

# Chapter 25 Small Wastewater Systems Revisions

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# Overview

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- Complete revisions of the chapter
- Reorganized the sections to follow the design process
- Old Chapter 25 consisted of 26 Pages
- Revised Chapter 25 consists of 43 Pages





# Additional Pages

- Section 1 – Authority was added
- Section 3 – Definitions section was expanded by three additional pages
- Section 5 – System not specifically covered by this rule was added
- Section 12 – Pressure Distribution Systems was added and consists of a single page
- Section 16 - Greywater section was added and consisted of 7 pages
- Section 17 –Operation and Maintenance was added
- Appendix B - Land Application of Septage was added and consisted of 2 pages





## Section 1 - Authority

- Carried over from Chapter 11
  - Declared authority to create regulation
  - Was not included in old Chapter 25





## Section 2 - Objective

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- Was Section 1 – General in OLD Chapter 25
- Added the requirement for a P.E. to design
  - Advance System
  - Systems with high strength wastewater
  - Standard drain field with a perc rate over 60 mpi.





## Section 2 – Objective – Comment revisions

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- Revised for 2000 gallons or less and removed average as defined in statute. (line 14)
- Advance system removed (Line 18)
- P.E. required for non-domestic wastewater from commercial and industrial facilities. (Lines 16 – 20)
- Inserted final paragraph requiring permits be obtained (Line 22)





## Section 3 - Definitions

- Expanded to added additional definitions needed for
  - Greywater
  - Effluent Devices
  - Clarification





## Section 3 – Definitions – Comment Revisions

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- Advance Treatment was removed (Line 30)
- Much basin was revised to removed duplicate words. (Line 111)
- Pathogens definition was added (Section 6) (Line 115)
- Permit by rules was added (Section 9) (Line 128)
- Pretreatment was removed (Line 136)
- Restrictive layer was revised (Line 140)
- Service provider was revised (Line 152)
- Soil absorption system was clarified (Line 156)





## Section 4 – Design Flows

- All wastewater flows were revised
  - Update to reflect current water usage
  - Based on Wastewater Engineering Treatment and Reuse, Metcalf & Eddie, 2003 Edition
    - Residential use based on low range
    - Non-residential use based on typical flows
  - Unfinished basement will be consider two bedrooms





## Section 4 – Design Flows – Comment Revisions

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- Mobile Home flows were revised (Line 200)
- Restaurant (kitchen waste only) was added to the Table 2 (Line 200)





## Section 5 – Systems not specifically covered

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- Added to allow for alternative systems
  - Same language has Chapter 11 – Section 5





## Section 6 – Site Suitability

- Language was clarified and reorganized
- Added in minimum horizontal setback for public water wells and cisterns
- Allows for an hydrogeological study to be done to reduce the setback for public water wells





## Section 6 – Site Suitability – Comment Revisions

- Added fractured rock to vertically separation (Line 251)
- Clarified public water supply well in the table (Line 359)
- Removed 600/300 feet setback (Line 359)
- Additional treatment required within Zone 2 of a public water supply well (Line 364)



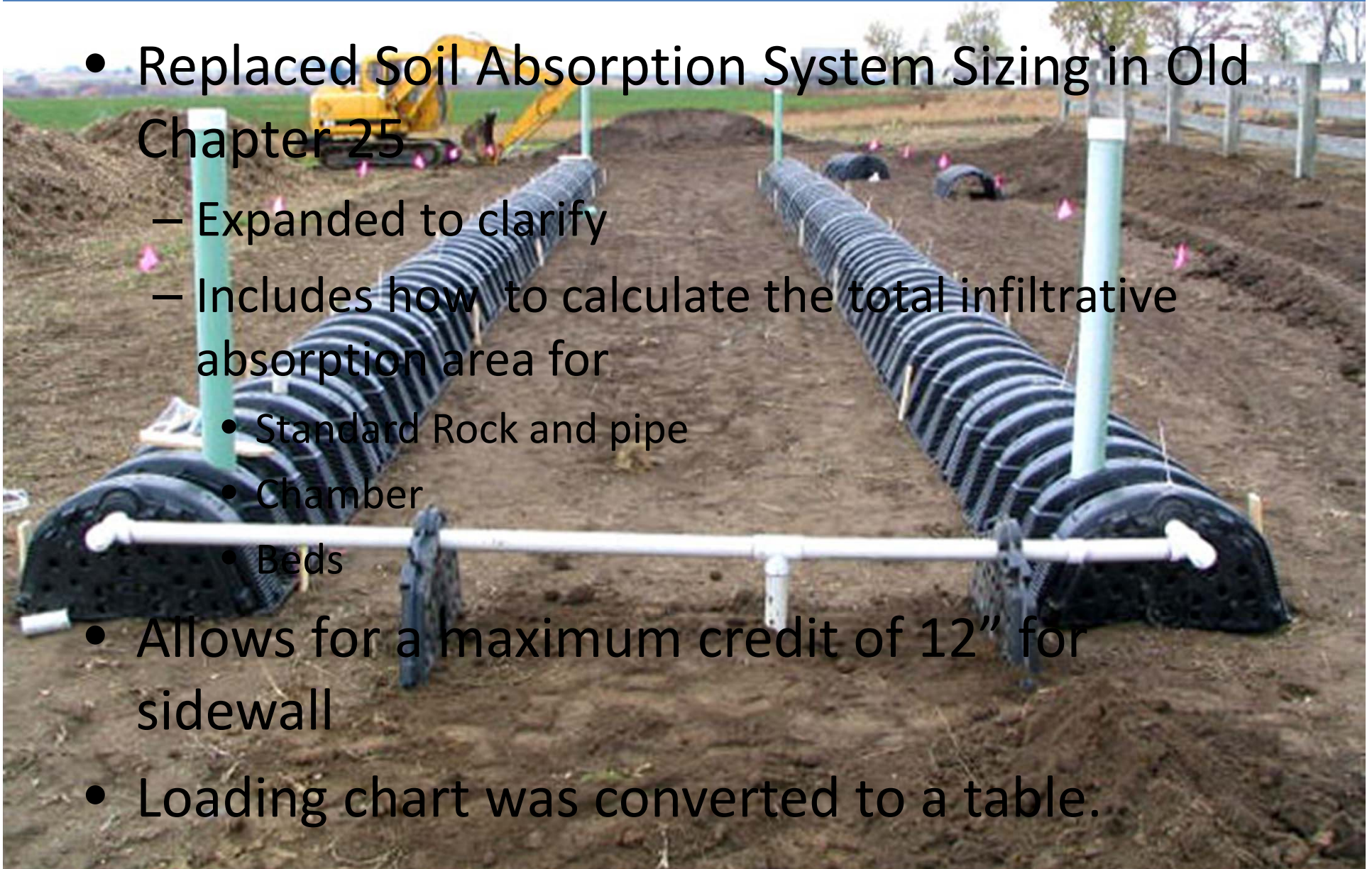






## Section 7 – Drain Field Sizing

- Replaced Soil Absorption System Sizing in Old Chapter 25
  - Expanded to clarify
  - Includes how to calculate the total infiltrative absorption area for
    - Standard Rock and pipe
    - Chamber
    - Beds
- Allows for a maximum credit of 12" for sidewall
- Loading chart was converted to a table.





## Section 7 – Drain Field Sizing – Comment Revisions

- Provide bottom area reduction of 30% for chambers (Line 393)





## Section 8 – Building Sewer Pipes

- Update to reference current plumbing code
- Updated allowable pipe
- Require cleanouts at every change in alignment





## Section 9 – Septic Tanks and Other Treatment

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- Combine pretreatment and holding tanks from old chapter 25
- Sizing was updated for revised design flows to provide 36 hour retention time
- Aerobic units were removed and will be covered under Section 5 and require a P.E.
- Pump tank table was revised for clarification





## Section 9 – Septic Tanks and Other Treatment

- Grease Interceptors were updated
  - Configurations requirements were added
  - Additional retention times factors for laundries was added.
  - Carwash sizing based on number of bays
- Requirement for an effluent sampling point was added.





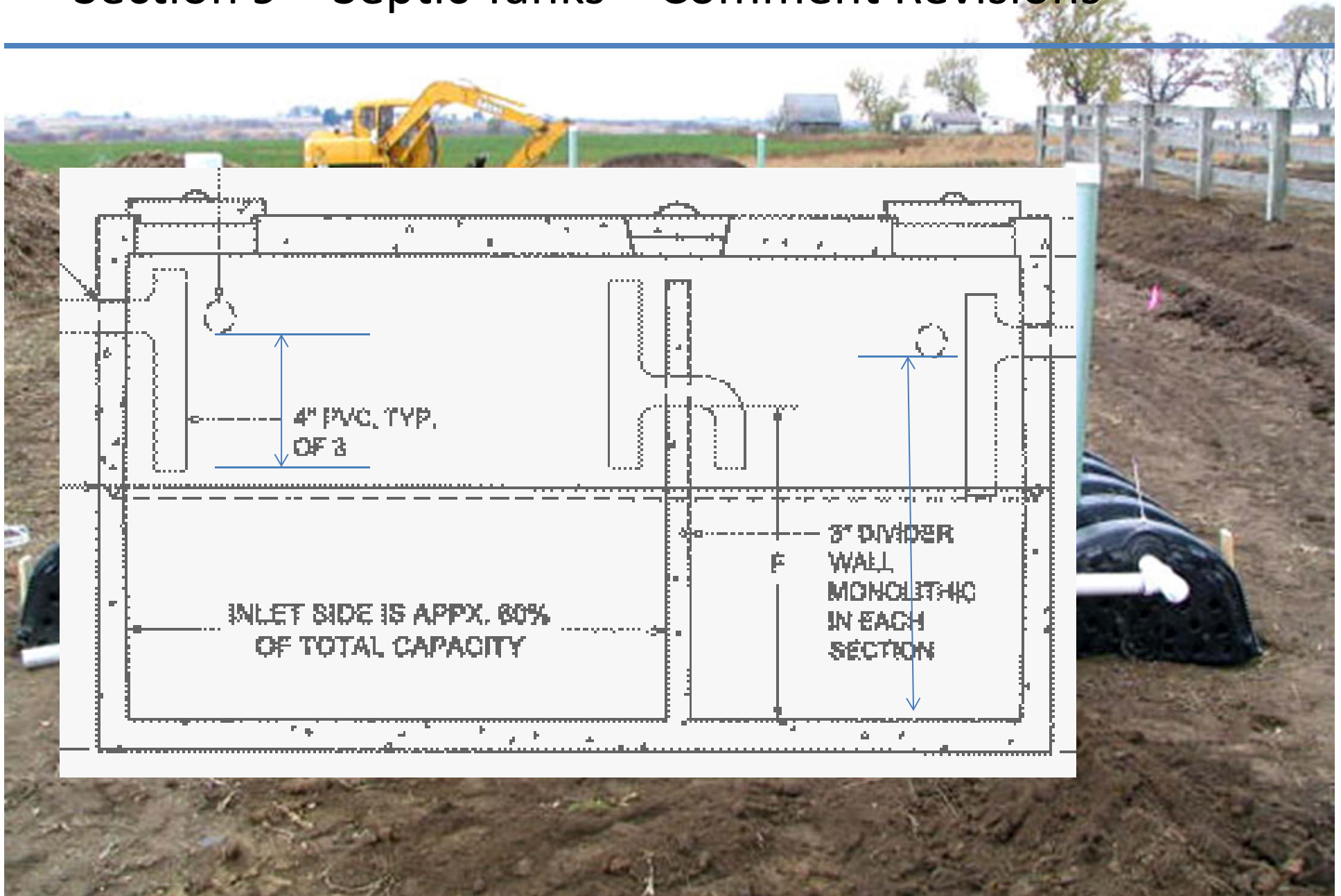
## Section 9 – Septic Tanks – Comment Revisions

- Septic tank sized revised to provide 48 hour retention (Line 474)
- Liquid depth requirements were clarified to apply to both single and multiple compartment tanks (Line 489)
- Depth requirements for baffles or tees was revised (Line 502)





# Section 9 – Septic Tanks – Comment Revisions





## Section 10 – Effluent Distribution Devices

- Only distribution boxes and flow divider tees will be allowed.
- Straight tees will no longer be allowed





## Section 11 – Standard Drain Field Systems

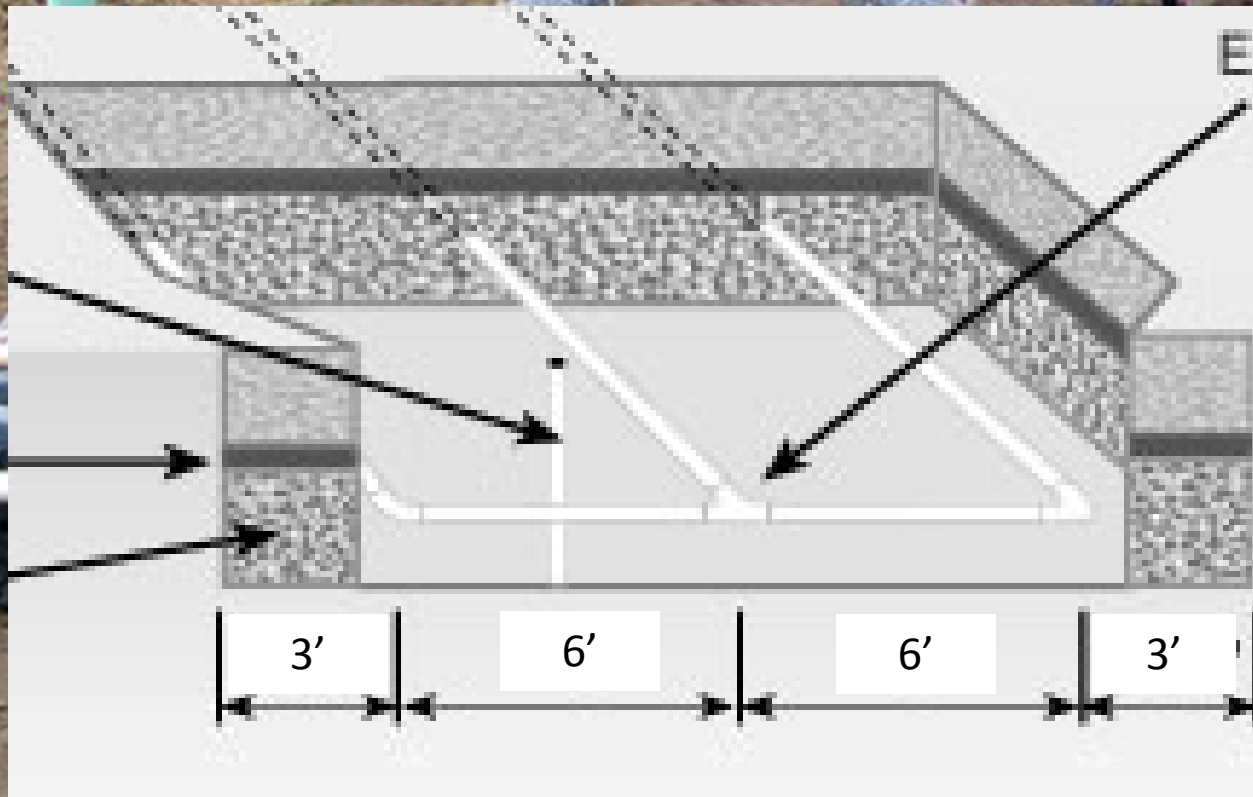
- Updated for chamber systems
- Maximum allowable depth set at 5 feet
- Mounds systems move to it own section
- Evapotranspiration beds were removed





# Section 11 – Standard Drain Field Systems – Comment Revisions

- Beds sidewalls shall **not** be more than three feet (line 796)

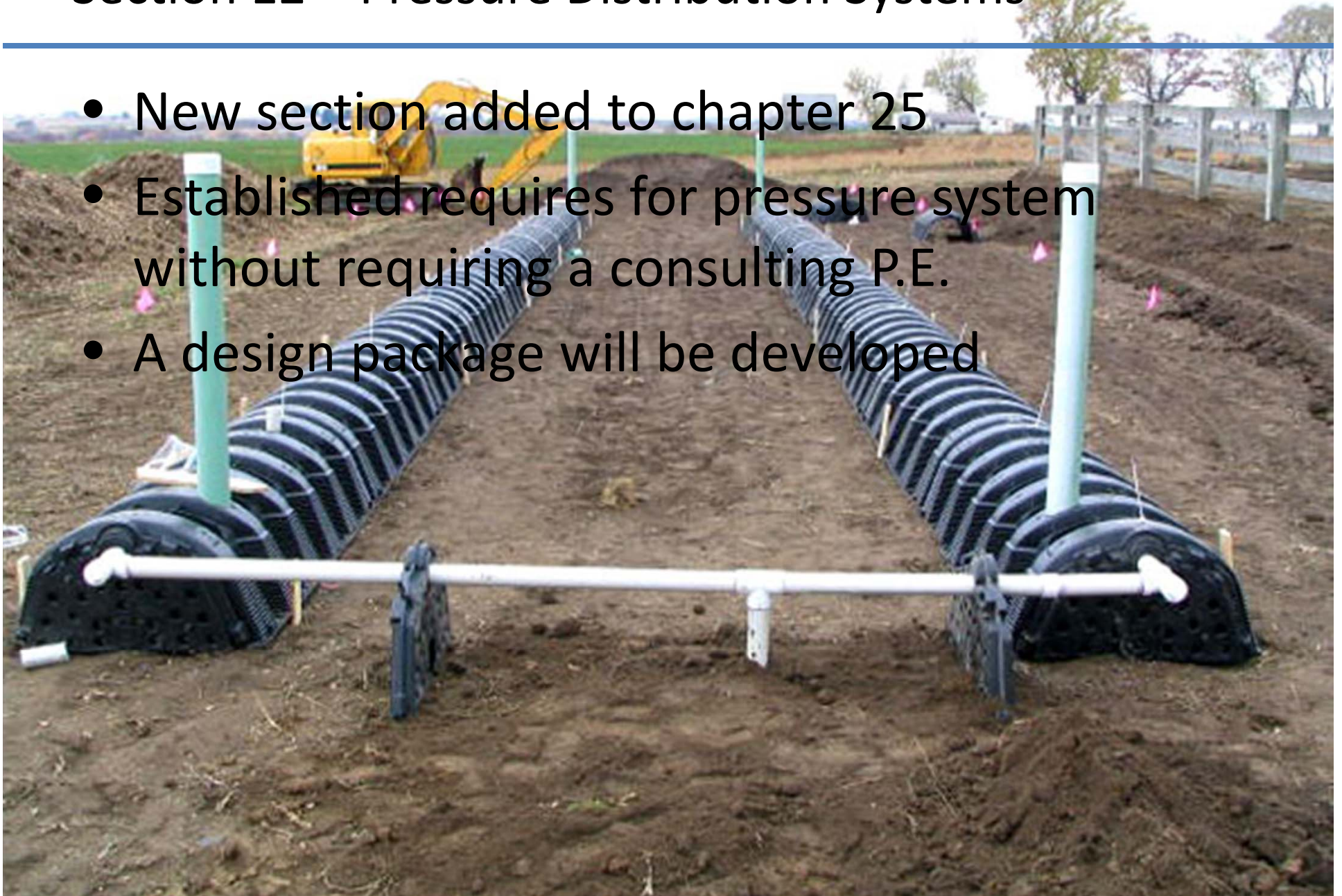




## Section 12 – Pressure Distribution Systems

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- New section added to chapter 25
- Established requires for pressure system without requiring a consulting P.E.
- A design package will be developed





## Section 13 – Sand Mound Systems

- Expanded to provide effective design without a consulting P.E.
- Maximum bed width of 25 feet was added
- A design package will be developed





## Section 14 – Small Wastewater Lagoons

- Require a minimum of 3 acres for lagoons
- Cannot be constructed in 100 year flood plain
- Removed the 1.3 factor of safety in equation
  - 1.3 FS resulted in oversize lagoon systems that require additional flow to maintain minimum levels.





## Section 15 – Privies

- Continue to require a permit to construct





## Section 15 – Privies – Comment Revisions

- Clarified to require all privies to be sealed, water-tight vaults (Line 1061)





## Section 16 - Greywater

- Expanded section to replace current policy
- Require a permit for construction
- Procedure for estimating flows
- Allows for Irrigation of food crops
  - Cannot be harvested for 30 days after greywater irrigation
- Allows for surface irrigation
  - Must be disinfected to 200/100 ml or less fecal coliform levels
- Spray irrigation is not allowed





## Section 16 – Greywater – Comment Revisions

- Section 16 (c) (iv) (D) was blank and has been removed.





## Section 17 – Operation and Maintenance

- New section
- Requirements for maintaining the systems





## Appendix A – Percolation Test Procedure

- Revised to clarify and improvement accuracy





## Appendix B – Land Application of Domestic Septage

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- New section
- Added to establish procedure for disposal of septage in remote areas.





# Questions





## Contact Information

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