

# LARAMIE COUNTY SMALL WASTEWATER SYSTEMS REGULATIONS

## LARAMIE COUNTY WYOMING

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# CHAPTER 1

## LARAMIE COUNTY SMALL WASTEWATER SYSTEM REGULATIONS

## TABLE OF CONTENTS

### LARAMIE COUNTY SMALL WASTEWATER SYSTEM REGULATIONS

<u>Section #</u>	<u>Subject</u>	<u>Page</u>
1	Authority	05
2	Applicability	05
3	Definitions	05
4	Prohibitions	06
5	Permit Required; Control of Construction, Installation and Modification Permits; Responsibility on Issued Permits;	06
6	Application Requirements	07
7	Application Processing Procedures	09
8	Construction and Operation in Compliance with Issued Permit and Law	10
9	Duration and Termination of Permits; Transfer of Permits	11
10	Renewal of a Permit	12
11	Denial of a Permit	12
12	Modification of a Permit	12
13	Small Wastewater Systems: Failure and/or Operation in Violation of Law	13
14	Suspension and Revocation of a Permit	14
15	Compliance With State and Local Water Quality Plans	15
16	Regulations of Systems Contractors	15
17	Regulations of Non-Hazardous Liquid Waste Haulers	17
18	Enforcement; Penalties	18
19	General Legal Section	19

Section 1. Authority. This regulation is promulgated pursuant to the Wyoming Environmental Quality Act, W.S. 35-11-101 through W.S. 35-11-1207 and 35-1-301 through 35-1-309. Specifically, W.S. 35-11-301 stipulates that no person, except when permit authorized, shall: construct, install, modify, or operate any small wastewater facility. W.S. 35-11-304 stipulates that to the extent requested, authority to enforce and administer W.S. 35-11-301(a) (iii) shall be delegated to qualifying municipalities, water and sewer districts or counties.

Section 2. Applicability. These regulations shall apply to all small wastewater systems as defined in Section 3 of these regulations.

Section 3. Definitions. The following definitions supplement those definitions contained in Section 35-11-103 of the Wyoming Environmental Quality Act.

a. “Cease and Desist Order” means a written order posted at a construction site or delivered by Certified Mail, to stop work on the installation of a small wastewater system.

b. “Groundwater” means subsurface water that fills available openings in rock or soil materials such that they may be considered water saturated under hydrostatic pressure.

c. “Non-Hazardous Liquid Waste” means liquid or semi solid wastes that are not classified as hazardous wastes by WDEQ in Chapter II, which have the potential to cause disease or may tend to pollute without proper handling or disposal. These substances include human excreta, domestic sewage, septage, wastewater treatment sludge, and the contents of chemical toilets, privies, grease traps, and sand traps.

d. “Non-Hazardous Liquid Waste Hauler” means a person engaged in and who holds himself out as a specialist in the cleaning and pumping of small wastewater systems and removal of the residues deposited in the operation thereof. Also referred to as "waste hauler" for the purposes of these regulations.

e. “Permit” means written authorization issued by the Cheyenne-Laramie County Health Department duly executed which authorizes the permittee to construct, install, or modify the system as set forth in this chapter.

f. “Sludge” means any mixture or suspension of liquid and solid wastes having a total suspended solids content greater than (10) percent by weight.

g. “Small Wastewater System” means any sewerage disposal system or treatment works having simple hydrologic and engineering needs which is intended for wastes originating from a residential unit or commercial operation, that distributes 2,000 gallons or less of domestic sewage per day.

h. “Systems Contractor” means a person engaged in and who holds himself out as a specialist in installation, renovation, and repair of small wastewater systems. For the purpose of this definition and of the system contractor licensing requirements: A person who installs more than (1) individual sewage disposal system in any twelve (12) month period shall be deemed to be engaged in, and/or if said person received compensation of any kind for his services, he shall be deemed to hold himself out as a specialist in the installation, renovation, and repair of small wastewater systems.

i. “Wastewater Facilities” means sewerage systems, disposal systems and treatment works.

Section 4. Prohibitions. No person shall, except when authorized by permit or license issued pursuant to the Act and these regulations:

- a. Construct, install, or modify any small wastewater system.
- b. Construct, install, or modify any system in non-compliance with the terms and conditions of an issued permit.
- c. Construct, install, or modify a system with a permit that has expired or has been suspended or revoked.
- d. Pump and/or clean a small wastewater system in non-compliance with Section 16.

Section 5. Permit Required; Control of Construction, Installation and Modification Permits; Responsibility on Issued Permits.

- a. Construction, installation, modification or operation of small wastewater systems shall be allowed only in accordance with these regulations, within the terms and conditions of permits issued pursuant to the provisions of these regulations and/or in conformance with all applicable laws, regulations and/or ordinances.
- b. No construction, installation or modification of a small wastewater system shall be allowed unless a permit to construct, install, or modify has been obtained from the Cheyenne - Laramie County Health Department.
- c. The issuance of a permit to construct or final inspection of the system does not constitute an implied or stated guarantee of the system, nor is the permittee relieved of its responsibility to properly plan, design, construct, operate and maintain the facility as described in the application and permit conditions and in compliance with all applicable laws, regulations and/or ordinances.

Section 6. Application Requirement. The following procedures will be followed in applying for a permit:

a. Any person who proposes to construct, install, or modify a system required to be permitted under Section 5 shall submit a written application on forms provided by the Cheyenne-Laramie County Health Department.

b. The application for a permit to construct, install, or modify must be accompanied by design data or plans, and other pertinent information covering the project, in the number specified, by the Cheyenne-Laramie County Health Department.

c. Design data shall include size of lot.

(1) At least five (5) acres of land shall be provided for a lot utilizing a private water supply and a small wastewater system, with the exception of lots platted and recorded prior to the adoption of the Laramie County Subdivision Regulations, June 5, 1979. Land subject to the foregoing exception consisting of less than one (1) acre including rights of way shall not be utilized for a small wastewater system. A specific variance from the Board of County Commissioners may allow for smaller lot sizes. In order to apply for a variance pursuant to Section 6(f) of these regulations for a lot less than one (1) acre, the applicant must present a statement certified by a licensed engineer that the proposed system will fulfill all criteria of the design standards of these ordinances and not present a danger of groundwater contamination.

(2) At least two and one half (2 ½) acres of land shall be provided for a lot utilizing a public water supply and a small wastewater system, with the exception of lots platted prior to the adoption of the Laramie County Subdivision Regulations June 5, 1979. Land subject to the foregoing exception consisting of less than two and one half (2 ½ ) acres including rights of way shall not be utilized for a small wastewater system. A specific variance from the Board of County Commissioners may allow for smaller lot sizes.

(3) At least two and one half (2 ½) acres including rights of way of land shall be provided for a lot utilizing a private water supply and a small wastewater system for land platted and/or legally split and recorded with the county clerks office between June 5, 1979 and February 5, 2002. A specific variance from the Board of County Commissioners may allow for smaller lot sizes for land platted and recorded and/or legally split and recorded between June 5, 1979 and February 5, 2002.

(4) At least two and one half (2 ½ ) acres of land shall be provided for lots or parcels utilizing a private water supply and a small wastewater system which are located within a County approved subdivision which has utilized the open space design option in the Cheyenne-Laramie County Subdivision/Development Regulations **or which are located in a county approved**

**subdivision zoned PUD with an average gross lot density of five (5) acres or more.** Land subject to the foregoing exception consisting of less than two and one half (2 ½) acres shall not be eligible for a small wastewater system. A specific variance from the Board of County Commissioners may allow for smaller lot sizes.”

d. No permit, as provided for in these regulations, shall be issued prior to the receipt of proof from the Laramie County Planning Department that demonstrates compliance with the following:

(1) The Cheyenne and Laramie County Zoning Ordinance, 1998, as may be currently amended.

(2) The Cheyenne and Laramie County Subdivision Regulations, 1979, as may be currently amended.

(3) The design and construction standards for small wastewater currently incorporated in these regulations and as amended in future.

(4) The resolution establishing procedures for assigning addresses and placement of addresses on structures within the unincorporated area of Laramie County, as may be currently amended. This provision shall not apply where the small wastewater permit is to be issued strictly for the purpose of modifying, repairing or replacing an existing system.

e. All plans and specifications must conform to the minimum design standards adopted by the Board of Laramie County Commissioners.

f. Criteria for Variances: The Board shall have the power to hear and decide on applications for a variance of the 5 acre minimum required above. The Board may impose any reasonable conditions or restrictions on any variance it decides to grant.

The Board of County Commissioners in granting a variance will consider all of the following criteria:

1. Whether there are unusual physical circumstances or conditions, including, without limitation, irregularity, narrowness or shallowness of the lot, or exceptional topographical or other physical conditions peculiar to the affected property;

2. Whether the unusual physical circumstances or conditions do not exist throughout the neighborhood, zoning district or area in which the property is located;

3. That because of the unusual physical circumstances or conditions the property cannot reasonably be developed in a manner substantially equivalent to the other landowners in the neighborhood;

4. Whether, the unusual physical circumstances, conditions or size of the lot are not the result of actions of the applicant taken after the adoption of these regulations; and

5. The Board of County Commissioner may grant a variance, only if all the following criteria are met:

(i) In the opinion of the City of Cheyenne/Laramie County Department of Health or any other relevant agency of the county, state or federal government granting of the variance would not harm the public health, safety and welfare including, but not limited to, negative impacts on ground water;

(ii) Would not alter the essential character of the neighborhood or district in which the lot is located;

(iii) Would not substantially or permanently impair the reasonable use and enjoyment or development of adjacent property; and

(iv) Would be the minimum variance that would afford relief and would be the least modification of the applicable provisions of these regulations.

(v) That the system proposed would comply with any design criteria designated by the City/County Health Department or any other relevant agency.

6. The granting of a variance by the Board of County Commissioners pursuant to this subsection does not guarantee the issuance of a permit by the City/County Health Department for the construction, installation, repair, alteration or modification of a small wastewater treatment system. The City/County Health Department retains full discretion to deny or grant any permit in connection with a small wastewater treatment system.

Section 7. Application Processing Procedures. All permit applications received will be processed in the following manner:

a. The Cheyenne - Laramie County Health Department shall review each application and take final action within sixty (60) days from the date the application is received.

b. Incomplete applications will be processed in the following manner:

(1) Additional information shall be requested in detail or the application may be returned to the applicant. Incomplete permit applications will result in permit denial.

(2) If an applicant is denied because of incompleteness necessitating a request for additional information, the applicant shall have a maximum of six (6) months to comply with the request. If the applicant fails to provide the requested information within that period, the entire incomplete application shall be returned.

(3) Resubmittal of information by an applicant on an incomplete application will be processed as described in this section.

c. All plans and specifications must meet or exceed minimum design standards and these regulations.

d. Each application must be submitted with all supporting data necessary for review. Processing of the application with respect to recommendations or required changes will be done in accordance with the provisions of applicable statutes, rules and regulations of the Board of Laramie County Commissioners.

e. The Cheyenne - Laramie County Health Department shall promptly notify the applicant in writing of the final action taken on the application. If the conditions of the permit are different from the proposed application submitted by the applicant for review, the notification shall include reasons for the changes made.

f. If, upon review of an application, the Cheyenne - Laramie County Health Department determines that a permit is not required, the Department shall notify the applicant of this determination in writing. Such notification shall constitute final action on the application.

g. If, upon review of an application, the Cheyenne - Laramie County Health Department determines that a permit should not be granted, the Department shall notify the applicant in writing of the permit denial and state the reasons for denial.

h. If the applicant is dissatisfied with the conditions of denial of any permit issued by the Cheyenne - Laramie County Health Department, he may request a hearing in accordance with Section 11.

Section 8. Construction and Operation in Compliance with Issued Permit and Law. The permittee shall:

a. Conduct all construction, installation, modification or operation of any system permitted under these regulations consistent with the terms and conditions of the permit and applicable laws, regulations and/or ordinances. Unauthorized changes, deviations or modifications, including those necessary to correct, modify or replace a failing or failed system, will be a violation of the permit, these regulations and any applicable law. A new application or amended

application must be filled with Cheyenne - Laramie County Health Department to obtain modification of a permit. No modification shall be implemented until a new or modified permit has been issued or a waiver given pursuant to subsection b.

b. Request in writing authorization to utilize materials and/or procedures different from those specified in the terms of the issued permit. Such requests shall be directed to the Cheyenne-Laramie County Health Department. A waiver may be granted if materials and/or procedures specified in the permit cannot be obtained or accomplished and alternative materials and procedures meet minimum standards. In order to prevent undue delay during construction, the Cheyenne - Laramie County Health Department may grant a waiver orally, upon oral request, provided this request is followed by a written request in five (5) days.

c. Notify the Cheyenne-Laramie County Health Department for inspection of the small wastewater system at least twenty-four (24) hours prior to covering the system. A authorized representative of the department shall inspect the installation before it is covered with earth and/or used.

d. Conduct the operation in accordance with statements, representations, and procedures presented in the complete application and supporting documents, as accepted and authorized by the department.

e. See Section (13.) of these regulations for further guidance as to modification, operation, installation, construction or replacement in the event a small wastewater system fails or is failing or its operation is in violation of any applicable ordinance, regulation, statute or law, whether local, state or federal.

#### Section 9. Duration and Termination of Permits; Transfer of Permits.

a. The duration of construction, installation or modification permits will be variable, but shall not exceed five (5) years from the date of issuance. The expiration date will be recorded on each permit issued. Those permits issued without a specified expiration date will be in force no more than five (5) years from date of issuance.

b. Small wastewater system permits shall only be issued to the official applicant of record, for only the type of construction of record. The official applicant of record must be the owner of the property or have power of attorney. Small wastewater system permits shall be automatically terminated:

(1) At the time of sale or exchange of the property.

(2) When construction is completed . However, conditions included in the permit will remain in effect throughout the life of the system.

- (3) Upon issuance of a new, renewed or modified permit.
- (4) Upon written request of the permittee.

Section 10. Renewal of a Permit. A permit may be renewed where construction has not been started by filing an affidavit with the Cheyenne - Laramie County Health Department stating there will not be any changes in the plans for construction, installation, or modification of a permitted system prior to the expiration date of the permit.

Section 11. Denial of a Permit.

a. The Cheyenne - Laramie County Health Department may deny a permit for any of the following reasons:

(1) The application is incomplete or does not meet applicable minimum design and construction standards as specified by minimum design standards.

(2) The project, if constructed, will cause violation of applicable state surface or groundwater standards.

(3) The project does not comply with applicable state and local water quality management plans as specified in Section 15 of this chapter.

(4) Other justifiable reasons.

b. If the Cheyenne - Laramie County Health Department proposes to deny issuance of a permit, the applicant shall be notified by Registered or Certified Mail of the intent to deny and the reason for denial.

c. In the case of denial of a permit by the Cheyenne - Laramie County Health Department, the applicant if he so desires, may request a hearing before the Laramie County Board of County Commissioners. A request for a hearing shall be made in writing, within thirty (30) days of receipt of notification of the denial to the Board and shall state the grounds for the request. Any hearing shall be conducted pursuant to the regulations of the Board.

Section 12. Modification of a Permit. Either before construction is completed upon a permitted system, or during the review of a proposed system application, the Cheyenne - Laramie County Health Department may, for good cause, modify a construction permit.

a. When receiving an application or before construction on a system is completed, the Cheyenne - Laramie County Health Department may modify a permit due to the following

reasons:

- (1) Existing, unknown or changing site conditions which would prevent construction and resultant operation from complying with the Laramie County Regulations; or
- (2) Receipt of additional information; or
- (3) Incomplete application on review items where the applicant agrees with the modification; or
- (4) Review items not in compliance with minimum standards where the applicant agrees with the modification; or
- (5) Any other reason necessary to effectuate applicable statutes, standards or regulations.

b. The Cheyenne - Laramie County Health Department shall notify the permittee by Registered or Certified Mail of intent to modify the permit.

c. Such notification shall include the proposed modification and the reasons for modification and time frame to have modifications constructed, installed or operational. Modification requirements shall be implemented before construction, installation, or modification of a permit is completed.

d. The modification shall become final within twenty (20) days from the date of receipt of such notice unless within that time the permittee requests a hearing before the Laramie County Board of County Commissioners. Such request for hearing shall be made in writing to the Laramie County Board of County Commissioners and shall state the grounds for the request. Any hearing held shall be conducted pursuant to the regulations of the Board.

e. A copy of the modified permit shall be forwarded to the permittee as soon as the modification becomes effective.

### Section 13 Small Wastewater Systems: Failure and/or Operation in Violation of Law.

a. It shall be a violation of these regulations and any other applicable ordinance, regulation, statute or law, local, state or federal, to operate a failed or failing small wastewater system or to operate a small wastewater system in any manner as to endanger life, health, safety and /or property of the public.

b. It is unlawful to repair, modify, replace or construct a failed or failing small wastewater system without first obtaining a small wastewater system permit detailing the necessary repairs, modifications, replacement or construction needed.

c. This section and these regulations shall apply to all small wastewater systems, permitted or unpermitted.

f. No permit may be issued for any system which is in conflict with an approved water quality management plan prepared pursuant to the Federal Clean Water Act as amended and/or a Memorandum of Agreement signed by the Laramie County Board of Commissioners and the City of Cheyenne.

g. These regulations shall be applied in the discretion of the Cheyenne-Laramie County Health Department, to the extent permitted by existing law and/or site conditions for any repair, modification, replacement or construction necessitated by the failure of an existing small wastewater system. To preclude the closure of an existing small wastewater system, the Health Officer, in his discretion, may waive compliance with specific requirements of these rules and regulations, to the extent permitted under law, if it can be demonstrated that the repairs, modifications, replacement or construction on the system will not have an adverse impact on the life, health, safety and/or property of the public.

f. The owner(s) of any small wastewater system determined to have failed or be failing by the Health Officer, shall be notified in writing by the Health Officer in compliance with the Laramie County Nuisance Abatement ordinances or any other applicable law, ordinance or statute. If remedial measures are available to the owner, the notice will inform said owner of the time period in which available remedies to the failing system must be completed. If it can be demonstrated that the failing small wastewater system will not have an adverse impact on the life, health, safety and/or property of the public, in the sole discretion of the Health Officer and in accord with applicable law, the owner(s) may submit a schedule of compliance for review and approval by the Health Officer. All failing systems shall be fully repaired and in compliance with applicable law within six (6) months from notification. Any failure to maintain progress on remedies outlined in an approved compliance schedule shall constitute a violation of these regulations. Nothing in this section serves to abrogate, modify or eliminate any remedy allowed under law which may be applicable to the situation giving rise to the notice.

Section 14. Suspension or Revocation of a Permit. The Cheyenne-Laramie County Health Department may suspend or revoke a permit before construction, installation or modification of a system is completed, for the reasons set forth below, in item b.

a. Before a permit may be suspended or revoked, the permittee shall be given an opportunity to show compliance with all lawful requirements for the retention of the permit.

b. The Cheyenne-Laramie County Health Department shall notify the permittee by Registered or Certified Mail of its intent to suspend or revoke the permit in the event that it becomes necessary due to:

- (1) non-compliance with the terms of the permit; or
  - (2) unapproved modifications in design or construction; or
  - (3) false information submitted in the application; or
  - (4) changing site conditions which would result in violations of applicable regulations;
- or
- (5) non-compliance with requirements of Section 14; or
  - (6) any other reason necessary to effectuate applicable statutes, standards or regulations.

c. The notification shall include the reasons for suspension or revocation.

d. The suspension or revocation shall become final twenty (20) days from the date of receipt of such notice unless within that time the permittee requests a hearing before the Laramie County Board of County Commissioners. Such a request for hearing shall be made in writing to the Laramie County Board of County Commissioners and shall state the grounds for the request. Any hearing held shall be conducted pursuant to the regulations of the Board.

#### Section 15. Compliance With State and Local Water Quality Management Plans.

No permit may be issued for any system which is in conflict with an approved water quality management plan prepared the Federal Clean Water Act, as amended and/or any memorandum of agreement signed by the Laramie County Board of County Commissioners and the City of Cheyenne.

#### Section 16. Regulations of Systems Contractors.

a. No person except as in (b), shall install, engage in the installation of, or repair a small wastewater system unless he holds a valid Systems Contractor License. Employees of a validly licensed Systems Contractor shall not be required to be licensed. Licenses shall expire on December 31 of each year and shall be renewed within thirty (30) days prior thereto.

b. Any landowner of record may install a small wastewater system for his own use without the necessity of obtaining a license, provided however, such landowner shall first obtain a permit from the Cheyenne - Laramie County Health Department upon a proper showing to the department of competency to complete the said work in accordance with these regulations, and provided further said landowner's installation shall be subject to inspection by the Cheyenne - Laramie County Health Department as herein provided and otherwise be completed in accordance with these regulations.

c. Standard of performance required of holders of Systems Contractor Licenses:

(1) Applications for Systems Contractors Licenses or renewals shall be made upon forms supplied by the Cheyenne-Laramie County Health Department.

(2) Prior to the issuance or renewal of a license the Cheyenne-Laramie County Health Department may require the applicant to demonstrate adequate knowledge of these regulations.

(3) A licensing and renewal fee shall be collected by the Cheyenne-Laramie County Health Department as set by the Board of Health.

(4) Installation, renovation or repair of any small wastewater system shall be in compliance with these regulations and with the conditions set out in the installation permit.

(5) Notice of a requested inspection shall be given by the license holder not less than twenty-four (24) hours before the inspection is to be made.

(6) A license holder shall have in his possession a copy of the installation permit at the time of final inspection so that final approval may be endorsed upon it.

d. Suspension and/or Revocation of a Systems Contractor License:

(1) A contractors license may be suspended or revoked for failure to comply with these regulations or any applicable state, local or federal law or regulation or for other good cause shown.

a. The Division of Environmental Health (Division) may suspend a license, or suspend a license pending revocation, for up to 120 days after giving written notice as described in Section 16d(2). The license holder shall be given not less than ten (10) days written notice prior to the commencement of the suspension and not less than fifteen (15) prior to the commencement of a revocation.

b. Final revocation of a license shall take place only after a hearing, if requested by the license holder, before the Laramie County Board of County Commissioners. The license holder may request a hearing on the Division's revocation of a license by requesting a hearing, in writing, within fifteen days of the receipt of the Division's notice or Revocation. Failure to properly request such a hearing shall result in the revocation of said license at the expiration of the fifteen day period. The license holder shall be given not less than ten (10) days notice of the date of the hearing and may be represented at

the hearing by counsel. Any hearing will be conducted in conformance with the Wyoming Administrative Procedure Act.

- c. A license holder may request a hearing to contest the suspension of a license before the Laramie County Board of Commissioners. Said hearing must be requested within ten (10) days of receipt of notice of said suspension from the Division. Failure to properly request such a hearing shall result in the suspension of said license under the terms imposed by the Division at the expiration of the 10 day period. Any hearing will be conducted in conformance with the Wyoming Administrative Procedure Act.

(2) Written notice of suspension or revocation, particularizing the violations shall be served upon the holder of the Systems Contractor License. Service of notice as required in this section shall be provided by registered or certified mail, return receipt requested, deliverable to addressee only.

(3) A systems contractor whose license has been revoked may not be considered for re-licensing for at least one year following the revocation date.

e. The Cheyenne - Laramie County Health Department shall, from time to time, set qualification standards for licensed Systems Contractors.

#### Section 17. Regulations of Non-Hazardous Liquid Waste Haulers:

a. No person shall engage in the cleaning of a small wastewater system or the transportation of sewage to a disposal site unless he holds a valid Waste Haulers License from the Cheyenne - Laramie County Health Department. Employees of a validly licensed Waste Hauler shall not be required to be licensed. Licenses shall expire on December 31 of each year and shall be renewed within thirty (30) days prior thereto. An annual inspection of the waste haulers vehicles shall be conducted prior to license renewal.

(1) The company name and license number shall be posted on both sides of the vehicle cab in letters at a minimum of six (6) inches high.

(2) A licensing and renewal fee shall be collected by the Cheyenne-Laramie County Health Department as set by the Board of Health.

(3) Proof of liability insurance shall be required prior to the issuance and renewal of a license.

(4) Any person engaging in the cleaning of a small waste water system or in the

transportation of sewage to a disposal site without a license issued pursuant to these regulations shall be in violation of these regulations and subject to penalties or consequences as outlined in Section 18 of these regulations in addition to any other sanction available at law.

b. Standard of Performance for Waste Haulers:

(1) A license holder, when cleaning a small wastewater system vessel shall remove the liquid, sludge and scum, leaving no more than three (3) inches depth of waste in a non-back flowing small wastewater system vessel. In back flowing types of systems cleaning shall be effective in reducing solids and scum to the point of a near new system.

(2) A license holder shall maintain his equipment so as to insure that no spillage of waste will occur during transportation, storage, parking or maintenance, and that his employees are not subjected to undue health hazards.

(3) A license holder shall dispose of the collected non-hazardous liquid waste only at a site approved by the Laramie County Board of County Commissioners, the Cheyenne - Laramie County Health Department and the Wyoming Department of Environmental Quality.

(4) Prior to the issuance of, or renewal of a license, the Cheyenne - Laramie County Health Department may require the applicant to demonstrate adequate knowledge of these regulations.

c. Suspension or revocation of a Waste Hauler License The procedure as described in Section 16 (d) shall be followed for the suspension or revocation of a license.

Section 18. Enforcement; Penalties.

a. If the Cheyenne-Laramie County Health Department has reason to believe that a person is violating any provision of these regulations or permit issued pursuant hereto or any applicable law, regulation, ordinance or statute or creating a situation with a small wastewater system which endangers the life, safety, health and/or property of the public, an investigation shall be made. Authorized personnel of Cheyenne - Laramie County Health Department are hereby authorized to enter onto and upon the property of another who is believed to be in violation for purposes of such an investigation. He shall have the authority to issue a cease and desist order, pursuant to these regulations, W.S. § 35-11-301(a)(iii), (v) or any other applicable authority, if a violation of these regulations is found to exist.

b. These regulations are enforceable by all appropriate legal remedies including but not limited to injunctive relief, a writ of mandamus, and abatement pursuant to the Laramie County Nuisance Regulations. Nothing in this section or in these regulations shall be deemed to be the exclusive authority governing small wastewater systems. This section and these regulations shall

be in addition to the authority provided in any lawful ordinance, statute, regulation or law, state, local or federal.

c. In addition to penalties provided in W.S. § 35-10-102, any person who violates any provision of these regulations is liable for a penalty not to exceed one hundred (\$100.00) dollars for each day during which the violation continues, which may be recovered in a civil action, together with any costs or damages which may be assessed by the court.

d. In addition to any penalties available at law, it is a violation of these regulations to make any false statement, representation or certification in any application, record, report or plan or other document filed or required to be obtained or filed under these regulations. A citation for a violation of these regulations may be issued to any person in violation of this provision and a fine of not more than seven hundred and fifty (\$750.00) dollars shall be imposed upon conviction.

e. Nothing in these regulations shall be construed to abridge, limit, impair, create, enlarge or otherwise affect substantively or procedurally the right of any person to damages or other relief on account of injury to persons or property and to maintain any action other appropriate proceeding therefor.

#### Section 19. General Legal Section

a. In case of a conflict between these regulations, or any part of these regulations and any part of any existing or future ordinance, statute, law, regulation or code, local, state or federal, the more restrictive in all cases shall apply.

b. Should any section or provision of these regulations be declared invalid or unconstitutional by any court of competent jurisdiction, the declaration shall not affect the validity of the regulations as a whole or any part thereof, which is not declared to be invalid or unconstitutional.

# CHAPTER 2

## DESIGN & CONSTRUCTION

### STANDARDS FOR

### SMALL WASTEWATER

### REGULATIONS

TABLE OF CONTENTS

DESIGN AND CONSTRUCTION STANDARDS FOR  
SMALL WASTEWATER SYSTEMS

<u>Section #</u>	<u>Subject</u>	<u>Page</u>
Part A		
Introduction and General Requirements		
1	Authority	22
2	Purpose	22
3	Intent	22
4	Systems not Specifically Covered by these Standards	22
Part B		
Minimum Design And Construction Standards		
1	General	24
2	Definitions	24
3	Design Flows	25
4	Isolation	26
5	Site Suitability	27
6	Building Sewer Pipes	28
7	Soil Absorption System Sizing	29
8	Pretreatment	31
9	Dosing Systems	32
10	Subsurface Treatment and Disposal Systems	34
11	Evapotranspiration Beds	36
12	Holding Tanks	37
13	Privies	38
14	Chemical Toilets	39
15	Small Non-Discharging Waste Stabilization Ponds	40
	Appendix A - Percolation Test Procedure	41

PART A

## INTRODUCTION AND GENERAL REQUIREMENTS

Section 1. Authority. These standards are promulgated pursuant to W.S. 35-11-1207 and W.S. 35-1-301 through 35-1-309. Specifically, W.S. 35-11-302 requires the establishment of standards for the issuance of permits for construction, installation, or modification of small wastewater systems.

Section 2. Purpose. The purpose of these standards is two-fold:

a. To insure that the design and construction of small wastewater systems meet the purpose of the Environmental Quality Act.

b. To prevent, reduce and eliminate pollution and enhance the waters of the State of Wyoming and to protect the health, safety and welfare of the environment and its inhabitants.

Section 3. Intent. The design and construction standards included in these regulations are directed toward conventional small wastewater systems. These standards impose limiting values of design for which a construction, installation or modification permit application and plans and specifications can be evaluated by the Cheyenne - Laramie County Health Department.

The terms “shall” and “must” are used when practice is sufficiently standardized to permit specific delineation of requirements or when safeguarding public health or protection of water quality justifies such definite action. Other terms, such as “should”, “recommend”, and “preferred” indicate desirable procedures or methods which allow deviations provided the purpose of these regulations can be accomplished.

Section 4. Systems not specifically covered by these standards. This section is provided to encourage new technology and equipment in the area of wastewater treatment and disposal. The construction of systems and processes not in compliance with these regulations will be permitted provided that the system, when constructed, can operate meeting the purpose of these regulations.

a. Each application for a permit to construct an innovative system shall be evaluated jointly by the Cheyenne - Laramie County Health Department and the Water Quality Division on a case-by-case basis using the best available technology. The following information shall be included with the application:

(1) Data obtained from a full scale, comparable installation which demonstrates the acceptability of the design and/or,

(2) Data obtained from a pilot plant operated under the design condition for a sufficient

length of time to demonstrate the acceptability of the design and/or,

(3) Data obtained from a theoretical evaluation of the design which demonstrates a reasonable probability of the system meeting the design objectives: and

(4) An evaluation of the flexibility of making corrective changes to the constructed system in the event it does not function as planned.

b. If an applicant wishes to construct a pilot plant to provide the data necessary to show the design will meet the purpose of the act, a permit to construct must be obtained.

## PART B

## MINIMUM DESIGN AND CONSTRUCTION STANDARDS

Section 1. General. This part contains the minimum standards for the design and construction of small wastewater system.

### Section 2. Definitions.

- a. “Absorption system” 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.
- b. “Adequate cover” means having twelve (12) inches of earth cover over and around the small wastewater system.
- c. “Aerobic unit” means a covered, watertight receptacle which receives wastewater. The unit removes settleable solids, floatable material, and a part of soluble organic matter by the use of aerobic biological treatment.
- d. “Building drain” means the lowest piping of a drainage system which receives the discharge from soil, waste and other drainage pipes inside the walls of the building sewer and ending two (2) feet (.6m) outside the building wall.
- e. “Building sewer” means the horizontal piping of a drainage system which extends from the end of the building drain, receiving the discharge of the building drain and conveying it to the septic tank or other onsite sewage disposal facility.
- f. “Domestic sewage/Septage” means the liquid and water-borne wastes derived from the ordinary living processes, free from industrial wastes, and of such character as to permit satisfactory disposal without special treatment.
- g. “Dosing system” means the system of tanks, pumps of syphons, and piping located between the septic tank and soil absorption system which is intended to apply a large quantity of settled wastewater to the absorption system in a short period of time.
- h. “Hydrogeological study” means a study of the occurrence, distribution, quality and movement of the shallow most ground water of the state and the potential impact of wastewater on the groundwater.
- i. “Impermeable soil” means any soil which has a percolation rate greater than sixty (60) minutes per inch.

j. “Pump tank” means a tank in which the dosing pumps or syphons are installed.

k. “Seasonal high groundwater table” means the highest elevation reached by the groundwater during the wet season of the year (usually spring or early summer).

Section 3. Design Flows. The sewerage system, treatment works and disposal system shall have a minimum absorption area based on the minimum peak design flows listed in Table 1 below.

Table 1  
Quantities of Domestic Sewage Flows

Type of Establishment	Flow (gallon per day per _____)
<b>Residential Units</b>	
Single Family Dwellings	150/bedroom
Multiple Family Dwelling (with laundry capabilities)	150/bedroom
Multiple Family Dwelling (without laundry capabilities)	120/bedroom
Cottages	50/person
Mobile Home Parks	350/homes*
<b>Commercial Facilities</b>	
Airports	4/passengers
Bar	3/patron
Bathhouses and swimming pools	10/persons
Campgrounds (individual sewer outlets available)	100/sites
Campgrounds (service building only)	75/sites
Car or truck wash	200/vehicle
Church (no food preparation or dishwashing)	5/seat
Church (food preparation and/or dishwashing)	7/seat
Country Club	100/member
Factories	30/employee
Hospital	200/bed
Laundry (self-service)	600/mach.or 50/cycle
Motels	80/double bed, 40/single bed
Office building	30/employee
Restaurant (toilet and kitchen wastes)	13/meal
Restaurant (kitchen wastes)	6/meal
Restaurant (additional for bars and lounges)	2/meal
Restaurant (kitchen wastes with disposable service)	2/meal
Rest Home	100/resident

Schools	
Boarding	100/resident study
Day, without gyms, cafeterias, or showers	15/student
Day, with cafeterias only	20/student
Day, with cafeteria, gym and showers	25/student
Service stations	10/vehicle served
Shopping Center	2/parking space
Store, Retail	30/employee
Theaters:	
Movie	5/seat
Drive-In	15/vehicle space
Warehouse	30/employee

\* Must consider flow into soil absorption system from mobile homes where taps are allowed to run to prevent freezing.

Section 4. Isolation.

a. The isolation distances listed below apply when domestic wastewater is the only wastewater present and the flow is less than two thousand (2000) gallons per day (g.p.d.). The following minimum isolation distance (in feet) shall be maintained;

<u>From</u>	<u>To Septic Tank Or Equivalent</u>	<u>To Absorption System</u>
Wells (includes neighboring wells)	50	100
Property lines	50	50
Building Foundation (without foundation drains)	5	10
Building Foundation (with foundation drains)	5	25
Potable Water Pipes	25	25
Septic Tank		10
Stream or Surface		
Body of Water (including seasonal and intermittent)	50	50

b. All properties divided or subdivided after the adoption of these rules and regulations shall comply with these isolation distances. All other properties shall comply with requirements with the exception of isolation distances to property lines for septic tanks and absorption systems, which shall be a minimum requirement of ten (10) feet.

c. Wells and cisterns shall be separated from all building sewers by at least twenty (20) feet.

d. Location. Absorption systems shall not be located beneath buildings, parking lots, roadways or other similarly compacted areas.

Section 5. Site Suitability.

a. Soil Exploration. Soil exploration to a minimum depth of four (4) feet below the bottom of the proposed absorption system shall be made to provide information on subsoil conditions.

b. Soil Evaluation.

(1) No less than three (3) percolation tests shall be run in the proposed absorption system location. The percolation tests shall be performed in accordance with Appendix A of this part. The type of soil encountered at the percolation test location shall be specified.

(2) An evaluation of the soil texture by a person experienced in soils classification, may be used to estimate the percolation rate, but at least one (1) percolation test shall be performed. Table 2 may be used to relate soil texture to percolation rate.

Table 2

<u>Soil Texture</u>	<u>Percolation Rate</u> (minutes/inch)
Coarse Sand Medium Sand	Less than 10
Fine Sand and Loamy Sand	11-20
Sandy Loam Loam	21-30
Loam Sandy Clay Loam	31-45
Silty Loam Clay Loam	46-60

c. Groundwater Protection and Bedrock or Impermeable Soil Separation.

(1) For single family homes, the depth to bedrock or impermeable soil must be at least four (4) feet from the bottom of the absorption system stone and the natural ground surface. The depth to seasonally high groundwater must be at least four (4) feet from the bottom of the absorption system stone and at least two (2) feet from the natural ground surface.

(2) For all systems other than single family homes up to two thousand (2000) gallons per day, the depth to bedrock or impermeable soil must be at least four (4) feet from the natural ground surface. The depth to seasonally high groundwater must be at least four (4) feet from the

bottom of the absorption system stone and at least two (2) feet from the natural ground surface. Also, a minimum of three (3) feet of unsaturated soil shall be maintained between the bottom of the absorption system stone and the estimated groundwater mound imposed on the seasonally high groundwater table. The height of the groundwater mound may be estimated from figures 1 through 6. The average daily flow should be used and may be estimated as 0.6 times the flow determined from Table 1.

d. Excessively permeable soils. Soils having a percolation rate of one (1) minute per inch or less are unsuitable for subsurface sewage disposal. These soils may be used if a six (6) inch layer of soil having a percolation rate of five (5) minutes per inch or greater is placed between the leach system stone and the existing soil. The soil absorption system shall be sized based on the percolation rate of the fill material.

e. Sloping ground installations.

(1) Absorption systems shall not be located in an area where the natural slope is steeper than 15%.

(2) All absorption systems must be located at least fifteen (15) feet from the top of any break in slope which exceeds that maximum allowed in subsection 1 above.

#### Section 6. Building Sewer Pipes.

a. Building drain pipe. All building drain pipe shall comply with the standards published in the most current Uniform Plumbing Code or other locally approved, nationally recognized plumbing code.

b. Building sewer pipe. All building sewers shall be installed in accordance with the most current Uniform Plumbing Code or other locally approved nationally recognized plumbing code. In the absence of an approved plumbing code, the building sewer shall comply with the following.

(1) Material. Polyvinyl Chloride (PVC), Acrylonitrile-Butadiene-Styrene (ABS), cast or ductile iron, portland cement, or vitrified clay pipe shall be used for sewer pipes. Cast, ~~or~~ ductile iron, ~~or~~ schedule 40 PVC or schedule 3034 pipe shall extend past the hole of the excavation for the septic tank to solid ground from the inlet and outlet of the septic tank or other treatment works.

(2) Size, Building sewer pipes shall not be smaller than four inches in diameter. They shall be sized to handle the peak hourly flow from the building.

(3) Slope. Building sewer pipes should be laid at a minimum of 1/4 inch per foot, but shall not be flatter than 1/8 inch per foot.

(4) Alignment. Building sewer pipes should be laid in a straight line. Any single change or cumulative change of alignment of 22 ½ degrees or greater shall be served by a cleanout.

(5) Cleanouts. Cleanouts shall be provided every one hundred (100) feet maximum.

(6) Backfilling. 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 utilized to prevent lateral movement or ovalation 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.

#### Section 7. Soil Absorption System Sizing.

a. Trench, bed and seepage pit systems. The total infiltrative surface of a soil absorption system shall be calculated based on the flow rate as determined by the criteria stated in Section 3 and with the allowable loading rate as determined by using Figure 1. The total infiltrative surface is the sum of the sidewall and bottom areas of the absorption system below the invert of the distribution pipe. Trench systems shall have at least one-hundred-fifty (150') lineal feet of trench bottom. Bed and seepage pit systems shall have at least four hundred fifty (450) square feet of infiltrative surface.

b. Soils with a percolation rate of sixty (60) minutes per inch or greater are unacceptable for standard absorption systems.

c. Gravelless chamber type systems shall not exceed one hundred (100) feet in any single trench.

d. Gravelless chamber type systems shall not be inline with the solid pipe from the septic tank unless a distribution box is installed between the tank and chamber laterals.

Figure 1

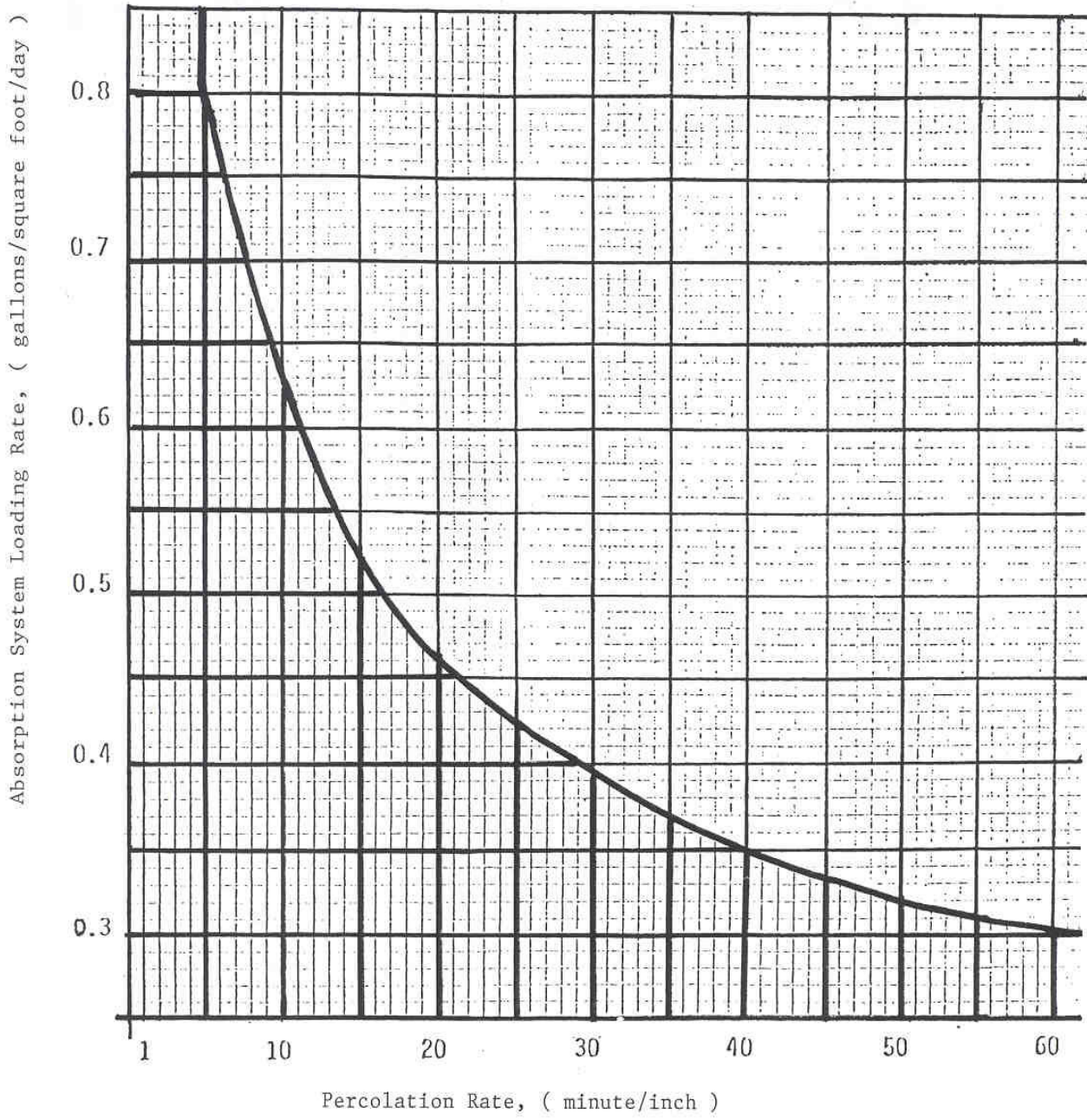


FIGURE 1

## Section 8. Pretreatment.

### a. Septic Tanks.

(1) The septic tank shall be constructed of poured in place concrete, precast concrete or concrete block. Precast tanks shall have a minimum wall thickness of 2 ½ inches. The top shall have a minimum thickness of three (3) inches. Walls and top shall be adequately reinforced. Septic tanks constructed of concrete block shall be on a solid foundation. All joints shall be well fitted and mortared. The tank shall be water tight and capable of supporting the load to which it will be subjected. Septic tanks constructed of materials other than concrete shall be evaluated for approval under Chapter 2, Part A, Section 4 of these standards.

#### (2) Size.

(a) Residential units serving no more than four (4) families. Minimum liquid volume of septic tanks shall be one thousand (1000) gallons for residences through four (4) bedroom capacity. Additional capacity of two hundred fifty (250) gallons per bedroom shall be provided for each bedroom over four.

(b) Commercial/Industrial Units. Septic tanks shall have a minimum effective liquid capacity sufficient to provide at least thirty-six (36) hour retention at peak flow or one thousand (1000) gallons, whichever is greater.

#### (3) Configuration.

(a) The septic tank shall have a length to width ratio of no less than two (2) to one (1), or be so partitioned as to provide protection against short circuiting of flow. The water depth shall be no less than four (4) feet nor greater than six (6) feet. The septic tank inlet shall be provided with a tee or baffle. The outlet shall be provided with a tee or baffle that extends into the middle third of the water depth to prevent floating or settled solids from carrying over into the disposal field or bed. The inlet pipe shall be at least three (3) inches higher than the outlet pipe.

(b) If the septic tank is partitioned, the volume of the first compartment must be at least fifty percent (50%) of the total required volume.

(c). The outlet elevation shall be designed to provide a distance of twenty percent (20%) of the liquid depth between the top of the liquid and the bottom of the septic tank cover for scum storage.

(4) Access.

(a) A manway access shall be provided to each compartment of the septic tank for inspection and cleaning. The manway access shall have a minimum opening of twenty (20) inches in the least dimension. Both inlet and outlet devices shall be accessible. A cleanout having a minimum diameter of six (6) inches may be provided in the outlet compartment of a two compartment tank, provided that it extends to the ground surface and it is capped.

(5) Installation. The septic tank shall be placed on a level grade and a firm bedding to prevent settling.

(6) Earth Cover. The septic tank shall have adequate cover.

(7) Depth. The top of the septic tank shall be no deeper than five (5) feet as measured from the ground surface contour.

b. Aerobic Units. Aerobic treatment units can be used as a pretreatment device for a single residential unit serving no more than four (4) families provided the unit carries the seal of testing and approval from the National Sanitation Foundation (NSF) for the NSF Standard No. 40-1978. The unit shall be sized based on the flow quantities stated in Section 3. No reduction in the sizing of soil absorption systems shall be permitted if an aerobic unit is used instead of a septic tank.

Section 9. Dosing Systems/Lift Stations.

a. Pumping systems for flow up to two thousand (2000) gallons per day.

(1) Pump tank. Where only one pump is provided, the pump tank shall have the volume as required in Table 3 below. The tank shall comply with the material requirements for septic tanks. The pump tank shall be vented. The vent shall have a downward turn that terminates at least twelve (12) inches above ground. The pump tank shall have an access manhole provided with an opening at least twenty (20) inches in least dimension.

Table 3  
Pump Tank

Volume (gallons) Required Between

AVERAGE FLOWS (GPD)	“OFF” & “ON” SWITCH	“ON” & “ALARM” SWITCH	“ALARM” SWITCH & TANK INLET	PUMP CAPACITY (GPD)
0-499	100	50	200	10
500-999	200	100	400	20
1000-1499	300	100	600	30
1500-2000	400	100	800	40

(2) Pumps.

(a) Sizing. The pump shall have a flow rate of at least ten (10) gallons per minute when installed. The pressure loss (feet of head) of the system can be calculated by adding: the elevation difference between the discharge outlet at the soil absorption system and the low water level in the pump tank; and the friction losses incurred in the pressure transfer pipe and distribution piping. The following table may be used to estimate the head loss of the pipe when pumping ten (10) gallons per minute and using plastic pipe.

Table 4  
Head Loss In Plastic Pipe

Pipe Diameter (inches)	Head Loss per 100' of pipe (in feet)
1	12
1.25	4
1.50	2

(b) Installation/removal. The pump shall be installed in the tank so that it can be removed without entering the tank. This can be accomplished by (1) looping the pipe up near the access manhole with a pipe union provided at the top of the loop, (2) using a quick disconnect sliding coupler, or (3) using a pitless adapter. Chains, cable, or piping can be used to lift the

pump out of the tank if designed for this loading. Setting the pump on an eight (8) inch block minimizes the transfer of any solids that may enter the pump tank.

(c). Electrical controls. The electrical control system for the wastewater pump shall consist of a “pump off” switch, a “pump on” switch, and a “high water alarm” switch which shall be located to provide the necessary volumes as stated in Table 3. All electrical controls (pump electrical cord, switches, etc.) shall comply with the most current National Electrical Code. All openings around the cables or cords entering the tank shall be sealed.

(3) Pressure Transfer Pipe. The pressure transfer piping between the tank and the leach system shall be designed to drain after each pump cycle to prevent freezing. This can be accomplished by either eliminating the check valve at the pump or by providing a weep hole in the pipe in the tank. If the pipe is long, the tank shall be enlarged by the volume of the pipe.

b. Syphons. Where automatic syphons are used, they shall be designed to empty the syphon tank in less than twenty (20) minutes. The syphon tank shall be sized in accordance with subsection 9.a.1. above.

## Section 10. Subsurface Treatment and Disposal Systems.

### a. General Requirements.

(1) Replacement Area. An area shall be designated and shown on the plans for future installation of a replacement absorption system. If a trench system is used, the replacement area may include the area between the trenches if sufficient spacing has been provided. At least three (3) feet of undisturbed soil shall remain between the existing and replacement trench side walls.

(2) Protection. Effort shall be made to protect the natural absorptive properties of the soil. Soil absorption systems shall not be installed during adverse weather or soil conditions. Rain, severely cold temperatures, or excessively moist soils are considered adverse weather or soil conditions. All smeared or compacted surfaces shall be restored to their original infiltrative conditions prior to placement of the stone.

(3) Runoff. Surface runoff shall be diverted around or away from all soil absorption systems.

(4) Stone. Soil absorption system stone shall be sized between ½-inch to 2 ½-inches. At least two (2) inches of stone shall be placed over the distribution pipe, and at least six (6) inches of stone shall be placed under and beside the distribution piping. A minimum of twelve (12) inches of stone shall be placed between seepage pit wall and structural liner. The stone shall be free from sand, silt and clay.

(5) Gravity Pipe. All plastic gravity absorption system pipes shall have a minimum diameter of four (4) inches and shall conform to ASTM standard D2729. Piping in all horizontally constructed absorption systems shall be laid with the holes centered around the vertical axis at the bottom of the pipe. All field tile pipe shall be spaced 1/4 inch apart. Piping in horizontally constructed absorption systems shall have maximum slope of three (3) inches per one hundred (100) feet.

(6) Pressure Pipe. All pressure distribution piping shall be designed to withstand the anticipated pressures with a safety factor of two (2), provide uniform application of wastewater, and have non-clogging orifices.

(7) Distribution Box. If a distribution box is used, it shall be installed to provide uniform distribution of the wastewater and shall be placed so that it will not be subject to frost heave.

(8) Stone Cover. A suitable cover such as untreated building paper, filter cloth, or straw shall be placed over the stone prior to backfilling the system.

(9) Earth Cover. A minimum of twelve (12) inches of earth shall be placed over the soil absorption system stone. The earth shall be permeable soil that will allow aeration of the system and will support the growth of grass. The earth cover shall be graded to insure that water will not pond on the surface.

(10) Levelness. The bottom of soil absorption systems and each segment of a sidehill system shall be level.

(11) Depth. The maximum depth of drainfield pipe or chamber top shall be five (5) feet as measured from the ground surface contour.

b. Special Requirements for Seepage Pits. If a structural lining is needed to support stone in a seepage pit, it shall be constructed of durable material not subject to excessive corrosion or decay and structurally capable of supporting the loads to which it will be subjected. The lining shall be perforated or otherwise designed to allow the passage of wastewater. Seepage pits shall be separated by a minimum distance equal to three times their diameter.

c. Special Requirements for Mounded Systems

(1) Sizing.

(a) The infiltrative surface between the stone and the fill material shall be sized based on the flow rate as determined by Section 3 and the allowable loading rate as determined by Figure 7 of Section 7 for the percolation rate of the fill. The total infiltrative surface is the sum of the sidewall and bottom areas of the stone - soil interface below the distribution pipe.

(b) The interface area between the fill soil and the native soil shall be sized based on the infiltration rate of the native soil as determined by Figure 7 of Section 7, but shall not be smaller than a system designed to the requirements of subsection 2 below.

(2) Grade. The finished grade shall extend at least three (3) feet horizontally beyond the stone and then be sloped to the parent soil at a grade no steeper than four (4) horizontal to one (1) vertical.

(3) Fill soil. The fill soil that is placed between the native soil and the stone shall have a minimum percolation rate of five (5) minutes per inch. Topsoil shall be placed over the mound to promote vegetative cover.

(4) Preparation. All trees, roots, and other organic matter shall be removed from the area to be occupied by the mound.

d. An undisturbed soil separation shall be maintained between trench sidewalls. The minimum separation distance shall be three (3) feet or 1.25 times the vertical depth of the trenches, which ever is greater.

e. Special Requirements for Serial Sidehill Trench or Bed Systems.

(1) Separation. A minimum of three (3) feet of undisturbed soil shall be maintained between adjacent trench or bed side walls.

(2) Levelness. The bottom of each serial trench or bed system shall be level.

(3) Overflow. The overflow pipe between serial leach systems shall be set no higher than the mid-point of the upstream distribution pipe. The overflow pipe shall not be perforated.

f. Special requirements for bed systems. The distribution system piping shall be spaced no more than ten (10) feet apart.

#### Section 11. Evapotranspiration Beds.

a. Sizing. The area of evapotranspiration beds shall be determined using the following formula:

$$\text{AREA} = 586 \frac{Q}{\text{Pet-P}}$$

where:

Area = Area of the evapotranspiration bed at the ground surface in square feet

Q = Average daily sewage flow (0.6 times the flow determined from Table 1)

PET = Potential evapotranspiration rate in inches per year

P = Annual precipitation rate in inches per year

b. Construction.

(1) If an impervious barrier is necessary for the protection of groundwater it shall be installed between the evapotranspiration bed and the native soil. It shall be a polyvinyl chloride sheet with a minimum thickness of twenty (20) mils or equivalent. A three (3) inch layer of sand shall be placed under and over the liner.

(2) The bottom twelve (12) inches of the bed shall be filled with clean stone  $\frac{1}{2}$  - 2  $\frac{1}{2}$  inches in diameter.

(3) Perforated pipe complying with Section 10.a.-f. shall be placed in the stone.

(4) Four (4) inches of pea gravel (less than 1/4-inch in diameter) or durable filter cloth shall be placed over the stone.

(5) A twenty-four (24) inch uniform sand layer in the size range of D50 (0.10mm) shall be placed on top of the pea gravel or filter cloth.

(6) A six (6) inch layer of sandy topsoil shall be placed on the evapotranspiration bed.

(7) The bed should be vegetated with small shrubs and/or grasses such as fescue, brome, or alfalfa.

(8) The evapotranspiration bed shall be placed at a depth sufficient to prevent surcharging of the septic tank.

Section 12.  Holding tanks.

a. Uses. Holding tanks shall not be used for residential systems when other alternative systems are available, except on a temporary, seasonal or intermittent basis, or when used to correct a failed subsurface disposal system when other alternatives are unavailable. Use of holding tanks for new construction is prohibited. Where holding tanks are allowed, they shall be

sized on the basis of seven (7) days storage at the flow rate determined from Table 1.

b. Acceptance. A letter of verification from the receiving agency, denoting acceptance of the wastewater generated shall be submitted with the plans.

c. Location. The location and construction of holding tanks shall meet the requirements for septic tanks in Section 4.a.4 and Section 8.a.1 respectively.

d. Vent. Each holding tank shall be provided with a two (2) inch minimum diameter vent ending in a return elbow above final grade. The vent shall terminate at least thirty (30) feet from any door, window, or fresh air inlet.

e. Alarm. All holding tanks shall be equipped with a high water level alarm. The device shall be an audible alarm or an indoor illuminated alarm. The alarm level shall be placed at 3/4 the depth of the tank.

f. Pumpout. A six (6) inch pump out pipe which extends to the surface shall be provided. It shall be capped at all times.

### Section 13. Privies.

#### a. General Requirements.

(1) All privies shall be designed and constructed to prevent access by flies and rodents.

(2) If indoor plumbing is installed, the gray water disposal method shall meet the requirements of Section 3 through 12. The minimum design flow for gray water shall be obtained from Table 1 with a reduction of thirty three percent (33%) allowed for the elimination of black wastes.

(3) The privy shall consist of a vault and an outhouse building.

b. Isolation. The isolation requirements for privies shall comply with Section 4.a.4. for absorption systems.

c. Soil Exploration. Soil exploration to a minimum depth of four (4) feet below the bottom of the proposed vault shall be made to provide information on subsoil condition.

#### d. Groundwater and Bedrock Separation.

(1) The depth to seasonally high groundwater and bedrock or impermeable soil shall be at least four (4) feet from the bottom of an unlined vault.

(2) The depth to seasonally high groundwater from the bottom of a water tight vault shall be sufficient to prevent floatation of the empty vault.

e. Sizing. Vaults shall have a minimum capacity of five hundred (500) gallons per riser and shall be a minimum of 4.5 feet deep.

f. Construction.

(1) The vault shall be constructed and installed to resist breakage and damage imposed by frost heave, uplift pressures from a fluctuating water table, loads imposed by the outhouse building and soils, and damage that may be caused by vandalism or rough cleaning procedures. The vault shall be constructed to prevent accessibility to the public or to disease transmitting vectors.

(2) Materials used for vault construction shall be resistant to alkali attack, hydrogen sulfide gasses, and other corrosive elements associated with decomposing waste.

(3) A clean-out manhole shall be installed and shall have a minimum opening of twenty (20) inches in the least dimension. The manhole shall be located outside of the outhouse building and be equipped with a tight-fitting secure cover.

(4) The vault shall be ventilated with a riser to a point outside and above the outhouse building. The outhouse building shall have a set of vents installed near the floor on the opposite sides of the building and a roof vent that has a rain cap. All vents shall be screened.

g. Vault Additives. No chemical or biological additive shall be placed in the vault that may adversely effect the operation of sewage treatment facility where the vault waste will ultimately be disposed or that may adversely impact the quality of the groundwater as specified in Chapter VIII, "Quality Standards for Groundwater of Wyoming."

#### Section 14. Chemical Toilets.

a. General requirements. Chemical toilets shall only be used in the containment of body wastes. These requirements apply only to the use of chemical toilets for permanent structures.

b. Gray water. If indoor plumbing is installed, a separate gray water disposal is required and shall meet the requirements of Section 3 through 12. The minimum design flows for gray water shall be obtained from Table 1 with a reduction of thirty-three percent (33%) allowed for the elimination of blackwater wastes.

c. Disposal. All chemical toilet wastes shall be disposed of at an approved wastewater facility. A letter of verification from the receiving agency, denoting acceptance of the

wastewater generated shall be submitted with the plans. These wastes shall not be discharged into a soil absorption system.

d. Construction. Chemical toilets shall be constructed and installed to resist breakage or damage from routine usage. Outdoor chemical toilets shall be adequately stabilized and secured to prevent overturning due to winds, storms, and possible disturbances around construction areas. Materials used shall be resistant to the sewage wastes and the chemicals encountered. The holding compartment of the toilet shall be constructed to prevent accessibility to the public and to disease transmitting vectors.

e. Additives. No chemical or biological additive shall be placed in the 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 as specified in Chapter VIII, "Quality Standards for Groundwater for Wyoming."

Section 15. Small Non-discharging Waste Stabilization Ponds.

Refer to Wyoming Department of Environmental Quality design criteria.

## APPENDIX A

### Percolation Test Procedure

a. Location. The percolation test holes shall be spaced uniformly over the proposed absorption field site. A minimum of three (3) test holes are required.

b. Preparation. A four (4) inch to twelve (12) inch hole shall be dug or bored to the proposed depth of the absorption field. The walls shall be vertical. To expose a natural soil surface, the sides and bottom shall be scraped with a sharp pointed instrument and the loose material shall be removed from the instrument and the loose material shall be removed from the hole. Coarse sand or gravel shall be placed in the bottom hole to prevent it from scouring and sealing.

c. Presoaking. The purpose of presoaking is to have the water conditions in the soil reach a stable condition similar to that which exists during continual wastewater application. The minimum time of presoaking varies with soil conditions but must be sufficiently long so that the water seeps away at a constant rate. The following presoaking instructions are usually sufficient to obtain a constant rate.

1. In sandy soils, place twelve (12) inches of water in the hole and allow it to seep away. Fill the hole again with twelve (12) inches of water and if the water seeps away in ten (10) minutes or less, it indicates that the soil is excessively permeable and requirements in Section 4.c. of these regulations shall be followed. If the water remains after ten (10) minutes, additional saturation is necessary. Refer to Section C.2.

2. In other soils, maintain twelve (12) inches of water in the hole for at least four (4) hours. After the four (4) hours of water contact, allow the soil to swell for twelve (12) hours before starting the percolation rate measurement as stated in Section d.

d. Percolation rate measurement. The water level should be adjusted to six (6) inches above the gravel initially and after each time interval measurement when necessary.

1. In other soils, establish a fixed reference point and measure the drop in water level at thirty (30) minute intervals. The water level drop should be measured to the nearest 1/8 of an inch. The test may be terminated when the water drop is constant for two (2) consecutive measurements.

2. The percolation rate for each hole is calculated as follows:

If only three (3) to five (5) percolation tests are performed, the design percolation rate for the absorption system is the slowest rate from all the holes tested. If six (6) or more percolation tests are performed, the design percolation rate for the absorption system is the average of all the holes tested.

Adv. - Wyo Tribune Eagle  
Pine Bluffs Post

February 21, 2000

February 24, 2000

Public Hearing: April 18, 2000

Presented, read, and adopted by majority vote of the Board of County  
Commissioners in accordance with law, this 2<sup>nd</sup> day of May, 2000.

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\_\_\_\_\_  
Jack Knudson  
Chairman, Laramie County Commissioners

Date May 3, 2000

ATTEST:

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Debra K. Lathrop, Laramie County Clerk

Date May 3, 2000

\* No signatures will be placed on the website. Official copy is on file with the Laramie County  
Clerks Office.