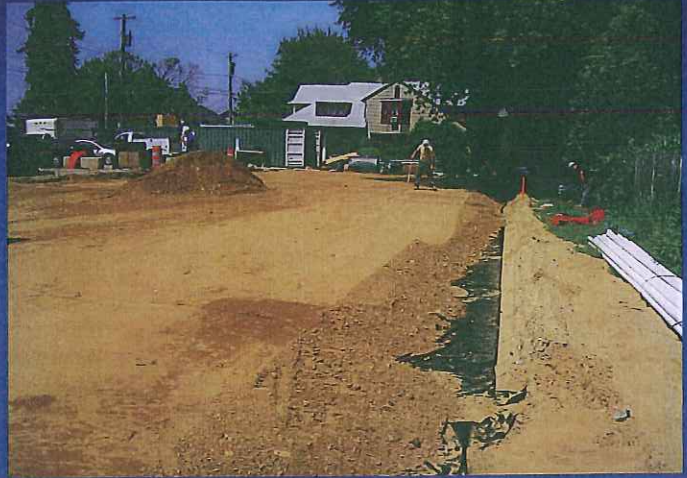
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Large Scale Subsurface Wastewater Absorption System  
Construction - Covering System with Fabric

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Large Scale Subsurface Wastewater Absorption System  
Construction - Gallery System Backfill

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Large Scale Subsurface Wastewater Absorption System  
Post Construction - Subsurface Wastewater Absorption System Area

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Large Scale Subsurface Wastewater Absorption System  
Post Construction - Subsurface Wastewater Absorption System Area

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Large Scale Subsurface Wastewater Absorption System  
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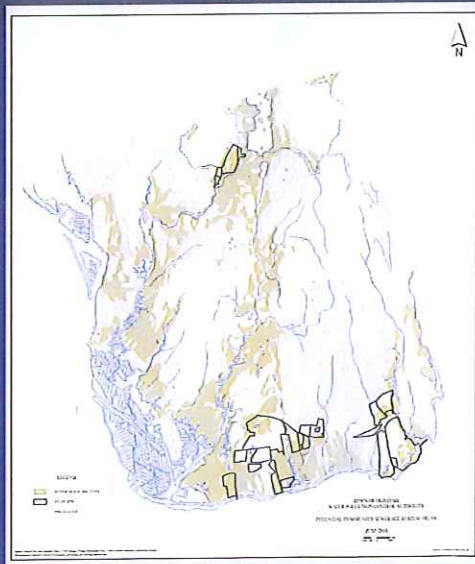
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Large Scale Subsurface Wastewater Absorption System  
Post Construction - Subsurface Wastewater Absorption System Area

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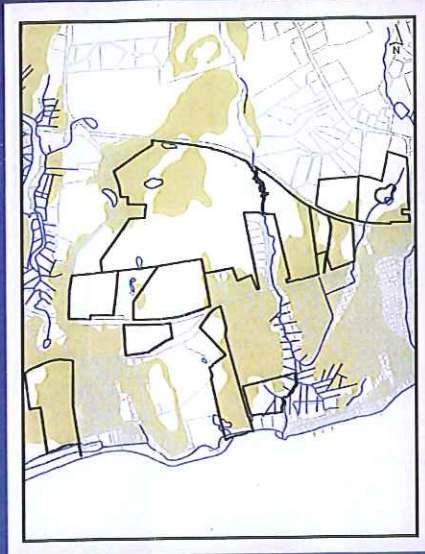


Town of Old Lyme -  
Overall Map  
Soils Favorable for Large  
Scale Subsurface  
Wastewater Absorption  
Systems

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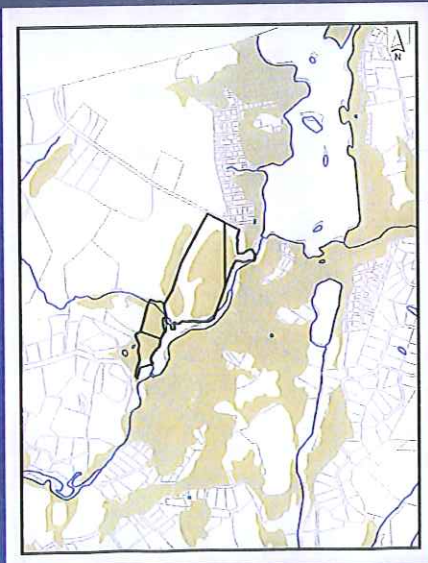
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Town of Old Lyme -  
Shoreline Area  
Soils Favorable for Large  
Scale Subsurface  
Wastewater Absorption  
Systems

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Town of Old Lyme -  
Rogers Lake Area  
Soils Favorable for Large  
Scale Subsurface  
Wastewater Absorption  
Systems

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