



Welcome to the Technical Guidance Committee Meeting

Thursday, December 4, 2025

9:30 AM MST

**If using your computer audio is not an option,
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speaking.**

Thank you

Idaho Technical Guidance Committee Meeting Agenda

Thursday, December 4, 2025

9:30 a.m. MST

Conference Room C
Department of Environmental Quality
1410 N Hilton St., Boise, ID

The meeting will also fully accommodate remote participation. Contact Peter Adams at Peter.Adams@deq.idaho.gov to sign up for participation by telephone and web conferencing.

Call to Order and Roll Call

- Introduction of committee members, guests, and attendees

Public Comment Period – The Committee will allow up to 30 minutes for public comments on topics relevant to the Committee.

Action Item – Review, Amend, or Approve

- August 28, 2025 Draft TGC Meeting Minutes (**Appendix A**)
- Vote on final approval.

OLD BUSINESS

Action Item – Review, Amend, or Approve

Appendix C – Uncommon Flows (**Appendix B**)

- Edit non-residential Row 8 to say “5 GPD/ Walk-in Customer, 0.5 GPD/Drive-thru customer, 15 GPD/Employee.” Delete note about excluding drive-thru customers.
- No public comments received.
- Vote on final approval

Action Item – Review, Amend, or Approve

Appendix C – Uncommon Flows (**Appendix B**)

- Edit non-residential Row 12 to say “4 GPD/camping space, Using 1 GPD/person, 4 people per camping space.”
- No public comments received
- Vote on final approval

Action Item – Review, Amend, or Approve

TGM Section 2.2.4 – Effective Separation Distance to Surface Water (**Appendix C**)

- Add language regarding spring surface water monitoring requirements.
- No public comments received.
- Vote on final approval.

Action Item – Review, Amend, or Approve

New TGM Appendix E for Pumper Guidance Manual (**Appendix D**)

- Add pumper technical guidance manual as Appendix E of the TGM (Preliminarily approved to be a new Section 8, but may fit better as an appendix).
- No public comments received.
- Vote on final approval.

Action Item – Review, Amend, or Approve

TGM Section 5.12 – Total Nitrogen Reduction Approvals (Appendix E)

- Add drip distribution as a nitrogen reducing system, under “public domain systems”
- Suggest a 40% reduction, based on these articles:
 - 42%:
<https://www.buzzardsbay.org/etistuff/results/costaenvccarticle2.pdf>
 - 51%:
<https://www.sciencedirect.com/science/article/abs/pii/S0043135413010300>
 - 50%: <https://www.americansite.com/wp-content/uploads/2022/12/Flyer-EPA-Chesapeake-Bay-Listed.pdf>
 - 50%, PDF page 17 and 22:
https://www.chesapeakebay.net/files/documents/osww_bmp_report_4-30-18.pdf
 - 38%, PDF page 58:
https://d38c6ppuviqmf.cloudfront.net/documents/Final_OWTS_Expert_Panel_WQGIT_approved_07142014.pdf
- No public comments received.
- Vote on final approval

Action Item – Review, Amend, or Approve

TGM Section 4.25 Seepage Pit (Appendix F)

- Edited language (see appendix).
- No public comments received.
- Vote on final approval.

NEW BUSINESS

Action Item – Review, Amend, or Approve

TGM Section 4.5.3.1 Drip Distribution System - Basic Design Requirements (Appendix G)

- Add language specifying that drip distribution systems are afforded the same square footage reductions and vertical setback reductions as a PWTP or ETPS, per TGM Table 4-19 and Table 4-20.
- Vote on preliminary approval.

Action Item – Review, Amend, or Approve

TGM Figure 2-8 Cutoff trench plan view (Appendix H)

- Revise Figure 2-8 to delete the 50-foot minimum separation distance depicted in the figure. The minimum separation distance from the drainfield to a cutoff trench is determined by Table 2-12 and varies from 9.5 feet to 120 feet.
- Vote on preliminary approval.

Action Item – Review, Amend, or Approve

TGM Section 5.13 Approved PWTPs (No appendix)

- In the past, the TGC required that all PWTPs have a minimum of 12 inches of sand beneath the product, regardless of if it was NSF tested with less sand.
- Formally agree that if a PWTP was NSF tested with 6 inches of sand beneath the product, the PWTP may be installed with 6 inches of sand.
- Approval has already been granted to Eljen and Infiltrator, but providing individual approval to manufacturers is not necessary going forward.
- No edits to the TGM; this agenda item is intended to document the TGC's position on the matter.
- Vote on final approval

Discussion Items

On-site Wastewater Program Update

- No relevant updates.

Action Item – Approve

Schedule Next Meeting (proposed: Thursday, March 5, 2026)

Action Item – Approve

Adjourn Meeting

**Begin time will be observed. Time spent discussing each agenda item may vary.*

Conference Call Instructions

All remote participants must join the Microsoft Teams conference call either by joining the meeting online or calling into the Teams phone number.

Call in number: 208-985-2810
Phone Conference ID: 861 858 533##

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Teams Web Conference Instructions

This will allow users joining the meeting via online video conference to view the documents being shared.

For the Teams Meeting ID and Password, please contact Peter Adams at Peter.Adams@deq.idaho.gov.

Appendix A

Technical Guidance Committee Meeting Minutes

Department of Environmental Quality
1410 N. Hilton St.
Boise, ID 83706

Thursday, August 28, 2025
9:30 a.m., MDT
Conference Room B

The meeting accommodated remote participation via phone, Microsoft Office Teams conference, as well as in-person attendance.

TGC ATTENDEES:

Peter Adams, Onsite Wastewater Coordinator, TGC Chair – DEQ
Joe Canning, P.E. – Centurion Engineers
Kellye Johnson, Director of Environmental Health – EIPH
Mitch Kiestler, Environmental Health Program Manager – SWDH
Jason Peppin, Environmental Health Program Manager, PHD
Kendall Unruh, Complex Installer – WEB, Inc. dba/Western Septic & Excavation

GUESTS:

Brent Copes – Senior Environmental Health Specialist, Central District Health
James Craft – Wastewater Compliance Bureau Chief, DEQ
Eric Daniels – Eljen
Brent King – Lead Deputy Attorney General, DEQ
Jim King – Eljen
Fred Pickney – Stepros
James Prickett – R.C. Worst
Tom Rankin Jr. – PlanetCare

CALL TO ORDER AND ROLL CALL:

The meeting was called to order at 9:30 a.m. Introductions were made by each person in attendance.

Public Comment Period: No comments were made.

APPENDIX A

Action Item – May 29, 2025, Draft TGC Meeting Minutes

- Review draft meeting minutes from May 29.
- Kellye noted several typos on pages 4 & 5.

- Appendix H, page 4, bullet point 9 should be ETPS.
 - Appendix H, page 5, bullet point 9 should be ETPS.
 - Appendix H, page 5, bullet point 9 should be RLT Support.
 - Appendix H, page 5, bullet point 11 should be RLT Support.
- Jason wanted to know if the changes above and the bullet points of concern should be under the pit privy section.
 - Peter stated that they came in during the discussion of Appendix H.
 - Vote to approve/make suggestions to the meeting minutes.
 - The May 29 meeting minutes were approved with edits.

Motion: Kellye Johnson

Second: Joe Canning

Verbal Vote: Unanimously approved with edits. The May 2025 meeting minutes will be posted to DEQ's website within 30 days.

PRODUCT REVIEW

APPENDIX B

Action Item – Review, Amend, or Approve

- Tom Rankin, Jr., with PlanetCare Hybrid Coir Biofilter presented.
- PWTP approval requested.
- Tom presented the slides and discussed the benefits, installation, maintenance, and media exchange.
- Tom said that the Hybrid Coir Biofilter contains 90% Coco Coir, 10% Peat Biofilter. The peat is included as a “ready-to-serve” microbial habitat and will stimulate microbial growth throughout the filter after startup. Coco Coir is sterile of microbes at startup. Peat helps to alleviate no-flow, or seasonal flow startup problems from a lack of microbial activity in the filter. The Hybrid Coir unit was extensively tested at the NSF Waco test Facility and passed the Class 1 standard 40 protocol. Coco Coir can operate in residential and commercial areas. The Hybrid Coco Coir will last 12-15 years. The Peat Biofilter will last 8-10 years.
- Joe asked if there have been any hydraulic failures or water quality issues with the system.
- Tom said in both cases, this would happen depending on scenarios, but with the Coco filter, he hasn't seen them get clogged yet.
- Additionally, Tom said the system has the ability for small and large capacity needs, above-grade, gravity in, and pump in.
- Joe asked about the testing sheet, was it was a gravity system or a pressure system.
- Tom said it was a gravity system.

- Joe asked about the sizing needs.
- Tom said they go off of gallons per day per unit. He said that 600 gallons per day per bedroom is common in the Midwest.
- Joe said in Idaho, we use a base flow and 50 gallons per day.
- Joe also asked if Tom was comfortable with Idaho's sizing.
- Tom said he would have to consult with the owners of PlanetCare to confirm.
- Peter said he would prefer it to be gallons per day, rather than gallons per day per bedroom.
- Tom said if they did that, the model numbers wouldn't line up with the NSF, and that they would have to separate the numbers for Idaho.
- Joe asked what size tank they were.
- Tom said they use 1,250, 1,500, and 2,000-gallon tanks.
- Joe also asked if they ever built the tanks with a liner.
- Tom said no, they have poly units.
- Tom said that they have a septic tank ahead of the system to get it down to the EPA requirements. The operation and maintenance costs are lower than aerobic systems; no electricity is needed, there are no costly blowers, and no sludge. The systems work in seasonal use areas as well as regular use areas.
- Mitch asked about the yearly maintenance and what the failure rate is if the maintenance is skipped for 2-3 years.
- Tom said that with the coco filters, there is a longer life span, and the systems don't clog up as quickly as the peat filters.
- Tom further discussed the design by going over the PBFC cross-section diagram. He also said that they're not having any issues with clogging the Eljen. Additionally, he said to maintain the warranty, they recommend one routine service per year but would comply with state requirements.
- Tom asked about what types of installers Idaho requires and if they are required to take courses.
- Peter said they have basic and complex installers. Peter also said complex installers are required to take courses every 3 years. Additionally, Peter said they don't require regular service providers to take courses or training.
- Tom said that PlanetCare would take care of the training if they were approved to have systems in Idaho. Tom also said they recommend routine maintenance for optimal operation of the system.
- Tom said that no proprietary or specialty tanks are required with Planet Care's systems.
- Peter asked if the system has a special lid.
- Tom said yes, they do have a proprietary lid, but not a proprietary tank. Tom asked if PlanetCare needs to submit designs for the lids.
- Peter said yes, they would need to submit the design for the lids for the tank.
- Tom said they have a kit that they ship to a pre-caster, they put the kits in the tanks, the pre-caster puts on PlanetCare's lid, and the pre-caster customizes the rectangular opening.

- Peter said they would ask for a drawing from the pre-caster.
- Tom said the pre-caster creates their own.
- Kendall said he thinks that most pre-casters are familiar with the process, and they could get the design of the lid to DEQ.
- Joe asked if the penetration of the pipe wall could be at a different location.
- Tom asked about the inlet and outlet locations.
- Joe asked if PlanetCare's inlets and outlets are typically on the long side.
- Tom said typically they do use the inlet and outlets on the long side.
- Peter said the designer would need to submit the design to DEQ for approval.
- Mitch asked about the peat to coir exchange and what happens with the contaminated peat media.
- Tom said it depends on the state and municipality requirements.
- Peter said they would require PlanetCare to have a licensed installer remove the contaminated media. Peter also said that PlanetCare doesn't need to change the Coir Peat units available.
- Tom said they might want to change the model numbers to meet Idaho requirements.
- Joe said he has concerns about commercial use.
- Tom said the reference numbers are for residential use. Tom also said that, for commercial use, PlanetCare would use two systems to meet the needs of commercial use. Additionally, Tom said they are aware they're oversizing a bit, but not much, to meet commercial use.
- Joe said it might be good to have a reference note below the numbers to indicate single-family units and to contact the manufacturer for commercial use.
- Kendall asked about RVs that are connected to the septic systems and how PlanetCare handles those scenarios.
- Tom asked if the RVs have the blue chemicals, where all the waste goes into the blue chemicals, which then go into the septic system.
- Kendall said that was one of his concerns.
- Tom said they don't recommend RVs use the blue chemicals and connect to the septic system.
- Kendall said Idaho doesn't recommend the blue chemicals be dumped into septic systems either.
- Jason said having dwelling units, bedroom size, and gallons per day would be helpful.
- Tom said they use the Eljen product, and they don't recommend limestone. Tom said that PlanetCare provides training and requires PlanetCare-certified installers to install the systems.
- Tom asked what Idaho's requirements for discharge are.
- Jason said Idaho does not allow open discharges.
- Tom asked about conventional drainfields or pump tanks in Idaho.

- Jason said Idaho sees all different types of soil, so it depends on the site. Jason also said they are looking for additional options since Idaho's soil is diverse across the state.
- Peter asked about a design manual and if PlanetCare could provide that.
- Tom said they include that in the installer's kit and that they could get the design manual to Idaho.
- Peter said they would prefer a design manual.
- Kellye said she has concerns about ETPS vs. proprietary, service providers, classification, and gravity.
- Tom said the majority of the systems end up with gravity without a drainfield. Tom also said that for flat sites, they can use a pump kit, and they would use a two-tank system.
- Joe said in Idaho, the drainfield can't be more than four feet.
- Tom said he will work on getting Peter additional information and present it at the next TGC meeting.
- Peter said that it meets the requirements of a proprietary system.
- Jason asked about the service provider requirement that would come into the proprietary system requirements.
- Kendall agreed that, for that reason, it falls more under the ETPS systems.
- Tom asked for factory recommendation requirements and how that would affect approval of the system for proprietary vs. ETPS.
- Peter recommended tabling the vote until further information is provided.

APPENDIX C

Action Item – Review, Amend, or Approve

- Eljen Installation Manual, presented by Jim King and Eric Daniels.
- Multiple changes to the installation manual are requested.
- Jim presented the two edits in the document:
 - Section 1.6, request to change to say: **“ADDITIONAL FACTORS AFFECTING RESIDENTIAL WASTE STRENGTH FACILITIES: Facilities with that exceed standard residential water use standards should consider increasing the septic tank volume as well as incorporating a multiple compartment septic tank. Consideration for disposal area should be up sized for expected higher design flows than single family homes.**
 - **For example:**
 - High occupancy housing**
 - Vacation Rental Homes (Airbnb, VRBO, etc.)**
 - Condo or Apartment configurations”**
 - Change to Figure 2 text, typical A42 Cross Section, request to change from 12 to “...6'-inches...” of Specified Sand is directly below the GSF module.

- Jason’s concern is whether they allow the reduction that all the manufacturers could request and allow the reduction of 6 inches.
- Peter said that if it were tested at 6 inches that it should be approved.
- Kendall is in favor of the reduction.
- Jason said they haven’t had any issues.
- Mitch doesn’t have any concerns but would like to reference the first section Jim presented.
- Jim said the goal is to open up the conversation to safely treat and design a system that would protect the lifetime of the system.
- Jason said Idaho doesn’t have a design requirement, which creates challenges, and systems are designed at the minimums.
- Jim said the distributor is aware, so when they come into the systems, they can talk about the common issues in the industry.
- Jason said Health Districts have the same concerns over the systems.
- Peter asked for the edits to be made and the manual to be updated.
- Vote on approval.

Motion: Kendall Unruh

Second: Jason Peppin

Verbal Vote: Vote, unanimously approved.

OLD BUSINESS:

APPENDIX D

Action Item – Review, Amend, or Approve

4.19.3.6 - Pump to Gravity Distribution

- Item #6 should say, “A complex installer’s permit is ‘**required**’ for installation.”
- No public comments were received.
- Vote on final approval.

Motion: Joe Canning

Second: Kellye Johnson

Verbal Vote: Final vote, unanimously approved.

APPENDIX E

Action Item – Review, Amend, or Approve

Appendix C – Uncommon Flows

- Edit Row 5 to say, “Residential Workshop/Barn/Shed with a Full ‘**or ¾**’

Bathroom.”

- Jason said he is appreciative of the edit.
- No public comments were received.
- Vote on final approval.

Motion: Jason Peppin

Second: Joe Canning

Verbal Vote: Final vote, unanimously approved.

APPENDIX F

Action Item – Review, Amend, or Approve

Appendix C – Uncommon Flows

- Edit Row 11 to say, “ ‘**10 GPD**’/camping space” to align with TGM 4.12.
- No public comments were received.
- Vote on final approval.

Motion: Joe Canning

Second: Jason Peppin

Verbal Vote: Final vote, unanimously approved.

APPENDIX G

Action Item – Review, Amend, or Approve

TGM 4.17.5 – Pit Privy Abandonment

- Add a statement saying that if a subsurface system is installed on the property, any pit privy must be abandoned.
 - Edit item #4 to say, “**If a subsurface system is installed on a property with a single-family home, any pit privy on the property must be abandoned, unless otherwise approved by the Director**”.
- Jason said they have had two property owners recently ask for a pit privy, and that this has been helpful.
- No public comments were received.
- Vote on final approval.

Motion: Jason Peppin

Second: Kendall Unruh

Verbal Vote: Final vote, unanimously approved.

APPENDIX H

Action Item – Review, Amend, or Approve

TGM 4.20.2 – RV Dump Station

- Amend language to clarify that only flows discharged to the subsurface count toward the LSAS project.
 - Edit item #6 to say, “If the proposed wastewater flows are greater than or equal to 2,500 GPD, a full-sized LSAS must be installed to serve all wastewater flows, remove ‘generated’, and add ‘**discharged to the subsurface**’ by the project”.
- Jason said this is helpful and provides consistent guidance.
- No public comments were received.
- Vote on final approval.

Motion: Jason Peppin

Second: Kellye Johnson

Verbal Vote: Final vote, unanimously approved.

APPENDIX I

Action Item – Review, Amend, or Approve

TGM 2.2.4.1 Reduction in Separation Distance to Surface Water without a Variance

- Amend the separation distance reductions to align with the July 1 Rule.
- Jason said the reductions are helpful.
- Peter will send the updated Figures 3-1 and 3-2 to everyone.
- No public comments were received.
- Vote on final approval.

Motion: Jason Peppin

Second: Kellye Johnson

Verbal Vote: Final vote, unanimously approved.

NEW BUSINESS:

APPENDIX J

Action Item – Review, Amend, or Approve

Appendix C – Uncommon Flows

- Edit non-residential Row 8 to say, “**5 GPD/Walk-in Customer, 0.5 GPD/Drive-thru Customer**’, 15 GPD/Employee.” Delete note about excluding drive-thru Customers”.

- Jason asked if anyone in the districts had any data on drive-thru customers.
- Joe said he didn't have any information for flows.
- Jason said this gives us a starting point on how to size the drive-thru's.
- Kendall said you could look at the data for the systems that aren't on septic systems and the systems that are on sewer systems as a starting point for the data.
- Vote on preliminary approval.

Motion: Kendall Unruh

Second: Jason Peppin

Verbal Vote: Preliminary vote, unanimously approved.

APPENDIX K

Action Item – Review, Amend, or Approve

Appendix C – Uncommon Flows

- Edit non-residential Row 12 to say, “ ‘4’ GPD/camping space, Using ‘1’ GPD/person, 4 people per camping space.”
- Vote on preliminary approval.

Motion: Kellye Johnson

Second: Jason Peppin

Verbal Vote: Preliminary vote, unanimously approved.

APPENDIX L

Action Item – Review, Amend, or Approve

TGM Section 2.2.4 – Effective Separation Distance to Surface Water

- Add language regarding spring surface water monitoring requirements.
 - **“Surface water monitoring may be required by the Health District prior to issuance of a subsurface sewage disposal permit, in order to accurately determine effective separation distances from septic tanks and drainfields to surface water. Surface water monitoring may be required as a result of Health District observations of the property, historical information from surrounding properties, aerial imagery, and other factors determined by the Health District. If surface water monitoring is required, monitoring will be the responsibility of the applicant and will typically take place in the spring and may last between two and six months. Monitoring frequency must take place at least weekly”.**
- Joe asked if it was obvious that springs are surface water.
- Kendall said he doesn't see a procedure in the verbiage.
- Peter asked about procedures.

- Jason said they use a GIS app to test tools, conduct monitoring, and use Survey 123. They would still verify the information being provided with actual documentation.
- Joe asked if the monitoring had determined if the water was there.
- Jason said they determine if the water is there, how long it's there, to verify setbacks and building permits.
- Kellye said they do spot checks as well, based on their frequency.
- Kendall said he's not sure about the two-to-six-month language.
- Peter said he likes the language "... **a monitoring plan will be determined by the Health District, and the monitoring will be the responsibility of the applicant. Monitoring will typically begin in the spring and may be required for multiple seasons. Monitoring frequency must take place at least weekly**".
- Mitch asked about seasonal runoff.
- Jason said it would be helpful.
- Vote on preliminary approval.

Motion: Kendall Unruh

Second: Joe Canning

Verbal Vote: Preliminary vote, unanimously approved.

APPENDIX M

Action Item – Review, Amend, or Approve

TGM Section 8 – New Section for Pumper Guidance Manual

- Add the pumper technical guidance manual as section 8 of the TGM.
- Peter asked if this section used to be in the TGM.
- Kendall remembers the document in his district.
- Joe thinks this would be helpful to include in the TGM.
- Kendall will go through the section and provide feedback.
- Vote on preliminary approval.

Motion: Joe Canning

Second: Jason Peppin

Verbal Vote: Preliminary vote, unanimously approved.

APPENDIX N

Action Item – Review, Amend, or Approve

TGM Section 5.12 – Total Nitrogen Reduction Approvals

- Add drip distribution as a nitrogen-reducing system, under "public domain systems"
- Suggest a 40% reduction, based on the following articles:

- 42%:
<https://www.buzzardsbay.org/etistuff/results/costaenvccarticle2.pdf>
- 51%:
<https://www.sciencedirect.com/science/article/abs/pii/S0043135413010300>
- 50%:
<https://www.americanonsite.com/wpcontent/uploads/2022/12/Flyer-EPA-Chesapeake-Bay-Listed.pdf>
- 50%, PDF pages 17 and 22:
https://www.chesapeakebay.net/files/documents/osww_bmp_report_4-30-18.pdf
- 38%, PDF page 58:
https://d38c6ppuvigmp.cloudfront.net/documents/Final_OWTS_Expert_Panel_WQGIT_approved_07142014.pdf
- Joe said that at the time this was originally discussed by the TGC years ago, the literature stated that drip distribution provided nitrogen reduction. Joe fully supports this addition. Joe asked if this was without pretreatment.
- Peter confirmed it was without pretreatment.
- Jason agrees with the addition and consideration of a reduction of soil depth.
- Peter will add the reduction language to the section and add the additions for the next TGC meeting.
- Vote on preliminary approval.

Motion: Joe Canning

Second: Kellye Johnson

Verbal Vote: Preliminary vote, unanimously approved.

APPENDIX O

Action Item – Review, Amend, or Approve

TGM Section 4.9.2, Figure 4-16 – Extra Drain rock Trench Approval Conditions

- Correct diagram to show 18 inches of cover, to align with Figure 4-16.
- James said it might be helpful to reference the other installation manuals to confirm they align with all the proprietary products.
- Vote on preliminary approval.

Motion: Jason Peppin

Second: Kendall Unruh

Verbal Vote: Preliminary vote, unanimously approved.

APPENDIX P

Action Item – Review, Amend, or Approve

TGM Section 4.25 Seepage Pit

- Edit language to say,
 - **“4.25.2 Approval Conditions**
 1. Seepage pit disposal facilities may be used **‘only for replacement systems’** on a case-by-case basis, remove text ‘within the boundaries of Eastern Idaho Public Health District (District Health Department 7)’, add text to say, **‘as a last resort if no other subsurface discharging alternatives are available’** remove text ‘when an applicant can demonstrate to the district director’s satisfaction that the soils and depth to groundwater are sufficient to prevent groundwater contamination’. The district director will document all such cases, remove text ‘(IDAPA 58.01.03.008.11)’.
 - a. For all other districts, replacement seepage pits may be allowable as a last resort if no other alternatives are feasible, and the site meets conditions of approval 1.a through 6 as stated herein. The district director will document all such cases (IDAPA 58.01.03.008.11) and issue the installation permit as a nonconforming permit’.
 2. Remove text ‘For all other districts, t’, add capitalization, **‘The** site must meet the requirements of a standard system except that it is not large enough, add text to say, **‘in surface area’**, remove text ‘(IDAPA 58.01.03.008.11.b)’.
 3. Area must not have any shallow domestic, public wells, or sink holes connected by underground channels’ Add text to say, **‘Seepage pits must meet all horizontal setback requirements in IDAPA 58.01.03.007 and IDAPA 58.01.03.008’**.
 4. A test hole must be, remove text ‘performed’, add text to say, **‘excavated’** to a depth of 6 feet below the proposed termination of the bottom of the seepage pit prior to permit issuance.
 - Vote on preliminary approval.

Motion: Kellye Johnson

Second: Joe Canning

Verbal Vote: Preliminary vote, unanimously approved.

DISCUSSION ITEM(S):

ADDITIONAL ACTION ITEMS OR COMMENTS:

On-site Wastewater Program Update:

- Peter said that the new rule went into effect on July 1, 2025.
- Peter will make the updates to the TGM.

Action Item – Motion to schedule the next meeting

- The proposal for the next meeting is slated for Thursday, December 4, 2025.

Motion: Kellye Johnson

Second: Jason Peppin

Verbal Vote: Unanimously approved.

Action Item – Motion to adjourn the meeting

Motion: Kellye Johnson

Second: Jason Peppin

Verbal Vote: Unanimously approved, and the meeting was adjourned at 12:09 p.m.

DRAFT

Appendix B

Appendix C – Uncommon Wastewater Flows

				undercarriage washing
8	Coffee Shop / Café	5/Walk-In Customer 0.5/Drive-Thru Customer 15/Employee	Exclude drive thru customers when estimating total daily customers	
9	Doctor's Office/Dentist	5/Patient 50/Doctor or Nurse 15/Other Employee		Assuming doctor/nurse washes hands every 15 min for 12 hours. Using 2 gal/min for faucet and 30 seconds per wash.
10	Dog Washing	200/Stall 15/Employee	Require effluent filter in septic tank	Using 10 washes per day per stall, 20 gallons per wash Recommend hair traps in sinks/floor drains
11	Grey Water Sump for a Campground with a Drinking Water Source but No Bathrooms	10/Camping Space		Using 2.5 GPD/person, 4 people per camping space
12	Grey water Sump for a Dry Campground	4/Camping Space		Using 1 GPD/person, 4 people per camping space

Appendix C

TGM Section 2.2.4

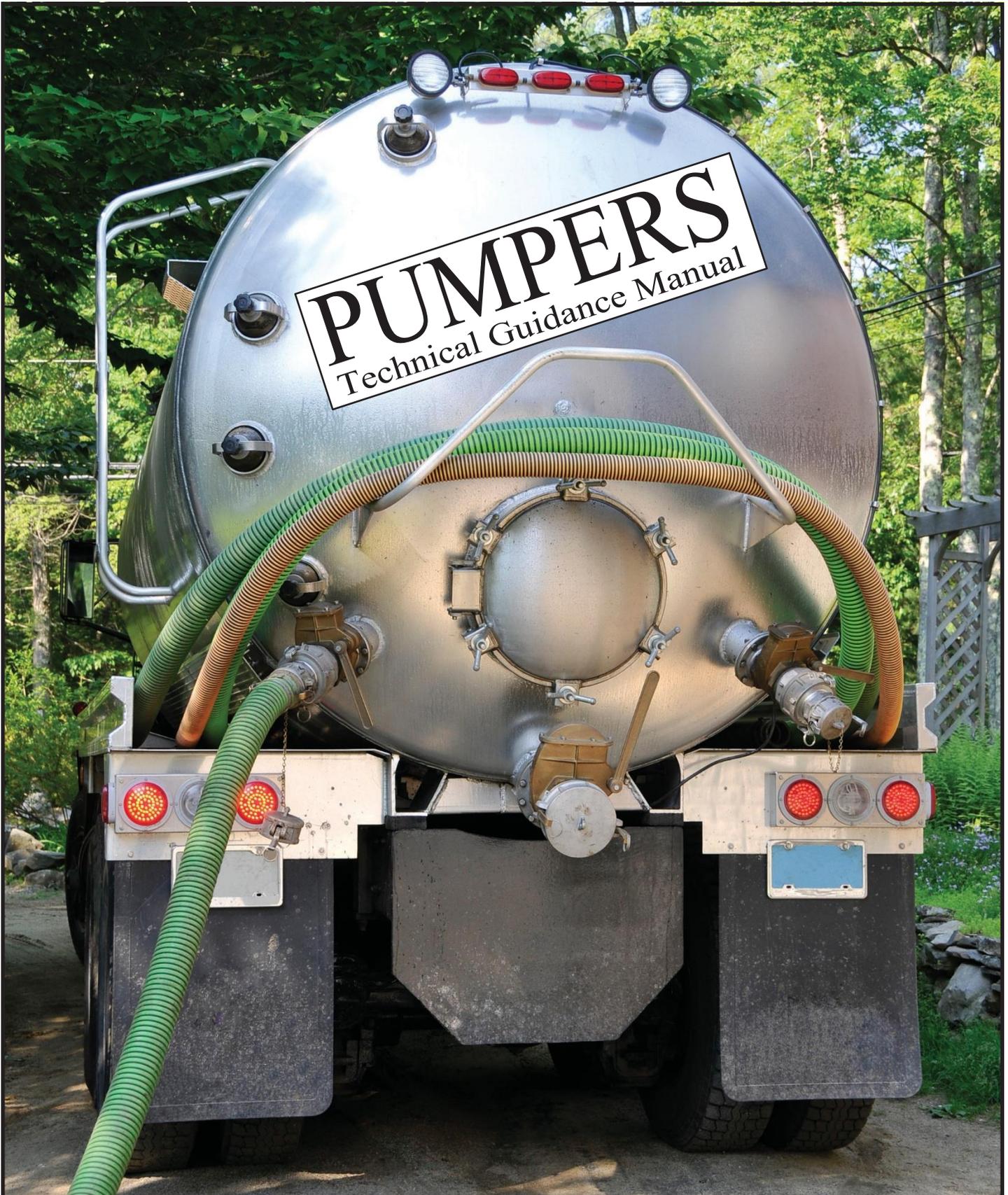
2.2.4 Effective Separation Distance to Surface Water

Surface water monitoring may be required by the Health District prior to issuance of a subsurface sewage disposal permit, in order to accurately determine effective separation distances from septic tanks and drainfields to surface water. Surface water monitoring may be required as a result of Health District observations of the property, historical information from surrounding properties, aerial imagery, and other factors determined by the Health District. If surface water monitoring is required, a monitoring plan will be determined by the Health District and monitoring will be the responsibility of the applicant. Monitoring will typically begin in the spring and may be required for multiple seasons. Monitoring frequency must take place at least weekly.

Reduction in separation distances to surface water from the requirements of IDAPA 58.01.03 are allowed as provided in section 2.2.4 as long as the hierarchy and documentation practices described in section 2.2.1 of this manual are followed. Each site should be reviewed on its own merits. Additional criteria, such as population density, watershed characteristics, and reasonable access to municipal sewer must be examined before an allowance for the reduction of separation distance to surface water is granted. The following conditions are in place for all surface water allowances:

1. Separation distance to surface water must not be less than 100 feet.
2. Alternative systems may be required to achieve the reduction allowance.
3. No additional technical allowance may be granted to the reductions included in the sections below without following the formal variance procedure outlined in IDAPA 58.01.03.010.
4. Application for a variance under IDAPA 58.01.03.010 does not guarantee that a reduction in separation distance will be allowed.

Appendix D



TGM APPENDIX E: IDAHO SEPTIC PUMPER'S TECHNICAL GUIDANCE MANUAL

E.1 Introduction

Revision: August 28, 2025

A septic system requires periodic maintenance that includes pumping out the accumulated scum, sludge, and wastewater from the septic tank (cumulatively called septage). Septage generates offensive odors and presents public health hazards. To prevent nuisance conditions and public health hazards, septage must be collected (pumped), transported, stored, and disposed of according to the following rules:

- Individual/Subsurface Sewage Disposal Rules and Rules for Cleaning of Septic Tanks (IDAPA 58.01.03) (section 050)
- Wastewater Rules (IDAPA 58.01.16)
- Standards for the Use or Disposal of Sewage Sludge (40 CFR 503)

Septic tank pumpers have the important task of not only helping the homeowner maintain the system by pumping the septic tank but protecting the property owner and public from the various health hazards associated with septage. To protect and help the property owner, a pumper needs to understand how the septic system operates and proper procedures for pumping the septic tank and septage disposal.

E.2 Septage and Public Health

Pathogens that pass in urine, feces, or bodily fluids can be found in sewage. Septage may contain any number of these pathogens. The following list provides an example of pathogens present in septage including, but not limited to, the following:

- Bacterial organisms (Salmonella, Shigella, and Clostridium) and typhoid (Salmonella typhi)
- Parasites (pinworm, roundworm, and hookworm), especially in the scum layer
- Organisms that cause amoebic dysentery, polio, and hepatitis

Proper management of septage upon its removal from the septic tank through its ultimate disposal or beneficial reuse is critical in ensuring the protection of public health from the pathogens present in septage.

E.2.1 Septage Classifications

While all wastewater that enters a septic tank is septage, the source of the wastewater before it enters the septic tank determines the classification of the septage. All septage that comes from domestic or residential activities is classified as domestic septage. Examples of wastewater sources that result in domestic septage include, but are not limited to, single and multifamily residential housing, restrooms (including shower facilities), and break rooms. Domestic septage includes the contents removed from septic tanks, portable toilets, vault privies, wastewater holding tanks, marine sanitation devices, RV holding tanks, very small wastewater treatment plants, or semipublic facilities (e.g., schools, motels, mobile home parks, campgrounds, and small commercial endeavors) that receive wastewater from domestic sources.

Industrial or commercial process wastewater is classified as nondomestic septage. Nondomestic septage includes the contents removed from septic tanks or wastewater holding tanks that receive

wastewater from industrial or commercial sources. Nondomestic septage also includes, but is not limited to, the contents removed from grease traps or sand-oil separators. If industrial or commercial wastewater is mixed in any ratio with domestic wastewater, the entire mixture is classified as industrial or commercial wastewater. If nondomestic septage is mixed in any ratio with domestic septage, the entire mixture is classified as nondomestic septage.

Septage classification can have an impact on the allowable disposal or beneficial reuse of the septage. Septic tank pumpers need to be aware of the septage classifications of the materials they pump and haul so proper septage disposal can be achieved. Additionally, it is recommended that facilities producing domestic and nondomestic wastewater isolate the wastewater plumbing and discharge these wastewater sources to separate septic tanks. This allows the domestic and nondomestic septage to be segregated so that the disposal and beneficial reuse options are maximized.

E.3 Septic System Components

The most common septic system consists of a septic tank and drainfield. Septic tanks are commonly constructed of concrete, polyethylene, polypropylene, or fiberglass (see TGM section 5.2 for approved products). Drainfields are installed at varying depths under the ground, either in the form of trenches (up to 6 feet wide and 100 feet long) or absorption bed (greater than 6 feet wide and up to 100 feet long). Drainfields are also filled with gravel containing a perforated plastic pipe or gravelless system components (see TGM section 5.6 for approved products). Figure 6-1 shows the components of a standard septic system.

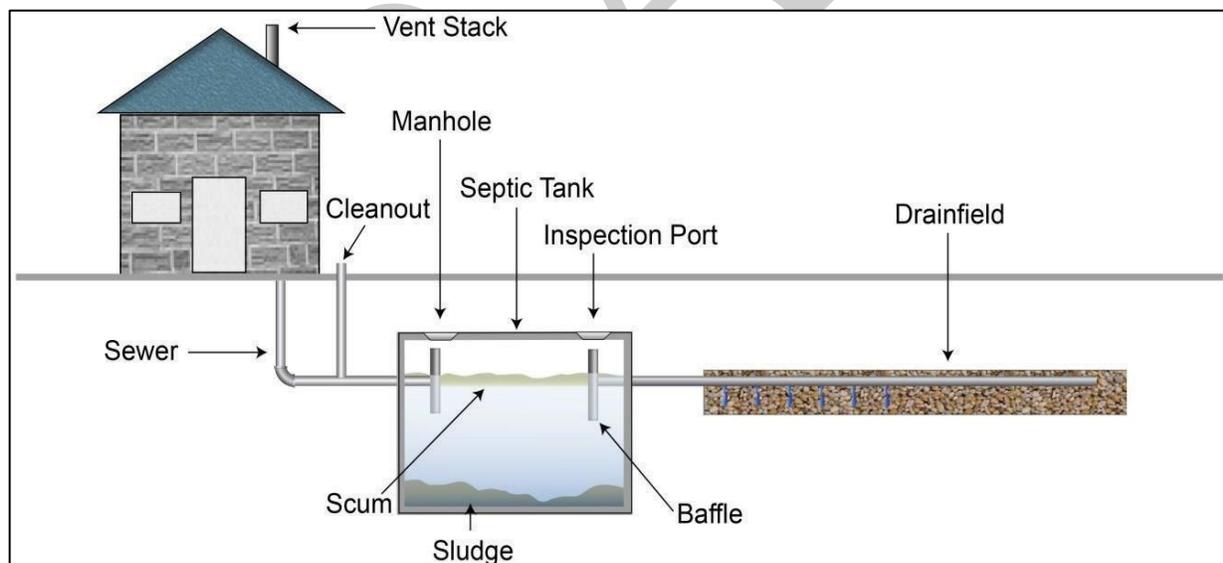


Figure E-1. Components of a standard septic system.

Several alternative system designs may have additional tanks referred to as dosing chambers, recirculating chambers, or treatment chambers. These types of tanks typically contain less accumulation of scum and sludge but are recommended to be pumped to remove these accumulations whenever the septic tank is pumped. These types of tanks also contain mechanical components that must be considered before pumping the tank's contents. It is highly

recommended that the component manufacturer's recommendations be followed when these alternative tanks are pumped. In the case of ETPS, the property owner's service provider should be contacted for approval before pumping the unit's tank.

E.4 Septic System Mechanics

Wastewater from a home or business enters the septic tank where the velocity quickly slows. Because of the slowing, material in the wastewater that is heavier than water, such as feces and garbage, settles to the bottom as sludge. Material in the wastewater lighter than water, such as grease and plastics, floats to the top as scum. The liquid in the center of the tank, now with the sludge and scum settled out, is called effluent and is the liquid that flows from the septic tank to the drainfield. Upon being dispersed to the drainfield, the effluent is treated by the soil and organisms in the soil. For a septic tank to function properly (scum and sludge settling and retention), the inlet and outlet baffles within the tank must be intact and in good condition. Proper baffle design is described in IDAPA 58.01.03.007.11 and 58.01.03.007.12. Anytime a septic tank is pumped or a drainfield is repaired, the inlet and outlet side of the septic tank should be uncovered, and the baffles should be inspected to ensure the septic tank is in good working order.

The septic tank will function satisfactorily until the sludge fills over 40% of the volume of the tank (as measured from the bottom of the septic tank to the invert of the tank outlet), or the scum reaches the top of the inlet or outlet baffle in the tank.

Before the tank reaches these levels, it should be pumped by a permitted pumper. If the tank is not pumped, it will be unable to perform its wastewater separation function, which will allow the solids and greases to be carried out into the drainfield. If solids and greases reach the drainfield, they will fill and clog the soil pores causing the drainfield to fail resulting in sewage backing up into the home or business, the tank to overflow, or effluent to reach the ground surface around the drainfield. Under regular use (two people in the first bedroom and one person in every other bedroom), it is recommended that the septic tank be inspected every 3–5 years and pumped as needed.

E.5 Checking the Level of Scum and Sludge in a Septic Tank

The scum and sludge levels in the septic tank should be checked at least once every 3 years under regular use. If the septic system receives more than regular use, the scum and sludge levels should be checked annually. A property owner, permitted septic tank pumper, or permitted septic system installer can check the scum and sludge levels in the septic tank.

The following outlines the procedure for locating a septic tank:

1. Review the final as-built drawing located on the final inspection form for the property owner's septic permit. If the property owner does not have a plot plan of the tank location, often the health district will have its location on file.
2. If no drawings can be found, a guess as to where the tank is located can be made by finding the 3- or 4-inch vent stack on the roof, or a cleanout near the foundation. The tank is often located directly out from the stack or cleanout.

3. If the previous methods do not work, the sewer can also be located in the crawl space by noting the place where the sewer pipe exits under the building's foundation.
4. With a steel rod, probe the ground to locate the tank. The tank, or the manhole cover on a riser, should be within 18 inches of the ground surface. Once located, excavate to the top of the tank and pull off the manhole cover.

The following outlines a procedure for checking the scum and sludge levels in the septic tank:

1. With a shovel, break through the scum layer, making a hole about 1 foot in diameter.
2. Wrap a strip of terry cloth toweling spirally around a pole and lower the pole into the tank. If the pole is fitted with a hinged flapper about 2 feet from its bottom, the flapper swings down, and the scum level can be checked.
3. Lower the pole into the septic tank liquid until the flapper is about 1 foot below the scum. Pull the pole towards you a little to get the flapper under the scum, then raise the pole until the scum begins to move up, indicating that the flapper has made contact with the scum. Mark the pole at the top of the scum so that the depth of the scum can be measured from the pole after it is removed.
4. Continue to lower the pole into the septic tank until it meets the bottom. Tap the bottom of the tank two or three times with a sharp rap, which permits the sludge to enter into the coarse weave of the terry cloth. Slowly remove the pole. The depth of the sludge will then be seen in the terry cloth.
5. Alternatively, manufactured products are available for obtaining a representative profile of the septic tank sludge, liquid, and scum depths in place of the tool described above. These manufactured products are recommended for professionals who pump septic tanks or install septic systems because the tool can be cleaned and maintained for repeated use.

Calculate the depth of the sludge as a percent of the liquid depth (measured from the bottom of the tank to the top of the liquid/bottom of the scum layer). Equation 6-1 can be used to determine if a septic tank needs pumping.

$$\text{Percent sludge depth} = \frac{\text{Depth of sludge (inches)}}{\text{Liquid depth of tank (inches)}} \times 100$$

Equation E-1. Percent Sludge depth.

When sludge is greater than 40% of the liquid volume, or the scum layer is at or above the top of the inlet or outlet baffle, the tank should be pumped.

Figure 8-2 illustrates methods used to check scum and sludge depths.

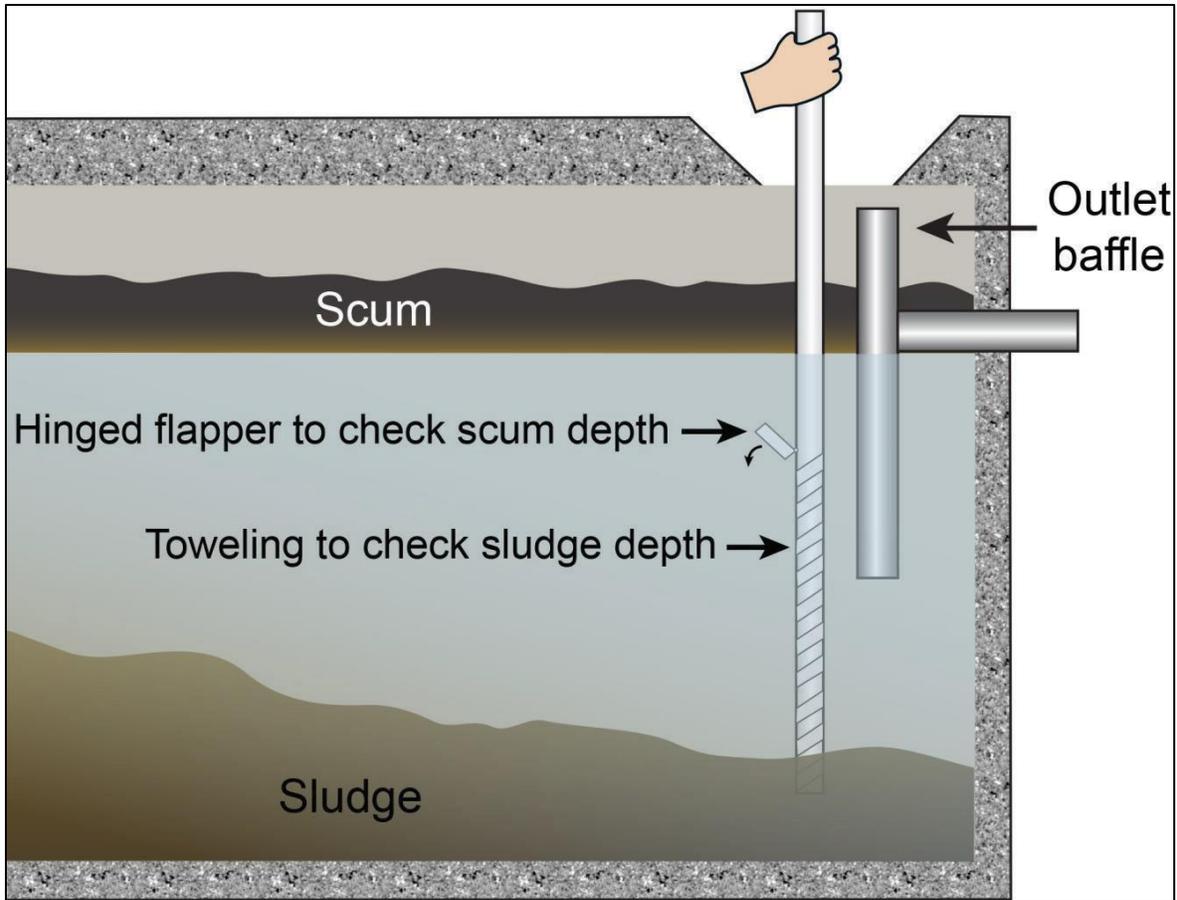


Figure E-2. Methods used to check scum and sludge depths.

E.6 Septage Pumping

All persons, firms, or corporations operating any tank truck, device, or equipment used or intended to be used for the purpose of pumping and transporting septage must comply with the IDAPA 58.10.03.050. The following subsections provide guidance and recommendations on septage pumping and transporting equipment requirements.

E.6.1 Equipment for Pumping and Transporting Septage

The major and most expensive piece of equipment needed to pump septage is the pumper's truck. Capacity of a truck used to pump septic tanks, RV dump stations, or wastewater holding tanks should be at least 1,000 gallons. The capacity of a truck used to pump portable toilets or vault privies should be at least 500 gallons. The truck should also have the following:

- An access port for the periodic inspection, maintenance, and cleaning of its interior. The truck should also have a gauge to indicate the volume of liquid it contains.
- The tank should have a gravity drainage valve that can be safely locked during transportation and storage. The discharge valve used to dispose of the septage should be at least 2.5 inches in diameter and equipped with a cam-lock quick couple or screw cap. The valve should be located so that the discharge stream is not blocked in any way, unless it is necessary for

disposal.

- The pumping equipment on the truck should be sized to provide at least 15 feet of suction lift and should be able to reverse flow.
- There should be a water trap between the tank and pump to prevent liquid from entering the pump in case the pump pulls a vacuum on the tank.
- Several lengths of hoses should be available that can stretch from the pumping vehicle to a client's tank. The hoses from the tank and pump should be at least 3 inches in diameter.

All equipment used to pump or transport septage must be watertight and constructed so that spilling or leaking of septage during pumping, transportation, or unloading is prevented (IDAPA 58.01.03.050.01). Additionally, all equipment used to pump or transport septage must be constructed to allow every portion of the interior or exterior of the equipment to be cleaned and maintained in a clean condition when not in use (IDAPA 58.01.03.050.02). All permitted vehicles used to pump or transport septage must also have the permit number for each vehicle displayed at all times on the door of the vehicle in a manner that is easily legible (IDAPA 58.01.03.050.06). Easily legible is considered to be letters at least 3 inches high on both sides of the truck. It is also recommended that the name of the firm, address, business phone number, and tank capacity be displayed on the side of the truck.

Septage pumpers may also want to consider including several other pieces of equipment with their pumping and transportation vehicles. These recommended pieces of equipment will help pumpers complete the job and provide their clients with information regarding the condition of their septic tank. Other recommended equipment includes the following:

- Flashlight
- Steel lid probes
- Manhole sealer
- Bucket
- 50-foot garden hose
- Long-handled shovel
- Pry bar or pick
- Container of Quick Lime
- Pole, hoe, or rake for scum mixing
- A pole or equipment that allows the depth of scum and sludge to be determined
- Extension mirror used to inspect the tank's inlet and outlet baffles
- A spray bar or splash plate for use in domestic septage land application (if contracted with an approved site and approved by the health district)

E.6.2 Permit Requirements

A permit is required throughout Idaho for pumping, transportation, and disposal of septage (IDAPA 58.01.03.050.04.a). A permit can be obtained from any health district within Idaho and allows the permittee to pump, transport, and dispose of septage throughout the state. Permits must be renewed annually and applications for renewal must be submitted to the health district

on or before March 1 of each year (IDAPA 58.01.03.050.04.a). An application must be submitted to obtain a permit from a health district for pumping, transportation, and disposal of septage (IDAPA 58.01.03.050.04.a). Permit applications must include the following information:

- Number of tank trucks operated
- Vehicle license number of each tank truck
- Name and address of the owner and/or operator of the tank trucks
- Name and address of the business
- Method of septage disposal to be used in all areas of the operation
- Location of all disposal sites used by the applicant (location information must be accompanied by signed approval from the disposal site operator indicating that all the trucks included in the application can dispose of septage at that location.)
- Payment of the permitting fee as set by each health district

Upon submission of a permit application to a health district, an EHS will inspect the tank trucks and associated equipment before issuing the permit. A permit will not be issued until all the requirements of IDAPA 58.01.03 are met by the applicant.

E.6.2 Septic Tank Pumping

Once a septic tank has been located, and the manhole cover exposed and removed, the depth of scum and sludge should be determined using the following procedure:

1. Draw down the liquid level 6 inches to 1 foot.
2. Break up the scum using a pole, rake, or hoe.
3. Mix the scum with the tank's contents.
4. Continue pumping the tank until most of the contents are removed. If needed, force septage back into the tank to mix up and remove the sludge on the bottom of the tank.
5. After the tank's contents have been mixed, do not let the septage come back up to the outlet because sludge may run into the drainfield.
6. Leave a few inches of sludge in the bottom of the tank as seed to restart bacterial action as the tank refills.
7. Do not disinfect the interior of the tank.

When pumping is completed, thoroughly inspect the tank and note the following on a pumping receipt for the client:

- Date.
- Volume of septage removed from each tank.
- Depth of scum and sludge in each tank.
- Condition of the inlet and outlet baffle in each tank.
- Condition of the walls and floor of the tank for the presence of cracks, corrosion, or damage.
- Is water running back into the tank from the drainfield? (Possible sign of high groundwater in the drainfield or back pressure from a failing drainfield)

- Is water running in through the sides of the tank? (Sign of a leaking tank in high groundwater)
- Does the sewer line from the house appear to be free-flowing? (Turn a fixture on inside the structure to ensure that there is no obstruction)

NEVER enter a tank as the methane gas produced by the septage can kill quickly! Entry into any tank requires a confined space entry permit through the Occupational Safety and Health Administration and proper personal protective equipment.

As of July 1, 2025, IDAPA 58.01.03.007.14 requires that septic tank manholes extend to ground surface (see the DEQ memorandum in TGM Appendix D titled “Septic Tank Manholes” for more details on when this is required). If a manhole cover of an existing tank is found to be belowground (as may be the case with older tanks or tanks serving basements), the property owner should be advised to add a concrete or plastic standpipe/riser that would place the manhole cover at ground surface. The standpipe/riser is recommended for both the inlet and outlet sides of a tank.

After the manhole cover is replaced, replace soil and sod if the manhole is belowground. Apply Quick Lime on any places where septage may have spilled.

E.7 Septage Storage

Some septage pumpers, transporters, composters, or land application site operators may find it necessary for their operation to store septage before disposal or beneficial reuse. If a pumper, transporter, composter, or land application site operator needs to store septage, the facility they construct to accomplish this must meet the requirements of “Septage Transfer Stations” (IDAPA 58.01.16). Any proposed septage transfer station must also meet IDAPA 58.01.16 requirements, and the associated documents must be submitted to the DEQ regional office along with their septage transfer station plans:

- Review of plans for municipal wastewater treatment or disposal.
- Demonstration of technical, financial, and managerial capacity.
- Facility plans.
- Preliminary engineering reports.
- Submission of plans and support documents.
- O&M manuals.
- If a screening facility is also to be constructed in association with a septage transfer station, the designs for that facility must be included with the transfer station plans but is exempt from the requirements of “Screening and Grit Removal” (IDAPA 58.01.16.460).

The act of screening septage is defined as treatment (IDAPA 58.01.16). Based on this designation of screening as treatment, any septage transfer station that employs screening must have a properly licensed wastewater operator in charge of the wastewater system and screening facility. DEQ exempts all stand-alone septage transfer stations and associated septage screening facilities from the licensed operator requirement as long as the septage transfer station meets the following:

- The septage transfer station is located at a permitted pumper's place of business, or
- The septage transfer station is located at a permitted domestic septage land application site or approved composting site.
- The septage transfer station is owned, operated, and maintained by the permitted pumper, land application site, or composting site operator.
- No additional wastewater treatment components or processes are included in the septage transfer station design.
- Septage transfer stations located at, or associated with, a wastewater treatment plant are not subject to these exemptions.

E.8 Septage Disposal

Septage may only be disposed of in conformance with the methods allowed by IDAPA 58.01.03.050.03. Those methods include the following:

1. Discharging to a public sewer
2. Discharging to a sewage treatment plant
3. In a location and by a method approved by DEQ

The first two methods of disposal require approval from the owner or superintendent of a wastewater treatment plant or the owner/operator of the public sewer. It is important for a pumper to note that discharging to a public sewer without the proper approvals puts the pumper in violation of the National Pollutant Discharge Elimination System pretreatment requirements and associated federal codes. Disposal at a wastewater treatment plant should be used whenever practical.

Disposal method 3 may be associated with disposal or land application of domestic septage. Nondomestic septage may not be approved for one-time disposal or beneficial reuse. Approval for one-time disposal of domestic septage must be obtained through the health district that the one-time disposal site is located within. Written approval from the property owner must be supplied to the health district along with the request for one-time domestic septage disposal. Pumpers seeking approval of continuous domestic septage land application sites need to contact the DEQ regional office.

One-time disposal accomplished through burial shall ensure the following:

- Complete burial is accomplished within 6 hours of domestic septage disposal.
- The disposal depth meets the separation distance requirements of IDAPA 58.01.03.008.01.c for groundwater and IDAPA 58.01.03.008.01.d for surface water.

One-time disposal accomplished through drying shall ensure the following:

- The domestic septage is pH adjusted to a pH of at least 12 for a full 30 minutes before domestic septage disposal.
- The disposal depth meets the separation distance requirements of IDAPA 58.01.03.008.01.c for groundwater and IDAPA 58.01.03.008.01.d for surface water.

Appendix E

5.12 Total Nitrogen Reduction Approvals

Revision: October 26, 2018

On-site wastewater systems that qualify as best practical methods for the targeted nitrogen reduction amount appear in Table 5-16. Areas of concern, such as nitrate priority areas, areas with shallow soils over bedrock, or a shallow depth to groundwater, may be required to use one of these best practical methods to reduce the development's or home's environmental impact. Values listed in the TN column should not be exceeded to ensure that the required TN reduction percentage is attained. These TN values may be used in NP evaluations to evaluate the impact on groundwater resources. Products installed for reduction of TN less than 27 mg/L are subject to effluent testing (section 4.8).

Table 5-16. On-site wastewater systems approved for total nitrogen reduction.

System or Manufacturer Product and Model	Total Nitrogen Reduction from influent to effluent ^a (%)	Avg. Total Nitrogen concentration of effluent ^a (mg/L)	Minimum Source Water Alkalinity ^b (mg/L)
Public Domain Systems			
Intermittent Sand Filters (ISF)	15 ^c	38	108
Recirculating Gravel Filters (RGF)	40 ^c	27	189
Drip Distribution	40^c	27	-
Extended Treatment Package Systems			
AquaKlear (245-series)	59 ^e	20	216
SeptiTech STAAR	55 ^{e,f}	20	100
Oreco–AdvanTex	65 ^{e,f}	16	269
BioMicrobics RetroFAST	65 ^f	16	110
BioMicrobics MicroFAST	65 ^f	16	110
BioMicrobics BioBarrier MBR	79 ^f	9	100
Norweco–Singulair 960 series	65 ^d	16	269
Norweco–Singulair TNT	65 ^d	16	269

a. Quantifiable values (milligram per liter [mg/L]) will indicate compliance with the qualitative total nitrogen reduction limit expressed as a percentage (%) reduction. An average influent value of 45 mg/L is used to calculate total nitrogen concentration.

b. Minimum recommended source water alkalinity to support nitrification in the denitrification process. Use of water softeners is not recommended due to potentially detrimental effects on the biological processes.

c. Literature value

d. Idaho testing

e. Third-party data

f. National Science Foundation data

Appendix F

4.25 Seepage Pit/Bed

Revision: April 18, 2013

Installer registration permit: Property owner or standard and basic

Licensed professional engineer required: No

4.25.1 Description

An absorption pit filled with standard drainfield aggregate.

4.25.2 Approval Conditions

1. Seepage pit disposal facilities may be used *only for replacement systems* on a case-by-case basis ~~within the boundaries of Eastern Idaho Public Health District (District Health Department 7) as a last resort if no other subsurface discharging alternatives are available when an applicant can demonstrate to the district director's satisfaction that the soils and depth to groundwater are sufficient to prevent groundwater contamination.~~ The district director will document all such cases ~~(IDAPA 58.01.03.008.11).~~
 - a. ~~For all other districts, replacement seepage pits may be allowable as a last resort if no other alternatives are feasible, and the site meets conditions of approval 1.a through 6 as stated herein. The district director will document all such cases (IDAPA 58.01.03.008.11) and issue the installation permit as a nonconforming permit.~~
2. ~~For all other districts, t~~The site must meet the requirements of a standard system except that it is not large enough in surface area ~~(IDAPA 58.01.03.008.11.b).~~
3. ~~Area must not have any shallow domestic, public wells, or sink holes connected by underground channels.~~ Seepage pits must meet all horizontal setback requirements in IDAPA 58.01.03.007 and IDAPA 58.01.03.008.
4. Pit bottom must be no deeper than 18 feet below the natural ground surface. The bottom of the pit must conform to the effective soil depth chart (IDAPA 58.01.03.008.012.c). *The top of the pit may be more than 4 feet below ground surface.*
5. Seepage pits may not be installed in design group C soils.
6. A test hole must be performed excavated to a depth of 6 feet below the proposed termination of the bottom of the seepage pit prior to permit issuance.

4.25.3 Sizing

The effective area of the pit may be determined from Table Error! No text of specified style in document.-1 ~~Table 4-29~~ (for round pits) and by the square footage of the pit sidewalls below the effluent pipe (rectangular beds).

Seepage bed example:

Pit dimensions are 10 feet wide x 15 feet long, and the pit is 8 feet deep below the effluent pipe:

$$(10 \text{ feet wide}) \times (8 \text{ feet deep}) = 80 \text{ ft}^2 \rightarrow (80 \text{ ft}^2) \times (2 \text{ sidewalls of the same dimension}) = 160 \text{ ft}^2$$

$$(15 \text{ feet wide}) \times (8 \text{ feet deep}) = 120 \text{ ft}^2 \rightarrow (120 \text{ ft}^2) \times (2 \text{ sidewalls of the same dimension}) = 240 \text{ ft}^2$$

$$(240 \text{ ft}^2) + (160 \text{ ft}^2) = 400 \text{ ft}^2$$

Round seepage pit example:

$$(\pi d) \times h = \text{effective disposal area}$$

d = diameter, h = height, $\pi = 3.14$

Table Error! No text of specified style in document. -129. Effective area of round seepage pits.

Diameter of Seepage Pit (feet)	Effective Depth Below Effluent Line (feet)									
	1	2	3	4	5	6	7	8	9	10
3	9	19	28	38	47	57	66	75	85	94
4	13	25	38	50	63	75	88	101	113	126
5	16	31	47	63	79	94	110	126	141	157
6	19	38	57	75	94	113	132	151	170	188
7	22	44	66	88	110	132	154	176	198	220
8	25	50	75	101	126	151	176	201	226	251
9	28	57	85	113	141	170	198	226	254	283
10	31	63	94	126	157	188	220	251	283	314
11	35	69	104	138	173	207	242	276	311	346
12	38	75	113	151	188	226	264	302	339	377

4.25.4 Construction

1. Standard drainfield aggregate must be used to fill the entire pit/bed excavation.
 - a. If seepage pit rings or structural blocks are used in pit/bed construction the aggregate will only be required to fill the excavation void around the seepage rings or structural blocks and above the seepage ring lid to a point 2 inches above the effluent pipe.
 - b. In pit/bed installations using seepage pit rings a minimum depth of 12 inches of standard drainfield aggregate must be placed below the seepage rings.
2. Effluent pipe must be covered with a minimum of 2 inches of aggregate.
3. Seepage pit/bed excavation must be covered with geotextile, straw, or untreated building paper.
4. The distribution laterals within the pit/bed should meet the requirements for the standard absorption bed (IDAPA 58.01.03.008.1009).
5. If seepage pit rings or structural blocks are used in pit/bed construction the effluent pipe may discharge into the central dump point in the ring structure lid.

6. Effluent and distribution piping used in seepage pit/beds with installation depths greater than 3 feet from grade to the top of the pit/bed installation must utilize ASTM D3034 or stronger piping to prevent piping collapse.

Appendix G

4.5.3.1 Basic Design Requirements

The following minimum design elements apply to both septic tank and pretreated effluent systems and continuous and noncontinuous flush drip distribution systems:

1. Drip distribution tubes are placed directly in approved native soil at a depth of 6–18 inches with a minimum final cover of 12 inches.
 - a. Cobbles may be removed from the native soil without it being considered disturbed.
2. Drip distribution tubes should be placed on contour and slightly for proper drainage to the manifold and ultimately the dose tank. If the dosing tank is installed above the drainfield, the distribution tubes should be sloped toward the drip tubing for drainage out into the drainfield.
 - a. Drip tubing is made of low-density, linear polyethylene to withstand the effects of cold weather. These properties of the drip tubing allow drainage of effluent from drip tubing. Therefore it is the hard/rigid components of the drainfield that must be protected from freezing.
3. A minimum of two zones are recommended, but not required, regardless of system size, and zones should be kept as small as is reasonable.
 - a. Individual lateral lengths should be designed to provide equal discharge volumes across the lateral emitters (lateral length is calculated from the connection point on the supply line to the connection point on the return line).
 - b. Lateral lengths may differ within a zone as long as the minimum flushing velocity can be maintained at the terminal end of each lateral.
 - c. Zones within a system should be close to equal in size to achieve efficient and consistent application of wastewater.
 - d. In lower permeability soils (i.e., clayey soils), it is recommended that drip tubing and emitter spacing be reduced while maintaining the minimum square footage to increase the emission points and maintaining the dosing volume to decrease wastewater travel distance through the soil.
4. The design application rate is based on the most restrictive soil type encountered within the minimum effective depth of soil below the drip distribution tubing required to meet the necessary separation distance to limiting layers. The effluent may be discharged to a drainfield satisfying Section 4.21.5 “Drainfield Trenches” application rate criteria (Table 4-20) and vertical setback requirements (Table 4-19).

Appendix H

Cut Off Trench Detail

Diversion Swale (Run-on Control)

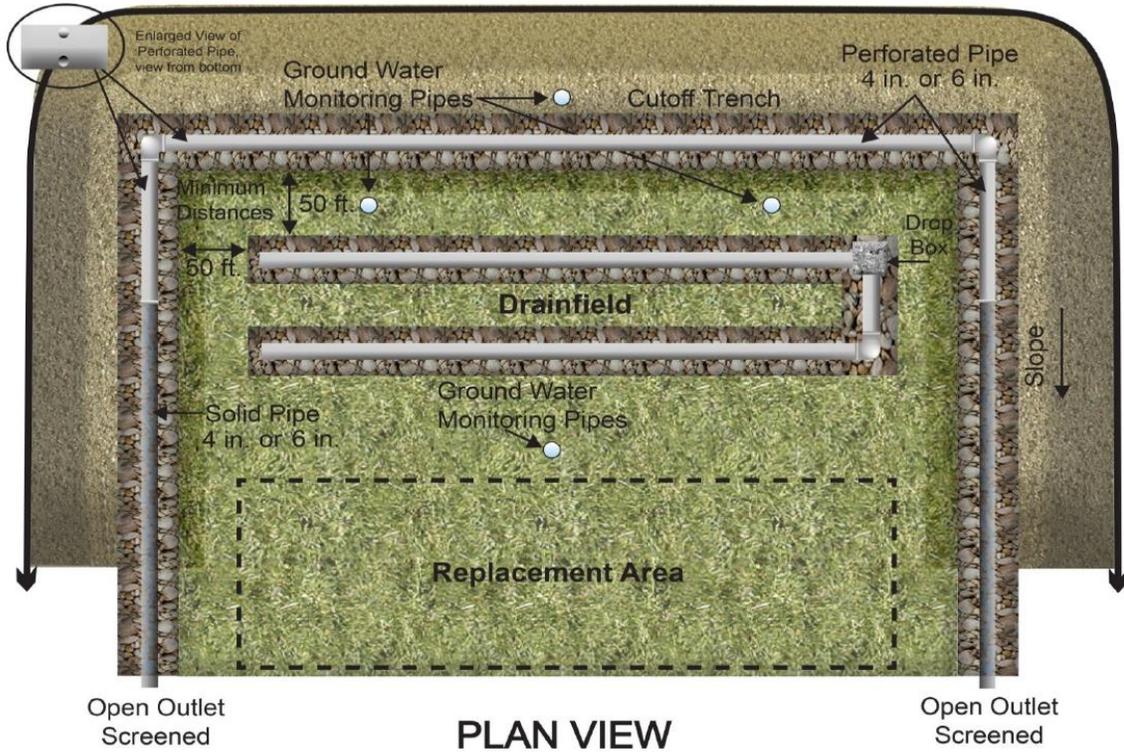


Figure 2-8. Cutoff trench plan view.

Table 2-12. Setbacks of drainfield from cutoff trench based on percent slope.

Slope (%)	Depth of Cutoff Trench (feet)							
	3	4	5	6	7	8	9	10
5	0.5 - 3 50	1.5 - 4 50	2.5 - 4 50	3.5 - 4 50	4 61	4 81.5	4 100	4 120
10	0 - 3 30.5	0 - 4 40.5	0 - 4 50	1 - 4 50	2 - 4 50	3 - 4 50	4 50	4 61
15	0 - 3 18	0 - 4 25	0 - 4 32	0 - 4 39	0 - 4 45	0.5 - 4 50	1.5 - 4 50	2.5 - 4 50
20	0 - 3 14	0 - 4 19.5	0 - 4 24.5	0 - 4 29.5	0 - 4 34.5	0 - 4 39.5	0 - 4 44.5	0 - 4 50
25	0 - 3 11.5	0 - 4 16	0 - 4 19.5	0 - 4 23.5	0 - 4 27.5	0 - 4 31.5	0 - 4 35	0 - 4 39.5
30-45	0 - 3 9.5	0 - 4 13	0 - 4 16.5	0 - 4 19.5	0 - 4 23	0 - 4 26.5	0 - 4 30	0 - 4 33

Note: Split cells show drainfield installation depth requirements in the upper left and minimum setback distance in the lower right.