





Technical Standards 2023 Updates

Environmental Engineering Program
Environmental Health Section

2023 Technical Standards

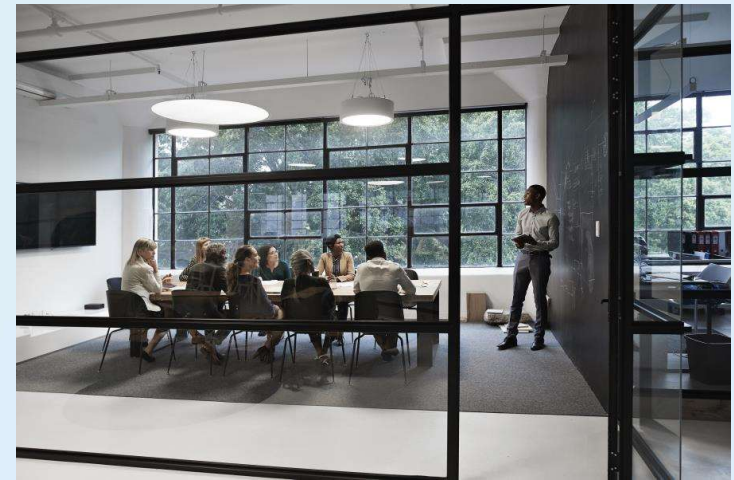
- Effective as of: 1/1/2023
- Revised copy to correct typos posted on 1/23/2023
- Highlighted version
- [Environmental Engineering - Subsurface Sewage \(ct.gov\)](#)

Statutes, Regulations and Technical Standards for Subsurface Sewage Disposal Systems

- [Technical Standards 2023](#)  (uploaded 1/1/2023, revised copy 1/23/2023) **NEW**
- [Highlighted Technical Standards 2023 Changes](#)  (1/23/2023) **NEW**
- [Summary of 2023 Technical Standards revisions](#)  (uploaded 1/1/2023, revised copy 1/23/2023) **NEW**
- [Circular Letter 2022-80 Tech Standard Revisions and Webinar Training Registration links](#)  **NEW**

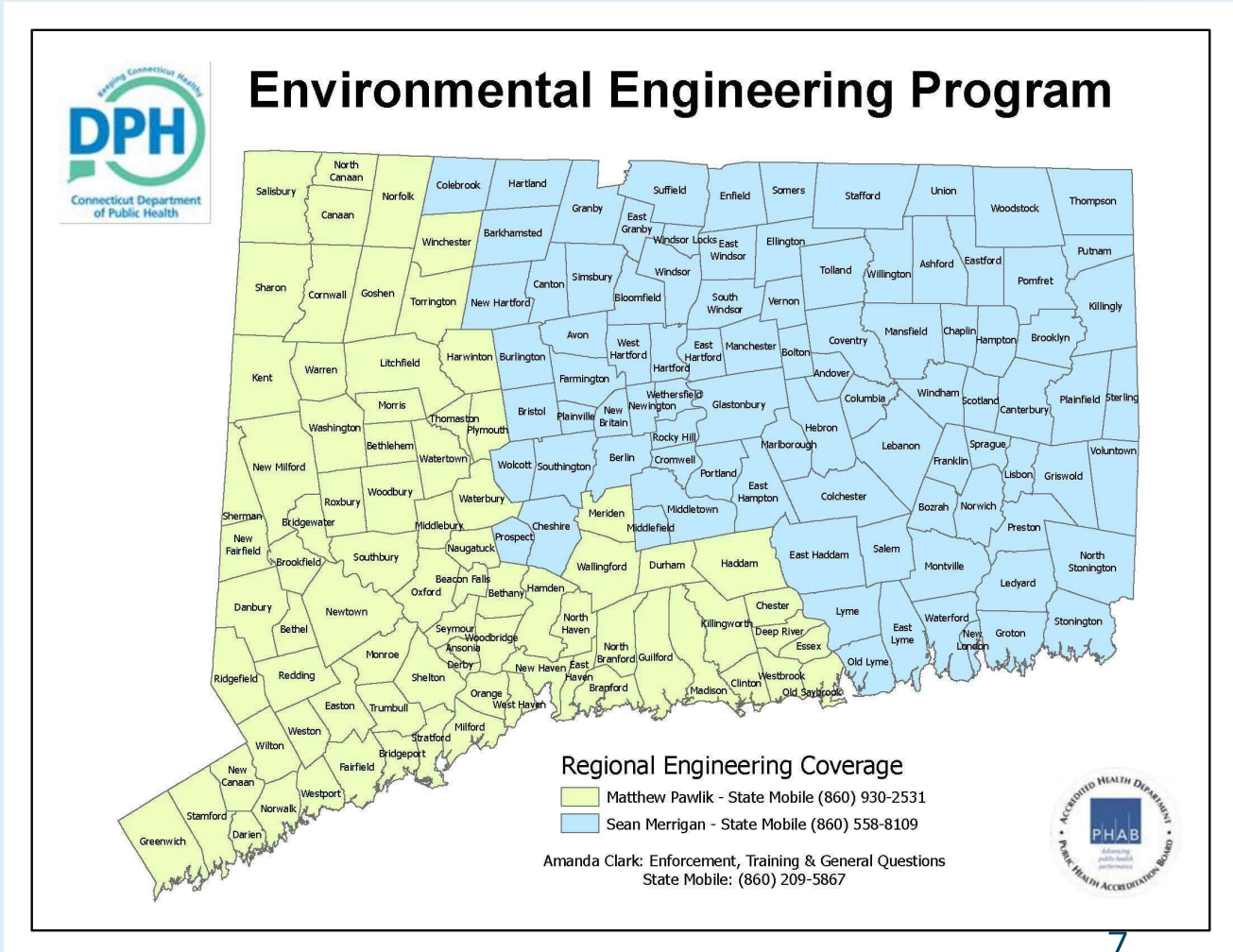
Code Advisory Committee

- Process revision underway
- Last update 2018
- Postponed due to COVID and retirements
- Current Membership
 - CADH (Directors of Health)
 - CEHA (Sanitarians)
 - COWRA (Installers/Cleaners)
 - DEEP
 - DPH
 - Home Builders and Remodelers Association
 - Professional Engineers
 - Soil Scientist
 - Other invited groups (i.e. CTWWA, CT Precasters)



Environmental Engineering Program (EEP)

- 3 Engineers
 - Supervising Environmental Engineer
 - Env. Engineer 3
 - 1 new Engineer Intern
- 1 Environmental Analysts
 - Environmental Analyst 3
 - EA1 (vacant)



EEP Focus

- Wastewater: On-site Sewage Disposal (Septic Systems) (65%)
- Public Pools (25%)
- Disposition of Human Remains, Water Treatment Wastewater, Campgrounds/Recreation, Other (10%)

EEP Responsibilities: Wastewater

- **Subsurface Sewage Disposal Systems**
 - 19-13-B103 Sewage Discharges 7500 Gallons Per Day or less (effective August 16, 1982)
 - Technical Standards for Subsurface Sewage Disposal Systems (latest revision 2023)
 - 19-13-B100a Building Conversions, Change in use, Additions (effective August 3, 1998)
- **Water Treatment Wastewater Discharge**



EEP Responsibilities: Wastewater

- Enforcement
- Plan Reviews
- Investigations
- Licensing
- Product Reviews
- Legislative Matters
- Technical Assistance
- Exception Requests
- Training



2023 Technical Standards Updates

- Revision date: January 1, 2023
- Reference to CT General Statute Section 22a-430 (g)
- Updated the Environmental Engineering Program's email address DPH.EnviroEng@ct.gov
- Added PHC Section 19-13-B103d (d) in the Technical Standards definition is a clerical/Scrivener's error.
- Revised Table of Contents: Appendix E title: Water Treatment Wastewater Discharges to Subsurface Sewage Disposal Systems



CONNECTICUT PUBLIC HEALTH CODE

On-site Sewage Disposal Regulations and Technical Standards for Subsurface Sewage Disposal Systems

PHC Section 19-13-B100a (Building Conversions, Changes in Use, Building Additions)
Effective August 3, 1998

PHC Sections 19-13-B103a through 19-13-B103f (Design Flows 5,000 Gallons per Day or Less*)
Effective August 16, 1982

Technical Standards for Subsurface Sewage Disposal Systems
Effective August 16, 1982
Revised January 1, 2023

PHC Sections 19-13-B104a through 19-13-B104d (Design Flows Greater than 5,000 Gallons per Day*)
Effective August 16, 1982

*Note: The 5,000 gallons per day jurisdictional design flow was increased to 7,500 gallons per day by Public Act No. 17-146, Section 30 effective July 1, 2017, which revised CT General Statute Section 22a-430 (g).

State of Connecticut
Department of Public Health
Environmental Engineering Program
410 Capitol Avenue - MS #12SEW
P.O. Box 340308
Hartford, Connecticut 06134
(860) 509-7296
Email: DPH.EnviroEng@ct.gov
www.ct.gov/dph/subsurfacesewage

January 2023

Section I: Definitions {pg.11-12}

- **Building Sewer** definition: added the word "gravity"
- **Department** definition *added*
 - Department defined in PHC Section 19-13-B103b (m)
- Replaced "Commissioner of Public Health" with "**Department**" throughout Tech Standards
 - *except* in cases where a regulation citation specifically cites the Commissioner
- **Outbuilding** definition: replaced "guest houses and in-law apartments" with "accessory apartment"

G. **Department** means the State Department of Public Health.

- O. **Outbuilding** means an ancillary structure served by a water supply and sewage system that is located on a lot with an associated primary residential building, which cannot be split off and sold separately from the primary building. Outbuildings include but are not limited to plumbed (water & sewage system plumbing) detached garages, workshops, barns, pool houses, game rooms, and accessory apartments.
- P. **Proprietary leaching system** means a manufactured product approved by the Department to be used as a leaching system, excluding the dispersal component of a proprietary pressure-dosed dispersal system.
- Q. **Proprietary pressure-dosed dispersal system** means a manufactured dosing and dispersal system that uniformly applies effluent into the receiving soil via small diameter holes in small diameter distribution piping and has been approved by the Department to be used as a leaching system.
- R. **Receiving soil** means the soil in the leaching system area and surrounding soil that is available to disperse effluent. Receiving soil characteristics (e.g., depth, percolation rate) determine the configuration and sizing of a leaching system.
- S. **Select fill** means clean bank run sand, clean bank run sand and gravel, or approved manufactured fill each having a gradation which conforms to the specifications stipulated in Section VIII A or ASTM C 33. Note: See Section VIII A for additional manufactured fill approval requirements.
- T. **Solid pipe** means pipe that has no loose or open joints, perforations, slots, or porous openings that would allow liquid to leak into or out of the pipe.
- U. **Stone aggregate** means crushed or broken stone, or crushed and uncrushed gravel meeting the gradation requirements for No. 4 or No. 6 course aggregate (See Section VIII A) in Table M.01.02-2 and the course aggregate criteria by pitquary source in Table M.01.02.1 per Connecticut Department of Transportation Form 817 (or latest revision). The above noted criteria concerns Loss of Abrasion, Soundness by Magnesium Sulfate, and fines (material passing No. 200 sieve: 1% maximum).
- V. **Tight pipe** means a solid pipe that exhibits both acceptable wall strength and watertight joints. Pipes approved for use under this designation are listed in Table 3.
- W. **Watertight tank seal** means a pipe to tank connection (inlet & outlet pipe seal) that meets ASTM C 1644, ASTM C 923, or is accepted by the Department as an approved equal based on review of a company's submission of specifications and supporting documentation.
- X. **Water treatment wastewater** is wastewater generated by a device used for the treatment of well water that enhances the quality of water and/or provides for the removal of iron, manganese, radionuclides, or other substances.
- Y. **Water treatment wastewater dispersal system** means a system of a solid conveyance pipe, followed by a structure designed to receive water treatment wastewater and allow it to percolate into the underlying soil. Such systems may include a filter or an intermediate settling structure. Receiving structures include stone filled excavations, drywells, galleries, pits, plastic chambers, or other structures approved by the Department.

Section II: Location of Sewage Systems {pg.13}

- Subsection A
 - Changed title: **Separating Distance to a Water Supply Well**
 - Referenced Item A in Table 1: water supply well for a SSDS installation or repair
 - An exception is required from the Commissioner pursuant to PHC Section 19-13-B103d (a) (3) if the distance cannot be achieved

A. Separating Distance to a Water Supply Well

The minimum separating distance for the installation or repair of a subsurface sewage disposal system (SSDS), except for approved SSDS piping, from a water supply well is specified in Item A of Table 1. A SSDS installation or repair that requires an exception to the minimum separating distance in Item A can only be granted by the Commissioner in accordance with Public Health Code (PHC) Section 19-13-B103d (a) (3). The application for an exception to Technical Standard II A is available on the Department's website with guidance information, which includes reference to CT General Statute Section 19a-209c that requires certified mail notice to each property owner with an affected water supply well in which the SSDS installation or repair is proposed within its protective sanitary radius. The certified mail notice shall be return receipt requested and shall include a copy of the application per the statute.

Section II: Location of Sewage Systems {pg.13}

- **Subsection A: Separating Distance to a Water Supply Well**
- Application for an exception to minimum separating distance for Item A in Table 1 is on the Department's website
- CT General Statute Section 19a-209c requires **certified** notice to all affected well owners
- Notice must include a copy of the exception application

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> ■ Complete items 1, 2, and 3. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature: <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) _____ C. Date of Delivery _____</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below: _____</p>
<p>1. Article Addressed to:</p> <p style="text-align: center; font-size: 2em; font-weight: bold;">SAMPLE</p> <p style="text-align: center;">9590 9401 0000 5191 0000 12</p>	<p>3. Service Type: <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Registered Mail®</p> <p><input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail Restricted Delivery</p> <p><input type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise</p> <p><input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Signature Confirmation™</p> <p><input type="checkbox"/> Insured Mail <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p>
<p>2. Article Number (Transfer from service label)</p>	<p>PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt</p>

State of Connecticut, Department of Public Health
Well Separation Distance Exception Application

To: Environmental Engineering Program, Department of Public Health, 410 Capitol Ave., MS# 5158W, P.O. Box 340300, Hartford, CT 06134-0300 Date: _____

Local Health Department: _____ Mailing Address: _____ Phone Number: _____ Email Address: _____

Attn: _____ Subject Property Address: _____ Town: _____

Replacement of: Septic Tank* Leaching System** Both Exception for: Septic Tank Leaching System Both Wells affected: Owner's well Neighbors' well(s) or Both Basis of Design: # of Bedrooms: _____ Design Flow: _____

Affected Properties	Lot Number or Address	Property Owner's Name	Well Type	Distance from well to:	
				New Tank	New System
Subject Property					
Front Adjacent					
Rear Adjacent					
Left Adjacent					
Right Adjacent					

Shallow well pump(s) with suction pipe(s)? YES / NO If yes, show on plan & note distance if <75 feet.
Building sewer or distribution piping <25 feet to well? YES / NO If yes, show on plan & note distance.
Potability testing of affected wells? YES / NO If yes, are results satisfactory? YES / NO
Is the replacement tank or leaching system located closer to well(s) than the existing system? YES / NO
Does the subject property have any compliance issues concerning PHC Section 19-13-B1-00a? YES / NO If yes, explain.
*Leaching system has been evaluated to confirm it is functioning satisfactorily? YES / NO If no, explain.
**Septic tank has been evaluated to confirm it is in satisfactory condition and properly baffled? YES / NO If no, explain.
Comments: _____

Plan prepared by: _____ Documentation Submitted: _____
Professional Engineer _____ Soil Test Data _____
Licensed Installer _____ Detailed Plan _____
Other: _____

Plan reviewed by: _____ (Print Name and Title) Signature: _____

Please note, in accordance with CT General Statutes Section 19a-209c, the applicant is required to notify owners of properties with water supply wells affected by this exception request. If applicable, property owner must sign below.

Applicant's Signature: _____ (Subject Property Owner) Date of Certified Mail Notification: _____

12/2011

Section II: Location of Sewage Systems {pg.13}

- Subsection B
 - Retitled: **Separating Distances to Approved SSDS Piping**
 - Contains all language from previous Subsection A & Table 1 not included in retitled Section A
 - Previous Subsections B, C, and D: changed to Subsections D, E, and F, respectively
 - Stipulated: SSDS piping may also be approved by the Department in an approval letter issued after the current revision of the standards.

Section II: Location of Sewage Systems {pg.13}

- Added *new* Subsection C titled: **Off-Site & Central Subsurface Sewage Disposal Systems**
- Cited PHC Section 19-13-B103d (d)
 - Requires each building be served by a separate SSDS located on same lot as building served (Off-site easement)
- Cited PHC Section 19-13-B103d (a) (2)
 - Provides for Commissioner exceptions for off-site SSDSs and central SSDSs serving more than 1 building (Central System)
- Added information about SSDS assessments for proposed new building connections to existing SSDSs
- Applications and guidance for exceptions for off-site and central SSDSs are available on the Department's website

Exception Applications

All applications are for Local Health Department use only.

We encourage electronic completion and submission utilizing the Electronic Form (eform) including scanned supporting documentation. Please see *Circular Letter 2011-70 Water Supply Well Separation Distance Exceptions* and/or *Circular Letter 2012-42 Central System Exceptions* in the Environmental Engineering section under [Environmental Health Section-Publications](#) for additional requirements.

- Central System Exception
 - [Central System Exception Application](#) 
 - [Central System Exception Electronic Form \(eform\)](#) 
- Easement Exception
 - [Off-Site SSDS Application](#) 
- Well Exception
 - [Well Exception Application](#) 
 - [Well Exception Application Electronic Form \(eform\)](#) 

[Environmental Engineering - Subsurface Sewage \(ct.gov\)](#)

Section II: Location of Sewage Systems {pg.14}

- **Subsection F. System Abandonment (ANY)**
 - Stipulated: DOH may authorize hollow sewage system structures to be filled with material other than sand or gravel (i.e. concrete) when abandoning such structures



Section II: Location of Sewage Systems {pg.14}

- **Subsection F. System Abandonment**
 - DOH may allow existing structures may be utilized if applicant demonstrates component is in acceptable condition and such use unlikely to cause health hazard or nuisance condition



← NO →



Section II: Location of Sewage Systems {pg.14}

- **Subsection F. System Abandonment**
 - Structures (ANY) left in place shall be located on a plot plan and noted in the property file

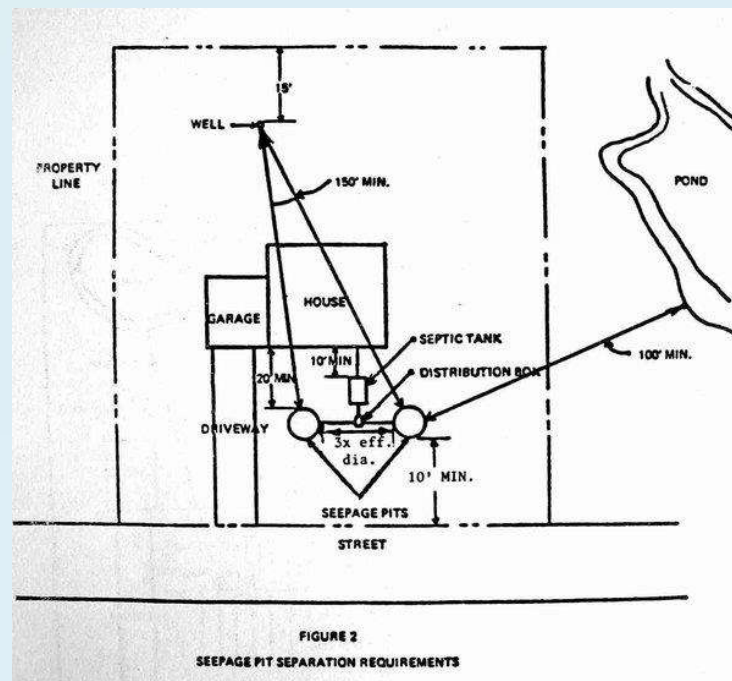


Table 1 Revisions {pg.15}

- **Item H.** Storm water infiltration system (SWIS)
- Added statement to special provision #2 that distance can be further reduced to 25 feet for a minor SWIS (e.g., rain garden) with the approval of the DOH if demonstrated that the leaching system will not be adversely impacted.
- *A minor SWIS discharges storm water collected from a localized area on a property and does not include a SWIS that discharges storm water collected from large areas on a property.*





Table 1 Revisions {pg.16}



- **Item O.** Utility service trench
 - Stated in special provision that the distance does not apply to electrical and alarm connections to sewage tanks
 - Added **recommendation** that detectable underground magnetic tracer/warning tape be provided at least one foot above buried utility lines within 25 feet of a SSDS

O. Utility service trench (e.g., electric, gas)	5	Utility trench excavations less than 25 feet from leaching system shall not be backfilled with FDM. It is recommended that detectable underground magnetic tracer / warning tape be provided at least 1 foot above buried utility lines within 25 feet of a SSDS. Distance does not apply to electrical and alarm connections to sewage tanks.
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Table 1 Revisions {pg.16}

- **Item R. Closed Loop Geothermal System**
 - Reduced SSDS distance from 50 to 25 feet minimum separating distance to trench or bore hole regardless of system location on the landscape
 - Reduced SSDS distance from 10 feet to 5 feet to geothermal piping to trench or bore hole (consistent with other buried utilities)

R. Closed loop geothermal system Bore hole, Trench	25	Geothermal piping excavations less than 25 feet from leaching system shall not be backfilled with FDM.
Geothermal piping to Borehole/Trench	5	

DCP Regulations Revised

- Property line setbacks not addressed
- No consideration of the neighboring properties
- Deferred SSDS setback distances to DPH regs

<https://eregulations.ct.gov/eRegsPortal/Search/getDocument?guid={006EDE81-0000-C215-9990-43B33365748E}>



Secretary of the State File Number
6364

Regulation of the

Department of Consumer Protection
Concerning

Well Drilling and Geothermal Systems

Regulations adopted after July 1, 2013, become effective upon posting to the Connecticut eRegulations System, or at a later date if specified within the regulation.

Posted to the Connecticut eRegulations System on **July 8, 2022**

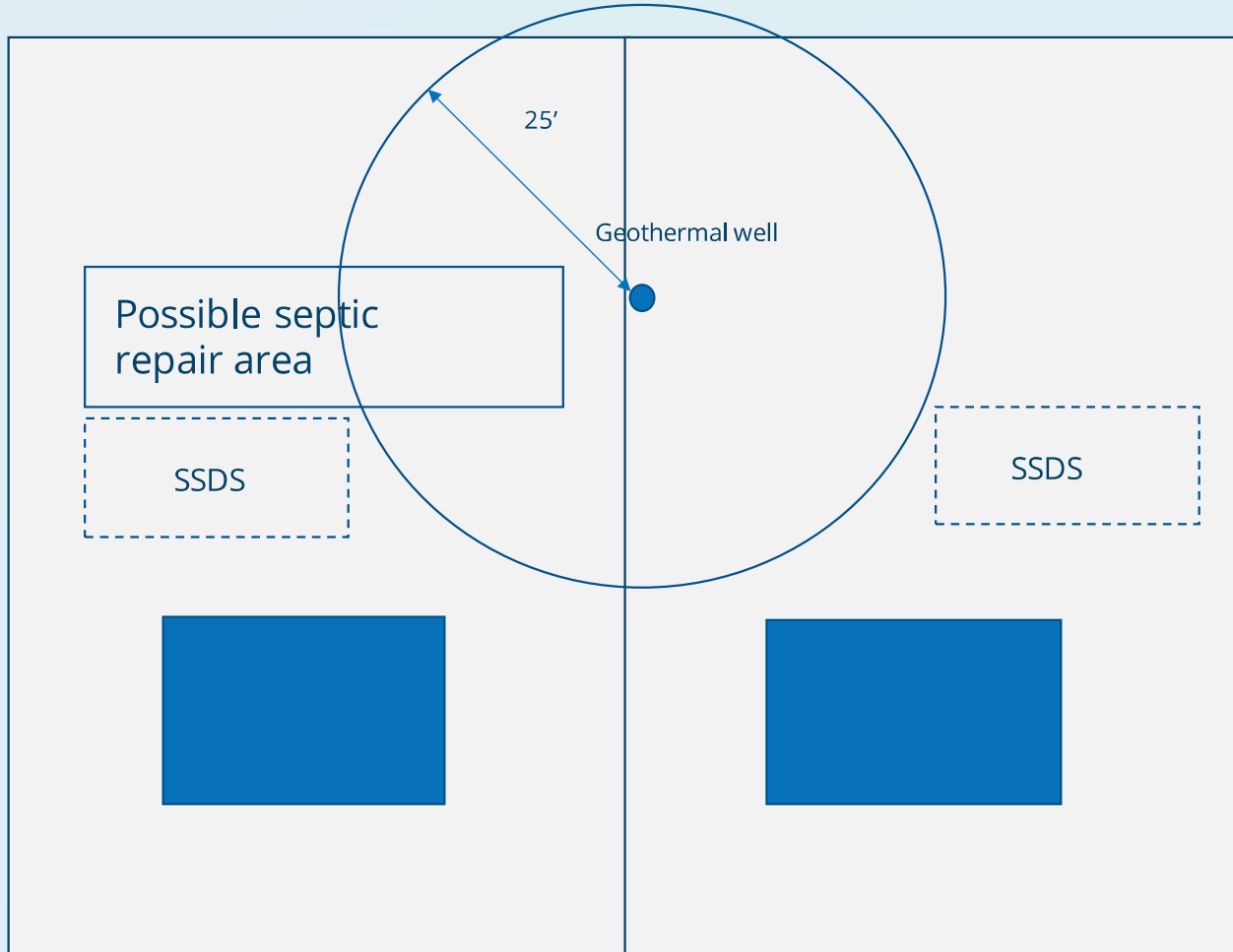
EFFECTIVE DATE
July 8, 2022

Approved by the Attorney General on
June 4, 2022

Approved by the Legislation Regulation Review Committee on
June 28, 2022

Electronic copy with agency head certification statement electronically submitted to and received by the Office of the Secretary of the State on
July 6, 2022

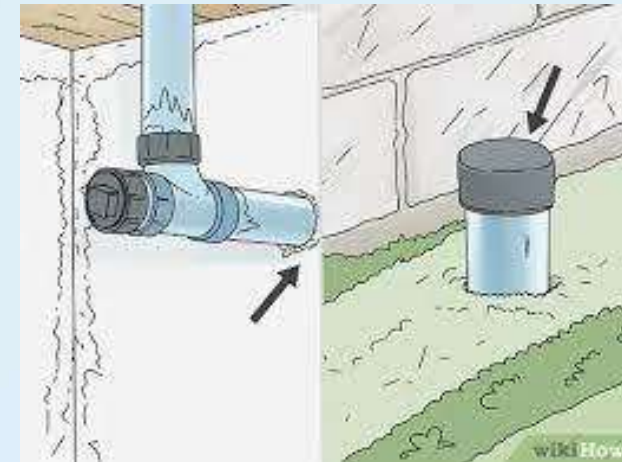
Geothermal wells should be located similar to potable wells





Section III: Piping {pg.17}

- **Subsection A. Building Sewers**
 - Stipulated: when cleanout is provided for multi-bend change in direction on a building sewer, it shall be provided prior to the first change in direction
 - Require a cleanout for buildings constructed on slab on grade that includes a new sewer connection if a cleanout is not provided within the building





IPC also
requires
clearance of
18" for pipes 4"
and 6" pipes

Section III: Piping {pg.19}

- **Table 2:** Approved Building Sewer Pipe from Building Served to Septic Tank or Grease Interceptor Tank
 - Increased minimum pressure class of PVC AWWA C 900 pipe from 100 to 150 psi
 - 4" wide couplings are required for 6" and 8" diameter building sewers.
 - Added Gripper Gasket LLC Maxadaptor Sewer Repair Coupling to acceptable joint column

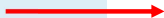


Maxadaptor

Section III: Piping {pg.19}

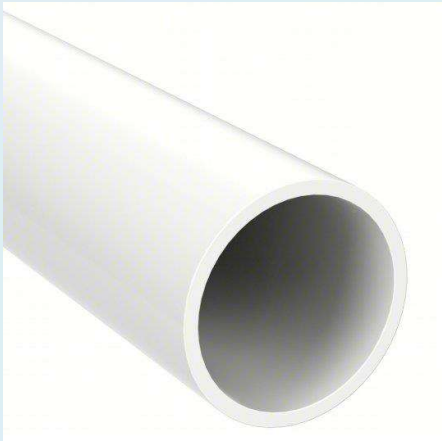
- Couplings without shear bands can be used for joint connections between cast iron pipe and the bell end of an approved PVC Schedule 40 or 80 pipe

OK



Section III: Piping {pg.19}

Not OK

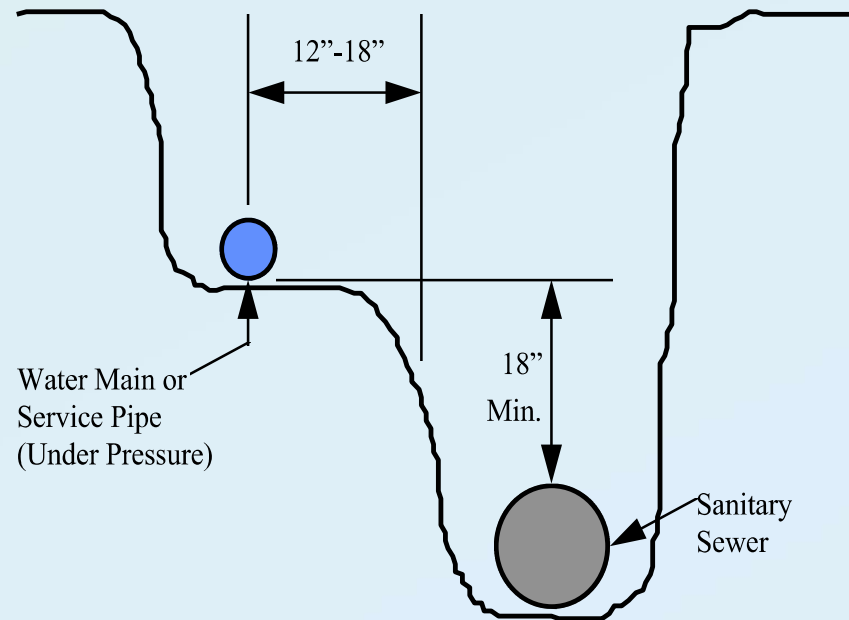


Need



Section III: Piping {pg.19}

- Building sewers and water piping shall be installed in accordance with Section III D (p. 18)



Section IV: Design Flows {pg. 23 - 24}

- **Subsection A. Residential Buildings**
 - Clarifying language added noting reduced design flow (75 GPD) for each bedroom beyond three in a single-family residential building does not apply to bedroom(s) in a residential outbuilding for central SSDS sizing purposes

A. Residential buildings

Design flows for residential buildings shall be based on the number of bedrooms (refer to Section I). The design flow per bedroom is 150 GPD, except for bedrooms beyond three in single-family homes that have a design flow of 75 GPD for each additional bedroom. The reduced design flow (75 GPD) for each bedroom beyond three in a single-family residential building does not apply to the bedroom(s) in a residential outbuilding for central SSDS sizing purposes.

Section IV: Design Flows {pg. 23 - 24}

- **Subsection C. Water Usage Monitoring and Permits to Discharge**
 - Added language to reference non-compliant ELA or MLSS leaching system repairs

C. Water usage monitoring and Permits to Discharge

Plans for large SSDSs (2,000 to 7,500 GPD) shall include provisions to monitor domestic sewage generation via the use of water meters or other available means (e.g., pump cycling and dose volume documentation). Permits to discharge issued by the DOH shall be on approved forms (Form #4 or approved equal) as required by PHC Section 19-13-B103e (h). Permits to discharge for limited SSDS repairs (e.g., septic tank or leaching system replacement only) shall document which SSDS components were and were not replaced. The discharge permits shall specify the design flow and permitted flow. The design flow shall equal the permitted flow, except for leaching system repairs that do not provide the required ELA or MLSS. **The permitted flow for non-compliant ELA or MLSS repairs shall be prorated by using the most limited percentage of the required ELA or MLSS provided.** The discharge permit shall recommend the average daily discharge not exceed 2/3 of the permitted flow allow the SSDS to operate with a sufficient factor of safety and to accommodate peak flow conditions.

Section V: Septic Tanks & Grease Interceptor Tanks {pg. 27- 28}

- **Subsection A. General:**
 - Tanks deeper than 24" with *existing* risers do not need to be retrofitted with a 24" diameter risers; new and repairs only



Section V: Septic Tanks & Grease Interceptor Tanks {pg. 27- 28}

- **Subsection A. General:**

- Steel tanks, slab cover (coffin top) tanks, and any tank in poor condition are not good candidates for risers and should be replaced.



Secondary Safety Lid or Device

- Require a secondary safety lid or device for a riser assembly when the sewage tank cover is not left in place, regardless of weight of riser cover for all sewage tanks. (holding tank, pump chamber, grease interceptor and septic tank)
- If the tank cover is removed a secondary safety lid or device must be provided below the riser cover.



TODDLER DIES AFTER FALLING INTO SEPTIC TANK
CHEROKEE COUNTY

Death of Putnam County 1-year-old again raises concerns about unsecured septic tanks

Case similar to death of 3-year-old in Jacksonville park in attorney says

The untold story: What really happened the day a child drowned in a Tim Hortons grease trap

Gomora residents devastated after two children drown in septic tank hole

It is suspected that one of the boys tried to get the ball out the hole and had trouble getting out of the water. The other boy tried to save him but also drowned.

an dies after falling while gardening

The Family of a Toddler That Died After Falling Into A Septic Tank Due To Faulty Lid Cover Awarded \$21 Million

May 12, 2022 / Updated: May 12, 2022

2-year-old dies after falling into septic tank, coroner says

3-Year-Old Girl Dies After Falling Into Septic Tank at N.J. Campground in 'Devastating Accident'

Officials in Cape May County said an investigation does not reveal any signs of foul play, and that it was a "tragic" accident



"If someone falls in a septic tank generally the outcome is that they do die," said Rick Dawson, the supervisor of land use, sewage and water for the Benton Franklin Health District.

WOMAN DIES AFTER FALLING INTO SEPTIC TANK

Secondary Safety Lid or Device

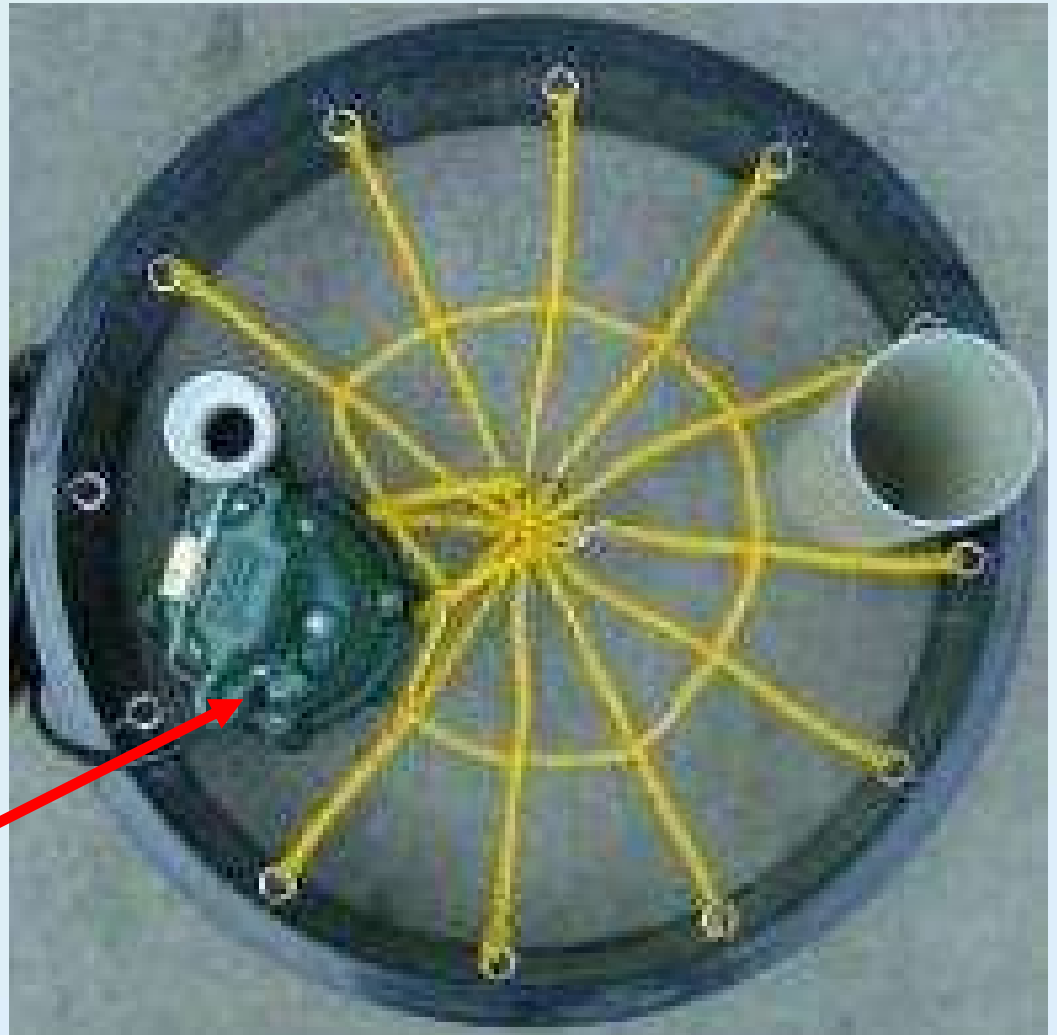
- Secondary safety devices are commercially available products for the purpose of preventing accidental entry.
- Not retroactive. Secondary safety requirements should be addressed during the planning stages of the installation. Like effluent filters, specification can be included on plans.
- Applies to sewage tanks, holding tanks, pump chambers, grease interceptor and septic tanks when tank covers are removed and a riser is utilized.

Secondary Safety Lid or Device

- Many commercially available products for all riser materials, including concrete.
- The secondary safety device must go between the sewage tank opening and riser cover.
- Pump chamber options: The nylon nets or straps seem to be used most often for a pump chamber. They allow for access to the pump while meeting the requirement of a safety device.

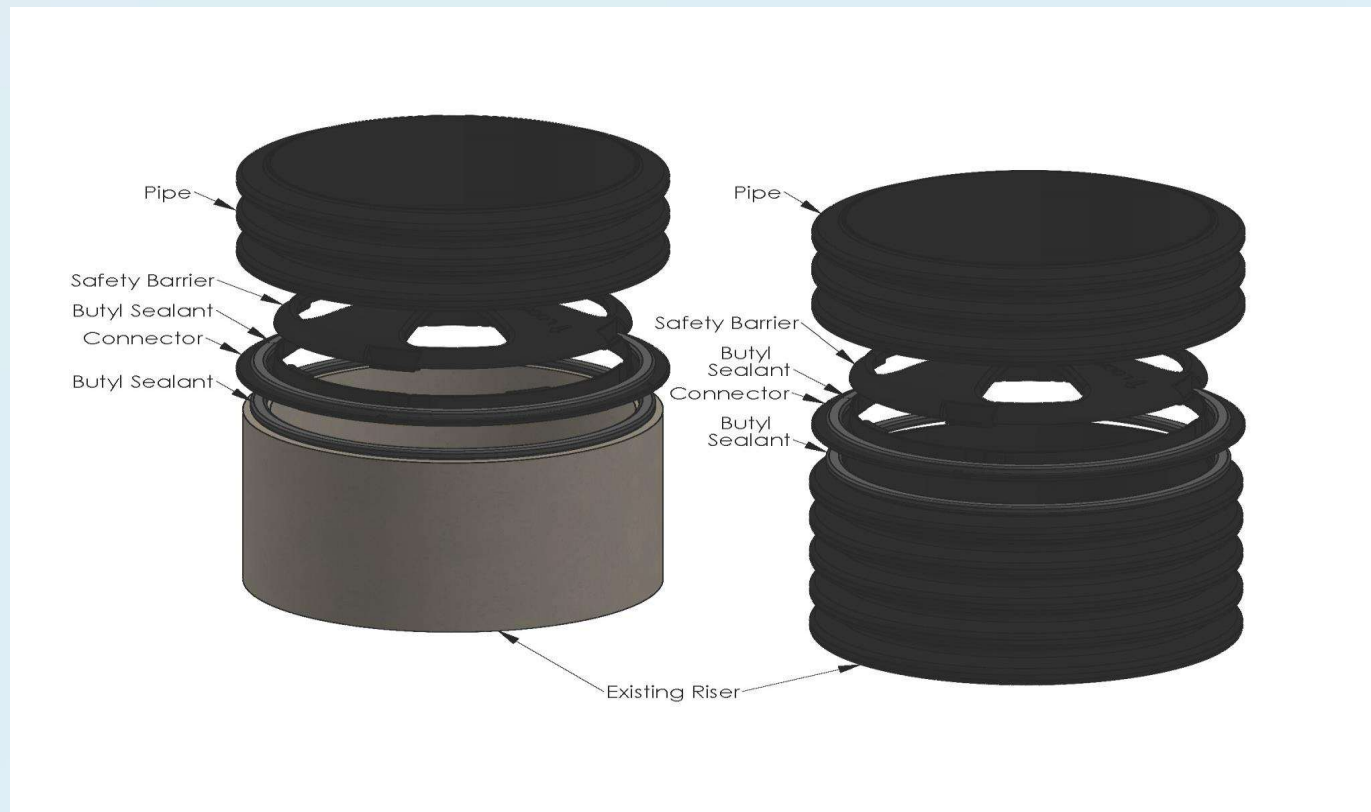
Commercially Available

- [Riser Safety Grates \(orenco.com\)](http://orenco.com)
- [Concrete or Plastic Septic Tank Lid Safety System | Infiltrator \(infiltratorwater.com\)](http://infiltratorwater.com)
- [Safety Nets | simtechfilter \(simtechfilterinc.com\)](http://simtechfilter.com)



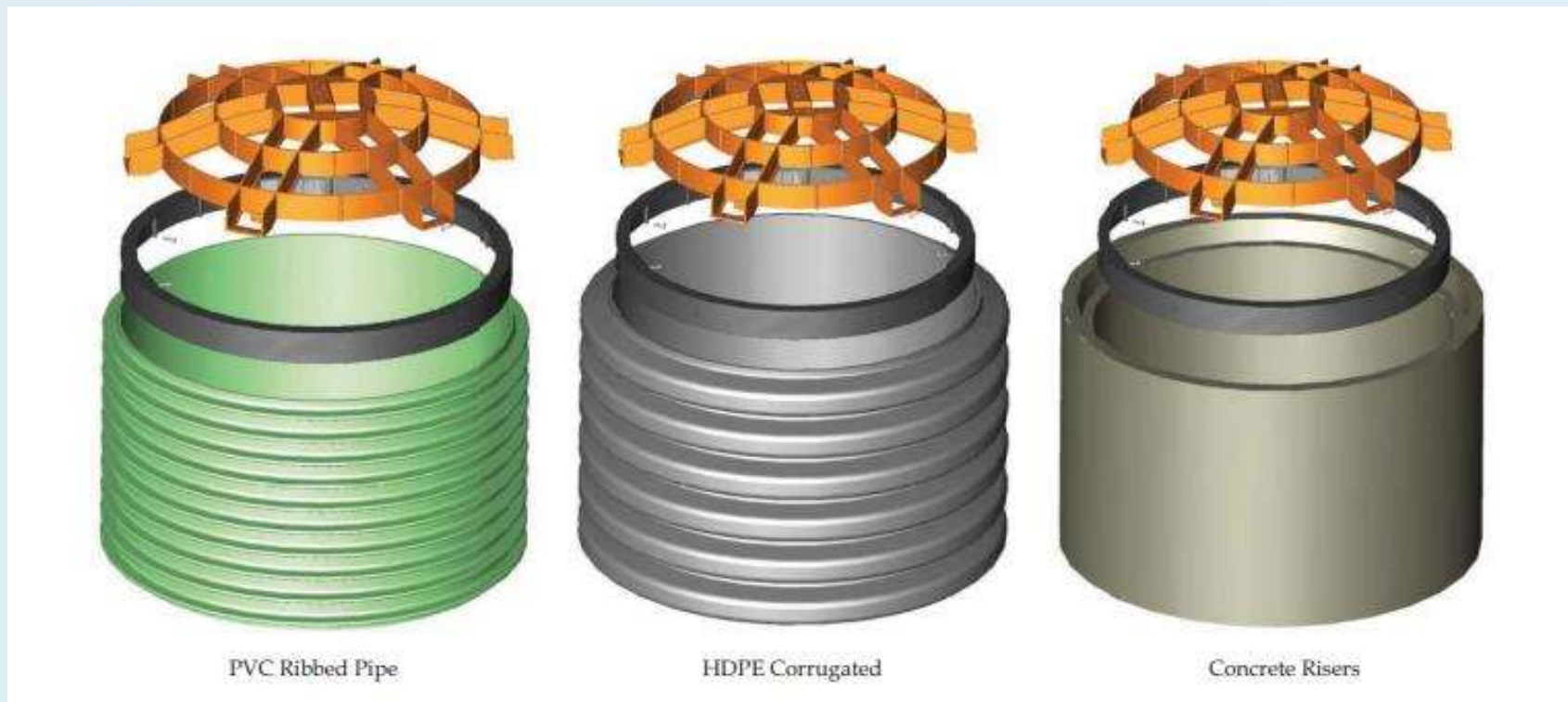
Commercially Available

- [Riser Extension Kits \(For Existing Risers\) - Aero-Stream® LLC](#)



Commercially Available

- safetycreens.ai (polylok.com)



Secondary Safety Devices



Secondary Safety Devices



Section V: Septic Tanks & Grease Interceptor Tanks {pg. 27- 28}

- **Subsection A. General:**
 - ASTM C 1227 allows oversized non-stepped covers that sit on top of tanks.
 - Requires covers are prevented from lateral movement





Stepped



Non-stepped

Section V: Septic Tanks & Grease Interceptor Tanks {pg. 28}

- **Subsection B. Septic Tank Capacities:**

- Tank sizing for a central SSDS serving a single-family residential building and a residential outbuilding shall calculate the minimum required capacity based on the single-family criteria for the main house and an additional 250 gallons for each bedroom in the outbuilding
- For a single-family home with an attached or internal accessory apartment the minimum required tank capacity shall be calculated based on the single-family criteria for the main house and an additional 250 gallons for each bedroom in the accessory apartment

B. Septic Tank Capacities

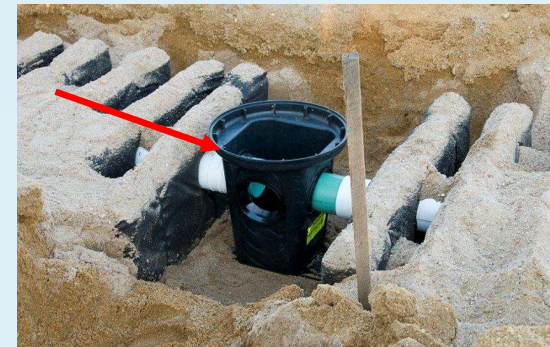
1. Residential Buildings

The minimum liquid capacities/volumes of septic tanks serving residential buildings shall be based on Table 5. Septic tank sizing for a central SSDS serving a single-family residential building and an outbuilding containing a potential bedroom(s) shall calculate the minimum required septic tank capacity based on the single-family criteria for the main dwelling and an additional 250 gallons for each bedroom in the outbuilding. For a single-family home with an attached or internal accessory apartment, the minimum required tank capacity shall be calculated based on the single-family criteria for the main dwelling and an additional 250 gallons for each bedroom in the accessory apartment.

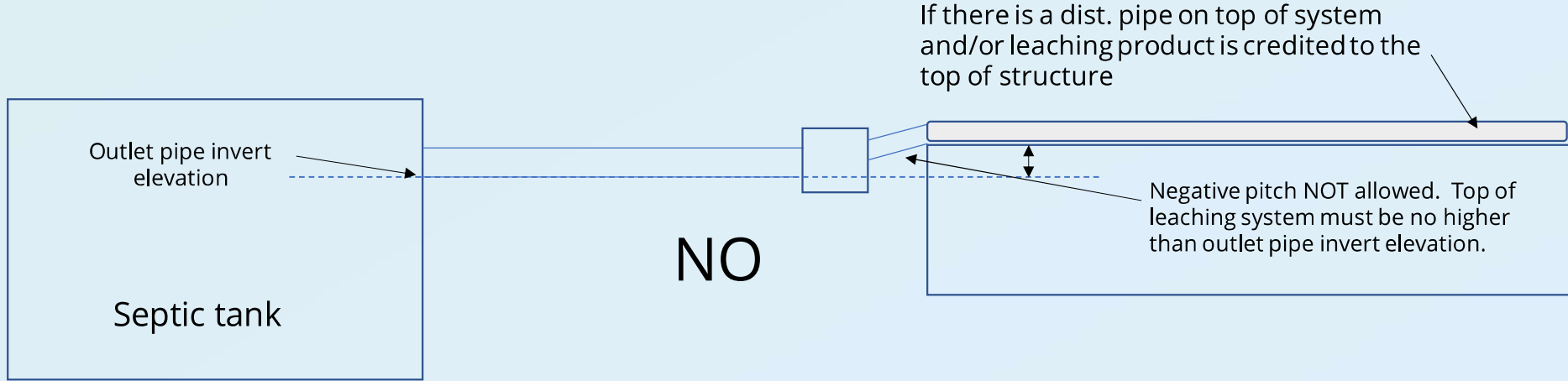
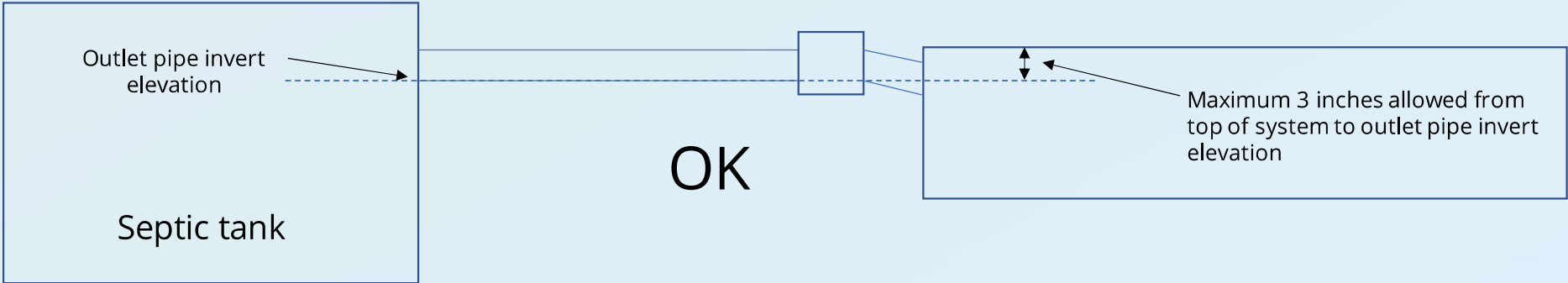
Section VI: Effluent Distribution, Pump Systems & Air Injection Processes {pg. 30}

- **Subsection A. General:**

- The septic tank outlet invert shall be set no lower than 3 inches from the top of all leaching structures
- The effluent distribution piping between the septic tank and a leaching system shall not have negative pitch



Diagram



Section VI: Effluent Distribution, Pump Systems & Air Injection Processes

{pg. 31- 33}

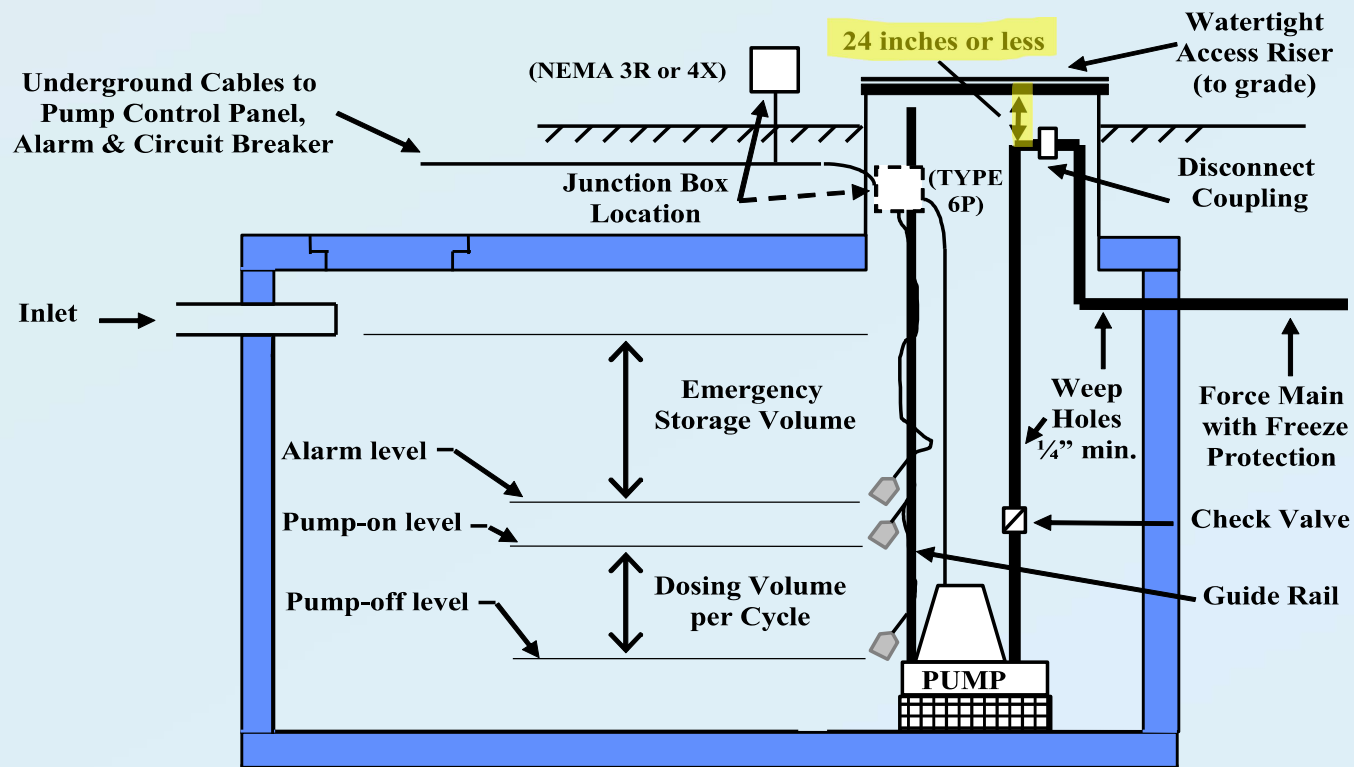


- **Subsection C. Pump Systems:**

- Recommend detectable underground magnetic tracer/warning tape be provided at least one foot above buried electric lines for the pump chamber
- A raw sewage pump force main should discharge to the septic tank via a 4-inch pipe connection to reduce velocity and solids disturbance. An inlet baffle is required for the tank at the force main connection.

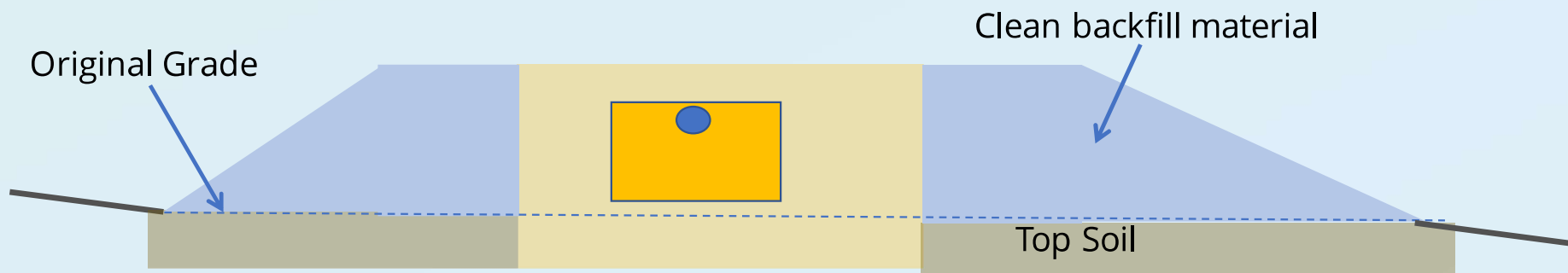
- **Subsection C. Pump Systems:**

- Maximum distance from the disconnect to the top of riser is 24 inches



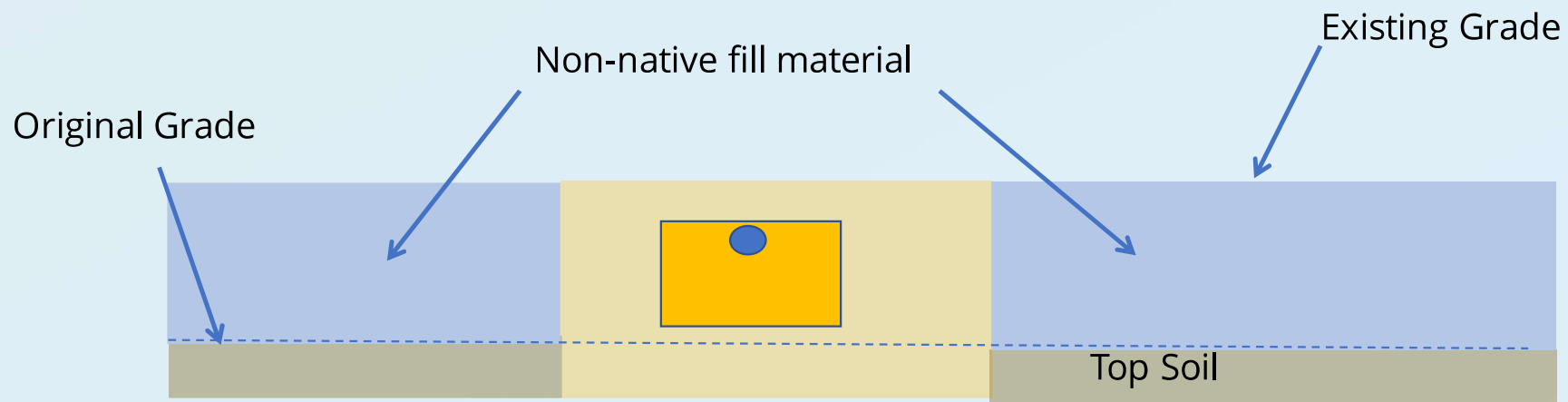
System Entirely in Select Fill

- Revised language to use the select septic fill percolation rate for systems constructed entirely in select fill where the bottom of the system is above **original** grade. Formally “existing grade”



System Entirely in Select Fill

- Revised language to use the select septic fill percolation rate for systems constructed entirely in select fill where the bottom of the system is above **original** grade. Formally “existing grade”



Section VIII: Leaching Systems {pg. 36 - 37}

- **Subsection A. General**

- Lots that are to be filled to address unsuitable soil conditions shall be prepared with the necessary select fill needed for the leaching system installation, and in a manner to protect the naturally occurring soil and be stabilized to protect against erosion.



Section VIII: Leaching Systems {pg. 36 - 37}

- **Subsection A. General**
 - New SSDSs shall be laid out in such a manner to provide an acceptable reserve leaching area of potentially suitable soil.



Acceptable Soil

- SSDS shall be covered with a minimum 6-inches of **acceptable** soil
- Acceptable soil does not contain construction material, glass or rocks or other debris





Section VIII: Leaching Systems {pg. 39}

- **Subsection A. General**
 - On sloped lots only, select fill shall be reduced to 2 feet on the sides and up gradient of the leaching system
 - 5 feet extension down-gradient sloped lots (still required)
 - 2 feet for all other extensions (up-gradient and sides on sloped lots)
 - 5 feet fill extension around the perimeter shall remain for flat lots

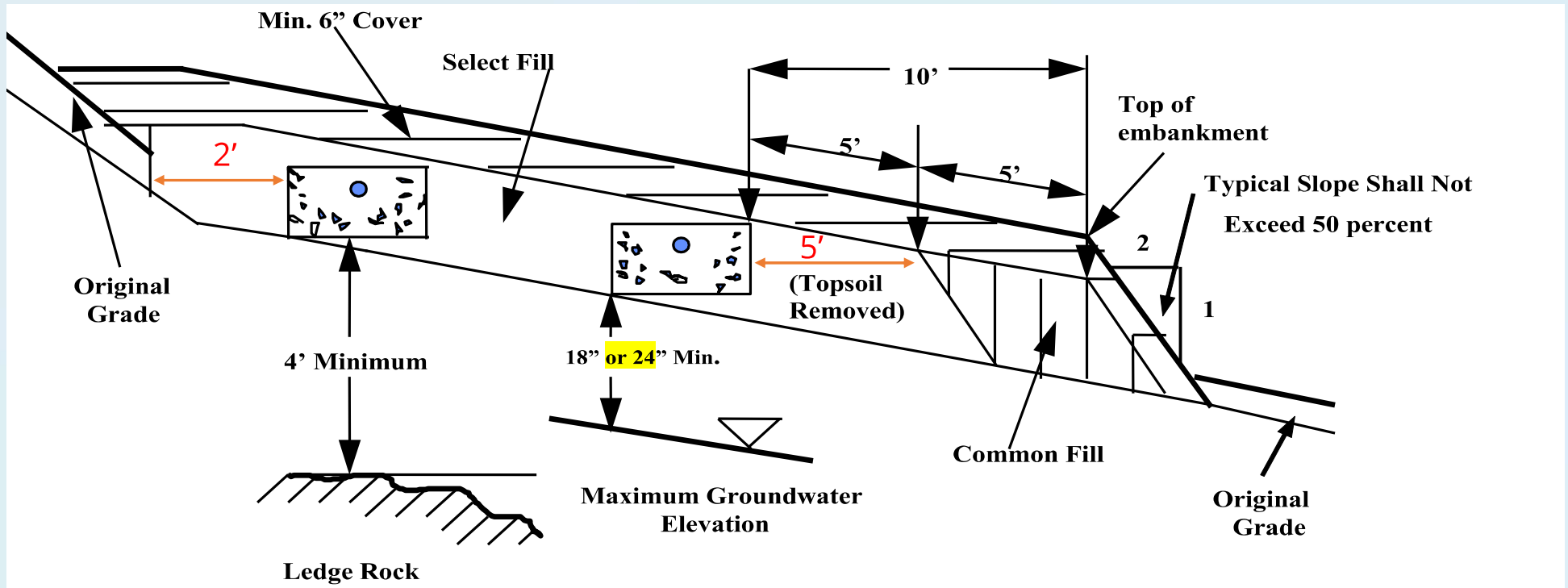


Figure 13 - Minimum Separating Distances above Ledge Rock and Maximum Groundwater

Section VIII: Leaching Systems and MLSS {pg. 46 and 63}

- The required ELA / MLSS for each potential bedroom in a residential outbuilding shall be based on the multi-family classification

F. Leaching System Sizing

1. Residential Buildings

The required effective leaching area (ELA) for a SSDS serving a residential building shall be based on the number of bedrooms and the percolation rate in accordance with Table 6, except for the following:

- A separate SSDS for a 1-bedroom residential outbuilding shall have a required ELA equal to 50 percent of that required for a 2-bedroom building.
- When sizing a single-family home with an attached or internal accessory apartment, the required ELA for main house shall be based on the single-family home criteria and the required ELA for the accessory apartment shall be based on the multi-family criteria.
- A central SSDS serving a single-family residential building and a residential outbuilding, the required ELA for each bedroom in a residential outbuilding shall be based on the multi-family classification.
- The required ELA for a multi-family residential building shall be based on a minimum of 4 bedrooms.

FLOW FACTORS (FF)	
Flow Factor = Design Flow/300	
Residential: Design Flow for each bedroom is 150 GPD except for bedrooms beyond 3 in single-family residential buildings, which have a 75 GPD per bedroom design flow.	
For a central SSDS serving a single-family dwelling and a residential outbuilding, the main dwelling shall utilize the FF based on the single-family criteria and the FF shall be increased by 0.5 for each bedroom in the outbuilding.	
Single-family lots:	FF
1 Bedroom = 150/300	0.5
2 Bedroom = 300/300	1.0
3 Bedroom = 450/300	1.5
4 Bedroom = 525/300	1.75 Increase FF by 0.25 for each additional bedroom
Multi-family buildings:	
Minimum FF is 2.0 (4 bedrooms) and each additional bedroom increases FF by 0.5.	
Non-Residential: Design Flow (GPD) / 300	

Section VIII: Leaching Systems {pg. 46}

- **Subsection F. Leaching System Sizing**
 - Single-family home with an attached/internal accessory apartment:
 - The required ELA for main house shall be based on the single-family home criterion AND
 - The required ELA for the accessory apartment shall be based on the multi-family criterion



Section X: Water Treatment Wastewater

{pg. 48 - 49}

- Revised requirement #2 to indicate the DOH should consider requiring a PHC Section 19-13-B100a (e) review for WTW daily discharges that exceed the building's sewage design flow.
- Noted: Certain water treatment systems (e.g., whole house/building reverse osmosis systems) can produce very large quantities of WTW that may require significant area for a WTW dispersal system, and such a review would ensure preservation of SSDS areas.

Table 9: Clarified DOH authority to grant an exception for distances specified in Table 1 for existing SSDS. {pg. 49}

Table 9

Item	Separation Distance (feet)	Special Provisions
Public or private water supply well with required withdrawal rate of: <div style="margin-left: 40px;"> < 10 GPM 10 to 50 GPM > 50 GPM </div>	<div style="margin-left: 40px;"> 75 150 200 </div>	The DOH may allow certain separation distance reductions on existing developed properties if compliance cannot be met due to site limitations. ⁽¹⁾⁽²⁾⁽³⁾
Open watercourse	25	
Public water supply reservoir	100	
Building	5	
Property line	10	
Subsurface sewage disposal system	See Table 1 (Item Q)	

Section XI Non-Discharging Toilet & Sewage Disposal Systems {pg. 50}

- **Subsection C. Incineration Toilets:**
 - Lowered the minimum combustion temperature from 1,400 to 1,000 degrees Fahrenheit
 - Stipulated that incineration can occur when the toilet lid is open if the toilet has a combustion chamber that is separate from the collection bowl



Form #1 {pg. 51}

- Added installer signature and note to check identification
- An Installer must be present during the system installation

1/1/23

Form #1 Technical Standards for Subsurface Sewage Disposal Systems

APPLICATION FOR APPROVAL TO CONSTRUCT A SUBSURFACE SEWAGE DISPOSAL SYSTEM

Application/Permit no.: _____

To the Director of Health, Town of: _____ Date: _____

Application is hereby made for an approval to construct a subsurface sewage disposal system for a:

(Residential Building, Restaurant, Retail Building, etc.)

located at _____

(Street Address, Lot Number, Subdivision Name, Map, Block, Lot, etc.)

New System _____ Addition _____ Repair _____ Other _____

Owner _____ Address _____ Tel.No. _____

Licensed Installer name (print) _____ Tel.No. _____

Installer Signature	License No.	Date issued
---------------------	-------------	-------------

Note: Valid photo ID and DPH license must be provided. A licensed subsurface sewage disposal system installer must be present during system installation.

Application fee paid _____ Signed _____

(Owner or duly authorized representative)

Forms 2 and 2a {pg. 55}

- **Form #2: and 2a:**
 - Added “based on area tested” to the unsuitable conclusion
 - Conclusion for area(s) tested

LOCATION DRAWING INCLUDING ALL TEST PITS AND PERCOLATION HOLES

SPECIAL CONDITIONS		CONCLUSIONS	
Design Flow > 2000 GPD		Suitable for Sewage Disposal	
Public Water Supply Watershed		Unsuitable for Sewage Disposal	
Probable High Groundwater		(based on areas tested)	
Slope > 25 percent		Additional Investigation Required	
Perc Rate < 1 min/inch		Retest During Wet Season	
Perc Rate > 30 min/inch		Professional Engineer Plan Required	
Ledge < 5 feet below grade		Wet Season Monitoring Required	
Limited Suitable Area			
Open Watercourse or Wetlands		Other:	
Flood Plain / Seasonal Flooding			
Max. G.W. < 36 inches below grade			

Form # 2 Alternate (Cont'd) Technical Standards for Subsurface Sewage Disposal Systems

Special Conditions		Location Drawing
Design Flow > 2000 GPD		
Public Water Supply Watershed		
Probable High Ground Water		
Slope > 25 Percent		
Perc Rate < 1 min/inch		
Perc Rate > 30 min/inch		
Ledge < 5 feet Below Grade		
Limited Suitable Area		
Open Watercourse or Wetland		
Conclusions		
Suitable for Sewage Disposal		
Unsuitable for Sewage Disposal (Based on area tested)		
Additional Investigation Required		
Wet Season Monitoring Required		
Retest During Wet Season		
Licensed Engineer Plan Required		
Other:		Design Requirements:

Form 3 {pg. 56 - 57}

- **Form #3: SSDS Final Inspection Report**
 - Deleted one of the two “Sieve Required (Y/N):” citations add added the word “stone” to the remaining citation
 - Added space to note type of effluent distribution pipe and joint
 - Added space to note exceptions (e.g., minimum separating distances, MLSS, ELA)
 - Reformatted and added Yes / No circle options

Form #3 Technical Standards for Subsurface Sewage Disposal Systems 1/1/2023
Application/Permit #: _____

Subsurface Sewage Disposal System Final Inspection Report

Local Health Department: _____
 Property Owner: _____
 Property Address: _____ Town: _____
 Licensed Installer: _____ License #: _____ Expiration Date: _____
 Check one: New System Repair/Replacement System
 Residential Building: _____ Bedrooms: _____ Large Bathtub (Yes/No) _____ Garbage Disposal (Yes/No) _____
 Non residential Building/Residential Institution: _____ GPD Type of Use: _____
 Water Treatment Wastewater (WTW) Generated (Yes/No) _____ WTW Dispersal System (Yes/No) _____

Inspection Information

Type	Date	Licensed Installer Present?	Acceptable	Additional Comments
Field Stake Inspection (show all proper items, items, location, etc.)				Benchmark:
Strip/Scarification				Disturbances:
Select Fill Placement				Select Fill Sieve Required (Yes/No)
Other:				
Final Inspection				

Inspections Completed by: _____
 Exceptions: (for repair only, e.g., distances, MLSS, ELA) _____

Building Sewer Information

Pipe Type and ASTM spec: _____ Pipe Diam. Size: _____ in.
 Pipe Invert Elevations: Foundation Wall: _____ Pipe Length: _____ ft.
 Pitch Required: _____ Pitch Provided: _____
 Min 2-4 in. allowed Septic Tank In: _____ Septic Tank Out: _____

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FORM #3 (Cont'd) Technical Standards for Subsurface Sewage Disposal Systems 1/1/2023
Final Inspection Report (cont'd)

Sewage Tank Information

Septic Tank (ST) Size: _____ Gallons ST Top Level (Yes/No) _____ Risers Req (Yes/No) _____
 ST Manufacturer: _____ Secondary Safety Device (Yes/No) _____
 ST Date Manufactured: _____ Effluent Filter _____ Type Designation: _____
 Pump Chamber Size: _____ Gallons Pump Alarm Checked (Yes/No) _____
 Pump Chamber Manufacturer: _____ Float Control Elevations Verified (Yes/No) _____
 Grease Interceptor Size: _____ Gallons Grease Interceptor Manufacturer: _____

Leaching System Information

Stone Aggregate: Free of silt, dirt and debris (Yes/No) Stone Sieve Required (Yes/No) _____
 Select Septic Fill (Yes/No) _____ Fill Sieve Information on File (Yes/No) _____
 Filter Fabric Present (Yes/No) _____ Fabric Type: _____
 Effluent Distribution Pipe Type and ASTM Spec: _____ Acceptable Joint (Yes/No) _____
 Leaching System Description (product, size, length, number of rows, level or serial, etc.): _____

 Effective Leaching Area Required: _____ sq. ft. Reserve Area Provided (Yes/No) _____
 Effective Leaching Area Provided: _____ sq. ft. Center to Center Spacing: _____ ft.
 Systems Installed Per Approved Plan Elevations (Yes/No) _____ Elevations Field Verified (Yes/No) _____

Elevations	Row 1	Row 2	Row 3	Elevations	Row 1	Row 2	Row 3
D-box in				Top of system			
D-box out				Bottom of system			
High Level Overflow:				Other			

Separation Distances Conform with Approved Plan (Yes/No) _____

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Permit to Discharge Form 4 {pg. 58}

- Revised the standard reference for non-compliant repairs from Section IV D to Section IV C and added “ELA or MLSS” between “non-compliant” and “repairs”.

1/1/23

Form #4 Technical Standards for Subsurface Sewage Disposal Systems

PERMIT TO DISCHARGE

Approval is hereby given to _____, in accordance with Public
(Property Owner)
Health Code Section 19-13-B103e (h) to discharge to a subsurface sewage disposal system located at

(Street Address)
in the town of _____, CT that will receive domestic sewage from a:

Residential building containing _____ bedrooms. Single family (Y/N): ____
Restaurant containing _____ seats.
Commercial/Office building providing _____ square feet.
Other structure as described: _____

Design Flow = _____ gallons per day. Permitted Flow = _____ gallons per day.
The design flow shall equal the permitted flow, except for non-compliant **ELA or MLSS** repairs (See Section IV C).

In order to provide a sufficient factor of safety it is recommended that the average daily discharge not exceed 2/3 of the permitted flow or _____ gallons per day.

Appendix A: MLSS {pg. 59 - 61}

- Deleted the word “essentially” that was in parenthesis along with “0 percent”
- Revised title for Category 1 to only include new lot creation (removed B100a conceptual systems)
- Category 2 now allows B100a conceptual systems to utilize select fill as receiving soil

Category 2 - New SSDSs, MLSS Compliant Repairs and Conceptual B100a Areas (Code-Complying & Potential Repair Areas): Leaching system spreads shall equal or surpass the MLSS. A leaching system that is designed with the top of the system more than 12 inches below natural grade shall have receiving soil in the leaching system area measured from the top of the system to the restrictive layer (see Diagram 4).

Category 1 - SSDS Layouts for **New Lot Creation**

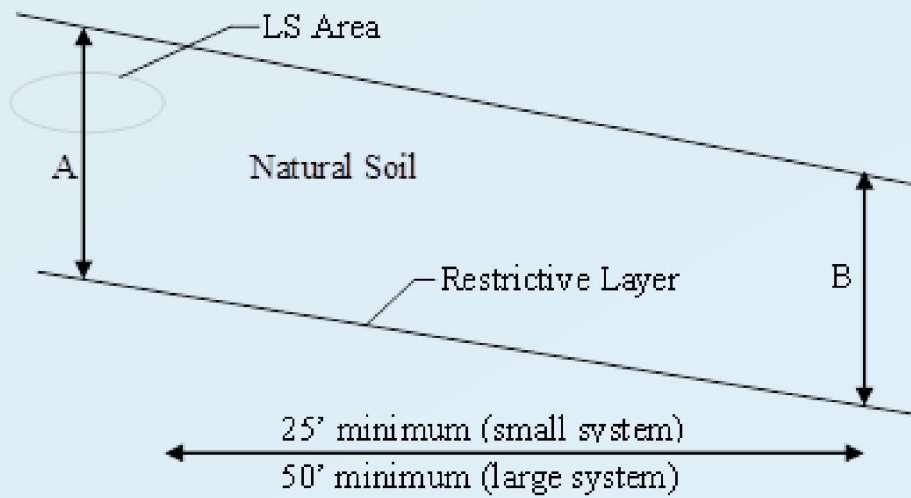
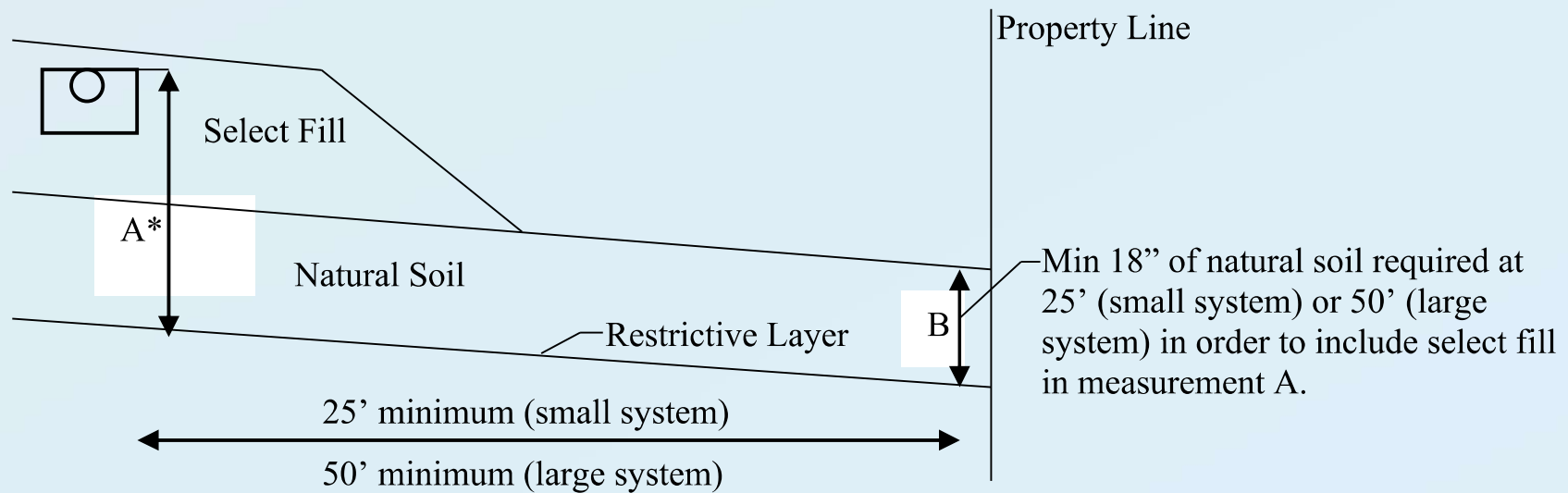


Diagram 1 - Sloped Restrictive Layer

Category 2 - New SSDSs, MLSS Compliant Repairs and Conceptual B100a Areas (Code-Complying & Potential Repair Areas):



*Receiving soil in LS area may include up to 24" of select fill measured from top of system if all receiving soil is on property and there is at least 18" of natural soil throughout the receiving soil.

Diagram 3 – LS in Select Fill (Sloped Restrictive Layer)

Appendix E: Authorized Water Treatment Wastewater Discharges to SSDS's {pg. 66}

- Heavy metal adsorption medias (e.g., titanium oxide, iron oxide, activated alumina) to the list of water treatment wastewater that are authorized to discharge a SSDS.

Authorized WTW Sources

WTW shall only be from a calcite filter, granular activated carbon filter, a Point of Use (POU) reverse osmosis unit or heavy-metal adsorption medias

Questions?

