Processes and Procedures for Reviewing/Approving Septic System Designs

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DISCLAIMERS:

• Any proprietary technology mentioned in this presentation is used purely as an example and its inclusion does not constitute a comment on or endorsement of the technology by the presenter or MassDEP.

• This presentation is intended to be general in scope but may, at time, refer back to 310 CMR 15.000, Title 5 of the Massachusetts State Environmental Code.

• Many municipalities in Massachusetts have regulations that are more restrictive than the appropriate State Code.
What?

Exactly what are we talking about?
Who?

Who benefits from a system?
Processes and Procedures Benefit:

- Health Department staff
- Board of Health members
- Consultants to the Dept/BOH
- Designers
- Installers
- Property owners/public
Why?

Why do we need a system?
Things that Work Against You In-House:

Multiple areas of expertise

- Food
- Housing
- Septic
- Public health/nursing

Multiple reviewers

- BOH staff
- Consultants
- Town engineering staff
- Others (ConCom, Building Dept., etc.)
Regulations/Policies/Approvals/Guidance:

- Design flow
- Soil testing
- Component standards
- Leaching Area Design

- Alternative technologies
- Tight tanks
- Greywater systems
- Timelines for review
When?
As soon as possible or at least as soon as practicable!
How?

What processes and procedures are needed?
System Design Plan Basics

- Soil evaluation and perc testing information
- Plan and Profile
- Building sewer
- Grease trap (optional)
- Septic tank
- Pump chamber (before/after septic tank) (optional)
- Distribution box
- Soil absorption system/leaching area
- Vents
- Inspection port
Plan and Profile

• Site plan
  • Property lines/ROWs
  • Paved surfaces
  • Buildings/structures

• Profile
  • To scale
  • Elevations

• Designer Stamp: PE or RS (some states require designer licensing)

• Land Surveyor Stamp, if applicable
System Components 1:

**Building Sewer**
- Material
- Slope
- Access (change in direction)

**Septic Tank**
- Size
- Compartment(s)
- Inverts
- Material
- Tees/baffles
- Inlet/outlet drop
- Effluent tee filter
- Accessibility
System Components 2:

**Pump Chamber**
- To septic tank
  - Pump type
  - Septic tank sizing/compartments
- To d-box or leaching area
  - Material
  - Storage
  - Alarms
  - Dual pumps?

**Distribution Box**
- Material
- Sump size
- Level outlets
System Components 3 – Leaching Areas or SASs:

• Type
• Loading rate to the SAS (in MA, LTAR)
• Size
• Calculations shown – Are mounding calculations required?
• Reductions taken?
• Adequate depth to groundwater
• Venting
• Inspection port
Non-conventional System Designs:

- Tight tanks
- Shared systems
- Nitrogen aggregation approvals
- Alternative technologies
  - Secondary treatment units (STUs)
  - Patented sand filters
  - Drip dispersal systems
  - Alternative SASs
Alternative Technology Considerations:

• Type of state issued approval
• Model of the technology
• Compliance with terms and conditions of approvals
  • For example in MA:
    • Best feasible alternative identification and siting
    • Owner acknowledgement
    • Deed notice
Checklists

• Conventional septic system
• Especially for the any STU or I/A requirements
• Inclusive of any applicable guidance or policies
• Consistency among reviews/reviewers
• Adaptable for local bylaws
Checklists - What Now?

- **Purpose**
  - Useful
  - Provides consistency among reviews/reviewers
- Adaptable for local bylaws
- Several sources:
  - Make your own
  - 310 CMR 15.220, especially 15.220(4)
  - MassDEP
  - Barnstable County Health Department
Standard Forms

• Statement of deficiency with timelines for response
• Deed notice
  • Bedrooms
  • Alternative technology
• Owner acknowledgement
• Enforceable agreement
  • Municipal counsel
  • Conventional septic system
Deficiency or Approval Letters

**Deficiency**
- Date of deficiency
- Date of meeting or hearing
- Plan name, date (revision) and designer
- Deficiencies
  - Listed
  - Detailed
  - Regulatory/policy/guidance citations

**Approval**
- Date of approval
- Date of meeting or hearing
- Plan name, date (revision) and designer
- Special conditions
  - Coordination with BOH agent
  - Flagging of system components
  - Watertight construction testing
  - Others as may be applicable
A Few Plan Sections
Proposed Septic System

1 Justa Rd
Massachusetts

Existing 1000 gallon septic tank to remain

100 Chester Rd
5 BR Dwelling

1500 gallon
2 compartment
tank/pump chamber
500/1000
Questions?
## MassDEP Regional Contacts

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### NERO
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Connecticut Septic System Contacts

- Advanced or alternative technology;
- Community system; and/or
- Any flows over 7,500 gpd

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- Conventional septic systems with flows up to 7,500 gpd

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• Advanced or alternative technology
Thank you!