Park County, Wyoming

Small Wastewater System Regulations

Adopted December 1, 2020

Effective January 1, 2021

RESOLUTION 2020 – 81

TITLE: ADOPTION OF REVISED REGULATIONS AND CHAPTER 25 OF THE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY RULES AND REGULATIONS GOVERNING SMALL WASTEWATER SYSTEMS IN PARK COUNTY, WYOMING

WHEREAS the Park County Board of Commissioners (Board) seeks to protect the public health, safety and general welfare;

WHEREAS the Board recognizes the value of educated and standardized oversight for the proper disposal of domestic wastewater;

WHEREAS Park County, through its Board, the Wyoming Department of Environmental Quality (DEQ), through its Director, and the DEQ Water Quality Division, through its Administrator, will enter into an updated *Delegation Agreement* in which Park County shall continue to act as delegated authority to permit small wastewater facilities pursuant to *W.S. § 35-11-301(a)(iii)*, including the authority to develop necessary rules, regulations, standards and permit systems for small wastewater systems within their jurisdiction;

WHEREAS the *Delegation Agreement* requires Park County to establish and update (as necessary) rules, regulations and standards for the issuance of small wastewater system permits;

WHEREAS the Board noticed and held a public hearing on October 20, 2020, continued to November 4, 2020 and December 1, 2020, to consider proposed *Park County Small Wastewater Systems Regulations* to replace the *Park County Small Wastewater Systems Regulations* which were adopted by the Park County Board of Commissioners December 19th, 2017;

WHEREAS the proposed regulations meet the minimum substantive state statutory requirements and include applicable requirements of the *Wyoming Department of Environmental Quality Water Quality Rules and Regulations, Chapter 25*;

WHEREAS existing County Small Wastewater Systems Regulations were reformatted for easier reading and navigation; grammatical and typographical errors were corrected; the Administration and Definitions sections were expanded upon, including clarifications throughout; and minimum requirements for both standard and non-standard wastewater systems are expanded and more clearly defined and explained;

WHEREAS the proposed regulations exceed the minimum substantive state statutory requirements by addressing Presby system considerations, soil exploration pit requirements, requirements for systems not entirely contained within a property served by a system, holding tank requirements, requirements for system repairs or failure, requirements for chemical toilets and portable toilets, requirements for wastes to be disposed of at approved facilities, sizing of greywater systems, and clarification on composting toilet and incinerating toilet allowances;

NOW, THEREFORE, BE IT RESOLVED, that Park County hereby adopts the *Park County, Wyoming, Small Wastewater System Regulations* and the *Wyoming Department of*

Environmental Quality Water Quality Rules and Regulations, Chapter 25, as amended, as rules to govern the permitting of small wastewater systems in Park County.

These regulations are replacing, in their entirety, the *Park County Small Wastewater Systems Regulations Adopted by the Park County Board of Commissioners December 19th, 2017.*

ADOPTED by the Board of County Commissioners this 1st day of December 2020, to be effective January 1, 2021.

BOARD OF COUNTY COMMISSIONERS
PARK COUNTY, WYOMING

SEAL

STATE OF WYOMING
COUNTY CLERK
PARK COUNTY

ATTEST

Joseph E. Tilden, Chairman

Lee Livingston, Vice-Chairman

Jake Fulkerson, Commissioner

Dossie Overfield, Commissioner

Lloyd Thiel, Commissioner

Colleen Renner, Clerk

2020-8100 Park County WY 12/8/2020 2:46 PM Fees: $0.00

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CHAPTER 1: ADMINISTRATION

SECTION 1: PURPOSE AND INTENT

The purpose and intent of these regulations is to protect the public health, safety and welfare, and environment of Park County, Wyoming (the County). Protection can be offered through the reduction and control of the pollution of the air, land and water by ensuring that the design and construction of small wastewater systems (a.k.a. septic systems, domestic waste disposal systems, wastewater disposal systems or sewage disposal systems, etc.) meet the purpose of the *Wyoming Environmental Quality Act*.

SECTION 2: AUTHORITY

Park County has accepted the authority and responsibility to enforce and administer the provisions of *W.S. § 35-11-301(a)(iii)*, as defined by 35-11-103(a)(ix), for small wastewater facilities, including the authority to develop necessary rules, regulations, standards and permit systems for small wastewater systems in the County, as specified in a *Delegation Agreement* between the Wyoming Department of Environmental Quality (DEQ) and the County, adopted by separate resolution of the Board of County Commissioners (Board).

SECTION 3: ADOPTION OF DEQ RULES IN ADDITION TO COUNTY REGULATIONS

Park County has adopted the Wyoming Department of Environmental Quality Rules and Regulations, Chapter 25, *Septic Tank and/or Soil Absorption Systems and Other Small Wastewater Systems* (DEQ Chapter 25) (portions of which are found herein), as amended, as well as these *Park County, Wyoming Small Wastewater System Regulations* (Regulations), as rules to govern the permitting of small wastewater systems in the County. Park County reserves the right use authority pertaining to the regulation of small wastewater facilities granted by Wyoming State statutes whether or not cited herein or whether added to state law subsequent to the adoption of these Regulations. Nothing in these Regulations shall be construed as exempting any person from other requirements of Park County, municipal, state or federal laws and regulations.

SECTION 4: DESIGNATION OF ADMINISTRATORS

The County designated one or more Delegated Local Officials (DLOs) by separate resolution to administer and enforce these provisions and regulations. The County may employ a Small Wastewater Administrator, who may or may not be a DLO, to issue permits for small wastewater systems under the supervision of a DLO, if necessary. DLOs have final decision authority on matters related to the administration and enforcement of these regulations.

SECTION 5: APPLICABILITY

These regulations shall apply to domestic small wastewater systems in unincorporated areas of Park County, Wyoming, with effluent output of less than or equal to 2,000 gallons per day. Non-domestic wastewater from commercial and industrial facilities, high strength wastewater

systems, standard soil absorption systems with a percolation rate that is either less than five (5) minutes per inch or more than sixty (60) minutes per inch, or sites that exhibit high groundwater, bedrock or an impervious clay/rock layer less than four (4) feet below the bottom of the soil absorption system excavation will require review and approval from DEQ. All proposed on-site wastewater disposal systems with anticipated effluent output of greater than 2,000 gallons per day shall require review by and approval of the DEQ; the applicant shall apply directly to the DEQ using the appropriate application method specified by DEQ.

Small wastewater systems installed prior to the adoption of the *Park County Small Wastewater Systems Regulations* by the Board on November 14, 1995 (*1995 SWW Regulations*) are not assumed to be in compliance with current standards. Any system installed prior to the adoption of the *1995 SWW Regulations* that is replaced, repaired or modified shall be subject to current design standards and permitting requirements at the discretion of the County Small Wastewater Administrator or DLO.

SECTION 6: CONFLICT WITH OTHER REGULATIONS

To the extent the requirements of these regulations differ from such other applicable laws and regulations, the more restrictive requirements shall apply.

SECTION 7: RELATIONSHIP TO COVENANTS

Any covenants relating to small wastewater systems shall have no effect with regard to these regulations. These regulations are meant to control all small wastewater systems in unincorporated areas of Park County.

SECTION 8: APPROVED WASTEWATER DISPOSAL SYSTEM REQUIRED

The owner of any structure or land where people live, work or congregate shall insure that the structure or land site contains adequate, convenient and sanitary wastewater disposal systems approved by the County Small Wastewater Administrator, DLO and/or DEQ. These systems shall be kept in working order and maintained to ensure that they function as designed and intended. Under no circumstance shall wastewater or effluent be permitted to be discharged upon the surface of the ground, in excavations not specifically approved by the County Small Wastewater Administrator, DLO and/or DEQ, or into the waters of the State. The property owner shall be responsible for proper maintenance of the system and for abatement of any nuisance arising from its failure.

SECTION 9: PERMIT REQUIREMENT

A. Permit Required: A permit is required to construct, install, repair or modify any small wastewater system or component thereof, as specified in these regulations. Applicants must obtain a *Permit to Construct*, as well as subsequent permission to backfill, to finalize a *Small Wastewater System Permit*.

B. Permit Application: Application for a *Small Wastewater System Permit* shall be made prior to construction, repair, modification or excavation.

1. Complete applications shall be submitted to the County Small Wastewater Administrator or a DLO at least fourteen (14) days prior to planned construction along with a non-refundable fee established by resolution of the Board of County Commissioners.

2. An application received by the County Small Wastewater Administrator or a DLO that is deemed incomplete and/or incorrect must be completed and/or corrected and resubmitted for further consideration.

3. The County Small Wastewater Administrator and/or a DLO shall review the application to determine if the proposed system is in compliance with the provisions of these and other pertinent County regulations.

4. Submission of an application and payment does not constitute permission to proceed with construction.

C. Permit Approval or Denial: The County Small Wastewater Administrator and/or DLO shall notify the applicant of its decision to approve or deny the permit request within thirty (30) days of receiving a complete application. In the absence of action from the County within the 30-day period, the applicant may submit a permit application directly to DEQ for consideration.

1. Approval: If the proposed system is determined to be in substantial compliance with the provisions of these and other pertinent County regulations related to small wastewater systems, the County Small Wastewater Administrator and/or DLO shall send an approved *Permit to Construct* to the applicant.

2. Approval with Conditions: If a *Permit to Construct* is issued with conditions different from the proposed application submitted by the applicant for review, notification of such conditions shall be sent to the applicant with the *Permit to Construct*.

3. Denial: If the proposed system is determined not to be in substantial compliance with the provisions of these and other pertinent County regulations related to small wastewater systems, the *Permit to Construct* shall be denied. A written Notice of Denial of a *Permit to Construct*, with basis for the denial, shall be sent to the applicant.

D. Commencement of Construction: Construction, excavation, installation, repair or modification work may commence upon the landowner, applicant, designee or agent's receipt of an approved *Permit to Construct*; however, no portion or component of a new or replacement system, repair or modification may be covered/backfilled prior to inspection by a County Small Wastewater Administrator, DLO or agent of DEQ, unless written permission has been granted to the applicant by the County Small Wastewater Administrator, DLO or DEQ.

SECTION 10: INSPECTIONS

A. Permission to Access Property: Designated County or State representatives are authorized to enter upon private property for the purpose of determining if permitted small wastewater systems or facilities thereon are in compliance with the provisions of these regulations. The owner or occupant of a property having a permitted wastewater disposal system shall give the above persons permission to access the property for such survey or inspection during normal business hours, with at least twenty-four (24) hours advanced notice, unless arrangements are made otherwise upon agreement of the staff and the landowner.

B. Inspection Procedures: An inspection of each small wastewater system installation, repair or modification is required to ensure that the installed system matches the approved design and has been installed in accordance with the provisions of these regulations and the conditions of the *Permit to Construct*.

1. The applicant or applicant's agent/installer shall notify the County Small Wastewater Administrator or DLO of the intended date upon which the construction, repair or modification will begin.

2. The applicant or applicant's agent/installer must schedule an inspection with the County Small Wastewater Administrator or DLO at least twenty-four (24) hours in advance of the system being ready for inspection. Inspections will generally occur between the hours of 8:00a.m. and 5:00p.m., Monday through Friday, unless arrangements are made otherwise upon agreement of the applicant and staff.

3. No portion of a small wastewater system shall be covered prior to inspection or authorization to cover the system.

4. If staff are unavailable or unable to inspect a permitted system within forty-eight (48) hours (weekend days not included), the installer shall not cover or complete the system without authorization from the County Small Wastewater Administrator or DLO. At a minimum, the installer shall be required do the following, if applicable:

   a. Submit photographs clearly showing each component of the installed system including, but not limited to:

      - A photograph of the structure being served by the system;
      - A photograph of the wastewater pipe leaving the structure;
      - A photograph of the septic tank;
      - A photograph of each flow divider and/or distribution box;
      - Photographs of the entire length of each trench or the bed, showing the chambers, pipe/washed rock, or other field components as installed; and
      - A photograph from the distal end of the system back to the structure being served.

b. Submit a drawing of the entire small wastewater system showing all components and dimensions (e.g., pipe lengths throughout, trench width and length/bed width and length) and indicate the actual depth of the trenches/bed.

C. **Final Approval or Denial of Installed Small Wastewater System:** The County Small Wastewater Administrator and/or DLO shall approve covering/backfilling the system if it is installed in accordance with the provisions of these regulations and the conditions of the *Permit to Construct*. If the inspection discloses any significant departure from the design upon which the *Permit to Construct* was issued, or if any aspect of the system fails to comply with the provisions of these regulations, approval to cover shall be withheld. The applicant or applicant's agent/installer shall make such changes as are necessary to bring the system into compliance. In all cases where approval to cover is withheld, a re-inspection shall be required prior to covering any portion of the small wastewater system.

D. **Re-Inspection Fee:** A re-inspection fee, established by resolution of the Board, may be assessed for each re-inspection conducted when a portion of the work for which an initial inspection was called for is not complete or when corrections called for are not made.

SECTION 11: DURATION AND TRANSFERABILITY OF PERMIT TO CONSTRUCT

A. **Duration of Permit:** A *Permit to Construct* shall remain valid for one (1) year after issuance. If construction is not completed within one year of issuance, the time limit may be extended for up to an additional year for good cause shown. Permission for an extension shall be requested prior to the date of expiration of the *Permit to Construct*. Extensions that are approved shall be granted in writing by the County Small Wastewater Administrator or DLO. The extension of the expiration date of a *Permit to Construct* shall be granted only once per permit.

B. **Transferability:** An unexpired *Permit to Construct* is automatically transferable to a new owner of the property upon which the *Permit* was issued. The *Permit* shall be valid for one year from the date of the initial issuance, or as granted by extension.

SECTION 12: UNPERMITTED AS-BUILT SYSTEMS

A. **Permit Required:** In the rare instance where a small wastewater system has been 1) installed, repaired or modified without a *Permit to Construct* or 2) backfilled without written permission to do so, therefore not being in compliance with these regulations, the County Small Wastewater Administrator, with the approval of a DLO, may, at his/her discretion, issue an *Permit for an As-Built Small Wastewater System*.

B. **Application Requirement:** The applicant shall provide the following information to the County Small Wastewater Administrator or DLO for review to determine if an unpermitted as-built system is in compliance with current standards.

1. Completed *Small Wastewater System Permit Application* including percolation test data and soil excavation/groundwater exploration data (required – any costs for which shall be borne by the applicant);
2. Investigation fee (see subsection E);
3. Photos of the installation, if available;
4. Receipts verifying the purchase and quantity of components reportedly used to construct the system; and
5. In cases where all or a portion of an unpermitted system has already been covered, a completed *Affidavit of Small Wastewater System*.

C. <u>Site Investigation and Inspection:</u> An on-site investigation and inspection of the as-built system shall be conducted by the County Small Wastewater Administrator and/or DLO. During the site visit, the County Small Wastewater Administrator and/or DLO shall collect information necessary to determine if the application submitted in support of the as-built system corresponds with what is observed at the site.

D. <u>Permit Approval or Denial:</u> The County Small Wastewater Administrator shall notify the applicant of the decision to approve or deny a *Permit for an As-Built Small Wastewater System* within forty-eight (48) hours of inspection; informal notice of approval or denial is often explained onsite if the applicant or applicant's agent is present for the inspection, or within a few hours after the inspection has occurred by phone or email.

1. Approval: If the installed system, modification or repair is determined to be in substantial compliance with the provisions of these and other pertinent County regulations or DEQ rules related to small wastewater systems, the County Small Wastewater Administrator and/or DLO shall send an approved *Permit for an As-Built Small Wastewater System* to the applicant.

2. Approval with Conditions: If a *Permit for an As-Built Small Wastewater System* is issued with conditions different from the application submitted by the applicant for review, written notification of such conditions shall be sent to the applicant with the *Permit*. If deficiencies requiring correction are noted as conditions, the applicant shall correct the deficiencies within thirty (30) days of receipt of the permit or the permit shall then be denied.

3. Denial: If the installed system, modification or repair is determined not to be in substantial compliance with the provisions of these and other pertinent County regulations or DEQ rules related to small wastewater systems, the *Permit for an As-Built Small Wastewater System* shall be denied. A written *Notice of Denial* shall be sent to the applicant by a DLO. The *Notice* is considered a final decision and shall state:

   a. The location of the property;

   b. The basis for the denial;

c. Methods to achieve compliance (e.g., unearthing all or a portion of the installed system);

d. A time limit to achieve compliance.

The applicant's failure to achieve compliance within the time limit stated shall result in a *Notice of Violation* according to CHAPTER I, SECTION 15:. Park County shall not be liable for any expenses related to the system or damage(s) resulting from inspection, investigation or actions taken by the applicant or the applicant's representative to bring the system into compliance.

E. **As-Built Permit Fee:** If the County Small Wastewater Administrator, with the approval of a DLO, determines that a *Permit for an As-Built Small Wastewater System* is appropriate, the applicant shall submit the appropriate fee for a *Permit* according to the fee schedule adopted by separate resolution. As-built systems are also subject to an investigation fee, due at the time of application, pursuant to SECTION 15.G.

SECTION 13: FLOODPLAIN DEVELOPMENT PERMIT REQUIREMENT

A. **Standard Systems:** Standard small wastewater treatment systems or facilities identified in these regulations, or components thereof, shall not be installed or placed within a Special Flood Hazard Area (floodplain) without first obtaining a *Floodplain Development Permit* pursuant to the current *Park County Development Standards and Regulations*. The County Floodplain Administrator, in concurrence with the County Small Wastewater Administrator or DLO, may waive the permit requirement if the proposed development is clearly outside of the flood hazard area (e.g., map is in error).

B. **Non-Standard Systems:** Non-standard wastewater systems identified in these regulations shall conform to the floodplain standards outlined in CHAPTER 4:.

SECTION 14: VARIANCE

A. **Purpose:** Provision for variance is to allow flexibility in these regulations when application of certain standards is inappropriate for a specific use or design proposal, or when enforcement of the standard would create a hardship or practical difficulty due to exceptional obstacles associated with the land or site where a particular project is proposed.

B. **Authority:** The County is not authorized to grant variances on matters related to small wastewater systems; only DEQ has the authority to grant variances.

C. **Procedure:** Requests for variances shall be submitted by the applicant/installer directly to the Northwest District Engineer of the Water Quality Division of DEQ in Lander, Wyoming, or their designee. Written notice of DEQ approval shall be provided to the County Small Wastewater Administrator or DLO to initiate further consideration of the application for which the variance was sought.

SECTION 15: VIOLATIONS

A. General: It is a violation of County and State regulations to do any of the following:

1. Construct, install, modify or repair any small wastewater system or system component in non-compliance with the terms and conditions of an approved application;
2. Construct, install, modify or repair any small wastewater system with an expired permit;
3. Cover/backfill any component of an installed small wastewater system prior to inspection or written approval; or
4. Discharge wastes into any small wastewater system which are inconsistent with the type, quantity and/or quality of wastes for which the facility is designed.

B. Discovery of Violations

1. Complaints of violations shall be made to the County Small Wastewater Administrator or a DLO. Any person, including any resident or landowner, County officer or employee, may make a complaint. Anonymous complaints may be made where the complainant's name is not recorded.
2. The County Small Wastewater Administrator, a DLO, or other designated County employee is authorized to discover and investigate violations by the following means:
   a. Review of public records;
   b. Conducting on-site inspections of properties provided the landowner consents to the inspection;
   c. Conducting inspections from neighboring properties provided the owner of such neighboring property consents;
   d. Inspecting properties by viewing them from public areas, including State highways, County highways or roads, public easements or rights-of-way, or similar;
   e. Observing violations in the course of conducting other County business for which County staff has permission to enter the property or which otherwise allows the staff to witness a violation;
   f. Obtaining an inspection warrant from a court of competent jurisdiction if other means of inspecting a probable violation are ineffective; and
   g. Other methods approved in advance by the County Attorney.

C. Informal Resolution: Upon finding that a violation has occurred, the County Small Wastewater Administrator or a DLO may attempt to resolve the matter informally by contacting the landowner and discussing the violation or sending written informal notice of the finding(s) to the landowner. If informal resolution is not successful within the time specified during discussion or written notice, a *Notice of Violation* may be issued.

D. **Notice of Violation:** When it has been determined that a violation has occurred and informal resolution is unsuccessful or inappropriate due to the nature of the violation, a DLO may send a *Notice of Violation* to the landowner by certified mail, return receipt requested. A *Notice of Violation* is considered a final decision of the DLO. The *Notice* shall state:

1. The location of the property;
2. The nature of the violation;
3. The section(s) of the regulations that is(are) violated;
4. A time limit for compliance; At a DLO's discretion, the time limit for compliance may be extended if the landowner is making progress toward compliance.
5. The penalty for violations and suggested corrective actions.

E. **Notice to Abate:** The provisions of these regulations may be enforced by the Board through its authority to abate any violations and enjoin and restrain any person violating these amended standards and regulations pursuant to Wyoming law. Violations of these standards and regulations may be abated under the procedures and standards herein at the election of a DLO; however, this procedure shall not be the sole remedy available, and the County may enforce these standards and regulations in any manner provided by law.

1. Notification of Violation: If a DLO determines that the provisions of these regulations have been violated, the DLO may, by certified mail with return receipt, provide a Notice to Abate to the landowner, stating the provisions of these regulations being violated, and setting forth a reasonable period of time for the landowner to abate and correct the violation.

2. Hearing on Violation: In the event the landowner fails to comply with the Notice to Abate, a hearing on the violation shall be held before the Board to ascertain whether abatement should be required under the procedures and standards of this section.

   a. Notice of Hearing: The DLO shall provide notice of the hearing to the landowner by certified mail, return receipt requested, a minimum of fourteen (14) calendar days prior to the date established for the hearing.

   b. General: At the time stated in the notice of the hearing, the Board shall conduct a hearing pursuant to the requirements of the *Wyoming Administrative Procedures Act W.S. § 16-3-101 et. seq.*, and shall hear and consider all relevant evidence, objections or protests, and testimony under oath of the alleged violator and all other persons having an interest in the hearing.

   c. Continuance: The Board may continue the hearing from time to time for good cause.

   d. Recommended Order: If, after the conclusion of the hearing, the Board finds that a violation of these regulations does exist and there is sufficient cause to require the repair, removal, relocation or discontinued use of the illegal activity, the Board shall prepare an order outlining findings and specifying the nature of the violation, the

method of abatement and time within which the correction shall be commenced and completed.

e. Notice of Decision: The DLO shall provide a copy of the Board's decision to the landowner by certified mail, return receipt requested.

f. Effect of Order: If an order is issued, it shall mean that the development is in violation of these regulations and the illegal activity shall be repaired, removed, relocated or discontinued in the manner and means specifically set forth in the order.

F. <u>Suspension or Revocation of Permit</u>

1. A DLO may suspend or revoke a *Permit to Construct* before construction, installation or modification of a small wastewater system is completed due to:

   a. Non-compliance with the terms of the *Permit to Construct*;

   b. Unapproved modifications to design or construction;

   c. False or fraudulent information submitted in the *Small Wastewater System Permit Application*;

   d. Changing site conditions which would result in violations of applicable regulations;

   e. Non-compliance with any requirements of these regulations; or

   f. Any other reason necessary to enforce applicable statutes, standards or regulations.

2. Before a *Permit to Construct* is suspended or revoked, the permittee shall be given an opportunity to demonstrate compliance with all lawful requirements for the retention of the *Permit*.

3. The permittee will be notified by certified mailing stating the reason(s) for suspension or revocation.

4. The suspension or revocation shall become final thirty (30) days from the date of receipt of such notice unless within that time the permittee requests an appeal as described in SECTION 16:.

5. After corrective action is taken and successful inspection has occurred, a *Permit* may be issued or reissued.

G. <u>Investigation Fee:</u> If the County Small Wastewater Administrator or a DLO determines through a complaint, record-checking or inspection that a violation of these regulations has taken place, the landowner/applicant shall pay an investigation fee surcharge before a permit or approval will be issued. The investigation fee shall be set by the Board via separate resolution.

SECTION 16: APPEALS

A. **Board Review:** If a landowner/applicant is dissatisfied with a final decision made by a DLO, the landowner/applicant may obtain a review by the Board of a final decision made by the DLO related to these regulations. Appeals of Board decisions are addressed by the Wyoming Administrative Procedure Act, W.S. § 16-3-101 et. seq., and as follows.

B. **Scope of Review:** The Board, by its adoption of these regulations, has delegated authority to a DLO to act on applications. When decisions are appealed, the Board retains the authority to re-open consideration of the request, to establish conditions of approval, and to take action on the request. The Board's review and action shall be in accordance with the requirements established in these regulations and shall not grant an appeal when amendment of these regulations would be the more appropriate action.

C. **Applicability:** The Board shall hear and decide appeals from any final decision made by the DLO relative to administration or enforcement of these regulations. Non-binding recommendations of the DLO are not reviewable under this Article.

D. **Timing:** Appeals shall be filed within twenty (20) days of the landowner, applicant, designee or agent's receipt of a final decision by filing a written notice of appeal with the Board's Administrative Assistant specifying the grounds for the appeal.

   1. Within three (3) business days of receiving notice of the appeal, the DLO shall transmit to the Board the complete record of the final decision from which the appeal is taken.

   2. The Board's Administrative Assistant shall be responsible for scheduling hearings on appeals. Appeals shall be heard at the first available time slot of a regular meeting of the Board that occurs at least fourteen (14) days after the close of the appeal period, or at a special meeting called for that purpose.

E. **Stay of Proceedings:** These regulations do not provide a stay of any proceedings or permits in connection with a final decision under appeal, unless both parties consent in writing. Appellants may seek a stay from a court of competent jurisdiction.

F. **Board Hearing on Appeals**

   1. The Board's Administrative Assistant shall send notices of hearings on appeals to the appellant and, where the request concerns a request for permit approval, to all property owners adjacent to the property in question. The notice shall contain the following information; a brief description of the project sufficient to inform the public of the items appealed, the location relative to landmarks or cross streets, an abbreviated legal description, appellant's name, hearing date, time, and place, and how additional information can be obtained. Notices shall be mailed at least seven (7) working days before the date the public hearing is scheduled.

2. Testimony at Appeal Hearing: The Board shall allow an opportunity during the hearing for the appellant and any member of the public to offer either written or oral testimony regarding the proposal under consideration.
3. Official Record of Appeal Hearing: The official record of an appeal hearing shall consist of materials submitted by the appellant, correspondence received concerning the proposal, testimony offered at the hearing, any exhibits entered into the record as part of the hearing, resolutions, or official actions, and the official file maintained by the department housing the DLO.
4. Continuances: The Board may continue the hearing to a subsequent regular meeting or special meeting called for this purpose. Hearings continued to a date certain need not be re-noticed. Hearings continued to an indefinite date, or hearings closed and then reopened shall be re-noticed.
5. Decisions on Appeals: Except as otherwise provided, the Board shall take action by resolution, with appropriate findings, to uphold or overturn a final decision.
6. Board Action: The Board may reverse or affirm, wholly or in part, the order, requirement, decision, or determination as necessary, but no power exercised under these regulations shall exceed the power or authority vested in the DLO. The Board shall issue a written decision to the applicant and the DLO.

G. DEQ Review: If a landowner/applicant is dissatisfied with a final decision made by a DLO as indicated in the conditions of a *Permit to Construct, Notice of Denial* or *Notice of Violation*, aggrieved parties may issue a written request for review in writing to the Wyoming Department of Environmental Quality for review and recommendations within ten (10) days of the landowner, applicant, designee or agent's receipt of the final decision. This DEQ review option does not provide a stay of any proceedings or time limits in connection with the final decision under appeal.

SECTION 17: PENALTIES

Violations of these regulations are subject to enforcement and penalties pursuant to Wyoming law, both civil and criminal.

CHAPTER 2: DEFINITIONS

SECTION 1: GENERAL PROVISIONS

This section contains definitions of terms used throughout these regulations. **Bolded** definitions are from DEQ Chapter 25. The following rules of construction shall apply to the text of these regulations:

a. All words and phrases shall be construed and understood according to the common and approved usage of the language, but technical words and phrases that may have a peculiar and appropriate meaning in the law shall be construed and understood according to such peculiar and appropriate meaning;

b. The particular shall control the general;

c. In case of any difference of meaning or implication between the text of these standards and regulations and any caption or illustration, the text shall control;

d. The word "shall" is always mandatory and not discretionary. The word "may" is permissive.

SECTION 2: DEFINITIONS

1) "**Absorption surface**" means the interface where treated effluent infiltrates into native or fill soil.

2) "Absorption system" (a.k.a. "drain field" or "leach field") means a system constructed under the surface of the ground which receives and distributes effluent from a pretreatment device effectively filtering the effluent through soil or media.

3) "As-Built System" means a small wastewater system, or component thereof, that was partially or completely installed, repaired or modified without an approved *Permit to Construct*.

4) "**Bed**" means a soil treatment and dispersal system where the width is greater than three (3) feet.

5) "**Bedrock**" means geological layers, of which greater than fifty percent (50%) by volume consist of un-weathered in-place consolidated rock or rock fragments. Bedrock also means weathered in-place rock that cannot be hand augered or penetrated with a knife blade.

6) "**Bedroom**" means any room that is or may be used for sleeping.

7) "**Blackwater**" means water containing fecal matter and/or urine.

8) "**Building sewer**" means the pipe that carries wastewater from the building.

9) "**Chamber**" means a domed, open-bottom structure that is used in lieu of perforated distribution pipe and gravel media.

10) "Chemical toilet" means a wastewater treatment work that is often waterless and uses chemicals to treat (break down) and deodorize human waste in a holding tank. These toilets are usually self-contained and moveable and typically found where traditional plumbing is not possible. The contents of chemical toilets must be emptied frequently and are often not suitable for dumping in standard wastewater systems. Includes portable toilets (a.k.a. porta-potties or porta-johns).

11) "**Direct human consumption food crops**" means crops consumed directly by humans. These include but are not limited to fruits, vegetables and grains grown for human consumption.

12) "**Delegated Local Official**" (a.k.a. "DLO") means an individual or individuals working for a local governmental entity, delegated by the [DEQ] Administrator, with the authority to administer the provisions of *W.S. § 35-11-301(a) (iii)* for small wastewater systems pursuant to the provisions of *W.S. § 35-11-304*.

13) "Distal" means the ending downstream side of the small wastewater system.

14) "Distribution box" means a water-tight structure which receives liquid effluent coming from a septic tank and distributes the effluent in equal portions into two or more pipes leading to the soil absorption system/disposal area.

15) "**Domestic septage**" (a.k.a. "sewage" or "sewerage") means liquid or solid material removed from a waste treatment vessel that has received only wastes from residences, business buildings, institutions and other establishments arising from normal living activities. See also "wastes."

16) "**Domestic wastewater**" means a combination of the liquid or water-carried wastes from residences, business buildings, institutions and other establishments arising from normal living activities.

17) "Dosing system" means a system of tanks, pumps or siphons, and piping located between the septic tank and soil absorption systems, which is intended to apply a large quantity of settled wastewater to the absorption system in a short period of time.

18) "**Dosing tank**" means a tank equipped with an automatic siphon or pump designed to discharge effluent on an intermittent basis.

19) "**Effluent**" means liquid flowing out of a septic tank, other treatment vessel, or system.

20) "**Effluent filter**" means a removable, cleanable device inserted into the outlet piping of a septic tank or other treatment vessel designed to trap solids that would otherwise be transported to the soil absorption system or other downstream treatment components.

21) "**Evapotranspiration**" means the combined loss of water from soil by evaporation from the soil or water surface and by transpiration from plants.

22) "Floodplain" – see Special Flood Hazard Area.

23) "Geotextile material" means any permeable textile material used to increase soil stability, provide erosion control or aid in drainage. These materials can be woven, knitted or non-woven.

24) "**Greywater**" means untreated wastewater that has not been contaminated by any toilet discharge; that is unaffected by infectious, contaminated, or unhealthy bodily wastes; and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Greywater" includes but is not limited to wastewater from bathtubs, showers, washbasins, clothes washing machines (unless soiled diapers are serviced), laundry tubs, and kitchen sinks.

25) "**Groundwater**" means subsurface water that fills available openings in rock or soil materials such that they may be considered water saturated under hydrostatic pressure.

26) "Groundwater exploration pit (a.k.a. "soil exploration pit") means a pit dug in the soil to identify the depth to bedrock or a restrictive (impermeable) layer; puddled groundwater; ten (10) feet; or at least four (4) feet deeper than the bottom of the proposed absorption system. The pit shall remain open a minimum of twelve (12) hours to note any change in depth to groundwater. Photos shall be taken and depth to groundwater shall be noted at the time of excavation and at some time after a minimum of 12 hours have passed. Said pit shall be covered or fenced to prevent danger to people or animals.

27) "**High groundwater**" means seasonally or periodically elevated levels of groundwater.

28) "**High strength wastewater**" means a wastewater stream with a BOD5 higher than 200 mg/L.

29) "**Holding tank**" means a watertight receptacle designed to receive and store wastewater.

30) "**Mound system**" means an onsite wastewater system where any part of the absorption surface is above the elevation of the existing site grade and the absorption surface is contained in a mounded fill body above the grade.

31) "Outhouse" – see privy.

32) "**Percolation rate**" means the time expressed in minutes per inch required for water to seep into saturated soil at a constant rate.

33) "**Pipe invert**" means the bottom of the internal surface of the pipe.

34) "**Percolation test**" means the method used to measure the percolation rate of water into soil as described in *APPENDIX A*. An individual percolation test requires a minimum of three test holes.

35) "**Permit**" means written authorization issued by the County Small Wastewater Administrator, Designated Local Official or DEQ authorizing a permitee to construct, install, repair or modify a small wastewater system as set forth in these regulations.

36) "Portable Toilet" – see chemical toilet.

37) "**Pressure distribution**" means a network of pipes in which effluent is forced through orifices under pressure.

38) "Privy" (a.k.a. "outhouse") means a sealed, watertight vault, covered by a vented, insect-tight structure with a self-closing door, into which only human urine and fecal material are discharged for final disposal by leaching into the surrounding soil or by hauling to an approved disposal site. Greywater or toilet carriage water may not be discharged into a privy.

39) "**Restrictive layer**" means a nearly continuous layer that has one or more physical or chemical properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide unfavorable root conditions. Examples are bedrock, cemented layers and dense layers.

40) "**Septage**" means liquid or solid material removed from a waste treatment vessel that has received wastes from residences, business buildings, institutions and other establishments.

41) "**Septic tank**" means a watertight tank designed and constructed to receive and treat raw wastewater.

42) "**Serial distribution**" means a group of trenches arranged so that the total effective absorption area of one trench is used before liquid flows into the next trench.

43) "**Service provider**" means a person authorized and trained by a system manufacturer or their vendor to operate and maintain any proprietary system.

44) "Sewage or Sewerage" – see domestic septage, domestic wastewater, septage or waste or wastes.

45) "Sewerage system" as defined by *W.S. § 35-11-103(c)(iii), m*eans pipelines, conduits, storm sewers, pumping stations, force mains, and all other constructions, devices, appurtenances and facilities used for collecting or conducting wastes to an ultimate point for treatment or disposal;

46) "Small wastewater system" (a.k.a. "system" or "facility"), as defined by *W.S. § 35-11-103(c)(ix),* means any sewerage system, disposal system, or treatment works having simple hydrologic and engineering needs which is intended for wastes originating from a single residential unit serving no more than four families or which distributes 2,000 gallons or less of domestic wastewater per day.

47) "**Soil absorption system**" means a shallow, covered, excavation surface, or mound made in unsaturated soil into which wastewater effluent from the septic tank is discharged through distribution piping for application onto absorption surfaces through porous media or manufactured components.

48) "Special Flood Hazard Area" (a.k.a. "floodplain") as defined by the Federal Emergency Management Agency (FEMA) means the land area covered by the floodwaters of the base flood on National Flood Insurance Program (NFIP) maps. The base flood is the flood having a one percent chance of being equaled or exceeded in any given year (a.k.a. "100-year flood").

49) "Treatment works" means any device or system used in the holding, storage, stabilization, treatment, disposal or reclamation of wastes.

50) "**Trench**" means an absorption surface with a width of three (3) feet or less.

51) "Waste or Wastes" as defined by *W.S. § 35-11-103(c)(ii),* means sewage, industrial waste and all other liquid, gaseous, solid, radioactive, or other substances which may pollute any waters of the state.

52) "Wyoming Department of Environmental Quality" (a.k.a. "DEQ") is the regulatory agency in the State of Wyoming charged with protecting, conserving and enhancing Wyoming land, air and water. The abbreviation "DEQ" found throughout these rules and regulations refers to the Wyoming Department of Environment Quality, Water Quality Division.

CHAPTER 3: MINIMUM REQUIREMENTS FOR STANDARD WASTEWATER SYSTEMS

SECTION 1: GENERAL REQUIREMENTS

This chapter contains the minimum requirements for the design and construction of the following standard small wastewater systems:

- Standard Trench (pipe and aggregate material)
- Chamber Trench
- Standard Bed (pipe and aggregate material)
- Chamber Bed
- Holding Tanks

A. Design Flows: The volume of wastewater shall be determined by one of the following:

1. See *Table 1* for residential design flow rates (provided in this section) or *APPENDIX B* for non-residential wastewater design flow rates;
2. Metered water supply data from the facility; or
3. Metered water supply data from another facility where similar water demands have been demonstrated.

Table 1. Residential Design Flow Rates Per Bedroom*

# of Bedrooms	Flow Rate (gallons per day)
1 bedroom	150
2 bedrooms	280
3 bedrooms	390
4 bedrooms	470
5 bedrooms	550
6 bedrooms**	630

* An unfinished basement is considered two (2) additional bedrooms.

** The design flow shall be increased by eighty (80) gallons per day (gpd) for each additional bedroom over six (6).

B. Site Suitability

1. Drainage Considerations: Small wastewater systems must be located where the surface drainage is sufficient to allow proper operation of the small wastewater system. Avoid depressions and bases of slopes and areas in the path of runoff from roofs, patios, driveways or other paved areas unless surface drainage is provided. Small wastewater systems shall not be located beneath buildings, parking lots, roadways, driveways, irrigated landscaping or compacted areas unless engineered and/or approved by DEQ.

2. Replacement System: The site shall include area for both the proposed soil absorption system and a future replacement soil absorption system. Both the proposed and replacement soil absorption systems shall be sized to receive one-hundred percent (100%) of the wastewater flow. If a trench system is used, the replacement soil absorption system may be located between the trenches of the proposed soil absorption system if there is at least nine (9) feet of spacing between trench sidewalls.

3. Vertical Separation: For standard soil absorption systems, effective suitable soil depth shall extend at least four (4) feet below the bottom of the soil absorption system to any restrictive layer, fractured rock or highly permeable material.

4. Depth to Groundwater: The depth to high groundwater shall be at least four (4) feet below the bottom of the absorption surface for all treatment systems except Advanced Enviro-Septic and Enviro-Septic systems by Infiltrator Water Technologies (a.k.a. Presby systems) and pressure distribution systems. New technologies or systems developed by other manufacturers shall require DEQ approval before a groundwater separation variance will be considered.

    a. Presby systems allow for depth to high groundwater to be as close as two (2) feet below the system sand. Requires submittal of a *Presby Application Package*. Presby systems may be reviewed and permitted by the County Small Wastewater Administrator or DLO and may be subject to joint review by DEQ.

    b. For pressure distribution systems, the depth to high groundwater may be three (3) feet below the bottom of the absorption surface for percolation rates of 5 to 60 minutes per inch (mpi). Pressure dosing systems require DEQ review and approval.

5. Slope Considerations: *Table 2* shows the maximum permissible slopes of the site on which an absorption system may be constructed.

Table 2. Slope and Percolation Rates for Absorption Systems

Percolation Rate (minutes/inch)	Maximum Slope*
5	25%
6-45	20%
46-60	15%

*Flatter slopes may be required where the effluent surfaces downslope.

a. All absorption surfaces must be located at least fifteen (15) horizontal feet from the top of any break in slope that exceeds the maximum slope allowed.

b. The bottom of individual trenches shall be level and the top of trenches shall be constructed to follow the contours of the land.

c. Serial distribution, with the use of drop boxes or approved fittings, is the preferred installation method for sloping terrain.

d. The placement of multiple trenches, with each subsequent trench down slope of the previous trench shall be avoided when the addition of effluent to the soil absorption system trenches may lead to either an unstable slope or seepage down slope.

C. <u>Groundwater/Soil Exploration Pit and Percolation Tests</u>

1. Groundwater/Soil Exploration Pit: To evaluate subsurface conditions, a minimum of one groundwater/soil exploration pit shall be excavated within or near the proposed soil absorption system location to the depth of bedrock or a restrictive (impermeable layer); puddled groundwater; or a minimum depth of ten (10) feet. Otherwise, the pit shall be excavated to a depth of four (4) feet below the bottom of the proposed soil absorption system. The pit shall remain open a minimum of twelve (12) hours to note any change in depth to groundwater. Photos shall be taken and depth to groundwater shall be noted at the time of excavation and at some time after a minimum of 12 hours have passed. Said pit shall be covered or fenced to prevent danger to people or animals.

2. Percolation Test: Percolation tests are required in addition to the soil exploration pit. The percolation test procedure shall be performed in accordance with *APPENDIX A*. An evaluation of the soil texture in the proposed soil absorption system location, by an entity experienced in soils classification as determined by DEQ, may be used as an additional tool to confirm the percolation rate. The percolation test procedure requires a minimum of three test holes.

D. <u>Horizontal Setback Distances</u>: *Table 3* shows the minimum horizontal setback distances from septic tanks and absorption systems. All attempts shall be made to contain the entire small wastewater system within the property boundaries that the system is serving. In the event this cannot occur, a DLO may require evidence of an easement or other legally recorded

document to protect the legality of the system and to ensure proper future maintenance or replacement of the system; however, providing an easement alone or other recordable document will not guarantee approval of the design plan.

Table 3. Minimum Horizontal Setbacks for Domestic Wastewater (feet)

From	To Septic Tank or Equivalent	To Absorption System
Property lines	10	10
Foundation wall (without drains)	5	10
Foundation wall (with drains)	5	25
Private wells (includes neighboring wells)	50	100
Public water supply well	100	200
Potable water pipes	25	25
Surface water, spring (including seasonal and intermittent)	50	50
Septic Tank	-	10
Break in slope (where slope gets abruptly steeper)	15	15
Cisterns	25	25
Leach field and replacement leach field	10	-

SECTION 2: BUILDING SEWER PIPES

All building sewers shall be installed in accordance with the current International Plumbing Code (IPC). In the absence of a locally approved plumbing code, and in addition to the IPC, the building sewer shall comply with the following:

- Suitable building sewer pipe materials are polyvinyl chloride (PVC) or acrylonitrile–butadiene-styrene (ABS). The septic tank inlet and outlet pipes shall be schedule 40 PVC or ABS pipe and shall span the excavations for the septic tank and/or dosing chamber. American Society for Testing and Materials (ASTM) D-3034 Standard Dimension Ratio (SDR) 35 plastic pipe may be used if the void at the tank's side is filled with material that is granular, clean and compacted.
- Building sewer pipes shall be sized to handle the peak hourly flow from the building and shall not be smaller than four (4) inches in diameter. When two different sizes or types of sewer pipes are to be connected, a proper type of fitting or conversion adapter shall be used.

- Sewer pipe shall not decrease in size flowing downstream.
- Building sewer pipes shall be laid at a standard slope of 1/4 inch per foot (2% slope) and shall not be flatter than 1/8 inch per foot (1% slope).
- Cleanouts shall be provided between the structure and the tank, at branch connections, at every change in alignment and at least every 100 feet in straight runs.
- All sewer piping shall be laid on a firm bed throughout its entire length. It shall be protected from damage due to rocks, hard lumps of soil, debris and the like.
- Special care shall be used to prevent lateral movement or deformation of pipes during backfill. The backfill material shall be compacted to a density at least equivalent to the trench walls.
- Backfill over the pipe shall be of sufficient depth to protect the pipe from expected traffic loads and the wastewater from freezing.
- Sewer pipes shall not be placed in areas subject to vehicular traffic unless engineered for the anticipated load.

SECTION 3: SEPTIC TANKS AND OTHER TREATMENT TANKS

A. Septic Tanks

1. Septic tanks shall be fabricated or constructed of concrete, fiberglass, thermoplastic or an approved material. Tanks shall be watertight and fabricated to constitute an individual structure and shall be designed and constructed to withstand anticipated loads. Septic tanks approved for use shall be from the "A List" and/or "B List" of the DEQ Septic Tank Listings. Tanks not on either of these lists shall require review and approval by the DEQ.
2. The septic tank shall be placed on a level grade and a firm bedding to prevent settling. Where rock or other undesirable protruding obstructions are encountered, the opening for the septic tank shall be over excavated, as needed, and backfilled with sand, crushed stone or gravel to the proper grade.
3. Septic tanks shall not be buried deeper than the tank manufacturer's maximum designed depth for the tank. The minimum depth of soil cover over the top of the tank is six (6) inches.
4. Backfill around and over the septic tank shall be placed in such a manner as to prevent undue strain on or damage to the tank or connected pipes.
5. Septic tanks shall not be placed in areas subject to vehicular traffic unless engineered for the anticipated load.

6. The minimum liquid volume of a septic tank shall be 1,000 gallons for residences having up to four (4) bedrooms. Additional capacity of 250 gallons per bedroom shall be provided for each bedroom over four (4).

7. Configuration:

   a. Single-compartment septic tanks shall have a length-to-width ratio of no less than two-to-one (2:1) or be partitioned to protect against short circuiting flow.

   b. For septic tanks with two (2) compartments or more, the inlet compartment shall not be less than one-half (1/2) of the total capacity of the tank.

   c. The liquid depth shall be between three (3) feet and six (6) feet.

   d. The tank partition shall allow the venting of gases between compartments and out through the vent stack on the plumbing system of the house.

   e. The inlet and outlet on all tanks or tank compartments shall be provided with open-ended sanitary tees or baffles made of approved materials constructed to distribute flow and retain scum in the tank or compartments.

      i. The tees or baffles shall extend above the liquid level a minimum distance of five (5) inches.

      ii. The inlet tees or baffles shall extend below the liquid level at least eight (8) inches but no more than forty (40) percent of the liquid level. The outlet tees or baffles shall extend below the liquid level at least ten (10) inches but no more than forty-five (45) percent of the liquid level.

      iii. A minimum of one (1) inch of clear space shall be provided over the top of the baffles or tees for venting.

      iv. The inlet pipe shall be at least two (2) inches higher than the outlet pipe. The outlet elevation shall be designed to provide a minimum distance of nine (9) inches or twenty (20) percent of the liquid depth between the top of the liquid and the bottom of the septic tank cover for scum storage and the venting of gases.

8. If additional septic tank capacity over 1,000 gallons is needed, it may be obtained by joining tanks in series provided the following requirements are met:

   a. The inlet of each successive tank shall be at least two (2) inches lower than the outlet of the preceding tank, and shall have no tee or baffle except for the inlet to the first tank and the outlet for the last tank.

   b. The first tank or the first compartment of the first tank shall be equal to fifty percent (50%) or larger of the total septic tank system volume.

9. An access opening shall be provided to each compartment of the septic tank for inspection and cleaning.
    a. The access opening(s) in the cover/lid of the tank shall have a minimum diameter of twenty (20) inches. Both inlet and outlet devices shall be accessible.
    b. The top of the riser from the access opening shall terminate not deeper than six (6) inches below the ground surface. Riser covers terminating above grade shall have an approved locking device.
10. An effluent filter with an opening of 1/8-inch or smaller shall be provided on the outlet of a septic tank or other tank that precedes a small diameter pressure distribution system.
11. A septic tank shall be placed in an area readily accessible to a pump truck and where the tank itself will not float due to high groundwater. If seasonal high groundwater may be present, the tank shall be properly anchored as prescribed by a licensed engineer.

B. <u>Holding Tanks</u>

1. Holding tanks shall not be used for residential systems when conventional or alternative systems are available, except when used to correct a failed soil absorption system when other alternatives are unavailable. Where alternative systems are available, under no circumstances shall a holding tank be used or present on any private property for more than thirty (30) days total in a calendar year.
2. Holding tanks shall meet the same material requirements as septic tanks. Holding tanks shall have a twenty (20)-inch minimum diameter access opening. A riser shall be brought to the ground surface from the access opening.
3. Holding tanks must be located in an area readily accessible to a pump truck and where the tank itself will not float due to high groundwater. If seasonal high groundwater may be present, the tank shall be properly anchored.
4. The minimum liquid volume shall be the greater of 1,000 gallons or seven (7) day's storage based upon flow rate determined in SECTION 1: of this chapter.
5. All holding tanks shall be equipped with a high-water alarm. The device shall be an audible alarm or an indoor illuminated alarm or both. The device shall be installed so that the alarm is triggered when the water level reaches 3/4 of the tank capacity.
6. All holding tank wastes shall be disposed of at an approved facility. For holding tank applications submitted after the effective date of these regulations, the applicant shall submit a letter of verification from the DEQ-approved agency that will receive the septage from the holding tank(s), denoting the ability and capacity to accept the wastewater generated. Applications submitted in the absence of the letter of verification shall be deemed incomplete.

C. Abandonment of Septic and Holding Tanks

The following is the procedure to abandon septic tanks and holding tanks when a small wastewater system is upgraded, equipment replacement is necessary, or central sewer lines are made available.

1. An abandoned tank shall be pumped and the septage hauled to a licensed facility approved to receive the waste **or** the septage shall be pumped into a permitted existing or newly constructed/installed septic or holding tank. Discharging to a central sewer requires coordination with, and the approval of, the owner/operator of the sewer system.
2. Once an abandoned tank is empty, it shall be removed and the excavation backfilled. As an alternative to removing the tank, the access covers can be removed; the bottom drilled or broken up sufficient to drain; and the tank filled with native soil, pit run or sand.

SECTION 4: EFFLUENT DISTRIBUTION DEVICES

Distribution boxes and flow divider tees separate flow into two or more parts to assist with the even distribution of effluent. They are suitable for level or nearly level ground and are installed upstream of the soil absorption system with the goal of splitting flows equally between soil absorption system laterals. Drop boxes are suitable for distributing effluent on sloping ground and are installed to achieve serial loading.

A. Distribution Boxes

1. Distribution boxes shall be installed on a level, stable base to prevent tilting or settling, and to minimize movement from frost heave.
2. Distribution boxes shall be watertight and constructed of concrete or other durable material.
3. Distribution boxes shall be designed to accommodate the inlet pipe and the necessary distribution lines. The inlet piping to the distribution box shall be at least one (1) inch above the outlet pipes and all pipes shall have a watertight connection to the distribution box.
4. Distribution boxes shall be protected against freezing and made accessible for observation and maintenance.
5. Distribution boxes shall have flow equalizers installed on each outflow.
6. Distribution boxes are required when an odd number of trenches is used.

B. Flow divider tees

1. Flow divider tees may be used in place of distribution boxes except when an odd number of trenches is used.
2. Straight tees and four-way tees are not recommended because they will not evenly divide effluent entering the soil absorption system.

3. Flow divider tees shall be installed on level, undisturbed soil to reduce settling.

C. Drop Boxes

Drop boxes are suitable for sloping ground and are installed to achieve serial loading. With drop boxes, effluent flows from the septic tank to the first trench until the trench reaches full capacity. At that point, effluent will flow to the next drop boxes in the series of trenches. Drop boxes shall meet the requirements in subsection A (paragraphs 1 through 5) of this section.

SECTION 5: STANDARD SOIL ABSORPTION SYSTEMS (DRAIN FIELDS/LEACH FIELDS)

A. General Design Requirements

1. Soil absorption systems shall be designed in such a manner that the effluent is effectively filtered and retained below the ground surface. The absorption surface accepts, treats and disperses wastewater as it percolates through the soil.
2. Soil absorption systems shall not be excavated when the soil is wet enough to smear or compact easily. Open soil absorption system excavations shall be protected from surface runoff to prevent the entrance of silt and debris. All smeared or compacted surfaces shall be raked to a depth of one (1) inch, and loose material removed before filter or filler material is placed in the soil absorption system excavation.
3. Soil absorption systems shall be designed to approximately follow the ground surface contours so that variation in excavation depths will be minimized. The trenches may be installed at different elevations, but the bottom of each individual trench shall be level throughout its length. Trenches installed along sloping ground shall be installed perpendicular to the slope grade. Distribution boxes or manifolds can be used to evenly distribute effluent to multiple trenches at different elevations on sloping terrain.
4. Shallow soil absorption system depths are encouraged to promote treatment and evapotranspiration. The minimum soil cover depth over the soil absorption system is one (1) foot. The maximum depth to the bottom absorption surface of a soil absorption system is five (5) feet. Finished grading shall prevent ponding and promote surface water runoff.
5. Pipes, chambers or other products shall be bedded on firm, stable material. Heavy equipment shall not be driven in or over soil absorption systems during or after construction or backfilling.

B. Standard Trenches (Pipe and Aggregate Material)

Standard trenches refer to perforated pipe embedded in aggregate-filled trenches that shall conform to the following:

1. Maximum width of trench excavation is three (3) feet.

2. Minimum spacing between trenches (wall to wall) shall be three (3) feet. Space between trenches shall be increased to nine (9) feet when the area between each trench is considered as reserve area.

3. The perforated pipe shall have a minimum diameter of four (4) inches. Suitable pipe materials include: ASTM D-2729-11 PVC, ASTM D-3034-08 PVC, Schedule 40 PVC ASTM d1784-11 and ASTM F810-07 Smoothwall Polyethylene (PE).

4. The aggregate shall consist of clean crushed rock, gravel or other acceptable, durable and inert material that is free of fines and has an effective diameter between ½ inch and 2 ½ inches.

5. Aggregate shall extend the full width and length of the soil absorption system to a depth of at least twelve (12) inches with at least six (6) inches of drain gravel under the distribution pipe and at least two (2) inches over the distribution pipe.

6. Prior to backfilling, the aggregate shall be covered throughout with a woven/non-woven geotextile material or a three (3)-inch layer of straw.

C. <u>Standard Beds (Pipe and Aggregate Material)</u>

1. Standard beds shall conform to the same pipe and aggregate requirements for standard trenches above in addition to the following:

   a. The soils shall have percolation rates between five (5) and sixty (60) minutes per inch (mpi). The bottom of the bed must be level, therefore the site shall be relatively flat, sloping no more than one (1) foot from the highest to the lowest point in the installation area.

   b. Beds must not be wider than twenty-five (25) feet if gravity distribution is used. Multiple beds must be spaced at one-half the bed width.

   c. Distribution laterals within a bed must be spaced on not greater than six (6)-foot centers. Sidewalls shall be no closer than twelve (12) inches and no more than three (3) feet from a distribution lateral.

   d. Rubber-tired vehicles must not be driven on the bottom surface of any bed excavation.

D. Chambered trenches

Chambered trenches, when used in lieu of perforated pipe and aggregate, shall be installed in conformance with the manufacturer recommendations and as follows.

1. No cracked, weakened, modified or otherwise damaged chamber units shall be used in any installation.
2. The maximum width of the bottom absorption surface for a chambered trench is three (3) feet. The excavation to install a chambered trench may exceed three (3) feet.
3. Minimum spacing between trenches (wall to wall) is three (3) feet. Trench spacing shall be increased to nine (9) feet when the area between each trench is considered as reserve area.
4. All chambers shall be an open, arch-shaped structure of durable, non- degradable design, suitable for distribution of effluent without filter material.
5. All chamber endplates shall be designed so that the bottom elevation of the inlet pipe is at least six (6) inches from the bottom of the chamber.
6. Inlet and outlet effluent sewer pipes shall enter and exit the chamber endplates. Inspection ports shall be installed at all outlet effluent sewer pipes.
7. All chambers shall have a splash plate under the inlet pipe or another design feature to avoid unnecessary channeling into the trench bottom.

E. Chambered beds: Chambered beds shall conform to the same requirements for chambered trenches as found above. Aggregate, as specified in subsection B, paragraph 4 of this section, or native soil shall be used to fill the space between the chambers.

SECTION 6: STANDARD SOIL ABSORPTION SYSTEM SIZING

A. Infiltration Surface Area: The total infiltration surface area of a soil absorption system shall be calculated by dividing the design flow rates (gpd) from *Table 1* or APPENDIX B by the loading rate found in *Table 4*.

*Table 4. Rates of Wastewater Application for Soil Absorption System Areas**

Percolation Rate (mpi)	Loading Rate (gpd/ft²)	Percolation Rate (mpi)	Loading Rate (gpd/ft²)
5	0.80	21	0.45
6	0.75	22	0.44
7	0.71	23-24	0.43
8	0.68	25	0.42
9	0.65	26-27	0.41
10	0.62	28-29	0.40
11	0.60	30-31	0.39
12	0.58	32-33	0.38
13	0.56	34-35	0.37
14	0.54	36-37	0.36
15	0.52	38-40	0.35
16	0.50	41-43	0.34
17	0.49	44-46	0.33
18	0.48	47-50	0.32
19	0.47	51-55	0.31
20	0.46	56-60	0.30

**DEQ Chapter 25, Table 5*

B. Total Infiltration Area

1. For standard trenches the total infiltration area shall be calculated based on the following formula:

$A = L (W + 2S)$
Where: *A* = Total infiltration area *L* = Total length of trench *W* = Bottom width *S* = Sidewall height of 12 inches or less

- The sidewall height is the depth below the flowline of the pipe to the bottom of the trench.
- The maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve inches.

2. For chamber trenches the total infiltration area shall be calculated based on the following formula:

A = L (E + 2S)
Where: *A* = Total infiltration area *L* = Total length of trench *E* = Effective bottom width (Multiply width of the chamber by a factor of 1.43 to get effective bottom width) S = Sidewall height of 12 inches or less

- The factor of 1.43 incorporates a thirty percent (30%) reduction of the bottom area.
- The maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve (12) inches.
- The sidewall height is the height of the slotted sidewall of the chamber or depth below the flow line of the inlet pipe, whichever is less.
- The total length of the trench is the number of chambers in a row multiplied by the length of one piece of chamber.

3. For standard bed systems the total infiltration area shall be calculated based on the following formula:

A = *L* * *W*
Where: *A* = Total infiltration area *L* = Total length of bed *W* = Width of the bed

- The sidewall credit shall not be used in calculating the total infiltration area for a bed system.

4. For chamber bed systems the total infiltration area shall be calculated based on the following formula:

A = L (E x R)
Where: *A* = Total infiltration area *L* = Total length of bed *E* = Effective bottom width of the chamber

(Multiply width of the chamber by factor of 1.43 to get effective bottom width) *R* = Number of chamber rows (Multiply effective bottom width of chamber by number of chamber rows to get effective bottom width of bed.)

- The factor of 1.43 incorporates a thirty percent (30%) reduction of the bottom area.
- The total length is the number of chambers in a row multiplied by the length of one piece of chamber.

C. Soils with Low Percolation Rates: Coarse sand or soils having a percolation rate less than five (5) minutes per inch (mpi) are unsuitable for subsurface effluent disposal. These soils may be used if a one (1) foot layer of sand or loamy sand is placed below the constructed soil absorption system. The soil absorption system shall be sized based on the percolation rate of the fill material.

SECTION 7: OPERATION AND MAINTENANCE

A. Additives: For any small wastewater system that disposes of wastewater through land application or subsurface filtration, the owner shall not add any chemical or biochemical additive to the system that would adversely affect the quality of the groundwater as stated in the *WDEQ Water Quality Rules & Regulations, Chapter 8*.

B. Regular Pumping of Tanks: Septic tanks shall be pumped as needed to prevent the carryover of solids into the soil absorption system.

1. Holding tanks and sealed vaults shall be pumped prior to reaching their maximum capacity.
2. Any service provider that pumps septic tanks, holding tanks or sealed vaults shall dispose of the wastewater contents at a permitted wastewater treatment facility or in a manner approved by DEQ and the County.

C. Damages: Damaged components (e.g., fittings and broken, crushed or plugged piping) associated with any small wastewater system shall be replaced in a timely manner.

SECTION 8: SMALL WASTEWATER SYSTEM REPAIRS OR FAILURE

A. Permit Requirement: A *Permit to Construct* is required for the repair or replacement of a small wastewater system, or component thereof, at the discretion of the County Small Wastewater Administrator or DLO as follows:

1. A *Permit to Construct* is required before beginning any medium- to high-impact repairs to the system or making upgrades to an existing system.

a. Medium-impact repairs include, but are not limited to, septic tank replacement, dosing tank replacement, holding tank replacement, or replacement of a pump in dosing tanks or pressure systems including electrical components.

b. High-impact repairs include, but are not limited to, repairing or replacing the soil absorption components such as soil/gravel bed, chamber repairs, pipe system repairs, drain field/leach field repairs and sand mound repairs.

c. Repairs for systems that have not been previously permitted by Park County shall result in the requirement for permitting and/or replacement of all or part of the existing system, at the discretion of the County Small Wastewater Administrator or DLO.

2. Low-impact or maintenance repairs, such as those that follow, do not require a permit or inspection:

- Repair or replacement of tank access hatches;
- Repair or replacement of clean-out pipes;
- Repair or replacement of vent risers.
- Replacement of a septic tank or holding tank lid;
- Repair or replacement of a distribution box or flow divider tee;
- Repair or exact/similar replacement of an effluent or dosing tank pump;
- Repair or replacement of conveyance pipes between structure and tank or tank to absorption field.

B. <u>Emergency Repairs:</u> Should a small wastewater system fail or be damaged and require immediate repair to prevent contamination of the ground and surrounding areas, permission to conduct an emergency repair may be verbally issued by the County Small Wastewater Administrator and/or the DLO.

1. The owner or applicant should contact the County Small Wastewater Administrator and/or DLO to describe the issue in full. The Small Wastewater Administrator and/or DLO may advise the landowner on options to remedy the problem.

2. Following verbally approved emergency repairs, the landowner shall submit a *Small Wastewater System Permit Application* to the County Small Wastewater Administrator or DLO within five (5) days to obtain a *Permit to Construct*, if required.

3. Where immediate action is required to protect public health, safety and welfare, property or the environment, and County staff are unavailable to discuss the matter, a landowner may conduct immediate repairs or take necessary protective action. Following the repairs and/or action, the landowner shall notify the County Small Wastewater Administrator or DLO of the remedies exercised and submit a *Small Wastewater System Permit Application* to the County Small Wastewater Administrator or DLO within five (5) days to obtain a *Permit to Construct*, if required.

CHAPTER 4: MINIMUM REQUIREMENTS FOR COUNTY-PERMITTED NON-STANDARD WASTEWATER SYSTEMS

SECTION 1: GENERAL PROVISIONS

A. Authority: The County Small Wastewater Administrator and/or DLO are authorized to permit the following non-standard wastewater systems with or without DEQ review:

- Privies and outhouses (See SECTION 2:.)
- Greywater systems (See SECTION 3:.)

B. Permit Required: The County requires a *Permit to Construct* and *Small Wastewater System Permit* for installation of privies, outhouses and greywater systems as described herein. An applicant shall submit a *Non-Standard Wastewater System Application*, in addition to the fee approved by separate resolution, to the County Small Wastewater Administrator or DLO for consideration.

C. Floodplain Consideration

1. Privies and outhouses shall not be constructed or placed in a Special Flood Hazard Area.
2. Greywater systems shall be installed at least four (4) feet above the high-water line in a Special Flood Hazard Area.

SECTION 2: PRIVIES AND OUTHOUSES

A. Allowance: The use of privies and outhouses as a means of domestic wastewater disposal shall be limited to applications where 1) centralized or piped water is unavailable and 2) the facility requires emptying no more than once per year.

B. Design Requirements: Prefabricated and fabricated privies or outhouses shall be sealed, have water-tight vaults and meet the following conditions.

1. The horizontal setback distance requirements for sealed privies and outhouses shall meet the setback distance requirements that apply to septic tanks (see CHAPTER 3, SECTION 1. D. *Table 3.* Minimum **Horizontal Setbacks for Domestic Wastewater (feet)**
2. The depth to seasonally high groundwater from the bottom of a water-tight vault shall be sufficient to prevent floatation of the vault when it is empty.
3. The vault must have sufficient capacity for the structure served and must have at least 27 cubic feet or 200 gallons of capacity.
4. Privies and outhouses must be insect-tight; must have a self-closing door; the privy or outhouse seat must include a cover; and all exterior openings, including vent openings, shall be screened.
5. Privies and outhouses must be adequately vented.

C. **Disposal of Wastewater:** All privy and outhouse wastes shall be disposed of at an approved facility. The applicant shall submit a letter of verification from the DEQ-approved agency that will receive the septage from the privy(ies) or outhouse(s), denoting the ability and capacity to accept the wastewater generated. Applications submitted in the absence of the letter of verification shall be deemed incomplete.

SECTION 3: GREYWATER SYSTEMS

A. **General Requirements:** Greywater systems shall be designed according to the following conditions.

1. Greywater shall not leave the property on which it is generated. Ponding or runoff is prohibited.
2. The volume of greywater shall not exceed a peak flow of 2,000 gallons per day.
3. Greywater shall not come in direct contact with or adversely impact surface or groundwater.
4. Food crops for direct human consumption should not be harvested during the 30 days following the application of greywater.
5. Odor control of greywater systems shall meet the requirement of *Wyoming DEQ Air Quality Regulations*, Chapter 2, Section 11.
6. Greywater systems used during the winter shall be designed to prevent freezing.

B. **System Configuration:**

1. All greywater systems shall have means to direct greywater to either the blackwater system or the greywater system.
2. Diverter valves shall not have the potential to allow backflow from the blackwater system into the greywater system.
3. Greywater used for surface irrigation shall be disinfected. The disinfection shall achieve a fecal coliform level of 200cfu/100mL or less.
4. Minimum pipe size shall be 2" PVC standard, perforated to irrigation field.
5. Minimum trench width shall be 4" and minimum depth shall be 3".
6. Each trench shall have 1" of gravel below the pipe and gravel to cover the pipe.

C. **Estimating Greywater Discharge**

1. For domestic, low wastewater strength applications (e.g., showers, bathtubs, sinks, dishwashers and laundry), greywater discharge shall be estimated using available water use records or by using the following procedure:

   a. Calculate the **number of occupants**. Occupants shall be enumerated as two (2) occupants per bedroom.

b. Calculate the **estimated daily greywater flow.** Flow for each occupant shall be calculated in gallons per day (gpd) per occupant according to the following:

- Showers, bathtubs and sinks – 25 gpd/occupant
- Laundry/dishwasher – 15 gpd/occupant

c. Calculate **total estimated daily discharge**. The total number of occupants shall be multiplied by the applicable estimated daily greywater flow as provided above yielding total discharge in gallons per day according to the following equation:

occupants x daily flow (gpd/occupant) = total estimated daily discharge (gpd)

2. For non-domestic or high wastewater strength applications (e.g., commercial applications, biologic waste, garbage disposals), joint review between the County Small Wastewater Administrator and DEQ shall be required and may result in permitting directly through DEQ.

D. Soil Absorption Field Sizing for Greywater Systems

The minimum size of a soil absorption field for a greywater system shall be determined as follows:

1. Determine Soil Percolation Rate: The percolation test procedure shall be performed in accordance with *APPENDIX A*. An evaluation of the soil texture in the proposed soil absorption system location, by an entity experienced in soils classification as determined by DEQ, may be used as an additional tool to confirm the percolation rate. The percolation test procedure requires a minimum of three test holes.

2. Determine Loading Rate: Using *Table 4,* identify the appropriate loading rate according to the percolation test results. Multiply the loading rate by two (2) to obtain the greywater loading rate in gallons per day per square foot.

3. Calculate Minimum Soil Absorption Field Surface Area: Using the following equation, calculate the soil absorption field surface area.

$$\frac{\text{Total estimated daily discharge (gpd)}}{\text{Greywater loading rate (gpd/ft}^2\text{)}} = \text{minimum field surface area (ft}^2\text{)}$$

E. Setbacks

1. A 30-foot buffer zone is required between the greywater application site and adjacent property lines, any public right-of-way and all surface waters.

2. A 100-foot separation distance is required between greywater application sites and all potable water supply wells.

CHAPTER 5: OTHER WASTEWATER SYSTEMS

SECTION 1: STANDARD SOIL ABSORPTION SYSTEMS REQUIRING DEQ APPROVAL

The following standard soil absorption systems may be permitted by the County Small Wastewater Administrator and/or DLO following DEQ review and approval. Requirements for these systems are not explained in these Regulations; they shall meet the requirements of the sections of DEQ Chapter 25 which apply to each.

- Serial side-hill trench systems
- Sand mound systems
- Pressure distribution systems
- Small wastewater lagoons

SECTION 2: CHEMICAL TOILETS

A. General provisions: Chemical toilets and portable toilets are intended for temporary, short-term use (not more than 30 days total in a calendar year on any private property) for the containment of human body wastes. Chemical toilets and portable toilets shall not be used to serve long-term or permanent wastewater needs of residences or businesses, except as otherwise provided in subsection B below.

B. Permissible Uses of Chemical Toilets or Portable Toilets

Following are permissible uses of chemical toilets or portable toilets within the County:

1. Long-term (greater than 30 days total in a calendar year on any private property) storage of chemical toilets or portable toilets, that are not in use, in a permitted commercial or industrial storage yard;
2. Long-term use at an active road, utility or pipeline construction site;
3. Long-term use at an active construction site on property for which a Building/Zoning Permit, Subdivision Permit, Special Use Permit or similar development permit has been issued within the past year provided the chemical toilet or portable toilet is used exclusively to support construction personnel;
4. Seasonal use in support of agricultural practices;
5. Seasonal use in support of government inspection sites;
6. Long-term use at remote industrial sites (e.g., pipelines, gravel pits) where water is unavailable to support alternative standard or non-standard small wastewater systems;
7. Use of chemical toilets or portable toilets that has been reviewed and addressed as part of the approval of a Special Use Permit;
8. Temporary use at an event that does not require a *Special Use Permit*; or
9. Temporary use to address an emergency need.
10. For any other instance where a chemical toilet or portable toilet may be necessary, a written request shall be submitted to the County Small Wastewater Administrator or a

DLO who shall determine whether and under what conditions the request may be granted, based on concerns related to public health, safety and welfare, and the objectives of these regulations.

C. **Floodplain Consideration:** Chemical toilets or portable toilets shall not be placed within a Special Flood Hazard Area without approval of the County Small Wastewater Administrator or a DLO, and the County Floodplain Administrator. If approval is granted, the chemical toilet shall be anchored in place to prevent movement and shall remain in place for no longer than fourteen (14) days, unless otherwise permitted by the County Floodplain Administrator and/or Board through the Floodplain Development Permit process.

D. **Use in Occupied Structures:** Use of chemical toilets or portable toilets inside structures occupied for more than fourteen (14) days in a calendar year is prohibited except during construction or under emergency circumstances as determined by the County Small Wastewater Administrator or DLO.

E. **Construction:** Chemical toilets and portable toilets shall be designed and installed to resist breakage or damage from routine usage. Materials used shall be resistant to the sewage wastes and the chemicals encountered. It is recommended that the holding compartment of the toilet be designed to prevent accessibility to the public and disease-transmitting vectors.

F. **Stabilization:** Chemical toilets and portable toilets shall be adequately stabilized and secured to prevent overturning or unintended movement.

G. **Setbacks**

1. A 50-foot buffer zone is required between any chemical toilet or portable toilet and adjacent property lines, any public right-of-way and all surface waters.
2. A 50-foot separation distance is required between any chemical toilet or portable toilet and all potable water supply wells.
3. These setback requirements do not apply to the use of chemical toilets at active construction sites or seasonal inspection sites managed by a government entity.

H. **Disposal of Wastewater**

1. All chemical toilets and portable toilets shall be pumped and cleaned periodically to prevent odor and health impacts to neighboring properties.
2. All chemical toilet and portable toilet wastes shall be disposed of at an approved facility.
3. No chemical or biological additive shall be placed in a chemical toilet or portable toilet that may adversely affect the operation of a sewage treatment facility where the toilet waste will ultimately be disposed or that may adversely impact the quality of the groundwater.

SECTION 3: COMPOSTING TOILETS

Park County does not currently provide provisions for composting toilets. Composting toilets are prohibited unless previously permitted by Park County or otherwise permitted by DEQ. Composting toilets, where permitted, shall have their waste disposed of at a permitted wastewater treatment facility or landfill, or in a manner approved by DEQ.

SECTION 4: INCINERATING TOILETS

Park County does not currently provide provisions for incinerating toilets. Incinerating toilets are prohibited unless otherwise permitted by DEQ.

APPENDIX A. PERCOLATION TEST PROCEDURE

In order for a small wastewater system to perform properly, the wastewater must move through the soil at an ideal rate, neither too fast nor too slow. A percolation test estimates the rate at which the water will percolate, or move, through the soil. The information provided by percolation tests is necessary to design leach fields correctly. Follow the steps below to complete a percolation test.

1. Location of Percolation Test Holes. The percolation (perc) test holes must be spaced uniformly over the proposed leach field site. **A minimum of three (3) test holes is required,** although you can use more if desired.

2. Test Hole Preparation. Dig or bore each hole 12 inches wide and as deep as the proposed depth of the leach field (usually between 30 and 40 inches). Make sure the sides are vertical and scrape the sides and bottom of the hole with a sharp pointed instrument to restore a natural soil surface. Remove loose soil from the hole and place 2 inches of course sand, washed gravel, or crushed stone in the bottom in order to prevent scouring or sealing.

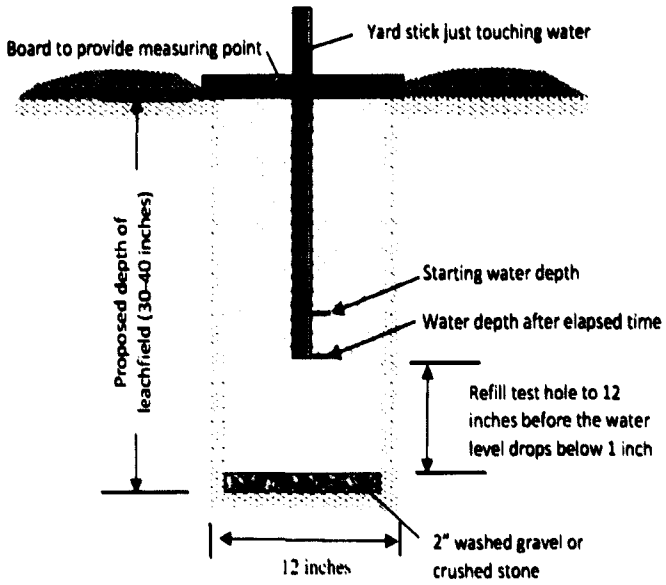
3. Presoaking. Presoaking is ***absolutely required*** to get valid percolation test results. Presoaking allows the water conditions in the test hole to reach a stable condition that is similar to a leach field. Presoaking time varies with soil conditions, but presoak holes for at least 4 hours. Maintain at least 18 inches of water in the test holes for at least 4 hours, then allow the soil to swell for 12 hours (overnight is good) before starting the perc test.

For sandy or loose soils, add 18 inches of water above the gravel or coarse sand. If the 18 inches of water seeps away in 18 minutes or less, add 18 inches of water a second time. If the second filling of 18 inches of water seeps away in 18 minutes or less, the soil is excessively permeable and the site is unsuitable for a conventional disposal system. If this is the case, contact your county small wastewater permitting authority or DEQ district office.

4. Perc Rate Measurements. Fill each hole with 12 inches of water and let the soil re-hydrate for 15 minutes prior to taking any measurements. Establish a fixed reference point such as a flat board placed across the top of the hole to measure the incremental water level drop at the constant time intervals. Measure the water level drop to the nearest 1/8 of an inch with a minimum time interval of 10 minutes. Normal time intervals are usually 10 or 15 minutes.

Refill the test hole to 12 inches above the gravel before starting the measurements. Measure down to the water from the fixed reference point. Record this value on the first line in the perc test data sheet (Page 10). Take another measurement after the time interval has elapsed and record on the second line of the table. Calculate the water level drop and record in the table.

Continue the test until the water level drop rate has stabilized, i.e. three consecutive measurements within 1/8 inch of each other. Before the water level drops below 1 inch above the gravel, refill the test hole to 12 inches. Some test holes may take longer to stabilize than others. If the drop rate continues to fluctuate, use the smallest drop rate out of the last six intervals for your calculations.



APPENDIX B. NON-RESIDENTIAL WASTEWATER DESIGN FLOW RATES

Non-Residential Wastewater Design Flow Rates[1]

Table 2 Excerpted from Water Quality Rules and Regulations, Ch. 25

Facility	Unit	Flow (gallons/unit/day)
Airports	person	4
Apartment	bedroom	120
Automobile Service Station	vehicle served	10
Bars	seat	20
Bathhouses and swimming pools	person	10
Campgrounds (w/ toilets only)	person	25
Campgrounds (w/shower facility)	person	45
Church	person	4
Country Club	member	25
Day School, Office Building, Retail Store, Warehouse (no showers)	person	15
Hospital	bed	250
Industrial Building (sanitary waste only)	employee	20
Laundry (self-service)	machine	450
Mobile Home	bedroom	See Application Page 8 for residential bldgs
Motel, Hotel, Resort	bedroom	140
Recreational Vehicle	each	100
Rest Home, Care Facility, Boarding School	bed	100
Restaurant	meal	10
Restaurant (kitchen waste only)	meal	6
Theater	seat	3

[1] Values shown in the above table are the typical flow rates from *Wastewater Engineering Treatment and Reuse*, Metcalf and Eddy, 2003.