



## Certification Page Regular and Emergency Rules

Revised May 2014

**Emergency Rules** *(After completing all of Sections 1 and 2, proceed to Section 5 below)*

**Regular Rules**

<b>1. General Information</b>			
a. Agency/Board Name Environmental Quality			
b. Agency/Board Address 200 W 17th St		c. City Cheyenne	d. Zip Code 82002
e. Name of Contact Person William Tillman		f. Contact Telephone Number 307-777-6941	
g. Contact Email Address william.tillman@wyo.gov		h. Adoption Date 6/15/16	
i. Program Water Quality			
<b>2. Rule Type and Information:</b> For each chapter listed, indicate if the rule is New, Amended, or Repealed.			
If "New," provide the Enrolled Act numbers and years enacted:			
c. Provide the Chapter Number, Short Title, and Rule Type of Each Chapter being Created/Amended/Repealed <i>(Please use the Additional Rule Information form for more than 10 chapters, and attach it to this certification)</i>			
Chapter Number: 15	Chapter Name: STANDARDS FOR THE USE OR SURFACE DISPOSAL OF BIOSOLIDS	<input type="checkbox"/> New <input type="checkbox"/> Amended <input checked="" type="checkbox"/> Repealed	
Chapter Number: 25	Chapter Name: SEPTIC TANK AND/OR SOIL ABSORPTION SYSTEMS AND OTHER SMALL WASTEWATER SYSTEMS	<input type="checkbox"/> New <input checked="" type="checkbox"/> Amended <input type="checkbox"/> Repealed	
Chapter Number:	Chapter Name:	<input type="checkbox"/> New <input type="checkbox"/> Amended <input type="checkbox"/> Repealed	
Chapter Number:	Chapter Name:	<input type="checkbox"/> New <input type="checkbox"/> Amended <input type="checkbox"/> Repealed	
Chapter Number:	Chapter Name:	<input type="checkbox"/> New <input type="checkbox"/> Amended <input type="checkbox"/> Repealed	
Chapter Number:	Chapter Name:	<input type="checkbox"/> New <input type="checkbox"/> Amended <input type="checkbox"/> Repealed	
Chapter Number:	Chapter Name:	<input type="checkbox"/> New <input type="checkbox"/> Amended <input type="checkbox"/> Repealed	
Chapter Number:	Chapter Name:	<input type="checkbox"/> New <input type="checkbox"/> Amended <input type="checkbox"/> Repealed	
Chapter Number:	Chapter Name:	<input type="checkbox"/> New <input type="checkbox"/> Amended <input type="checkbox"/> Repealed	
Chapter Number:	Chapter Name:	<input type="checkbox"/> New <input type="checkbox"/> Amended <input type="checkbox"/> Repealed	
d. <input checked="" type="checkbox"/> The Statement of Reasons is attached to this certification.			
e. If applicable, describe the <b>emergency</b> which requires promulgation of these rules without providing notice or an opportunity for a public hearing:			

### 3. State Government Notice of Intended Rulemaking

a. Date on which the Notice of Intent containing all of the information required by W.S. 16-3-103(a) was filed with the Secretary of State: April 8, 2016

b. Date on which the Notice of Intent and proposed rules in strike and underscore format and a clean copy were provided to the Legislative Service Office: April 8, 2016

c. Date on which the Notice of Intent and proposed rules in strike and underscore format and a clean copy were provided to the Attorney General: April 8, 2016

### 4. Public Notice of Intended Rulemaking

a. Notice was mailed 45 days in advance to all persons who made a timely request for advance notice.  Yes  No  N/A

b. A public hearing was held on the proposed rules.  Yes  No

If "Yes:"	Date: June 15, 2016	Time: 9:00 am	City: Casper, Wyoming	Location: Casper College, Strausner Hall, Room SH 217, 125 College Drive
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### 5. Final Filing of Rules

a. Date on which the Certification Page with original signatures and final rules were sent to the Attorney General's Office for the Governor's signature: June 22, 2016

b. Date on which final rules were sent to the Legislative Service Office: June 22, 2016

c. Date on which a PDF of the final rules was electronically sent to the Secretary of State: June 22, 2016

### 6. Agency/Board Certification

The undersigned certifies that the foregoing information is correct.

Signature of Authorized Individual  
(Blue ink as per Rules on Rules, Section 7)



Printed Name of Signatory

Todd Parfitt

Signatory Title

Director, Department of Environmental Quality

Date of Signature

June 22, 2016

### 7. Governor's Certification

I have reviewed these rules and determined that they:

1. Are within the scope of the statutory authority delegated to the adopting agency;
2. Appear to be within the scope of the legislative purpose of the statutory authority; and, if emergency rules,
3. Are necessary and that I concur in the finding that they are an emergency.

Therefore, I approve the same.

Governor's Signature

Date of Signature

**Attorney General:** 1. Statement of Reasons; 2. Original Certification Page; 3. Summary of Comments (regular rules); 4. Hard copy of rules: clean and strike/underscore; and 5. Memo to Governor documenting emergency (for emergency rules only).

**LSO:** 1. Statement of Reasons; 2. Copy of Certification Page; 3. Summary of Comments (regular rules); 4. Hard copy of rules: clean and strike/underscore; 5. Electronic copy of rules (PDFs) emailed to [Criss.Carlson@wyoleg.gov](mailto:Criss.Carlson@wyoleg.gov): clean and strike/underscore; and 6. Memo to Governor documenting emergency (for emergency rules only).

**SOS:** 1. PDF of clean copy of rules; and 2. Hard copy of Certification Page as delivered by the AG.

**BEFORE THE  
ENVIRONMENTAL QUALITY COUNCIL  
STATE OF WYOMING**

<b>IN THE MATTER OF REVISIONS TO</b>	)	
<b>WATER QUALITY RULES AND</b>	)	<b>STATEMENT OF</b>
<b>REGULATIONS, CHAPTER 25</b>	)	<b>PRINCIPAL REASONS</b>
<b>SEPTIC TANKS, SOIL ABSORPTION</b>	)	<b>FOR ADOPTION</b>
<b>SYSTEMS, AND OTHER SMALL</b>	)	
<b>WASTEWATER SYSTEMS; AND CHAPTER</b>	)	
<b>15, STANDARDS FOR THE USE OR</b>	)	
<b>SURFACE DISPOSAL OF BIOSOLIDS</b>	)	

**INTRODUCTION**

The Environmental Quality Council, pursuant to the authority vested in it by the Wyoming Statutes 35-11-112 (a)(i) has adopted revisions to the following chapters and sections of the Wyoming Water Quality Rules and Regulations: Chapter 15, Standards for the Use or Surface Disposal of Biosolids; and Chapter 25, Septic Tanks, Soil Absorption Systems, and other Small Wastewater Systems.

Section 35-11-302 (a) of the Environmental Quality Act (Act) states that the administrator, after receiving public comment and after consultation with the advisory board, shall recommend to the director rules, regulations, standards and permit systems to promote the purposes of this act. Such rules, regulations, standards and permit systems shall prescribe:

(iii) Standards for the issuance of permits for construction, installation, modification or operation of any public water supply and sewerage system, subdivision water supply, treatment works, disposal system or other facility, capable of causing or contributing to pollution.

(vi) In recommending any standards, rules, regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved including:

(A) The character and degree of injury to or interference with the health and well being of the people, animals, wildlife, aquatic life and plant life affected;

(B) The social and economic value of the source of pollution;

(C) The priority of location in the area involved;

(D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution; and

(E) The effect upon the environment.

## SUMMARY OF REVISIONS TO CHAPTER 15

Appendix C of Chapter 15, which was entitled General Statewide Permit for Land Application of Domestic Septage in Remote Areas, was relocated to a newly created Appendix B in Chapter 25. The title of the appendix was shortened to Land Application of Domestic Septage in Remote Areas. The remainder of Chapter 15 was repealed and the chapter is reserved. The repealed provisions are unnecessary as the U.S. Environmental Protection Agency (EPA) is currently the permitting authority for the use or surface disposal of biosolids in Wyoming. In cases where EPA opts to not issue a permit, the Water Quality Division will require a permit application to be submitted in accordance with Chapter 3 of the Water Quality Rules and Regulations. Standards applicable to those rare situations where EPA is not the lead permitting authority for surface disposal of biosolids are located in Chapter 11, Part E.

## SUMMARY OF REVISIONS TO CHAPTER 25

Chapter 25 was renamed from Septic Tank and/or Soil Absorption Systems and other Small Wastewater Systems to Septic Tanks, Soil Absorption Systems, and Other Small Wastewater Systems. The chapter was reorganized by section to clarify and update small wastewater system requirements, as the regulations for small wastewater systems in Wyoming have not been significantly updated since they were first promulgated as part of Water Quality Rules and Regulations Chapter 11 in 1984. Chapter 25 was created in July 2012 when Part D of Chapter 11 was moved, without editing, to Chapter 25.

**Section 1.** Section 1 was renamed from *General* to *Authority*. The language previously contained in Section 1 was shifted to Section 2.

A description of the Water Quality Division's statutory authority to promulgate the rule was added to Section 1 since a summary of its promulgation authority was not included in Chapter 25 when it was created in July 2012.

**Section 2.** Section 2 was renamed from *Definitions* to *Objective*. The definitions for "building sewer" and "domestic sewage" previously contained in Section 2 were moved to Section 4 and edited as described below in Section 4. The remaining definitions previously located in Section 2 were removed as the terms are no longer referenced in the chapter.

The language previously located in Section 1 was moved to Section 2. This language was edited to reflect consistency in terminology with W.S. 35-11-103(c)(ix) and to specify the systems covered under the chapter. Language previously contained in Section 7(b) was moved to Section 2 and enhanced to clarify which types of systems will require the stamp of a Wyoming registered professional engineer. Language was also added to explain that the standards contained in Chapter 25 pertain to permits required under Water Quality Rules and Regulations Chapter 3 and Chapter 27.

**Section 3.** Section 3 was renamed from *Design Flows* to *Timing of Compliance with These Regulations*. The design flow requirements were moved from Section 3 to Section 5, and edited as described in Section 5 below.

New language was added concerning the timing of compliance for permitted systems.

**Section 4.** Section 4 was renamed from *Isolation* to *Definitions*. The isolation requirements previously located in Section 4 Table 2, 4(b), and 4(c) were moved to Section 7. Edits to these passages are described in Section 7 below.

The requirements previously located at Section 4(a)(ii) and Table 3 were moved to Section 19 and edited as described in Section 19 below.

The requirements previously located at Section 4(a) and 4(a)(i) were removed due to redundancy.

Of the definitions previously contained in Section 2, the existing definition for “building sewer” was retained. The previous definition for “domestic sewage” was rephrased to “domestic septage.” Obsolete terms were removed. New definitions were added for terms that have been newly added to the chapter.

**Section 5.** Section 5 was renamed from *Site Suitability* to *Design Flows*.

The site suitability requirements previously contained in Section 5(a), 5(b)(ii), 5(c)(ii), 5(e)(i), 5(e)(ii) and the previously untitled Percolation Rate/Maximum Slope table were moved to Section 7 and edited as described in Section 7 below.

Section 5(d) was moved to Section 8 and was edited as described in Section 8 below.

The requirements previously contained in section 5(b), 5(b)(i), 5(c), 5(c)(i), 5(c)(ii), and 5(c)(iii) were removed due to redundancy.

Figures 1 through 6 were removed from the chapter as the division plans to place them in a future guidance document.

The design flows which were moved from Section 3 to Section 5 were edited to more clearly differentiate between residential and non-residential facilities and to update the flow rates with consideration of current water use efficiency and historical data.

**Section 6.** Section 6 was renamed from *Building Sewer Pipes* to *Systems Not Specifically Covered by This Rule*.

The building sewer pipe requirements previously located at Section 6(b), 6(b)(i), 6(b)(ii), 6(b)(iii), 6(b)(v), and 6(b)(vi) were moved to Section 9 and edited as described in Section 9 below.

The passage previously located at Section 6(a) was removed due to obsolescence.

The passage previously located at Section 6(b)(iv) was removed due to redundancy.



New language was added to Section 6(a), 6(b), 6(b)(i), 6(b)(ii), 6(b)(iii), 6(b)(iv), and 6(c) that describes how new technologies and systems not specifically covered by the rule may be constructed and operated in compliance with the chapter.

**Section 7.** Section 7 was renamed from *Soil Absorption System Sizing* to *Site Suitability*. The soil absorption system sizing requirements previously located at Section 7(a) and Figure 7 were moved to Section 8 and edited as described in Section 8 below. Section 7(b) was removed due to redundancy.

Requirements previously located at Sections 4, 5, and 10 were moved to Section 7 and edited as follows:

The location requirements previously contained in Section 4(c) were moved to Section 7(a). Additional language describing location suitability was added for clarification.

Replacement area requirements previously contained in Section 10(a)(i) were moved to Section 7(b). The language was edited for clarity.

Requirements formerly located at Section 5(c)(i) and 5(c)(ii) were reconfigured and moved to Section 7(c) and 7(d). These passages were edited for clarity.

The passage previously located at Section 5(e), was moved to 7(e) and was clarified.

The passage previously located at Section 5(e)(i) was moved to 7(e)(i) and was simplified.

The untitled table previously located in Section 5 was given the title *Table 3. Slope and Percolation Rates for Absorption Systems* and was clarified.

Subparagraphs (ii) and (iii) were added to further clarify installation and placement provisions to prevent slope instability or down slope seepage.

The passage previously located at Section 5(e)(ii) was moved to Section 7(e)(iv) and was simplified.

The passages located at Section 7(f) and (7(f)(i) were added for clarity.

The requirements previously located in Section 5(a) were moved to Section 7(f)(ii) and were clarified.

The requirements previously located at Section 5(b)(ii) were moved to Section 7(f)(iii) and were clarified.

Isolation distance requirements previously contained in Section 4, in Table 2 were moved to Section 7(g) and renamed *Table 4 Minimum Horizontal Setbacks for Domestic Wastewater*.

Setback distances were added for public water supply wells in order to protect public water supplies.

The paragraph formerly located at 4(b) was moved to subscript 1 for new Table 4, and was then edited to correct cross references and for clarity.

A new passage was added for Table 4, Subscript 2 to explain requirements for systems that discharge to the same aquifer that supplies a public water supply well.

**Section 8.** Section 8 was renamed from *Pretreatment* to *Soil Absorption System Sizing*. The pretreatment requirements were moved to Section 10 and were edited as described in Section 10 below.

The requirements previously located at Section 7(a) were moved to Section 8(a) and were updated to make the soil absorption system sizing calculations easier to understand.

The graph previously titled *Figure 7*, previously located in Section 7, was converted to an easier to read table format and was renamed *Table 5. Rates of Wastewater Application for Soil Absorption Systems Areas* with the percolation rates shown in ranges.

Calculations were added to Section 7(b)(i), 7(b)(ii), 7(b)(iii), and 7(b)(iv) to specify how to calculate the sizing for different trench or bed systems.

Language previously contained in subsection 5(d) was relocated to subsection 8(c) and edited to correct format inconsistencies and for clarity.

**Section 9.** Section 9 was renamed from *Dosing Systems Following Septic Tanks* to *Building Sewer Pipes*.

The requirements previously located at Section 9(a)(i), Table 4, and 9(a)(ii)(C) were moved to Section 10 and edited as described in Section 10 below.

The requirements previously located at Section 9(a), 9(a)(ii), Table 5, 9(a)(ii)(A), 9(a)(ii)(B), 9(a)(iii), 9(b), and 9(c) were removed as the passages were either obsolete or redundant.

The passage previously located at Section 6(b) was moved to Section 9. The date of the International Plumbing Code was updated and the passage was clarified.

The passage previously located at Section 6(b)(i) was moved to Section 9(a) and was updated to allow ASTM D-3034 SDR 35 plastic pipe.

The passage previously located at Section 6(b)(ii) was moved to Section 9(b) and was edited for clarity.

Section 9(c) was added to include requirements that will help prevent system failure.

The passage previously located at Section 6(b)(iii) was moved to Section 9(d) and was edited for clarity.

The passage previously located at Section 6(b)(v) was moved to Section 9(e) and was edited to prevent system failure.

The passage previously located at Section 6(b)(vi) was split and moved to Sections 9(f) and 9(g). The passage now located at Section 9(f) was edited to remove redundant language. The passage now located at Section 9(g) was edited for clarity.

**Section 10.** Section 10 was renamed from *Subsurface Treatment and Disposal Systems to Septic Tanks and Other Treatment Tanks*.

The requirements previously contained in Section 10 were moved and edited as described in Section 7 (above) and in Sections 11, 12, and 14 (below):

Section 10(a) was relocated to Section 12(a).

Section 10(a)(i) was relocated to Section 7(b).

Section 10(a)(iii) was relocated to Section 7(a).

Section 10(a)(iv) was split and relocated to Section 12(a)(vi)(B) and Section 12(a)(vi)(D).

Section 10 (a)(v) was relocated to Section 12(a)(vi)(A).

Section 10(a)(vii) was moved to Section 11(a)(i).

Section 10 (a)(viii) was relocated to Section 12(a)(vi)(C).

Section 10 (a)(ix) was relocated to Section 12(a)(iv).

Section 10 (a)(x) was relocated to Section 12(a)(vii)(A).

Section 10 (c), 10(c)(i), 10(c)(i)(A), 10(c)(i)(B) and 10(c)(i)(C) were relocated to Section 14.

Section 10 (d) was relocated to Section 12(a)(vi)(F).

Section 10 (e) was moved to Section 12(a)(x).

Section 10 (e)(i) was moved to Section 12(a)(x)(A).

Section 10 (e)(ii) was moved to Section 12(a)(x)(B).

Section 10 (e)(iii) was moved to Section 12(a)(x)(C).

Section 10(f) was moved to Section 12(a)(vii).

Sections 10(a)(ii) and 10(a)(vi) were removed as the requirements are redundant to other requirements in the chapter.

Section 10 (b) and 10(c)(iv) were removed as the requirements are no longer necessary.



The language previously located in Section 9 was moved to Section 10, was enhanced with language previously located in Sections 8 and 12, and was edited in the following manner:

Section 8(a) was moved to Section 10(a).

Section 8(a)(i) was moved to Section 10(a)(i) and was updated to include current materials. In order to prevent system failures, a passage was added to explain that the division or the delegated small wastewater program reviewing the application would review the prefabricated septic tank design for compliance with applicable construction standards.

The passages located at Section 10(a)(ii)(A), 10(a)(ii)(B), and 10(a)(ii)(C) were added to prevent tank damage or failure.

The passage previously located at Section 8(a)(ii) was moved to Section 10(a)(iii).

Section 8(a)(ii)(A) was moved to Section 10(a)(iii)(A) and was edited for clarity. The capacity of 250 gallons per day was reduced to 150 gallons due to trends in reduced water usage.

Section 8(a)(ii)(B) was moved to Section 10(a)(iii)(B) and was edited for clarity. The retention time was changed from 36 to 48 hours for consistency with recommendations found in EPA's *Onsite Wastewater Treatment Systems Manual (2002)*.

Section 8(a)(iii) was moved to Section 10(a)(iv).

Section 8(a)(iii)(A) was split and moved to Section 10(a)(iv)(A), 10(a)(iv)(C) and 10(a)(iv)(E)(IV). Section 10(a)(iv)(A) was edited for clarity. Section 10(a)(iv)(C) was edited to change the minimum liquid depth from four feet to three feet for consistency with EPA's *Onsite Wastewater Treatment Systems Manual (2002)*.

Section 8(a)(iii)(B) was split and moved to Section 10(a)(iv)(B) and 10(a)(iv)(D). The passages were edited for clarity and to remove redundant language.

Section 8(a)(iii)(A) was moved to Section 10(a)(iv)(E) and was edited for clarity.

Sections 10(a)(iv)(E)(I), 10(a)(iv)(E)(II), 10(a)(iv)(E)(III) were added for consistency with EPA's *Onsite Wastewater Treatment Systems Manual (2002)*. The specifications were adjusted from the EPA recommendations and were blended with ASTM 1227. Both the EPA recommendations and the ASTM standards are rigorously developed, scientifically defensible standards. WDEQ/WQD blended the two sources together because the approved tank manufacturers indicated they would be unable to comply solely with the EPA recommendations without incurring significant financial burden due to costly redesigns of their concrete forms.

Section 10(a)(iv)(E)(IV) is a combination of a passage formerly located at Section 8(a)(iii)(A) and a passage formerly located at Section 8(a)(iii)(C). The specification formerly located at 8(a)(iii)(A) was adjusted from three inches to two inches for consistency with EPA's *Onsite Wastewater Treatment Systems Manual (2002)*. The newly combined subdivision was also edited for clarity.

Section 10(a)(v), 10(a)(v)(A), and 10(a)(v)(B) were added to clarify requirements for tanks placed in series, in order to achieve effective system treatment and to prevent system failure.

Section 8(a)(iv) was split and moved to Section 10(a)(vi) and 10(a)(vi)(A). The passage now located at Section 10(a)(vi) was edited for clarity. The passage was also edited to remove the cleanout requirements that would be prohibitive to already approved designs. The passage now located at 10(a)(vi)(A) was edited for clarity.

Section 10(a)(vi)(B) was added to ensure the riser would be easily accessible, but protective of the safety of children.

Section 10(vii) was added to specify that land application of domestic septage will be permitted as permit by rule, instead of by individual permit or general permit. Land application of domestic septage was formerly regulated under WQRR Chapter 15, Appendix C, but has been moved to Chapter 25, Appendix B. This new subsection cross references the new Appendix B.

Section 9(a) was moved to Section 10(b) and renamed *Dosing Tanks* for clarity.

Section 9(a)(i) was moved to Section 10(b)(i) and was edited for clarity.

Section 9(b), Table 4, was reorganized and renamed *Table 6. Dosing Tank Volume (gallons)*.

Section 9(a)(ii)(C) was moved to Section 10(b)(ii) and was simplified.

Section 10(b)(iii) and 10(b)(iv) were added to ensure effective operation of the system.

Section 12, *Holding Tanks*, was moved to Section 10(c).

Section 10(c)(i) was added to maintain consistency with requirements elsewhere in the chapter.

Section 12(a) was split. Part of the passage moved to Section 10(c)(ii) and was edited to remove inconsistent language and redundancies. The remaining passage was moved to Section 10(c)(iv).

Section 12(c) was moved to Section 10(c)(iii) and was edited to ensure pump truck access and edited to ensure tanks will not float due to high groundwater.

Section 12(e) was moved to Section 10(c)(v) and was edited for clarity.

Section 10(c)(vi) was added to direct applicants to the division's website for the design package related to holding tanks.

Section 8(c) was moved to Section 10(d) and was edited for clarity.

Section 8(c)(i) was moved to Section 10(d)(i) and was edited for clarity.

Section 8(c)(ii) was moved to Section 10(d)(ii) and was edited to prevent septic system failure.

Section 10(d)(iii) and 10(d)(iv) were added to prevent septic system failure.

Section 8(c)(vi) was moved to Section 10(d)(v) and was edited for clarity.

Section 8(c)(iv) was moved to Section 10(d)(vi) and was edited to ensure access for cleaning.

Section 10(d)(vii) was added to ensure ease of maintenance.

Section 10(d)(viii) was added to prevent odor issues at the site of the grease interceptor, to prevent clogging of the system, and to prevent bypassing of the unit.

Section 10(d)(ix) was added to ensure the flow moves downhill, away from the facility.

Section 10(d)(x) was added to ensure grease and solids remain in the first compartment so that only liquids exit the second compartment. For systems without a partition to the top of the dividing wall, the extra baffle length ensures that liquid is drawn from the middle of the compartment, avoiding floating or settled solids that may have moved to the second compartment.

Section 10(d)(xi) was added to ensure the floating solids avoid transportation to the next compartment.

Section 10(d)(xii) was added to ensure regular maintenance of the system.

Section 10(d)(xiii) was added to ensure that the system is installed according to manufacturer directions and allows WDEQ/WQD to review the installation instructions with the application.

The sizing tables previously located in Section 8, underneath Section 8(c)(iii), were split out by industry for clarity, the cross references were updated, and the new sizing tables were moved to Section 10(d)(xiv) and Section 10(e)(i)(A)(IV).

Section 10(e) and 10(e)(i) were added to provide an area for specific requirements for interceptors such as laundries and car washes, as the previous rule only mentioned these facilities in the sizing tables.

Section 10(e)(i)(A) is a placeholder for the laundry requirements.

Section 10(e)(i)(A)(I) ensures the lint and silt are prevented from entering the septic system.

Section 10(e)(i)(A)(II) ensures the system is operated under ideal conditions.

Section 10(e)(i)(A)(III) ensures regular maintenance of the system.

Section 10(e)(i)(A)(IV) is based on the previously combined tables formerly located in 8(c)(iii). The table equation has been edited for clarity.

Section 10(e)(i)(B) is a placeholder for car wash requirements.

Section 10(e)(i)(B)(I) was added to ensure adequate interceptor sizing.

Section 10(e)(i)(B)(II) was added to prevent stormwater runoff.

Section 10(e)(i)(B)(III) was added for consistency with Water Quality Rules and Regulations Chapter 27, requirements for class 5C3 facilities.

Subsection (f) and accompanying paragraphs (i)-(iii) were added to provide a procedure for the abandonment of septic and holding tanks.

**Section 11.** Section 11 was renamed from *Evapotranspiration Beds* to *Effluent Distribution Devices*. The language concerning evapotranspiration beds from Section 11 was removed as these types of systems will be reviewed through Section 5, *Systems not Specifically Covered by these Standards*.

The introductory paragraph of Section 11 was added to explain the purpose of distribution boxes, flow divider tees, and drop boxes.

The requirements for distribution boxes that were previously located in Section 10(a)(vii) were moved to Section 11(a)(i) and were edited for clarity.

Section 11(a)(ii), 11(a)(iii), 11(a)(iv), and 11(a)(v) were added to ensure proper installation, maintenance, and operation of the distribution box.

Section 11(b) was added to provide an alternative to distribution boxes.

Section 11(c) was added to note that the requirements in Section 11(a)(i) through 11(a)(v) are applicable to drop boxes, to ensure proper installation, maintenance, and operation.

**Section 12.** Section 12 was renamed from *Holding Tanks* to *Standard Soil Absorption Systems*. The holding tank requirements were either removed or relocated to Section 10, as described in Section 10 above.

The passage formerly located at Section 10(a) was moved to Section 12(a) and was edited for clarity.

Section 12(a)(i) was added to outline that the expectation of the system is to effectively filter effluent and retain it underground. The passage also explains the basic process of effluent treatment.

The passage formerly located at Section 10(a)(ii) was moved to Section 12(a)(ii) and was edited for clarity. This passage ensures adequate treatment once the system is operational.

Section 12(a)(iii) was added to ensure adequate treatment once the system is operational.

The passage formerly located at Section 10(a)(ix) was moved to Section 12(a)(iv). The passage was edited for clarity and to specify the maximum soil cover depth is limited to five feet in order to encourage shallow soil absorption system depths.

Section 10(a)(v) was added to ensure proper installation of the system and prevention of unnecessary compaction which could adversely affect system performance.

Section 10(a)(vi) was added to outline that standard trenches are subject to the requirements located at 10(a)(vi)(A) through 10(a)(vi)(F).

Section 10(a)(v) was relocated to Section 12(a)(vi)(A) and was changed to state the industry standards for clarity.

Section 10(a)(iv) was split and relocated to Section 12(a)(vi)(B) and Section 12(a)(vi)(D). Section 12(a)(vi)(B) was edited for clarity and to prevent installation of inappropriate materials.

Section 10(a)(viii) was relocated to Section 12(a)(vi)(C) and was edited to specify materials commonly used.

Section 12(a)(vi)(D), previously located at Section 10(a)(iv), was edited for clarity.

Section 12(a)(vi)(E) was added to prevent over excavation which can reduce treatment conditions.

Section 10(d) was relocated to Section 12(a)(vi)(F). The passage was edited for clarity and also to include reserve area allowances.

Section 10(f) was relocated to Section 12(a)(vii) and was edited to redirect applicants to Section 12(vi)(A) through 12(vi)(D) and to explain that standard beds are also subject to the requirements located at Section 12(vii)(A) through Section 12(vii)(D).

Section 10(a)(x) was relocated to Section 12(a)(vii)(A) and was edited for clarity, to specify the allowable percolation rate range, and to limit the allowable slope.

Section 12(a)(vii)(B) was added to ensure adequate treatment of the system.

Section 12(a)(vii)(C) was added to specify a special requirement for systems using gravity distribution, in order to ensure adequate treatment of the system.

Section 12(a)(vii)(D) was added to prevent unnecessary compaction to ensure adequate system treatment.

Section 12(a)(viii) through 12(a)(viii)(F) were added to include specific requirements for popular chamber systems.

Section 12(a)(ix) was added to include requirements for chambered bed systems.

Section 10(e) was moved to Section 12(a)(x) and was edited for clarity.

Section 10(e)(i) was moved to Section 12, subparagraph (a)(x)(A). The title “Separation” was removed as it is unnecessary language. The undisturbed soil maintained between adjacent walls was changed from three feet to six feet in order to prevent short circuiting and to allow for proper treatment.

Section 10(e)(ii) was moved to Section 12(a)(x)(B) and was edited for simplicity.

Section 10(e)(iii) was moved to Section 12(a)(x)(C) and was edited for simplicity.

Section 12(b) was added to direct applicants to the division’s website for the design package related to standard soil absorption systems.

**Section 13.** Section 13, *Privies* was renamed to *Pressure Distribution Systems*. The requirements for privies were moved to Section 15.

New requirements were added at Section 13(a) through Section 13(a)(v) for pressure distribution systems as these systems have become a commonly used alternative in settings where traditional beds would not be conducive to the soil conditions.

A paragraph was added at Section 13(b) to direct applicants to the division’s website for the design package related to pressure distribution systems.

**Section 14.** Section 14 was renamed from *Chemical Toilets* to *Sand Mound Systems*. The specifications concerning chemical toilets were removed due to limited permit issuance. Applications for chemical toilet permits will now be considered under the proposed revision to Section 5.

An introductory passage was added to explain the components of a sand mound system.

Section 14(a) was added to limit the site selection criteria for sand mound systems to areas with high groundwater levels, or areas having a bedrock or impervious clay layer of less than four feet below the bottom of the soil absorption system excavation, as the sand mound is used as an alternative for sites with these limiting factors.

Section 14(b), 14(b)(i), and 14(b)(ii) were added to specify the minimum vertical separation requirements and the allowable percolation rate range.

The language previously found in Section 10(c), was moved to Section 14(c) and was edited for clarity.

Section 10(c)(i) was moved to Section 14(c)(i) and was renamed to “Sand Layer” for clarity.

Section 14(c)(i)(A) was added to cross reference ASTM standard C-33.

Section 14(c)(i)(B) was added to ensure adequate treatment and to prevent system failure.

Section 14(c)(i)(C) was added to ensure adequate depth to high groundwater.

Section 14(c)(i)(C)(I) was added to specify a different depth for pressure distribution systems.

Section 14(c)(i)(D) was added to ensure proper installation.

Section 14(c)(i)(E) was added to ensure adequate treatment.

Section 10(c)(ii) was relocated to Section 14(c)(i)(F) and was edited for clarity.

Section 10(c)(i)(B) was relocated to Section 14(c)(i)(G) and was edited for clarity and to update the cross references.

Section 14(c)(ii) through Section 14(c)(ii)(D) were added to specify requirements for the aggregate bed in order to ensure proper installation and adequate treatment of the system.

Section 14(c)(iii) and Section 14(c)(iii)(A) were added to specify the construction and dimensional requirements for the soil cap in order to ensure proper installation and adequate treatment of the system.

Section 10(c)(iii) was relocated to Section 14(c)(iii)(B) and was edited to specify that the soil cap be at least six inches thick and that vegetation such as native grasses be planted in the cap soil. This ensures proper construction of the mound and helps to control erosion.

Section 14(d) was added to direct applicants to the division's website for the design package related to sand mound systems.

**Section 15.** Section 15 was renamed from *Small Non-discharging Waste Stabilization Ponds* to *Small Wastewater Lagoons*.

Section 15(a) was edited for clarity.

Section 15(a)(i) was edited to note that lagoons are only allowed in areas where the annual evaporation exceeds the annual precipitation. This ensures low odor and low vector attraction of the pond.

Section 15(a)(ii) was edited for clarity and to include a separation to the seasonal high groundwater level. This ensures groundwater protection.

Section 15(a)(iii) was added to include a restriction on construction within the 100 year floodplain in order to prevent catastrophic failure of the system.

Section 15(b) was moved to Section 15(b)(i). A new introduction was added at Section 15(b) for clarity. The passage previously located at 15(b) that was moved to Section 15(b)(i) was edited for clarity, edited to include a property line setback to protect adjacent properties, and edited to update cross references.

Section 15(b)(ii) was added to require the use of a septic tank in order to maintain consistency with the rest of the chapter. The lagoon is replacing the soil absorption system only-not the septic tank.



Section 15(b)(iii) was added to prevent receipt of surface runoff in order to maintain the effectiveness of the lagoon.

Section 15(b)(iv) was added to encourage even water depth across entire footprint of the lagoon in order to maintain effective treatment and to control odors.

Section 15(b)(v) was added to ensure proper evaporation to prevent odors and vector attraction.

Section 15(d) was moved to Section 15(b)(vii). The factor of 1.3 was removed to prevent oversizing. The descriptions were clarified for the remaining factors in the equation.

Section 15(e)(i) was moved to Section 15(b)(viii). The passage was clarified and the minimum top width of the top of the dike was reduced to four feet, to prevent oversizing.

Section 15(e)(iii) was moved to Section 15(b)(ix) and edited for clarity.

Section 15(d)(ii) was moved to Section 15(b)(x). The passage was edited for clarity and the freeboard was reduced from five feet to two feet, to encourage effective operation of the system.

Section 15(b)(xii) was added to maximize the available solids deposition area and to improve treatment.

Section 15(b)(xiii) was added to ensure access for maintenance.

Section 15(b)(xiv) was added to prevent entrance by livestock, pets, and humans.

Section 15(c) was added to direct applicants to the division's website for the design package related to small wastewater lagoons.

Section 15(c), 15(c)(i), 15(c)(ii), and 15(e) were removed due to redundancy.

**Section 16.** Section 16 was renamed from *Commercial/Industrial Wastes* to *Privies or Outhouses*. The commercial/industrial waste requirements were moved to new Section 19 and retitled *Commercial and Industrial Wastes and/or Wastes Greater Than 2000 Gallons per Day*. The requirements for privies that were previously located in Section 13, were moved to Section 16 and edited as follows:

A new introductory passage was added that explains that privies or outhouses are permitted under the permit-by-rule process. Previously, privies had been permitted under the general permit process.

A new passage was added which requires privies to be sealed, water tight vaults, in order to prevent unwanted movement of the stored wastewater.

Section 13(b) was moved to Section 16(a) and was edited for clarity and to update the cross reference.

Section 13(d)(ii) was moved to Section 16(b).

A new passage was added to Section 16(c) which specifies the minimum capacity to prevent under sizing of the vault.

Section 13(a)(i) was moved to Section 16(d). The passage was edited for clarity and to specify required components to prevent access by flies and rodents.

Section 13(f)(iv) was moved to Section 16(e) and was edited for clarity.

Section 16(f) was added to prevent catastrophic failure.

Section 16(g) was added to require contact and location information for the owner in order that WDEQ/WQD may keep a record of these types of systems.

Section 13(a), 13(a)(ii), 13(a)(iii), 13(c), 13(d), 13(d)(i), 13(e), 13(f), 13(f)(i), 13(f)(ii), 13(f)(iii), and 13(g) were removed. These passages are no longer necessary due to the permitting system change from general permit to permit-by-rule.

**Section 17.** Section 17, *Greywater Systems*, is a new section. These systems are permitted under the permit-by-rule process.

Section 17(a) was added as a place holder for operation requirements.

The prohibitions in Section 17(a)(i) through 17(a)(i)(D) were added as protections towards groundwater and surface water, and were added for consistency with the purpose of the chapter.

Section 17(a)(ii) was added as a cross reference to the odor regulations of Wyoming Air Quality Rules and Regulations Chapter 2, Section 11.

Section 17(a)(iii) was added to ensure proper operation of the system.

Sections 17(b) through 17(b)(ii) were added to ensure appropriate sizing of the system.

Sections 17(c) through 17(c)(iii) were added to prevent back flow and to prevent human contact with greywater.

Sections 17(d) through 17(d)(iii) were added to protect adjacent property owners, drinking water sources, and surface water sources.

Section 17(e) was added to require contact and location information for the owner in order that WDEQ/WQD may keep a record of these types of systems.

**Section 18.** Section 18, *Operation and Maintenance*, is a new section.

Sections 18(a) through 18(f) were added to ensure regular maintenance and proper operation of small wastewater systems.

**Section 19.** Section 19, *Commercial and Industrial Wastes and/or Domestic Wastes Greater than 2000 Gallons per Day*, is a new section.

Section 16(a) was relocated to Section 19(a) and was edited for clarity and to update cross references.

Section 16(b) was relocated to Section 19(b) and was edited for simplicity.

Section 16(c) was relocated to Section 19(c) and was edited for simplicity.

Section 16(d) was relocated to Section 19(d) and was edited for clarity and for consistency.

Section 4(a)(ii) was relocated to Section 19(e) and was edited for clarity.

Table 3, previously located in Section 6, was moved to Section 19 and retitled *Table 7. Minimum Horizontal Setbacks for Commercial and Industrial Wastes in Feet*. The table was edited to include setbacks for public water supply wells.

Section 4(a)(iii) was relocated to the footnote for Table 7 and was edited to correct the cross references.

Footnote 2 was added to Table 7 to further explain requirements for systems which discharge to the same aquifer that supplies a public water supply well, as the original rule did not have specific setbacks to protect public water supplies.

**Appendix A.** The subtitle *Percolation Test Procedure* was added to Appendix A and the instructions were simplified.

**Appendix B.** Appendix B, *Land Application of Septage*, is a new appendix. Chapter 15, Standards for the Use or Surface Disposal of Biosolids, Appendix C, General Statewide Permit for Land Application of Domestic Septage in Remote Areas was moved to Chapter 25, Small Wastewater Systems, Appendix B, as described above. The language in the appendix was then edited:

The introductory paragraph was edited to remove redundant language.

The definitions were removed as they are redundant to definitions elsewhere in Water Quality Rules and Regulations.

Section 1(a)(i) was edited for clarity and to prevent transport of domestic waste.

Section 1(a)(ii) was edited for clarity.

Section 1(a)(iii) was edited for clarity and to remove redundancies.

The passage containing "site restrictions" was previously unnumbered. Numbers were added according to Secretary of State Rules on Rules.

Section 1(b)(iii) was edited for clarity.

Section 1(b)(v) was edited for clarity. The passage describing lime stabilization was removed as the passage is unnecessary.

Section 1(b)(vi) was edited for clarity.

The passage containing "crop restrictions" was previously unnumbered. Numbers were added according to Secretary of State Rules on Rules.

Section 1(c)(i) was edited for clarity.

Section 1(c)(ii) was edited for clarity.

Section 1(c)(iii) was edited for clarity.

Section 1(c)(iv) was edited for clarity.

The passage containing "reporting requirements" was previously unnumbered. Numbers were added according to Secretary of State Rules on Rules.

Section 1(d)(i) was edited to correct the notification of the District Office to the District Engineer.

Section 1(d)(iii) was added to direct applicants to the division's website for the worksheet related to land application of domestic septage.

The forms section of "Reporting Requirements" and the site sketch graphic were removed.

The Council finds that these regulations are reasonable and necessary to accomplish the policy and purpose of the Act, as stated in W.S. 35-11-102, and that they have been promulgated in accordance with rulemaking provisions of the Wyoming Administrative Procedures Act.

Dated this 15 day of June, 2016.

MEGHAN LALLY  
Hearing Examiner – *Printed Name*  
Wyoming Environmental Quality Council

Meghan O Lally  
Hearing Examiner – *Signed Name*  
Wyoming Environmental Quality Council

CHAPTER 15

STANDARDS FOR THE USE OR  
SURFACE DISPOSAL OF BIOSOLIDS

REPEALED

~~STANDARDS FOR THE USE OR  
SURFACE DISPOSAL OF BIOSOLIDS~~

~~CHAPTER 15~~

~~PART A  
GENERAL PROVISIONS~~

~~\_\_\_\_\_~~  
~~\_\_\_\_\_~~ **Section 1. Authority and Purpose.**

~~\_\_\_\_\_~~ (a) ~~\_\_\_\_\_~~ This chapter is promulgated pursuant to the Environmental Quality Act. Specifically, W.S. 35-11-302 (a) (iii) requires the administrator to establish standards for the issuance of permits for disposal systems or other facilities capable of causing or contributing to pollution.

~~\_\_\_\_\_~~ (b) ~~\_\_\_\_\_~~ This chapter contains the minimum standards for the use or surface disposal of biosolids.

~~\_\_\_\_\_~~ (c) ~~\_\_\_\_\_~~ This chapter establishes standards, which consist of general requirements, pollutant limits, management practices, and operational standards, for the final use or surface disposal of biosolids generated during the treatment of domestic sewage in a treatment works. Standards are included in this part for biosolids applied to the land or placed on a surface disposal site. Also included in this chapter are pathogen and alternative vector attraction reduction requirements for biosolids applied to the land or placed on a surface disposal site.

~~\_\_\_\_\_~~ (d) ~~\_\_\_\_\_~~ In addition, the standards in this chapter include the frequency of monitoring, record keeping and reporting requirements when biosolids are applied to the land or placed on a surface disposal site.

~~\_\_\_\_\_~~ **Section 2. Applicability.**

~~\_\_\_\_\_~~ (a) ~~\_\_\_\_\_~~ This chapter applies to any person who prepares biosolids or applies biosolids to the land and to the owner/operator of a surface disposal site.

~~\_\_\_\_\_~~ (b) ~~\_\_\_\_\_~~ This chapter applies to biosolids applied to the land or placed on a surface disposal site.

~~\_\_\_\_\_~~ (c) ~~\_\_\_\_\_~~ This chapter applies to land where biosolids are applied and to surface disposal sites.

~~\_\_\_\_\_~~ (d) ~~\_\_\_\_\_~~ This chapter supersedes all of the provisions in Part E, Chapter 11, Wyoming Water Quality Rules and Regulations, Waste and Wastewater Land Application Facilities, which pertain to the land application or surface disposal of biosolids and domestic septage.

~~\_\_\_\_\_~~ **Section 3. General definitions.** The following definitions supplement those definitions contained in Section 35-11-103 of the Wyoming Environmental Quality Act.

~~\_\_\_\_\_ (a) \_\_\_\_\_ “Apply biosolids or biosolids applied to the land” means land application of biosolids.~~

~~\_\_\_\_\_ (b) \_\_\_\_\_ “Base flood” is a flood that has a one percent (1%) chance of occurring in any given year (i.e., a flood with a magnitude equaled once in 100 years).~~

~~\_\_\_\_\_ (c) \_\_\_\_\_ “Biosolids” are solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Biosolids include, but are not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from biosolids. Biosolids do not include ash generated during the firing of biosolids in a biosolids incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.~~

~~\_\_\_\_\_ (d) \_\_\_\_\_ “Biosolids management facility” is any treatment works, land application system or person who prepares or applies biosolids to the land and the owner/operator of a surface disposal site.~~

~~\_\_\_\_\_ (e) \_\_\_\_\_ “Cover crop” is a small grain crop, such as oats, wheat, or barley, not grown for harvest.~~

~~\_\_\_\_\_ (f) \_\_\_\_\_ “CWA” means the Clean Water Act, 333 U.S.C. 1251 et seq.~~

~~\_\_\_\_\_ (g) \_\_\_\_\_ “Domestic septage” is either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from a grease trap at a restaurant.~~

~~\_\_\_\_\_ (h) \_\_\_\_\_ “Domestic sewage” is waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works.~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ “Dry weight basis” means calculated on the basis of having been dried at 105 degrees Celsius until reaching a constant mass (i.e., essentially 100% solids content).~~

~~\_\_\_\_\_ (j) \_\_\_\_\_ “EPA” means the United States Environmental Protection Agency.~~

~~\_\_\_\_\_ (k) \_\_\_\_\_ “Feed crops” are crops produced primarily for consumption by animals.~~

~~\_\_\_\_\_ (l) \_\_\_\_\_ “Fiber crops” are crops, such as flax and cotton, that are not produced for consumption.~~

~~\_\_\_\_\_ (m) \_\_\_\_\_ “Food crops” are crops consumed by humans. These include, but are not limited to, fruits, vegetables, and tobacco.~~



——(n)——“Ground water” is subsurface water that fills available openings in rock or soil material such that they may be considered water saturated under hydrostatic pressure.

——(o)——“Industrial wastewater” is wastewater generated in a commercial or industrial process.

——(p)——“Municipality” means a city, town, borough, county, parish, district, association, or other public body (including an intermunicipal agency of two or more of the foregoing entities) created by or under state law; or a designated and approved management agency under section 208 of the CWA, as amended. The definition includes a special district created under state law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in section 201(e) of the CWA, as amended, that has as one of its principal responsibilities the treatment, transport, use, or surface disposal of biosolids.

——(q)——“Permitting authority” is the EPA and/or the Department of Environmental Quality, Water Quality Division.

——(r)——“Person who prepares biosolids” is either the person who generates biosolids during the treatment of domestic sewage in a treatment works or the person who derives a material from biosolids.

——(s)——“Place biosolids or biosolids placed” means disposal of biosolids on a surface disposal site.

——(t)——“Pollutant” is an organic substance, an inorganic substance, a combination of organic and inorganic substances, or a pathogenic organism that, after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food chain, could, on the basis of information available to the administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations in either organisms or offspring of the organisms.

——(u)——“Pollutant limit” is a numerical value that describes the amount of a pollutant allowed per unit amount of biosolids (e. g., milligrams per kilogram of total solids); the amount of a pollutant that can be applied to a unit area of land (e. g., kilograms per hectare); or the volume of a material that can be applied to a unit area of land (e.g., gallons per acre).

——(v)——“Runoff” is rainwater, leachate, or other liquid that drains overland on any part of a land surface and runs off of the land surface.

——(w)——“Store or storage of biosolids” is the placement of biosolids on land on which the biosolids remains for two years or less. This does not include the placement of biosolids on land for treatment.

~~(x) “Treat or treatment of biosolids” is the preparation of biosolids for final use or disposal. This includes, but is not limited to, thickening, stabilization, and dewatering of biosolids. This does not include storage of biosolids.~~

~~(y) “Treatment works” is either a federally owned, publicly owned, or privately owned device or system used to treat (including recycle and reclaim) either domestic sewage or a combination of domestic sewage and industrial waste of a liquid nature. This definition is applicable to this chapter only and has a more limited application than the same term as defined in W.S. 35-11-103 (e) (iv).~~

~~Section 4. **Compliance period.** Compliance with the standards in this part shall be achieved as expeditiously as practicable, but in no case later than one year after final adoption. When compliance with the standards requires construction of new pollution control facilities, compliance with the standards shall be achieved as expeditiously as practicable, but in no case later than two years after final adoption.~~

~~Section 5. **Permits, enforceability and applications.**~~

~~(a) Permits. The requirements in this chapter may be implemented through:~~

~~(i) An EPA Authorization To Land Apply or Surface Dispose Sludge Under The National Pollution Discharge Elimination System, issued to a “treatment works treating domestic sewage,” as defined in 40 CFR Part 122.2, in accordance with 40 CFR Parts 122 and 124 by EPA;~~

~~(ii) A land application permit issued by the state of Wyoming;~~

~~(iii) A permit issued under subtitle C of the Solid Waste Disposal Act; Part C of the Safe Drinking Water Act; or the Marine Protection, Research, and Sanctuaries Act of 1972; or~~

~~(iv) A general statewide permit issued by the Department of Environmental Quality, Water Quality Division for the land application of domestic septage based issued in accordance with the requirements of a General Statewide Permit for Land Application of Domestic Septage In Remote Areas, see Appendix C.~~

~~(b) Direct enforceability. No person shall use or dispose of biosolids through any practice for which requirements are established in this chapter except in accordance with such requirements.~~

~~(c) Applications. Applications for permits shall be submitted to the permitting authority in accordance with 40 CFR Part 122.21 and/or state application requirements. The application materials submitted shall be adequate to demonstrate compliance with all requirements of these regulations.~~

~~Section 6. **Relationship to other regulations.** Disposal of biosolids in a municipal solid waste landfill unit that complies with the requirements in Chapter 2, Wyoming Solid Waste Management Rules and Regulations constitutes compliance with these regulations. Any person who prepares biosolids that are disposed in a municipal solid waste landfill unit shall ensure that the biosolids meet the requirements of Chapter 2, Solid Waste Management Rules and Regulations concerning the quality of materials disposed in a municipal solid waste landfill unit.~~

~~Section 7. **Additional or more stringent requirements and determination of process equivalency.**~~

~~(a) In accordance with 40 CFR Part 503.5, the United States Environmental Protection Agency on a case-by-case basis has the authority to impose requirements for the use or surface disposal of biosolids in addition to or more stringent than the requirements in Part 503 and this chapter when necessary to protect public health and the environment from any adverse effect of a pollutant in the biosolids. Similar authority is not provided to the Department of Environmental Quality, Water Quality Division.~~

~~(b) Nothing in this chapter precludes the United States Environmental Protection Agency from imposing requirements for the use or surface disposal of biosolids more stringent than the requirements in 40 CFR Part 503 or this chapter or from imposing additional requirements for the use or surface disposal of biosolids. Similar authority is not provided to the Water Quality Division, Department of Environmental Quality.~~

~~(c) The Department of Environmental Quality, Water Quality Division, in conjunction with EPA, may determine that a process is equivalent to the pathogen and vector attraction alternatives described in Section 31, Section 32 and Appendix B.~~

~~Section 8. **Exclusions.**~~

~~(a) Treatment processes. This chapter does not establish requirements for processes used to treat domestic sewage or for processes used to treat biosolids prior to final use or disposal, except as provided in Section 31, Pathogens, and Section 32, Vector attraction reduction.~~

~~(b) Selection of a use or surface disposal practice. This chapter does not require the selection of a biosolids use or surface disposal practice. The determination of the manner in which biosolids are used or disposed is a local determination.~~

~~(c) Sludge generated at an industrial facility. This chapter does not establish requirements for the use or surface disposal of sludge generated at an industrial facility during the treatment of industrial wastewater, including biosolids generated during the treatment of industrial wastewater combined with domestic sewage.~~

~~(d) Hazardous biosolids. This chapter does not establish requirements for the use or surface disposal of biosolids determined to be hazardous in accordance with Chapter 2, Solid Waste Management Rules and Regulations.~~

~~———— (e) ——— Biosolids with high PCB concentrations. This chapter does not establish requirements for the use or surface disposal of biosolids with a concentration of polychlorinated biphenyls (PCBs) equal to or greater than 50 milligrams per kilogram of total solids (dry weight basis).~~

~~———— (f) ——— Grit and screenings. This chapter does not establish requirements for the use or surface disposal of grit (e.g., sand, gravel, cinders, or other materials with a high specific gravity) or screenings (e.g., relatively large materials such as rags) generated during preliminary treatment of domestic sewage in a treatment works.~~

~~———— (g) ——— Drinking water treatment sludge. This chapter does not establish requirements for the use or surface disposal of sludge generated during the treatment of either surface water or ground water used for drinking water.~~

~~———— (h) ——— Commercial and industrial septage. This chapter does not establish requirements for the use or surface disposal of commercial septage, industrial septage, a mixture of domestic septage and commercial septage, or a mixture of domestic septage and industrial septage.~~

~~———— (i) ——— Fertilizer. This chapter does not establish requirements for the use of biosolids registered by the Wyoming Department of Agriculture.~~

~~———— Section 9. ——— **Requirement for any person who prepares, applies, or surface disposes biosolids.**~~

~~———— (a) ——— Any person who prepares biosolids shall ensure that the applicable requirements in this chapter are met when the biosolids are applied to the land or placed on a surface disposal site. This requirement can be met through a written agreement between the preparer and applier ensuring all applicable requirements of this chapter are met or a separate permit for the applier.~~

~~———— (b) ——— In accordance with 40 CFR 503.12, any person who prepares bulk biosolids outside of the State of Wyoming that are to be applied to land within the State of Wyoming shall provide written notice to the Department of Environmental Quality, Water Quality Division prior to the initial application of bulk biosolids. The notice shall include the following:~~

~~———— (i) ——— The location, by either street address or latitude and longitude, of each land application site;~~

~~———— (ii) ——— The approximate time period bulk biosolids will be applied to the site;~~

~~———— (iii) ——— The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who prepares the bulk biosolids; and~~

~~———— (iv) ——— The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) and state permit number of the person who will apply the bulk biosolids.~~

~~\_\_\_\_\_ (c) \_\_\_\_\_ Any person who intends to land apply biosolids that are prepared outside of the State of Wyoming shall obtain a land application permit from the Department of Environmental Quality, Water Quality Division prior to application of the biosolids or ensure that the applicable requirements in this chapter are met when the biosolids are applied to the land or surface disposed by a written agreement with the applier.~~

~~\_\_\_\_\_ Section 10. \_\_\_\_\_ **Sampling and analysis.**~~

~~\_\_\_\_\_ (a) \_\_\_\_\_ Sampling. Representative samples of biosolids that are applied to the land or placed on a surface disposal site shall be collected and analyzed.~~

~~\_\_\_\_\_ (b) \_\_\_\_\_ Methods. The references listed below are incorporated by reference in this chapter. The materials are incorporated as they existed on February 19, 1993.~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ Enteric viruses. ASTM Designation: D 4994-89, "Standard Practice for Recovery of Viruses From Wastewater Sludges," Annual Book of ASTM Standards: Section 11—Water and Environmental Technology, ASTM, Philadelphia, PA., 1992.~~

~~\_\_\_\_\_ (ii) \_\_\_\_\_ Fecal coliform. Part 9221 E. or Part 9222 D., "Standard Methods for the Examination of Water and Wastewater," 18th Edition, American Public Health Association, Washington, D.C., 1992.~~

~~\_\_\_\_\_ (iii) \_\_\_\_\_ Helminth ova. Yanko, W.A., "Occurrence of Pathogens in Distribution and Marketing Municipal Sludges," EPA 600/1-87-014, 1987. PB 88-154273/AS, National Technical Information Service, Springfield, Virginia.~~

~~\_\_\_\_\_ (iv) \_\_\_\_\_ Inorganic pollutants. "Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods," EPA Publication SW-846, Second Edition (1982) with Updates I and II and Third Edition (1986) with Revision I. Second Edition—PB87-120-291, National Technical Information Service, Springfield, Virginia. Third Edition—Document number 955-001-00000-1, Superintendent of Documents, Government Printing Office, Washington, D.C.~~

~~\_\_\_\_\_ (v) \_\_\_\_\_ Salmonella sp. bacteria. Part 9260 D., Standard Methods for the Examination of Water and Wastewater," 18th Edition, American Public Health Association, Washington, D.C., 1992; or Kenner, B.A. and H.P. Clark, "Detection and enumeration of Salmonella and Pseudomonas aeruginosa," J. Water Pollution Control Federation, 46(9):2163-2171, 1974.~~

~~\_\_\_\_\_ (vi) \_\_\_\_\_ Specific oxygen uptake rate. Part 2710 B., "Standard Methods for the Examination of Water and Wastewater," 18th Edition, American Public Health Association, Washington, D.C., 1992.~~

~~\_\_\_\_\_ (vii) \_\_\_\_\_ Total, fixed, and volatile solids. Part 2540 G., "Standard Methods for the Examination of Water and Wastewater," 18th Edition, American Public Health Association, Washington, D.C., 1992.~~

~~\_\_\_\_\_ (viii) Percent volatile solids reduction calculation. “Environmental Regulations and Technology—Control of Pathogens and Vectors in Biosolids,” EPA-625/R-92/013, U.S. Environmental Protection Agency, Cincinnati, Ohio, 1992.~~

~~PART B  
LAND APPLICATION~~

~~\_\_\_\_\_ Section 11. **Applicability.**~~

~~\_\_\_\_\_ (a) This part applies to any person who prepares biosolids that are applied to the land, to any person who applies biosolids to the land, to biosolids applied to the land, and to the land on which biosolids are applied.~~

~~\_\_\_\_\_ (b) The general requirements in Section 13 and the management practices in Section 15 do not apply when bulk biosolids are applied to the land if the bulk biosolids meet the pollutant concentrations in Section 14 (b) (iii), the Class A pathogen requirements in Section 31 (a), and one of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m).~~

~~\_\_\_\_\_ (c) The United States Environmental Protection Agency may apply any or all of the general requirements in 40 CFR Part 503 and Section 13 and the management practices in Section 15 to the bulk biosolids in Section 11 (b) on a case-by-case basis after determining that the general requirements or management practices are needed to protect public health and the environment from any reasonably anticipated adverse effect that may occur from any pollutant in the bulk biosolids. Similar authority is not provided to the Water Quality Division, Department of Environmental Quality.~~

~~\_\_\_\_\_ (d) The general requirements in Section 13 and the management practices in Section 15 do not apply when a bulk material derived from biosolids is applied to the land if the derived bulk material meets the pollutant concentrations in Section 14 (b) (iii), the Class A pathogen requirements in Section 31 (a), and one of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m).~~

~~\_\_\_\_\_ (e) The United States Environmental Protection Agency may apply any or all of the general requirements in 40 CFR Part 503 and Section 13 and the management practices in Section 15 to the bulk material in Section 11 (d) on a case-by-case basis after determining that the general requirements or management practices are needed to protect public health and the environment from any reasonably anticipated adverse effect that may occur from any pollutant in the bulk biosolids. Similar authority is not provided to the Water Quality Division, Department of Environmental Quality.~~

~~\_\_\_\_\_ (f) The requirements in this part do not apply when a bulk material derived from biosolids is applied to the land if the biosolids from which the bulk material is derived meets the pollutant concentrations in Section 14 (b) (iii), the Class A pathogen requirements in Section 31 (a), and one of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m).~~

~~———— (g) ——— The general requirements in Section 13 and the management practices in Section 15 do not apply when biosolids are sold or given away in a bag or other container for application to the land if the biosolids sold or given away in a bag or other container for application to the land meets the pollutant concentrations in Section 14 (b) (iii), the Class A pathogen requirements in Section 31 (a), and one of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m).~~

~~———— (h) ——— The general requirements in Section 13 and the management practices in Section 15 do not apply when a material derived from biosolids is sold or given away in a bag or other container for application to the land if the derived material meets the pollutant concentrations in Section 14 (b) (iii), the Class A pathogen requirements in Section 31 (a), and one of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m).~~

~~———— (i) ——— The requirements in this part do not apply when a material derived from biosolids is sold or given away in a bag or other container for application to the land if the biosolids from which the material is derived meets the pollutant concentrations in Section 14 (b) (iii), the Class A pathogen requirements in Section 31 (a), and one of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m).~~

~~———— Section 12. **Special definitions:**~~

~~———— (a) ——— “Agricultural land” is land on which a food crop, a feed crop, or a fiber crop is grown. This includes range land and land used as pasture.~~

~~———— (b) ——— “Agronomic rate” is the whole sludge application rate (dry weight basis) designed: (1) to provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land; and (2) to minimize the amount of nitrogen in the biosolids that passes below the root zone of the crop or vegetation grown on the land to the ground water.~~

~~———— (c) ——— “Annual pollutant loading rate” is the maximum amount of a pollutant that can be applied to a unit area of land during a 365-day period.~~

~~———— (d) ——— “Annual whole sludge application rate” is the maximum amount of biosolids (dry weight basis) that can be applied to a unit area of land during a 365-day period.~~

~~———— (e) ——— “Bulk biosolids” are biosolids that are not sold or given away in a bag or other container for application to the land.~~

~~———— (f) ——— “Cumulative pollutant loading rate” is the maximum amount of an inorganic pollutant that can be applied to an area of land.~~

~~———— (g) ——— “Forest” is a tract of land thick with trees and underbrush.~~

~~———— (h) ——— “Land application” is the spraying or spreading of biosolids onto the land surface; the injection of biosolids below the land surface; or the incorporation of biosolids into~~



~~the soil so that the biosolids can either condition the soil or fertilize crops or vegetation grown in the soil.~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ “Monthly average” is the arithmetic mean of all measurements taken during the month.~~

~~\_\_\_\_\_ (j) \_\_\_\_\_ “Other container” is either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton or less.~~

~~\_\_\_\_\_ (k) \_\_\_\_\_ “Pasture” is land on which animals feed directly on feed crops such as legumes, grasses, grain stubble, or stover.~~

~~\_\_\_\_\_ (l) \_\_\_\_\_ “Public contact site” is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.~~

~~\_\_\_\_\_ (m) \_\_\_\_\_ “Range land” is open land, used for grazing by livestock or wildlife, on which the natural potential plant community is dominated by grasses, grasslike plants, forbs and shrubs.~~

~~\_\_\_\_\_ (n) \_\_\_\_\_ “Reclamation site” is drastically disturbed land that is reclaimed using biosolids. This includes, but is not limited to, strip mines and construction sites.~~

~~\_\_\_\_\_ Section 13. \_\_\_\_\_ **General requirements.**~~

~~\_\_\_\_\_ (a) \_\_\_\_\_ No person shall apply biosolids to the land except in accordance with the requirements in this part.~~

~~\_\_\_\_\_ (b) \_\_\_\_\_ No person shall apply bulk biosolids subject to the cumulative pollutant loading rates in Section 14 (b) (ii) to agricultural land, forest, a public contact site, or a reclamation site if any of the cumulative pollutant loading rates in Section 14 (b) (ii) has been reached.~~

~~\_\_\_\_\_ (c) \_\_\_\_\_ No person shall apply domestic septage to agricultural land, forest, or a reclamation site during a 365 day period if the annual application rate in Section 14 (c) has been reached during that period. This requirement is met through compliance with the conditions of the General Statewide Permit for Land Application of Domestic Septage In Remote Areas, see Appendix C.~~

~~\_\_\_\_\_ (d) \_\_\_\_\_ The person who prepares bulk biosolids that are applied to agricultural land, forest, a public contact site, or a reclamation site shall provide the person who applies the bulk biosolids written notification of the concentration of total nitrogen (as N on a dry weight basis) in the bulk biosolids.~~

~~\_\_\_\_\_ (e) \_\_\_\_\_ The person who applies biosolids to the land shall obtain information needed to comply with the requirements in this part.~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ Before bulk biosolids subject to the cumulative pollutant loading rates in Section 14 (b) (ii) are applied to the land, the person who proposes to apply the bulk biosolids shall contact the permitting authority to determine whether bulk biosolids subject to the cumulative pollutant loading rates in Section 14 (b) (ii) have been applied to the site since July 20, 1993.~~

~~\_\_\_\_\_ (ii) \_\_\_\_\_ If bulk biosolids subject to the cumulative pollutant loading rates in Section 14 (b) (ii) have not been applied to the site since July 20, 1993, the cumulative amount for each pollutant listed in Table 2 of Section 14 may be applied to the site in accordance with Section 14 (a) (ii) (A).~~

~~\_\_\_\_\_ (iii) \_\_\_\_\_ If bulk biosolids subject to the cumulative pollutant loading rates in Section 14 (b) (ii) have been applied to the site since July 20, 1993, and the cumulative amount of each pollutant applied to the site in the bulk biosolids since that date is known, the cumulative amount of each pollutant applied to the site shall be used to determine the additional amount of each pollutant that can be applied to the site in accordance with Section 14 (a) (ii) (A). (iv) If bulk biosolids subject to the cumulative pollutant loading rates in Section 14 (b) (ii) have been applied to the site since July 20, 1993, and the cumulative amount of each pollutant applied to the site in the bulk biosolids since that date is not known, an additional amount of each pollutant shall not be applied to the site.~~

~~\_\_\_\_\_ (f) \_\_\_\_\_ When a person who prepares bulk biosolids provides the bulk biosolids to a person who applies the bulk biosolids to the land, the person who prepares the bulk biosolids shall provide the person who applies the bulk biosolids notice and necessary information to comply with the requirements in this part.~~

~~\_\_\_\_\_ (g) \_\_\_\_\_ When a person who prepares biosolids provides the biosolids to another person who prepares the biosolids, the person who provides the biosolids shall provide the person who receives the biosolids notice and necessary information to comply with the requirements in this part.~~

~~\_\_\_\_\_ (h) \_\_\_\_\_ The person who applies bulk biosolids to the land shall provide the owner or lease holder of the land on which the bulk biosolids is applied notice and necessary information to comply with the requirements in this part.~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ Any person who prepares bulk biosolids outside of the State of Wyoming that are to be applied to land within the State of Wyoming shall provide written notice to the permitting authority prior to the initial application of bulk biosolids. The notice shall include the following:~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ The location, by either street address or latitude and longitude, of each land application site;~~

~~\_\_\_\_\_ (ii) \_\_\_\_\_ The approximate time period bulk biosolids will be applied to the site;~~

~~\_\_\_\_\_ (iii) \_\_\_\_\_ The name, address, telephone number, the National Pollutant Discharge Elimination System permit number (if appropriate) for the person who prepares the bulk biosolids; and~~

~~\_\_\_\_\_ (iv) \_\_\_\_\_ The name, address, telephone number, the National Pollutant Discharge Elimination System permit number (if appropriate) and the state permit number of the person who will apply the bulk biosolids.~~

~~\_\_\_\_\_ (j) \_\_\_\_\_ Any person who land applies biosolids that were prepared outside of the state shall obtain a land application permit from the Water Quality Division, Department of Environmental Quality prior to the initial application of biosolids.~~

~~\_\_\_\_\_ (k) \_\_\_\_\_ Any person who land applies bulk biosolids subject to the cumulative pollutant loading rates in Section 14 (b) (ii) shall provide written notice to the permitting authority, prior to the initial application of bulk biosolids to a land application site by the applier. The permitting authority shall retain and provide access to the notice. The notice shall include:~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ The location, by either street address or latitude and longitude, of the land application site; and~~

~~\_\_\_\_\_ (ii) \_\_\_\_\_ The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) of the person who will apply the bulk biosolids.~~

~~\_\_\_\_\_ Section 14. \_\_\_\_\_ **Pollutant limits.**~~

~~\_\_\_\_\_ (a) \_\_\_\_\_ Biosolids.~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ Bulk biosolids or biosolids sold or given away in a bag or other container shall not be applied to the land if the concentration of any pollutant in the biosolids exceeds the ceiling concentration for the pollutant in Table 1 of Section 14.~~

~~\_\_\_\_\_ (ii) \_\_\_\_\_ If bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site, either:~~

~~\_\_\_\_\_ (A) \_\_\_\_\_ The cumulative loading rate for each pollutant shall not exceed the cumulative pollutant loading rate for the pollutant in Table 2 of Section 14; or~~

~~\_\_\_\_\_ (B) \_\_\_\_\_ The concentration of each pollutant in the biosolids shall not exceed the concentration for the pollutant in Table 3 of Section 14.~~

~~\_\_\_\_\_ (iii) \_\_\_\_\_ If bulk biosolids are applied to a lawn or a home garden, the concentration of each pollutant in the biosolids shall not exceed the concentration for the pollutant in Table 3 of Section 14.~~

~~\_\_\_\_\_ (iv) If biosolids are sold or given away in a bag or other container for application to the land, either:~~

~~\_\_\_\_\_ (A) The concentration of each pollutant in the biosolids shall not exceed the concentration for the pollutant in Table 3 of Section 14; or~~

~~\_\_\_\_\_ (B) The product of the concentration of each pollutant in the biosolids and the annual whole sludge application rate for the biosolids shall not cause the annual pollutant loading rate for the pollutant in Table 4 of Section 14 to be exceeded. The procedure used to determine the annual whole sludge application rate is presented in Appendix A of this chapter.~~

~~\_\_\_\_\_ (b) Pollutant concentrations and loading rates — biosolids.~~

~~\_\_\_\_\_ (i) Ceiling concentrations.~~

Table 1 of Section 14

<u>Pollutant</u>	<u>Ceiling Concentration (milligrams per kilogram)*</u>
Arsenic	75
Cadmium	85
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

\* Dry weight basis

~~(ii) Cumulative pollutant loading rates:~~

Table 2 of Section 14

<u>Pollutant</u>	<u>Cumulative Pollutant Loading Rate (kilograms per hectare)</u>
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Molybdenum	—*
Nickel	420
Zinc	2800

\* Currently under review by EPA.

~~(iii) Pollutant concentrations:~~

Table 3 of Section 14

<u>Pollutant</u>	<u>Pollutant concentrations (milligrams per kilogram)*</u>
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Molybdenum	—**
Nickel	420
Selenium	100
Zinc	2800

\* Dry weight basis.

\*\* Currently under review by EPA.

~~(iv) Annual pollutant loading rates.~~

Table 4 of Section 14

<u>Pollutant</u>	<u>Annual Pollutant Loading Rate</u> <u>(kilograms per hectare per 365-day period)</u>
Arsenic	2.0
Cadmium	1.9
Copper	75
Lead	15
Mercury	0.85
Molybdenum	—*
Nickel	21
Zinc	140

\* Currently under review by EPA.

~~(c) Domestic septage. The annual application rate for domestic septage applied to agricultural land, forest, or a reclamation site shall not exceed the annual application rate calculated using equation (1).~~

$$AAR = \frac{N}{0.0026} \quad \text{Eq.(1)}$$

~~Where:~~

~~AAR = Annual application rate in gallons per acre per 365-day period.~~

~~N = Amount of nitrogen in pounds per acre per 365-day period needed by the crop or vegetation grown on the land.~~

~~Section 15. **Management practices.**~~

~~(a) Under the provisions of 40 CFR Part 503, the United State Environmental Protection Agency is authorized to ensure that bulk biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under Section 4 of the Endangered Species Act or its designated critical habitat. No similar authority is provided to the Department of Environmental Quality, Water Quality Division.~~

~~(b) Bulk biosolids shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow covered so that the bulk biosolids enters a wetland or waters of the state, except as provided in a permit issued pursuant to Chapter 2, Wyoming Water Quality Rules and Regulations.~~

~~(c) Bulk biosolids shall not be applied to agricultural land, forest, or a reclamation site that is ten (10) meters or less from waters of the state, unless otherwise specified by the permitting authority.~~

~~———— (d) ——— Bulk biosolids shall be applied to agricultural land, forest, a public contact site, or a reclamation site at a whole sludge application rate that is equal to or less than the agronomic rate for the bulk biosolids, unless, in the case of a reclamation site, otherwise specified by the permitting authority.~~

~~———— (e) ——— Either a label shall be affixed to the bag or other container in which biosolids that are sold or given away for application to the land, or an information sheet shall be provided to the person who receives biosolids sold or given away in an other container for application to the land. The label or information sheet shall contain the following information:~~

~~———— (i) ——— The name and address of the person who prepared the biosolids that are sold or given away in a bag or other container for application to the land;~~

~~———— (ii) ——— A statement that application of the biosolids to the land is prohibited except in accordance with the instructions on the label or information sheet; and~~

~~———— (iii) ——— The annual whole sludge application rate for the biosolids that does not cause any of the annual pollutant loading rates in Table 4 of Section 14 to be exceeded.~~

~~———— Section 16. ——— **Operational standards – pathogens and vector attraction reduction.**~~

~~———— (a) ——— Pathogens – biosolids.~~

~~———— (i) ——— The Class A pathogen requirements in Section 31 (a) or the Class B pathogen requirements and site restrictions in Section 31 (b) shall be met when bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site.~~

~~———— (ii) ——— The Class A pathogen requirements in Section 31 (a) shall be met when bulk biosolids are applied to a lawn or a home garden.~~

~~———— (iii) ——— The Class A pathogen requirements in Section 31 (a) shall be met when biosolids are sold or given away in a bag or other container for application to the land.~~

~~———— (b) ——— Pathogens – domestic septage. The requirements in either Section 31 (c) (i) or Section 31 (c) (ii) shall be met when domestic septage is applied to agricultural land, forest, or a reclamation site. Compliance with the conditions of a General Statewide Permit for Land Application of Domestic Septage In Remote Areas, see Appendix C, are considered equivalent to these pathogen requirements.~~

~~———— (c) ——— Vector attraction reduction – biosolids.~~

~~———— (i) ——— One of the vector attraction reduction requirements in Section 32 (f) through Section 32 (p) shall be met when bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site.~~



~~—————(ii)—— One of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m) shall be met when bulk biosolids are applied to a lawn or a home garden.~~

~~—————(iii)—— One of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m) shall be met when biosolids are sold or given away in a bag or other container for application to the land.~~

~~—————(d)—— Vector attraction reduction—domestic septage. The vector attraction reduction requirements in Section 32 (n), or (o) and (p), or 32 (r) shall be met when domestic septage is applied to agricultural land, forest, or a reclamation site. Compliance with the conditions of a General Statewide Permit for Land Application of Domestic Septage In Remote Areas, see Appendix C, are considered equivalent to the vector attraction requirements.~~

~~—————Section 17.—— **Frequency of monitoring.**~~

~~—————(a)—— Biosolids:~~

~~—————(i)—— The frequency of monitoring for the pollutants listed in Table 1, Table 2, Table 3 and Table 4 of Section 14; the pathogen density requirements in Section 31 (a) and in Section 31 (b) (ii) through Section 31 (b) (iv); and the vector attraction reduction requirements Section 32 (f) through Section 32 (m) shall be the frequency in Table 1 of Section 17. Any person who prepares or derives bulk biosolids shall conduct the monitoring required by this section.~~

~~Table 1 of Section 17  
Frequency Of Monitoring—Land Application~~

<del>Amount of biosolids* (metric tons per 365 day period)</del>	<del>Frequency</del>
<del>Greater than zero but less than 290</del>	<del>Once per year</del>
<del>Equal to or greater than 290 but less than 1,500</del>	<del>Once per quarter (four times per year)</del>
<del>Equal to or greater than 1,500 but less than 15,000</del>	<del>Once per 60 days (six times per year)</del>
<del>Equal to or greater than 15,000</del>	<del>Once per month (12 times per year)</del>

~~\* Either the amount of bulk biosolids applied to the land or the amount of biosolids received by a person who prepares biosolids that are sold or given away in a bag or other container for application to the land (dry weight basis).~~

~~—————(ii)—— After the biosolids have been monitored for two years at the frequency in Table 1 of Section 17, the permitting authority may reduce the frequency of monitoring for pollutant concentrations and for the pathogen density requirements in Section 31 (a) (v) (B) through (I), but~~

~~in no case shall the frequency of monitoring be less than once per year when biosolids are applied to the land.~~

~~———— (b) ——— Domestic septage. If either the pathogen requirements in Section 31 (c) (ii) or the vector attraction reduction requirements in Section 32 (r) are met when domestic septage is applied to agricultural land, forest, or a reclamation site, each container of domestic septage applied to the land shall be monitored for compliance with those requirements. Compliance with the conditions in General Statewide Permit for Land Application of Domestic Septage In Remote Areas, see Appendix C, are considered equivalent with these pathogen and vector attraction reduction requirements.~~

~~———— Section 18. ——— **Record keeping.**~~

~~———— (a) ——— Biosolids:~~

~~———— (i) ——— The person who prepares the biosolids in Section 11 (b) or (g) shall develop the following information and shall retain the information for five (5) years:~~

~~———— (A) ——— The concentration of each pollutant listed in Table 3 of Section 14 in the biosolids;~~

~~———— (B) ——— The following certification statement: “I certify, under penalty of law, that the Class A pathogen requirements in Section 31 (a) of Chapter 15, Wyoming Water Quality Rules and Regulations and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m)] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment.”;~~

~~———— (C) ——— A description of how the Class A pathogen requirements in Section 31 (a) are met; and~~

~~———— (D) ——— A description of how one of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m) is met.~~

~~———— (ii) ——— The person who derives the material in Section 11 (d) or (h) shall develop the following information and shall retain the information for five (5) years:~~

~~———— (A) ——— The concentration of each pollutant listed in Table 3 of Section 14 in the material;~~

~~———— (B) ——— The following certification statement: “I certify, under penalty of law, that the Class A pathogen requirements in Section 31 (a) of Chapter 15, Wyoming Water Quality Rules and Regulations and the vector attraction reduction requirement in [insert one of~~

~~the vector attraction reduction requirements in Section 32 (f) through Section 32 (m)] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and the vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment.”;~~

~~\_\_\_\_\_ (C) \_\_\_\_\_ A description of how the Class A pathogen requirements in Section 31 (a) are met; and~~

~~\_\_\_\_\_ (D) \_\_\_\_\_ A description of how one of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m) is met.~~

~~\_\_\_\_\_ (iii) \_\_\_\_\_ If the pollutant concentrations in Section 14 (b) (iii), the Class A pathogen requirements Section 31 (a), and the vector attraction reduction requirements in either Section 32 (n) or Section 32 (o) and (p) are met when bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site:~~

~~\_\_\_\_\_ (A) \_\_\_\_\_ The person who prepares the bulk biosolids shall develop the following information and shall retain the information for five (5) years:~~

~~\_\_\_\_\_ (I) \_\_\_\_\_ The concentration of each pollutant listed in Table 3 of Section 14 in the bulk biosolids;~~

~~\_\_\_\_\_ (II) \_\_\_\_\_ The following certification statement: “I certify, under penalty of law, that the pathogen requirements in Section 31 (a) of Chapter 15, Wyoming Water Quality Rules and Regulations have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment.”; and~~

~~\_\_\_\_\_ (III) \_\_\_\_\_ A description of how the pathogen requirements in Section 31 (a) are met.~~

~~\_\_\_\_\_ (B) \_\_\_\_\_ The person who applies the bulk biosolids shall develop the following information and shall retain the information for five (5) years:~~

~~\_\_\_\_\_ (I) \_\_\_\_\_ The following certification statement: “I certify, under penalty of law, that the management practices in Section 15 of Chapter 15, Wyoming Water Quality Rules and Regulations and the vector attraction reduction requirement in [insert either Section 32 (n) or Section 32 (o) and (p)] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including fines and imprisonment.”;~~

~~\_\_\_\_\_ (II) A description of how the management practices in Section 15 are met for each site on which bulk biosolids are applied; and~~

~~\_\_\_\_\_ (III) A description of how the vector attraction reduction requirements in either Section 32 (n) or (o) and (p) are met for each site on which bulk biosolids are applied.~~

~~\_\_\_\_\_ (iv) If the pollutant concentrations in Section 14 (b) (iii) and the Class B pathogen requirements in Section 31 (b) are met when bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site:~~

~~\_\_\_\_\_ (A) The person who prepares the bulk biosolids shall develop the following information and shall retain the information for five (5) years:~~

~~\_\_\_\_\_ (I) The concentration of each pollutant listed in Table 3 of Section 14 in the bulk biosolids;~~

~~\_\_\_\_\_ (II) The following certification statement: “I certify under, penalty of law, that the Class B pathogen requirements in Section 31 (b) of Chapter 15, Wyoming Water Quality Rules and Regulations and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m) if one of those requirements is met] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements [and vector attraction reduction requirements if applicable] have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment.”;~~

~~\_\_\_\_\_ (III) A description of how the Class B pathogen requirements in Section 31 (b) are met; and~~

~~\_\_\_\_\_ (IV) When one of the vector attraction reduction requirements in Section 32 (f) through Section 32 (m) is met, a description of how the vector attraction reduction requirement is met.~~

~~\_\_\_\_\_ (B) The person who applies the bulk biosolids shall develop the following information and shall retain the information for five (5) years:~~

~~\_\_\_\_\_ (I) The following certification statement: “I certify, under penalty of law, that the management practices in Section 15 of Chapter 15, Wyoming Water Quality Rules and Regulations, the site restrictions in Section 31 (b) (vi), and the vector attraction reduction requirements in [insert either Section 32 (n) or Section 32 (o), if one of those requirements is met] have been met for each site on which bulk biosolids are applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to~~

determine that the management practices and site restrictions [and the vector attraction reduction requirements if applicable] have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment.”;

\_\_\_\_\_ (II) \_\_\_\_\_ A description of how the management practices Section 15 are met for each site on which bulk biosolids are applied;

\_\_\_\_\_ (III) \_\_\_\_\_ A description of how the site restrictions in Section 31 (b) (vi) are met for each site on which bulk biosolids are applied; and

\_\_\_\_\_ (IV) \_\_\_\_\_ When the vector attraction reduction requirement in either Section 32 (n) or (o) are met, a description of how the vector attraction reduction requirement is met.

\_\_\_\_\_ (v) \_\_\_\_\_ If the requirements in Section 14 (a) (ii) (A) are met when bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site:

\_\_\_\_\_ (A) \_\_\_\_\_ The person who prepares the bulk biosolids shall develop the following information and shall retain the information for five (5) years:

\_\_\_\_\_ (I) \_\_\_\_\_ The concentration of each pollutant listed in Table 1 of Section 14 in the bulk biosolids;

\_\_\_\_\_ (II) \_\_\_\_\_ The following certification statement: “I certify, under penalty of law, that the pathogen requirements in [insert either Section 31 (a) or Section 31 (b)] of Chapter 15, Wyoming Water Quality Rules and Regulations and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in Section 32 (f) through (m) if one of those requirements is met] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements [and vector attraction reduction requirements] have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment.”;

\_\_\_\_\_ (III) \_\_\_\_\_ A description of how the pathogen requirements in either Section 31 (a) or Section 31 (b) are met; and

\_\_\_\_\_ (IV) \_\_\_\_\_ When one of the vector attraction requirements in Section 32 (f) through (m) is met, a description of how the vector attraction requirement is met.

\_\_\_\_\_ (B) \_\_\_\_\_ The person who applies the bulk biosolids shall develop the following information, retain the information in Section 18 (a) (v) (B) (I) through Section 18 (a) (v) (B) (VII) indefinitely, and retain the information in Section 18 (a) (v) (B) (VIII) through Section 18 (a) (v) (B) (XIII) for five (5) years:

~~\_\_\_\_\_ (I) The location, by either street address or latitude and longitude, of each site on which bulk biosolids are applied;~~

~~\_\_\_\_\_ (II) The number of hectares in each site on which bulk biosolids are applied;~~

~~\_\_\_\_\_ (III) The date and time bulk biosolids are applied to each site;~~

~~\_\_\_\_\_ (IV) The cumulative amount of each pollutant (i.e., kilograms) listed in Table 2 of Section 14 in the bulk biosolids applied to each site, including the amount in Section 13 (e) (iii);~~

~~\_\_\_\_\_ (V) The amount of biosolids (i.e., metric tons) applied to each site;~~

~~\_\_\_\_\_ (VI) The following certification statement: “I certify, under penalty of law, that the requirements to obtain information in Section 13 (e) (ii) of Chapter 15, Wyoming Water Quality Rules and Regulations have been met for each site on which bulk biosolids is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the requirements to obtain information have been met. I am aware that there are significant penalties for false certification including fines and imprisonment.”;~~

~~\_\_\_\_\_ (VII) A description of how the requirements to obtain information in Section 13 (e) (ii) are met;~~

~~\_\_\_\_\_ (VIII) The following certification statement: “I certify, under penalty of law, that the management practices in Section 15 of Chapter 15, Wyoming Water Quality Rules and Regulations have been met for each site on which bulk biosolids is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fines and imprisonment.”;~~

~~\_\_\_\_\_ (IX) A description of how the management practices in Section 15 are met for each site on which bulk biosolids are applied;~~

~~\_\_\_\_\_ (X) The following certification statement when the bulk biosolids meets the Class B pathogen requirements in Section 31 (b): “I certify, under penalty of law, that the site restrictions in Section 31 (b) (vi) of Chapter 15, Wyoming Water Quality Rules and Regulations have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the site restrictions have been met. I~~

am aware that there are significant penalties for false certification including fines and imprisonment.”;

~~\_\_\_\_\_ (XI) — A description of how the site restrictions in Section 31 (b) (vi) are met for each site on which Class B bulk biosolids are applied;~~

~~\_\_\_\_\_ (XII) — The following certification statement when the vector attraction reduction requirement in either Section 32 (n) or (o) and (p) is met: “I certify, under penalty of law, that the vector attraction reduction requirement in [insert either Section 32 (n) or (o) and (p)] of Chapter 15, Wyoming Water Quality Rules and Regulations has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector attraction reduction requirement has been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment.”~~  
~~(XIII) If the vector attraction reduction requirements in either Section 32 (n) or (o) and (p) are met, a description of how the requirements are met.~~

~~\_\_\_\_\_ (vi) — If the requirements in Section 14 (a) (iv) (B) are met when biosolids is sold or given away in a bag or other container for application to the land, the person who prepares the biosolids that is sold or given away in a bag or other container shall develop the following information and shall retain the information for five (5) years:~~

~~\_\_\_\_\_ (A) — The annual whole sludge application rate for the biosolids that does not cause the annual pollutant loading rates in Table 4 of Section 14 to be exceeded;~~

~~\_\_\_\_\_ (B) — The concentration of each pollutant listed in Table 4 of Section 14 in the biosolids;~~

~~\_\_\_\_\_ (C) — The following certification statement: “I certify, under penalty of law, — that the management practice in Section 15 (e) of Chapter 15, Wyoming Water Quality Rules and Regulations, the Class A pathogen requirement in Section 31 (a), and the vector attraction reduction — requirement in [insert one of the vector attraction reduction requirements in Section 32 (f) through (m)] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practice, pathogen requirements, and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment.”;~~

~~\_\_\_\_\_ (D) — A description of how the Class A pathogen requirements in Section 31(a) are met; and~~

~~\_\_\_\_\_ (E) — A description of how one of the vector attraction requirements in Section 32 (f) through (m) is met.~~

~~\_\_\_\_\_ (b) \_\_\_\_\_ Domestic septage. When domestic septage is applied to agricultural land, forest, or a reclamation site, the person who applies the domestic septage shall develop the following information and shall retain the information for five (5) years:~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ The location, by either street address or latitude and longitude, of each site on which domestic septage is applied;~~

~~\_\_\_\_\_ (ii) \_\_\_\_\_ The number of acres in each site on which domestic septage is applied;~~

~~\_\_\_\_\_ (iii) \_\_\_\_\_ The date and time domestic septage is applied to each site;~~

~~\_\_\_\_\_ (iv) \_\_\_\_\_ The nitrogen requirement for the crop or vegetation grown on each site during a 365-day period;~~

~~\_\_\_\_\_ (v) \_\_\_\_\_ The rate, in gallons per acre per 365-day period, at which domestic septage is applied to each site;~~

~~\_\_\_\_\_ (vi) \_\_\_\_\_ The following certification statement: “I certify, under penalty of law, that the pathogen requirements in [insert either Section 31 (e) (i) or (e) (ii)] of Chapter 15, Wyoming Water Quality Rules and Regulations and the vector attraction reduction requirements in [insert Section 32 (n), (o) and (p), or (r)] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment.”;~~

~~\_\_\_\_\_ (vii) \_\_\_\_\_ A description of how the pathogen requirements in either Section 31 (e) (i) or (e) (ii) are met;~~

~~\_\_\_\_\_ (viii) \_\_\_\_\_ A description of how the vector attraction reduction requirements in Section 32 (n), (o) and (p), or (r) are met; and~~

~~\_\_\_\_\_ (ix) \_\_\_\_\_ The record keeping requirements of this section are considered equivalent to the requirements of a General Statewide Permit for Land Application of Domestic Sewage In Remote Areas, see Appendix C.~~

~~\_\_\_\_\_ Section 19. \_\_\_\_\_ **Reporting.**~~

~~\_\_\_\_\_ (a) \_\_\_\_\_ Biosolids management facilities shall submit the following information to the permitting authority:~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ The information in Section 18 (a), except the information in Sections 18 (a) (iii) (B), (a) (iv) (B) and (a) (v) (B), for the appropriate requirements on February 19 of each year;~~



~~\_\_\_\_\_ (ii) \_\_\_\_\_ The information in Sections 18 (a) (v) (B) (I) through (a) (v) (B) (VII) on February 19 of each year when 90% or more of any of the cumulative pollutant loading rates in Table 2 of Section 14 is reached at a site; and~~

~~\_\_\_\_\_ (b) \_\_\_\_\_ Submitting the completed worksheet for each land application of septage authorized by a General, Statewide Permit for Land Application of Domestic Septage In Remote Areas to the Department of Environmental Quality, Water Quality Division or the appropriate delegated local small wastewater permitting authority within fifteen (15) days of the date of application is considered equivalent to the reporting requirements of this section.~~

## ~~PART C~~ ~~SURFACE DISPOSAL~~

### ~~\_\_\_\_\_ Section 20. \_\_\_\_\_ **Applicability.**~~

~~\_\_\_\_\_ (a) \_\_\_\_\_ This part applies to any person who prepares biosolids that are placed on a surface disposal site, to the owner/operator of a surface disposal site, to biosolids placed on a surface disposal site, and to a surface disposal site.~~

~~\_\_\_\_\_ (b) \_\_\_\_\_ This part does not apply to biosolids stored on the land or to the land on which biosolids are stored. It also does not apply to biosolids that remain on the land for longer than two (2) years when the person who prepares the biosolids demonstrates that the land on which the biosolids remains is not an active biosolids unit. The demonstration shall include the following information, which shall be retained by the person who prepares the biosolids for the period that the biosolids remains on the land:~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ The name and address of the person who prepares the biosolids;~~

~~\_\_\_\_\_ (ii) \_\_\_\_\_ The name and address of the person who either owns the land or leases the land;~~

~~\_\_\_\_\_ (iii) \_\_\_\_\_ The location, by either street address or latitude and longitude, of the land;~~

~~\_\_\_\_\_ (iv) \_\_\_\_\_ An explanation of why biosolids need to remain on the land for longer than two years prior to final use or disposal; and~~

~~\_\_\_\_\_ (v) \_\_\_\_\_ The approximate time period when the biosolids will be used or disposed.~~

~~\_\_\_\_\_ (c) \_\_\_\_\_ This part does not apply to biosolids treated on the land or to the land on which biosolids are treated.~~

~~\_\_\_\_\_ (d) \_\_\_\_\_ Application of biosolids to the land for treatment and storage of biosolids are regulated under separate provisions of Chapter 11, Wyoming Water Quality Rules and Regulations.~~

~~Section 21. Special definitions.~~

~~(a) "Active biosolids unit" is a biosolids unit that has not closed.~~

~~(b) "Aquifer" is a geologic formation, group of geologic formations, or a portion of a geologic formation capable of yielding ground water to wells or springs.~~

~~(c) "Biosolids unit" is land on which only biosolids are placed for final disposal. This does not include land on which biosolids are either stored or treated. Land does not include waters of the state, as defined in W.S. 35-11-103 (c) (vi).~~

~~(d) "Biosolids unit boundary" is the outermost perimeter of an active biosolids unit.~~

~~(e) "Contaminate an aquifer" means to introduce a substance that causes the maximum contaminant level for nitrate in Chapter 8, Wyoming Water Quality Rules and Regulations to be exceeded in ground water or that causes the existing concentration of nitrate in ground water to increase when the existing concentration of nitrate in the ground water exceeds the maximum contaminant level for nitrate in Chapter 8, Wyoming Water Quality Rules and Regulations.~~

~~(f) "Cover" is soil or other material used to cover biosolids placed on an active biosolids unit.~~

~~(g) "Displacement" is the relative movement of any two sides of a fault measured in any direction.~~

~~(h) "Fault" is a fracture or zone of fractures in any materials along which strata on one side are displaced with respect to strata on the other side.~~

~~(i) "Final cover" is the last layer of soil or other material placed on a biosolids unit at closure.~~

~~(j) "Holocene time" is the most recent epoch of the Quaternary period, extending from the end of the Pleistocene epoch to the present.~~

~~(k) "Leachate collection system" is a system or device installed immediately above a liner that is designed, constructed, maintained, and operated to collect and remove leachate from a biosolids unit.~~

~~(l) "Liner" is soil or synthetic material that has a hydraulic conductivity of  $1 \times 10^{-7}$  centimeters per second or less.~~

~~(m) "Lower explosive limit for methane gas" is the lowest percentage of methane gas in air, by volume, that propagates a flame at 25 degrees Celsius and atmospheric pressure.~~

~~\_\_\_\_\_ (n) \_\_\_\_\_ “Qualified ground water scientist” is an individual with a baccalaureate or post-graduate degree in the natural sciences or engineering who has sufficient training and experience in ground water hydrology and related fields, as may be demonstrated by State registration, professional certification, or completion of accredited university programs, to make sound professional judgments regarding ground water monitoring, pollutant fate and transport, and corrective action.~~

~~\_\_\_\_\_ (o) \_\_\_\_\_ “Seismic impact zone” is an area that has a ten percent (10%) or greater probability that the horizontal ground level acceleration of the rock in the area exceeds 0.10 gravity once in 250 years.~~

~~\_\_\_\_\_ (p) \_\_\_\_\_ “Surface disposal site” is an area of land that contains one or more active biosolids units.~~

~~\_\_\_\_\_ (q) \_\_\_\_\_ “Unstable area” is land subject to natural or human induced forces that may damage the structural components of an active biosolids unit. This includes, but is not limited to, land on which the soils are subject to mass movement.~~

~~\_\_\_\_\_ Section 22. \_\_\_\_\_ **General requirements.**~~

~~\_\_\_\_\_ (a) \_\_\_\_\_ No person shall place biosolids on an active biosolids unit unless the requirements in this part are met.~~

~~\_\_\_\_\_ (b) \_\_\_\_\_ An active biosolids unit located within 60 meters of a fault that has displacement in Holocene time; located in an unstable area; or located in a wetland, except as provided in a permit issued pursuant to Sections 402 or 404 of the CWA, shall close within one year after the adoption of this chapter, unless, in the case of an active biosolids unit located within 60 meters of a fault that has displacement in Holocene time, approval is obtained from the permitting authority.~~

~~\_\_\_\_\_ (c) \_\_\_\_\_ The owner/operator of an active biosolids unit shall submit a written closure and post closure plan to the permitting authority 180 days prior to the date that the active biosolids unit closes. The plan shall describe how the biosolids unit will be closed and, at a minimum, shall include:~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ A discussion of how the leachate collection system will be operated and maintained for three years after the biosolids unit closes if the biosolids unit has a liner and leachate collection system;~~

~~\_\_\_\_\_ (ii) \_\_\_\_\_ A description of the system used to monitor for methane gas in the air in any structures within the surface disposal site and in the air at the property line of the surface disposal site, as required in Section 24 (1); and~~

~~\_\_\_\_\_ (iii) \_\_\_\_\_ A discussion of how public access to the surface disposal site will be restricted for three years after the last biosolids unit in the surface disposal site closes.~~

~~(d) The owner of a surface disposal site shall provide written notification to the subsequent owner of the site that biosolids were placed on the land.~~

~~Section 23. **Pollutant limits (other than domestic septage).**~~

~~(a) Active biosolids unit without a liner and leachate collection system.~~

~~(i) Except as provided in Section 23 (a) (ii) and 23 (b), the concentration of each pollutant listed in Table 1 of Section 23 in biosolids placed on an active biosolids unit shall not exceed the concentration listed for the pollutant in Table 1 of Section 23.~~

~~Table 1 Of Section 23  
Pollutant Concentrations—Active Biosolid Unit  
Without a Liner And Leachate Collection System~~

<del>Pollutant</del>	<del>Concentration (milligrams per kilogram*)</del>
<del>Arsenic</del>	<del>73</del>
<del>Chromium</del>	<del>600</del>
<del>Nickel</del>	<del>420</del>

~~\* Dry weight basis~~

~~(ii) Except as provided in Section 23 (b), the concentration of each pollutant listed in Table 1 of Section 23 in biosolids placed on an active biosolids unit with a boundary less than 150 meters from the property line of the surface disposal site shall not exceed the concentration determined using the following procedure.~~

~~(A) The actual distance from the active biosolids unit boundary to the property line of the surface disposal site shall be determined.~~

~~(B) The concentration of each pollutant listed in Table 2 of Section 23 in the biosolids shall not exceed the concentration in Table 2 of Section 23 that corresponds to the actual distance in Section 23 (a) (ii) (A).~~

Table 2 Of Section 23  
 Pollutant Concentrations—Active Biosolids Unit Without a Liner and  
 Leachate Collection System That Has a Unit Boundary to Property Line  
 Distance less than 150 Meters

Unit boundary to property line distance (meters)	<u>Pollutant concentration*</u>		
	<u>Arsenic (mg/kg)</u>	<u>Chromium (mg/kg)</u>	<u>Nickel (mg/kg)</u>
0 to less than 25	30	200	210
25 to less than 50	34	220	240
50 to less than 75	39	260	270
75 to less than 100	46	300	320
100 to less than 125			
	53	360	390
125 to less than 150	62	450	420

\* Dry weight basis

~~(b) Active biosolids unit without a liner and leachate collection system—site specific limits.~~

~~(i) At the time of permit application, the owner/operator of a surface disposal site may request site specific pollutant limits in accordance with Section 23 (b) (ii) for an active biosolids unit without a liner and leachate collection system when the existing values for site parameters specified by the permitting authority are different from the values for those parameters used to develop the pollutant limits in Table 1 of Section 23 and when the permitting authority determines that site specific pollutant limits are appropriate for the active biosolids unit.~~

~~(ii) The concentration of each pollutant listed in Table 1 of Section 23 in biosolids placed on an active biosolids unit without a liner and leachate collection system shall not exceed either the concentration for the pollutant determined during a site specific assessment, as specified by the permitting authority, or the existing concentration of the pollutant in the biosolids, whichever is lower.~~

~~Section 24. Management practices.~~

~~(a) Under the provisions of 40 CFR Part 503, the United State Environmental Protection Agency is authorized to ensure that bulk biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under Section 4 of the Endangered Species Act or its designated critical habitat. No similar authority is provided to the Water Quality Division, Department of Environmental Quality.~~

~~(b) An active biosolids unit shall not restrict the flow of a base flood (i.e., a flood with a magnitude equaled once in 100 years).~~

- ~~———— (c) ——— When a surface disposal site is located in a seismic impact zone, an active biosolids unit shall be designed to withstand the maximum recorded horizontal ground level acceleration.~~
- ~~———— (d) ——— An active biosolids unit shall be located 60 meters or more from a fault that has displacement in Holocene time, unless otherwise specified by the permitting authority.~~
- ~~———— (e) ——— An active biosolids unit shall not be located in an unstable area.~~
- ~~———— (f) ——— An active biosolids unit shall not be located in a wetland, except as provided in a permit issued pursuant to Chapter 2, Wyoming Water Quality Rules and Regulations.~~
- ~~———— (g) ——— Run-off from an active biosolids unit shall be collected and shall be disposed in accordance with National Pollutant Discharge Elimination System permit requirements and any other applicable requirements.~~
- ~~———— (h) ——— The run-off collection system for an active biosolids unit shall have the capacity to handle run-off from a 24-hour, 25-year storm event.~~
- ~~———— (i) ——— The leachate collection system for an active biosolids unit that has a liner and leachate collection system shall be operated and maintained during the period the biosolids unit is active and for three years after the biosolids unit closes.~~
- ~~———— (j) ——— Leachate from an active biosolids unit that has a liner and leachate collection system shall be collected and shall be disposed in accordance with the applicable requirements during the period the biosolids unit is active and for three years after the biosolids unit closes.~~
- ~~———— (k) ——— When a cover is placed on an active biosolids unit, the concentration of methane gas in air in any structure within the surface disposal site shall not exceed 25% of the lower explosive limit for methane gas during the period that the biosolids unit is active and the concentration of methane gas in air at the property line of the surface disposal site shall not exceed the lower explosive limit for methane gas during the period that the biosolids unit is active.~~
- ~~———— (l) ——— When a final cover is placed on a biosolids unit at closure, the concentration of methane gas in the air in any structure within the surface disposal site shall not exceed 25% of the lower explosive limit for methane gas for three years after the biosolids unit closes and the concentration of methane gas in the air at the property line of the surface disposal site shall not exceed the lower explosive limit for methane gas for three years after the biosolids unit closes, unless otherwise specified by the permitting authority.~~
- ~~———— (m) ——— A food crop, a feed crop, or a fiber crop shall not be grown on an active biosolids unit, unless the owner/operator of the surface disposal site demonstrates to the permitting authority that through management practices public health and the environment are protected from any reasonably anticipated adverse effects of pollutants in biosolids when crops are grown.~~

~~———— (n) ——— Animals shall not be grazed on an active biosolids unit, unless the owner/ operator of the surface disposal site demonstrates to the permitting authority that through management practices public health and the environment are protected from any reasonably anticipated adverse effects of pollutants in biosolids when animals are grazed.~~

~~———— (o) ——— Public access to a surface disposal site shall be restricted for the period that the surface disposal site contains an active biosolids unit and for three years after the last active biosolids unit in the surface disposal site closes.~~

~~———— (p) ——— Biosolids placed on an active biosolids unit shall not contaminate an aquifer.~~

~~———— (q) ——— Results of a ground water monitoring program developed by a qualified ground water scientist or a certification by a qualified ground water scientist shall be used to demonstrate that biosolids placed on an active biosolids unit does not contaminate an aquifer.~~

~~———— Section 25. ——— **Operational standards – pathogens and vector attraction reduction.**~~

~~———— (a) ——— Pathogens – biosolids (other than domestic septage). The Class A pathogens requirements in Section 31 (a) or one of the Class B pathogen requirements in Section 31 (b) (iii) through (b) (v) shall be met when biosolids are placed on an active biosolids unit, unless the vector attraction reduction requirement in Section 32 (q) is met.~~

~~———— (b) ——— Vector attraction reduction – biosolids (other than domestic septage). One of the vector attraction reduction requirements in Section 32 (f) through (q) shall be met when biosolids is placed on an active biosolids unit.~~

~~———— (c) ——— Vector attraction reduction – domestic septage. One of the vector attraction reduction requirements in Section 32 (n) through (r) shall be met when domestic septage is placed on an active biosolids unit.~~

~~———— Section 26. ——— **Frequency of monitoring.**~~

~~———— (a) ——— Biosolids (other than domestic septage).~~

~~———— (i) ——— The frequency of monitoring for the pollutants in Tables 1 and 2 of Section 23; ——— the pathogen density requirements in Section 31 (a) and in Section 31 (b) (iii) through (b) (v); and the vector attraction reduction requirements in Section 32 (f) through (m) for biosolids placed on an active biosolids unit shall be the frequency in Table 1 of Section 26. The preparer of the biosolids shall conduct the monitoring required by this section.~~

Table 1 Of Section 26  
Frequency of Monitoring—Surface Disposal

<u>Amount of biosolids*</u> <u>(metric tons per 365 day period)</u>	<u>Frequency</u>
Greater than zero but less than 290	Once per year
Equal to or greater than 290 but less than 1,500	Once per quarter (four times per year)
Equal to or greater than 1,500 but less than 15,000	Once per 60 days (six times per year)
Equal to or greater than 15,000	Once per month (12 times per year)

\* Amount of biosolids placed on an active biosolids unit (dry weight basis).

~~\_\_\_\_\_ (ii) \_\_\_\_\_ After the biosolids have been monitored for two years at the frequency in Table 1 of Section 26, the permitting authority may reduce the frequency of monitoring for pollutant concentrations and for the pathogen density requirements in Section 31 (a) (v) (B) through (I), but in no case shall the frequency of monitoring be less than once per year when biosolids are placed on an active biosolids unit.~~

~~\_\_\_\_\_ (b) \_\_\_\_\_ Domestic septage. If the vector attraction reduction requirements in Section 32 (f) are met when domestic septage is placed on an active biosolids unit, each container of domestic septage shall be monitored for compliance with those requirements.~~

~~\_\_\_\_\_ (c) \_\_\_\_\_ Air. Air in structures within a surface disposal site and at the property line of the surface disposal site shall be monitored continuously for methane gas during the period that the surface disposal site contains an active biosolids unit on which the biosolids is covered and for three years after a biosolids unit closes when a final cover is placed on the biosolids.~~

~~\_\_\_\_\_ Section 27. \_\_\_\_\_ **Record keeping.**~~

~~\_\_\_\_\_ (a) \_\_\_\_\_ When biosolids (other than domestic septage) are placed on an active biosolids unit:~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ The person who prepares the biosolids shall develop the following information and shall retain the information for five (5) years:~~

~~\_\_\_\_\_ (A) \_\_\_\_\_ The concentration of each pollutant listed in Table 1 of Section 23 in the biosolids when the pollutant concentrations in Table 1 of Section 23 are met;~~

~~\_\_\_\_\_ (B) \_\_\_\_\_ The following certification statement: “I certify, under penalty of law, that the pathogen requirements in [insert Section 31 (a), (b) (iii), (b) (iv), or (b) (v) when one of those requirements is met] of Chapter 15, Wyoming Water Quality Rules and Regulations and~~



~~the vector attraction reduction requirements in [insert one of the vector attraction reduction requirements in Section 32 (f) through (m) when one of those requirements is met] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine the [pathogen requirements and vector attraction reduction requirements if appropriate] have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment.”;~~

~~\_\_\_\_\_ (C) \_\_\_\_\_ A description of how the pathogen requirements in Section 31 (a), (b) (iii), (b) (iv), or (b) (v) are met when one of those requirements is met; and~~

~~\_\_\_\_\_ (D) \_\_\_\_\_ A description of how one of the vector attraction reduction requirements in Section 32 (f) through (m) is met when one of those requirements is met.~~

~~\_\_\_\_\_ (ii) \_\_\_\_\_ The owner/operator of the surface disposal site shall develop the following information and shall retain the following information for five (5) years:~~

~~\_\_\_\_\_ (A) \_\_\_\_\_ The concentration of each pollutant listed in Table 2 of Section 23 in the biosolids when the pollutant concentrations in Table 2 of Section 23 are met or when site specific pollutant limits in Section 23 (b) are met;~~

~~\_\_\_\_\_ (B) \_\_\_\_\_ The following certification statement: “I certify, under penalty of law, that the management practices in Section 24 and the vector attraction reduction requirement in [insert one of the requirements in Section 32 (n) through (q) if one of those requirements is met] of Chapter 15, Wyoming Water Quality Rules and Regulations have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices [and the vector attraction reduction requirements if appropriate] have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment.”;~~

~~\_\_\_\_\_ (C) \_\_\_\_\_ A description of how the management practices in Section 24 are met; and~~

~~\_\_\_\_\_ (D) \_\_\_\_\_ A description of how the vector attraction reduction requirements in Section 32 (n) through (q) are met if one of those requirements is met.~~

~~\_\_\_\_\_ (b) \_\_\_\_\_ When domestic septage is placed on a surface disposal site:~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ If the vector attraction reduction requirements in Section 32 (r) are met, the person who places the domestic septage on the surface disposal site shall develop the following information and shall retain the information for five (5) years:~~

~~\_\_\_\_\_ (A) \_\_\_\_\_ The following certification statement: “I certify, under penalty of law, that the vector attraction reduction requirements in Section 32 (r) of Chapter 15, Wyoming Water Quality Rules and Regulations have been met. This determination has been made under my~~

~~direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector attraction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment.”; and~~

~~\_\_\_\_\_ (B) \_\_\_\_\_ A description of how the vector attraction reduction requirements in Section 32 (r) are met.~~

~~\_\_\_\_\_ (ii) \_\_\_\_\_ The owner/operator of the surface disposal site shall develop the following information and shall retain that information for five (5) years:~~

~~\_\_\_\_\_ (A) \_\_\_\_\_ The following certification statement: “I certify, under penalty of law, that the management practices in Section 24 of Chapter 15, Wyoming Water Quality Rules and Regulations and the vector attraction reduction requirements in [insert Section 32 (n) through (q) when one of those requirements is met] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices [and the vector attraction reduction requirements if appropriate] have been met. I am aware that there are significant penalties for false certification including the possibility of fines and imprisonment.”;~~

~~\_\_\_\_\_ (B) \_\_\_\_\_ A description of how the management practices in Section 24 are met; and~~

~~\_\_\_\_\_ (C) \_\_\_\_\_ A description how the vector attraction reduction requirements in Section 32 (n) through (q) are met if one of those requirements is met.~~

~~\_\_\_\_\_ Section 28. \_\_\_\_\_ **Reporting.**~~

~~\_\_\_\_\_ (a) \_\_\_\_\_ Biosolids management facilities shall submit the information in Section 27 (a) to the permitting authority on February 19 of each year.~~

**PART D**  
**PATHOGEN AND VECTOR ATTRACTION REDUCTION**

~~Section 29. Scope.~~

~~(a) This part contains the requirements for a biosolids to be classified either Class A or Class B with respect to pathogens.~~

~~(b) This part contains the site restrictions for land on which Class B biosolids are applied.~~

~~(c) This part contains the pathogen requirements for domestic septage applied to agricultural land, forest, or a reclamation site.~~

~~(d) This part contains alternative vector attraction reduction requirements for biosolids that are applied to the land or placed on a surface disposal site.~~

~~Section 30. Special definitions.~~

~~(a) "Aerobic digestion" is the biochemical decomposition of organic matter in biosolids into carbon dioxide and water by microorganisms in the presence of air.~~

~~(b) "Anaerobic digestion" is the biochemical decomposition of organic matter in biosolids into methane gas and carbon dioxide by microorganisms in the absence of air.~~

~~(c) "Density of microorganisms" is the number of microorganisms per unit mass of total solids (dry weight) in the biosolids.~~

~~(d) "Land with a high potential for public exposure" is land that the public uses frequently. This includes, but is not limited to, a public contact site and a reclamation site located in a populated area (e.g., a construction site located in a city).~~

~~(e) "Land with a low potential for public exposure" is land that the public uses infrequently. This includes, but is not limited to, agricultural land, forest, and a reclamation site located in an unpopulated area (e.g., a strip mine located in a rural area).~~

~~(f) "Pathogenic organisms" are disease-causing organisms. These include, but are not limited to, certain bacteria, protozoa, viruses, and viable helminth ova.~~

~~(g) "pH" means the logarithm of the reciprocal of the hydrogen ion concentration.~~

~~(h) "Specific oxygen uptake rate (SOUR)" is the mass of oxygen consumed per unit time per unit mass of total solids (dry weight basis) in the biosolids.~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ “Total solids” are the materials in biosolids that remain as residue when the biosolids is dried at 103 to 105 degrees Celsius.~~

~~\_\_\_\_\_ (j) \_\_\_\_\_ “Unstabilized solids” are organic materials in biosolids that have not been treated in either an aerobic or anaerobic treatment process.~~

~~\_\_\_\_\_ (k) \_\_\_\_\_ “Vector attraction” is the characteristic of biosolids that attracts rodents, flies, mosquitos, or other organisms capable of transporting infectious agents.~~

~~\_\_\_\_\_ (l) \_\_\_\_\_ “Volatile solids” is the amount of the total solids in biosolids lost when the biosolids are combusted at 550 degrees Celsius in the presence of excess air.~~

~~\_\_\_\_\_ Section 31. \_\_\_\_\_ **Pathogens.**~~

~~\_\_\_\_\_ (a) \_\_\_\_\_ Biosolids Class A.~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ The requirement in Section 31 (a) (ii) and the requirements in either Section 31 (a) (iii), (a) (iv), (a) (v), (a) (vi), (a) (vii), or (a) (viii) shall be met for a biosolids to be classified Class A with respect to pathogens.~~

~~\_\_\_\_\_ (ii) \_\_\_\_\_ The Class A pathogen requirements in Section 31 (a) (iii) through (viii) shall be met either prior to meeting or at the same time the vector attraction reduction requirements in Section 32, except the vector attraction reduction requirements in Section 32 (k) through (m), are met. (iii) Class A Alternative 1.~~

~~\_\_\_\_\_ (A) \_\_\_\_\_ Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the biosolids shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the biosolids is used or disposed; at the time the biosolids is prepared for sale or give away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids is prepared to meet the requirements in Section 11 (b) through (e), (g) or (h).~~

~~\_\_\_\_\_ (B) \_\_\_\_\_ The temperature of the biosolids that are used or disposed shall be maintained at a specific value for a period of time.~~

~~\_\_\_\_\_ (1) \_\_\_\_\_ When the percent solids of the biosolids is seven percent (7%) or higher, the temperature of the biosolids shall be 50 degrees Celsius or higher; the time period shall be 20 minutes or longer; and the temperature and time period shall be determined using equation (2), except when small particles of biosolids are heated by either warmed gases or an immiscible liquid.~~

Eq.(2)

$$D = \frac{131,700,000}{10^{0.1400t}}$$

Where,

D = time in days.

t = temperature in degrees Celsius.

(II) When the percent solids of the biosolids is seven percent (7%) or higher and small particles of biosolids are heated by either warmed gases or an immiscible liquid, the temperature of the biosolids shall be 50 degrees Celsius or higher; the time period shall be 15 seconds or longer; and the temperature and time period shall be determined using equation (2).

(III) When the percent solids of the biosolids is less than seven percent (7%) and the time period is at least 15 seconds, but less than 30 minutes, the temperature and time period shall be determined using equation (2).

(IV) When the percent solids of the biosolids is less than seven percent (7%); the temperature of the biosolids is 50 degrees Celsius or higher; and the time period is 30 minutes or longer, the temperature and time period shall be determined using equation (3).

Eq.(3)

$$D = \frac{50,070,000}{10^{0.1400t}}$$

Where,

D = time in days.

t = temperature in degrees Celsius.

(iv) Class A Alternative 2.

(A) Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the biosolids shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the biosolids is used or disposed; at the time

~~the biosolids is prepared for sale or give away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids is prepared to meet the requirements in Section 11 (b) through (e), (g) or (h).~~

~~\_\_\_\_\_ (B) \_\_\_\_\_ The pH of the biosolids that is used or disposed shall be raised to above 12 and shall remain above 12 for 72 hours.~~

~~\_\_\_\_\_ (C) \_\_\_\_\_ The temperature of the biosolids shall be above 52 degrees Celsius for 12 hours or longer during the period that the pH of the biosolids is above 12.~~

~~\_\_\_\_\_ (D) \_\_\_\_\_ At the end of the 72-hour period during which the pH of the biosolids is above 12, the biosolids shall be air dried to achieve a percent solids in the biosolids greater than 50 %.~~

~~\_\_\_\_\_ (v) \_\_\_\_\_ Class A – Alternative 3.~~

~~\_\_\_\_\_ (A) \_\_\_\_\_ Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in biosolids shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the biosolids is used or disposed; at the time the biosolids is prepared for sale or give away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids is prepared to meet the requirements in Section 11 (b) through (e), (g) or (h).~~

~~\_\_\_\_\_ (B) \_\_\_\_\_ The biosolids shall be analyzed prior to pathogen treatment to determine whether the biosolids contain enteric viruses.~~

~~\_\_\_\_\_ (C) \_\_\_\_\_ When the density of enteric viruses in the biosolids prior to pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis), the biosolids is Class A with respect to enteric viruses until the next monitoring episode for the biosolids.~~

~~\_\_\_\_\_ (D) \_\_\_\_\_ When the density of enteric viruses in the biosolids prior to pathogen treatment is equal to or greater than one Plaque-forming Unit per four grams of total solids (dry weight basis), the biosolids are Class A with respect to enteric viruses when the density of enteric viruses in the biosolids after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) and when the values or ranges of values for the operating parameters for the pathogen treatment process that produces the biosolids that meets the enteric virus density requirement are documented.~~

~~\_\_\_\_\_ (E) \_\_\_\_\_ After the enteric virus reduction in (a) (v) (D) of this subsection is demonstrated for the pathogen treatment process, the biosolids continues to be Class A with respect to enteric viruses when the values for the pathogen treatment process operating parameters are consistent with the values or ranges of values documented in (a) (v) (D) of this subsection.~~

~~\_\_\_\_\_ (F) \_\_\_\_\_ The biosolids shall be analyzed prior to pathogen treatment to determine whether the biosolids contains viable helminth ova.~~

~~\_\_\_\_\_ (G) \_\_\_\_\_ When the density of viable helminth ova in the biosolids prior to pathogen treatment is less than one per four grams of total solids (dry weight basis), the biosolids is Class A with respect to viable helminth ova until the next monitoring episode for the biosolids.~~

~~\_\_\_\_\_ (H) \_\_\_\_\_ When the density of viable helminth ova in the biosolids prior to pathogen treatment is equal to or greater than one per four grams of total solids (dry weight basis), the biosolids is Class A with respect to viable helminth ova when the density of viable helminth ova in the biosolids after pathogen treatment is less than one per four grams of total solids (dry weight basis) and when the values or ranges of values for the operating parameters for the pathogen treatment process that produces the biosolids that meets the viable helminth ova density requirement are documented.~~

~~\_\_\_\_\_ (I) \_\_\_\_\_ After the viable helminth ova reduction in (a) (v) (C) of this subsection is demonstrated for the pathogen treatment process, the biosolids continues to be Class A with respect to viable helminth ova when the values for the pathogen treatment process operating parameters are consistent with the values or ranges of values documented in (a) (v) (C) of this subsection.~~

~~\_\_\_\_\_ (vi) \_\_\_\_\_ Class A – Alternative 4.~~

~~\_\_\_\_\_ (A) \_\_\_\_\_ Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the biosolids shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the biosolids is used or disposed; at the time the biosolids is prepared for sale or give away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids is prepared to meet the requirements in Section 11 (b) through (e), (g) or (h).~~

~~\_\_\_\_\_ (B) \_\_\_\_\_ The density of enteric viruses in the biosolids shall be less than one Plaque forming Unit per four grams of total solids (dry weight basis) at the time the biosolids is used or disposed; at the time the biosolids is prepared for sale or give away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids is prepared to meet the requirements in Section 11 (b) through (e), (g) or (h), unless otherwise specified by the permitting authority.~~

~~\_\_\_\_\_ (C) \_\_\_\_\_ The density of viable helminth ova in the biosolids shall be less than one per four grams of total solids (dry weight basis) at the time the biosolids is used or disposed; at the time the biosolids is prepared for sale or give away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids is prepared to meet the requirements in Section 11 (b) through (e), (g) or (h), unless otherwise specified by the permitting authority.~~

~~\_\_\_\_\_ (vii) \_\_\_\_\_ Class A – Alternative 5.~~

~~(A) — Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella, sp. bacteria in the biosolids shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the biosolids is used or disposed; at the time the biosolids is prepared for sale or give away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids is prepared to meet the requirements in Section 11 (b) through (e), (g) or (h).~~

~~(B) — Biosolids that are used or disposed shall be treated in one of the Processes to Further Reduce Pathogens described in Appendix B.~~

~~(viii) — Class A — Alternative 6.~~

~~(A) — Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella, sp. bacteria in the biosolids shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the biosolids is used or disposed; at the time the biosolids is prepared for sale or give away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids is prepared to meet the requirements in Section 11 (b) through (e), (g) or (h).~~

~~(B) — Biosolids that are used or disposed shall be treated in a process that is equivalent to a Process to Further Reduce Pathogens, see Appendix B, as determined by the permitting authority.~~

~~(b) — Biosolids — Class B.~~

~~(i) — The requirements in one of the following will be met, Section 31 (b) (iii), (b) (iv), or (b) (v), for biosolids to be classified Class B with respect to pathogens.~~

~~(ii) — The site restrictions in Section 31 (b) (vi) shall be met when biosolids that meets the Class B pathogen requirements in Section 31 (b) (iii), (b) (iv), or (b) (v) is applied to the land.~~

~~(iii) — Class B — Alternative 1.~~

~~(A) — Seven samples of the biosolids shall be collected at the time the biosolids are used or disposed.~~

~~(B) — The geometric mean of the density of fecal coliform in the samples collected in (b) (iii) (A) of this subsection shall be less than either 2,000,000 Most Probable Number per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).~~



~~\_\_\_\_\_ (iv) \_\_\_\_\_ Class B – Alternative 2. Biosolids that are used or disposed shall be treated in one of the Processes to Significantly Reduce Pathogens described in Appendix B.~~

~~\_\_\_\_\_ (v) \_\_\_\_\_ Class B – Alternative 3. Biosolids that are used or disposed shall be treated in a process that is equivalent to a Process to Significantly Reduce Pathogens, as determined by the permitting authority.~~

~~\_\_\_\_\_ (vi) \_\_\_\_\_ Site Restrictions.~~

~~\_\_\_\_\_ (A) \_\_\_\_\_ Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.~~

~~\_\_\_\_\_ (B) \_\_\_\_\_ Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remains on the land surface for four months or longer prior to incorporation into the soil.~~

~~\_\_\_\_\_ (C) \_\_\_\_\_ Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remains on the land surface for less than four months prior to incorporation into the soil.~~

~~\_\_\_\_\_ (D) \_\_\_\_\_ Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.~~

~~\_\_\_\_\_ (E) \_\_\_\_\_ Animals shall not be allowed to graze on the land for 30 days after application of biosolids.~~

~~\_\_\_\_\_ (F) \_\_\_\_\_ Turf grown on land where biosolids are applied shall not be harvested for one year after application of the biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the permitting authority. \_\_\_\_\_~~

~~\_\_\_\_\_ (G) \_\_\_\_\_ Public access to land with a high potential for public exposure shall be restricted for one year after application of biosolids.~~

~~\_\_\_\_\_ (H) \_\_\_\_\_ Public access to land with a low potential for public exposure shall be restricted for 30 days after application of biosolids.~~

~~\_\_\_\_\_ (c) \_\_\_\_\_ Domestic septage.~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ The site restrictions in Section 31 (b) (vi) shall be met when domestic septage is applied to agricultural land, forest, or a reclamation site; or~~

~~\_\_\_\_\_ (ii) \_\_\_\_\_ The pH of domestic septage applied to agricultural land, forest, or a reclamation site shall be raised to 12 or higher by alkali addition and, without the addition of~~

more alkali, shall remain at 12 or higher for 30 minutes and the site restrictions in Section 31 (b) (vi) (A) through (b)(vi) (D) shall be met.

~~\_\_\_\_\_ (iii) \_\_\_\_\_ The requirements of this section are satisfied by compliance with the conditions in a General Statewide Permit for Land Application of Domestic Sewage In Remote Areas, see Appendix C.~~

~~\_\_\_\_\_ Section 32. \_\_\_\_\_ **Vector attraction reduction.**~~

~~\_\_\_\_\_ (a) \_\_\_\_\_ One of the vector attraction reduction requirements in Section 32 (f) through (p) shall be met when bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site.~~

~~\_\_\_\_\_ (b) \_\_\_\_\_ One of the vector attraction reduction requirements in Section 32 (f) through (m) shall be met when bulk biosolids are applied to a lawn or a home garden.~~

~~\_\_\_\_\_ (c) \_\_\_\_\_ One of the vector attraction reduction requirements in Section 32 (f) through (m) shall be met when biosolids are sold or given away in a bag or other container for application to the land.~~

~~\_\_\_\_\_ (d) \_\_\_\_\_ One of the vector attraction reduction requirements in Section 32 (f) through (q) shall be met when biosolids (other than domestic septage) are placed on an active biosolids unit.~~

~~\_\_\_\_\_ (e) \_\_\_\_\_ One of the vector attraction reduction requirements in Section 32 (n), (o) and (p), or (r) shall be met when domestic septage is applied to agricultural land, forest, or a reclamation site and one of the vector attraction reduction requirements in Section 32 (n) through (r) shall be met when domestic septage is placed on an active biosolids unit. Compliance with the conditions of a General Statewide Permit for Land Application of Domestic Sewage In Remote Areas satisfies the requirements of this section.~~

~~\_\_\_\_\_ (f) The mass of volatile solids in the biosolids shall be reduced by a minimum of 38%.~~

~~\_\_\_\_\_ (g) When the 38% volatile solids reduction requirement in Section 32 (f) cannot be met for an anaerobically digested biosolids, vector attraction reduction can be demonstrated by digesting a portion of the previously digested biosolids anaerobically in the laboratory in a bench scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. When at the end of the 40 days, the volatile solids in the biosolids at the beginning of that period is reduced by less than 17%, vector attraction reduction is achieved.~~

~~\_\_\_\_\_ (h) \_\_\_\_\_ When the 38% volatile solids reduction requirement in Section 32 (f) cannot be met for an aerobically digested biosolids, vector attraction reduction can be demonstrated by digesting a portion of the previously digested biosolids that has a percent solids of two percent (2%) or less aerobically in the laboratory in a bench scale unit for 30 additional days at 20 degrees Celsius. When at the end of the 30 days, the volatile solids in the biosolids at the beginning of that period is reduced by less than 15%, vector attraction reduction is achieved.~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ The specific oxygen uptake rate (SOUR) for biosolids treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.~~

~~\_\_\_\_\_ (j) \_\_\_\_\_ Biosolids shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the biosolids shall be higher than 40 degrees Celsius and the average temperature of the biosolids shall be higher than 45 degrees Celsius.~~

~~\_\_\_\_\_ (k) \_\_\_\_\_ The pH of biosolids shall be raised to 12 or higher by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for two hours and then at 11.5 or higher for an additional 22 hours.~~

~~\_\_\_\_\_ (l) \_\_\_\_\_ The percent solids of biosolids that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 % based on the moisture content and total solids prior to mixing with other materials.~~

~~\_\_\_\_\_ (m) \_\_\_\_\_ The percent solids of biosolids that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90% based on the moisture content and total solids prior to mixing with other materials.~~

~~\_\_\_\_\_ (n) \_\_\_\_\_ Biosolids shall be injected below the surface of the land.~~

~~\_\_\_\_\_ (i) \_\_\_\_\_ No significant amount of the biosolids shall be present on the land surface within one hour after the biosolids are injected.~~

~~\_\_\_\_\_ (ii) \_\_\_\_\_ When the biosolids that are injected below the surface of the land is Class A with respect to pathogens, the biosolids shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.~~

~~\_\_\_\_\_ (o) \_\_\_\_\_ Biosolids applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land.~~

~~\_\_\_\_\_ (p) \_\_\_\_\_ When biosolids that are incorporated into the soil are Class A with respect to pathogens, the biosolids shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process.~~

~~(q) Biosolids placed on an active biosolids unit shall be covered with soil or other material at the end of each operating day.~~

~~(r) The pH of domestic septage shall be raised to 12 or higher by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for 30 minutes.~~

~~(s) Compliance with the conditions of a General Statewide Permit for Land Application In Remote Areas, see Appendix C, is considered equivalent to these vector attraction reduction requirements.~~

APPENDIX A  
Procedure to Determine The Annual Whole Sludge  
Application Rate For Biosolids

Section 14 (a) (iv) (B) requires that the product of the concentration for each pollutant listed in Table 4 of Section 14 in biosolids sold or given away in a bag or other container for application to the land and the annual whole sludge application rate (AWSAR) for the biosolids not cause the annual pollutant loading rate for the pollutant in Table 4 of Section 14 to be exceeded. This appendix contains the procedure used to determine the AWSAR for a biosolids that does not cause the annual pollutant loading rates in Table 4 of Section 14 to be exceeded. The relationship between the annual pollutant loading rate (APLR) for a pollutant and the annual whole sludge application rate (AWSAR) for a biosolids is shown in equation (1).

$$APLR = C \times AWSAR \times 0.001 \quad (1)$$

Where:

APLR = Annual pollutant loading rate in kilograms per hectare per 365 day period.

C = Pollutant concentration in milligrams per kilogram of total solids (dry weight basis).

AWSAR = Annual whole sludge application rate in metric tons per hectare per 365 day period (dry weight basis).

0.001 = A conversion factor.

To determine the AWSAR, equation (1) is rearranged into equation (2):

$$AWSAR = \frac{APLR}{C \times 0.001} \quad (2)$$

The procedure used to determine the AWSAR for a biosolids is presented below:

**PROCEDURE:**

(i) Analyze a sample of the biosolids to determine the concentration for each of the pollutants listed in Table 4 of Section 14 in the biosolids.

(ii) Using the pollutant concentrations from Step 1 and the APLRs from Table 4 of Section 14, calculate an AWSAR for each pollutant using equation (2) above.

(iii) The AWSAR for the biosolids is the lowest AWSAR calculated in Step 2.

**APPENDIX B**  
**Pathogen Treatment Processes**

~~———— (a) ——— Process to Significantly Reduce Pathogens (PSRF).~~

~~———— (i) ——— Aerobic digestion. Biosolids are agitated with air or oxygen to maintain aerobic conditions for a specific mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 40 days at 20 degrees Celsius and 60 days at 15 degrees Celsius.~~

~~———— (ii) ——— Air drying. Biosolids are dried on sand beds or on paved or unpaved basins. The biosolids dries for a minimum of three months. During two of the three months, the ambient average daily temperature is above zero degrees Celsius.~~

~~———— (iii) ——— Anaerobic digestion. Biosolids are treated in the absence of air for a specific mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 15 days at 35 to 55 degrees Celsius and 60 days at 20 degrees Celsius.~~

~~———— (iv) ——— Composting. Using either the within vessel, static aerated pile, or windrow composting methods, the temperature of the biosolids is raised to 40 degrees Celsius or higher and remains at 40 degrees Celsius or higher for five days. For four hours during the five days, the temperature in the compost pile exceeds 55 degrees Celsius.~~

~~———— (v) ——— Lime stabilization. Sufficient lime is added to the biosolids to raise the pH of the biosolids to 12 after two hours of contact.~~

~~———— (b) ——— Process to Further Reduce Pathogens (PFRP).~~

~~———— (i) ——— Composting. Using either the within vessel composting method or the static aerated pile composting method, the temperature of the biosolids is maintained at 55 degrees Celsius or higher for three days.~~

~~———— Using the windrow composting method, the temperature of the biosolids is maintained at 55 degrees or higher for 15 days or longer. During the period when the compost is maintained at 55 degrees or higher, there shall be a minimum of five turnings of the windrow.~~

~~———— (ii) ——— Heat drying. Biosolids are dried by direct or indirect contact with hot gases to reduce the moisture content of the biosolids to ten percent (10%), or lower. Either the temperature of the biosolids particles exceeds 80 degrees Celsius or the wet bulb temperature of the gas in contact with the biosolids as the biosolids leaves the dryer exceeds 80 degrees Celsius.~~

~~———— (iii) ——— Heat treatment. Liquid biosolids are heated to a temperature of 180 degrees Celsius or higher for 30 minutes.~~

~~—————(iv)—— Thermophilic aerobic digestion. Liquid biosolids are agitated with air or oxygen to maintain aerobic conditions and the mean cell residence time of the biosolids is tne (10) days at 55 to 60 degrees Celsius.~~

~~—————(v)—— Beta ray irradiation. Biosolids are irradiated with beta rays from an accelerator at dosages of at least 1.0 megarad at room temperature (ca. 20 degrees Celsius).~~

~~—————(vi)—— Gamma ray irradiation. Biosolids are irradiated with gamma rays from certain isotopes, such as Cobalt 60 and Cesium 137, at room temperature (ca. 20 degrees Celsius).~~

~~—————(vii)—— Pasteurization. The temperature of the biosolids is maintained at 70 degrees Celsius or higher for 30 minutes or longer.~~

~~APPENDIX C  
General Statewide Permit  
For Land Application of Domestic Septage in Remote Areas  
Department of Environmental Quality/Water Quality Division  
Septage Land Application Worksheet~~

~~To qualify for the land application of domestic septage (domestic septage being defined as either liquid or solid material removed from a septic tank result from normal household wastes) in remote areas the following requirements must be met.~~

~~DEFINITIONS~~

~~\*——“Permanent waterbody” means perennial streams, lakes, wetlands, etc. that have water throughout the year~~

~~\*——“Intermittent stream” means a stream or part of a stream that is below the local water table for some part of the year but is not a perennial stream.~~

~~\*——“Ephemeral stream” means a stream which flows only in direct response to precipitation in the immediate watershed or in response to snow melt, and has a channel bottom that is always above the prevailing water table.~~

~~\*——“Wetland” means those areas having all three essential characteristics:~~

~~——(A) Hydrophytic vegetation;~~

~~——(B) Hydric soils;~~

~~——(C) Wetlands hydrology.~~

~~LOCATION RESTRICTIONS~~

- ~~●——A minimum distance of at least 1,000 feet must be maintained from all adjacent properties.~~
- ~~●——Only domestic septage generated on the property owner’s location may be land applied on the same property owner’s location.~~
- ~~●——No land application of domestic septage may occur within 300 feet of a permanent waterbody, intermittent stream, ephemeral stream or wetland.~~
- ~~●——No land application of domestic septage may occur within 300 feet of public road.~~
- ~~●——No land application of domestic sewage may occur within 1000 feet of a residence.~~

### SITE RESTRICTIONS

- ~~The land application of domestic septage may only occur on those sites with established vegetation such as rangeland, pasture or hay meadows.~~
- ~~No more than 5,000 gallons of domestic septage per acre per year may be land applied.~~
- ~~No land application of domestic septage may occur where the depth from the surface to groundwater is less than four (4) feet.~~
- ~~No land application of domestic septage may occur where site slopes exceed five percent (5%).~~
- ~~The land application of domestic septage may not occur between November 1 and May 1, or any other time when frozen or saturated ground conditions exist.~~
- ~~No public access shall be allowed for one (1) year to any site where domestic septage has been applied.~~
- ~~Lime stabilization of the septage to pH 12 for 30 minutes prior to land application is optional.~~
- ~~No grazing animals shall be allowed access for 30 days to any site where domestic septage has been land applied.~~

### CROP RESTRICTIONS

- ~~No root crops shall be harvested for 38 months from soils where domestic septage has been land applied.~~
- ~~No truck crops (harvested parts touch land surface) shall be harvested for 14 months from soils where domestic septage has been land applied.~~
- ~~No commodity crops (other food, feed, and fiber crops whose harvested parts do not touch land surface) shall be harvested for 30 days from soils where domestic septage has been land applied.~~
- ~~No turf shall be harvested for one (1) year from soils where domestic septage has been land applied.~~

### REPORTING REQUIREMENTS

- ~~The property owner shall notify the appropriate Department of Environmental Quality, Water~~
- ~~Quality Division (DEQ/WQD) District Office prior to the land application of domestic septage to confirm requirements, and arrange a possible DEQ/WQD inspection of land application.~~
- ~~All records concerned with each septage application will be maintained for at least five (5) years.~~
- ~~This worksheet must be completed, signed and returned to the Department of Environmental Quality, Water Quality Division or the appropriate delegated local permitting authority within 15 days of the land application.~~



• Provide the following information concerning your site. Enter NA if not applicable.

1) Date of the application: \_\_\_\_\_

2) Number of acres receiving septage: \_\_\_\_\_

3) Number of gallons of septage land applied: \_\_\_\_\_

4) Type of vegetation receiving: \_\_\_\_\_

5) Name, address and telephone number of septage hauler:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6) If septage was optionally alkali stabilized, please indicate what material was used for stabilization and how pH was measured:

\_\_\_\_\_  
\_\_\_\_\_

7) Please indicate that the site sketch on the back of this sheet has been completed and complies with the site restriction distances yes/no:

\_\_\_\_\_

8) Please indicate if photos of the land application site will be sent to the appropriate District Office: Yes/no, \_\_\_\_\_

9) Please provide physical address or legal description of land application site:

\_\_\_\_\_  
\_\_\_\_\_

10) Please give the name of the DEQ/WQD representative contacted, and time and date. This contact needs to be made prior to the domestic septage land application:

\_\_\_\_\_  
\_\_\_\_\_

SITE SKETCH

REQUIRED ISOLATION DISTANCES  
FROM LAND APPLICATION SITE.

- ) 1,000 feet from adjacent properties.
- ) 1,000 feet from any dwelling.
- ) 300 feet from any live water, intermittent stream or drainage.

I certify that the information provided in this worksheet is accurate and meets the requirements set forth herein.

\_\_\_\_\_  
Signature of landowner

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name (printed)

\_\_\_\_\_  
Signature of applicator

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name (printed)

/pjb  
70253.doc

## CHAPTER 25

### SEPTIC TANKS, SOIL ABSORPTION SYSTEMS, AND OTHER SMALL WASTEWATER SYSTEMS

#### **Section 1. Authority.**

This rule is promulgated pursuant to Wyoming Statutes (W.S.) 35-11-101 through 35-11-1904, specifically 35-11-302(a)(iii).

#### **Section 2. Objective.**

This Chapter contains the minimum standards for the design and construction of small wastewater systems that are defined by W.S. 35-11-103(c)(ix). In addition, this Chapter contains the minimum standards for the design and construction of Underground Injection Control (UIC) Class V facilities 5C1-5C3, 5C6, 5D1, 5E1, 5E3-5E5 as defined in Chapter 27, Appendices C and D.

The following situations will require the application package to be sealed, signed, and dated by a professional engineer (PE): non-domestic wastewater from commercial and industrial facilities, high strength wastewater, individual permits to construct, or standard soil absorption systems with a soil percolation rate that is either less than 5 minutes per inch (mpi) or more than 60 minutes per inch (mpi).

These standards pertain to permits required pursuant to Chapters 3 and 25, Wyoming Water Quality Rules and Regulations. The installation of all components of a small wastewater system require a permit to construct. Permits to construct are specified throughout this chapter as general permits, described in Chapter 3, Section 7; permit by rule, described in Chapter 3, Section 8; or as individual permits to construct, described in Chapter 3, Section 6.

#### **Section 3. Timing of Compliance with These Regulations.**

Any Chapter 3 permit-to-construct issued for facilities subject to this chapter prior to the effective date of these regulations, and any facility authorized under the Division's "General Permit to Construct, Install, Modify or Operate a Small Wastewater Facility" shall remain covered under those permits. New construction or modification of existing facilities following the effective date of this regulation must obtain authorization under a new permit.

#### **Section 4. Definitions**

(a) **"100 year floodplain"** means a tract of land throughout a watershed that has a one-in-one hundred chance or occurrence of flooding in any given year or a return period of once every 100 years, as determined by the United States Geological Survey (USGS), Federal Emergency Management Agency (FEMA) or a local planning and development authority.

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

- (c) **“Bed”** means a soil treatment and dispersal system where the width is greater than three (3) feet.
- (d) **“Bedrock”** means geological layers, of which greater than fifty percent (50%) by volume consist of unweathered 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.
- (e) **“Bedroom”** means any room that is or may be used for sleeping.
- (f) **“Blackwater”** means water containing fecal matter and/or urine.
- (g) **“Five day biochemical oxygen demand (BOD5)”** means a measurement of the dissolved oxygen used by microorganisms in the biochemical oxidation of organic matter during a five (5) day period.
- (h) **“Building sewer”** means the pipe that carries wastewater from the building.
- (i) **“Chamber”** means a domed open bottom structure that is used in lieu of perforated distribution pipe and gravel media.
- (j) **“Delegated small wastewater program”** means a local governmental entity, delegated by the 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.
- (k) **“Direct human consumption food crops”** are crops consumed directly by humans. These include but are not limited to fruits, vegetables, and grains grown for human consumption.
- (l) **“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.
- (m) **“Domestic septage”** 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.
- (n) **“Dosing tank”** means a tank equipped with an automatic siphon or pump designed to discharge effluent on an intermittent basis.
- (o) **“Effluent”** means liquid flowing out of a septic tank, other treatment vessel, or system.
- (p) **“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.
- (q) **“Evapotranspiration”** means the combined loss of water from soil by evaporation from the soil or water surface and by transpiration from plants.

- (r) **“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.
- (s) **“Grease interceptor”** means a device designed to separate fats, oils, and grease from wastewater.
- (t) **“Groundwater”** means subsurface water that fills available openings in rock or soil materials such that they may be considered water saturated under hydrostatic pressure.
- (u) **“High groundwater”** means seasonally or periodically elevated levels of groundwater.
- (v) **“High strength wastewater”** means a wastewater stream with a BOD5 higher than 200 mg/L.
- (w) **“Holding tank”** means a watertight receptacle designed to receive and store wastewater.
- (x) **“Manifold”** means a non-perforated pipe that distributes effluent to individual distribution pipes.
- (y) **“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.
- (z) **“Mulch basin”** means an excavated area that has been refilled with a highly permeable media, organic and inorganic materials intended to distribute greywater to irrigate vegetation.
- (aa) **“Pathogens”** are disease-causing organisms. These include, but are not limited to certain bacteria, protozoa, viruses, and viable helminth ova.
- (bb) **“Percolation rate”** means the time expressed in minutes per inch required for water to seep into saturated soil at a constant rate.
- (cc) **“Pipe invert”** means the bottom of the internal surface of the pipe.
- (dd) **“Percolation test”** means the method used to measure the percolation rate of water into soil as described in Appendix A.
- (ee) **“Permit by rule”** means an authorization included in these rules that does not require either an individual permit or a general permit. A facility that is permitted by rule must meet the requirements found in this chapter, but is not required to apply for and obtain a permit to construct and operate the facility.

(ff) “**Pressure distribution**” means a network of pipes in which effluent is forced through orifices under pressure.

(gg) “**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.

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

(ii) “**Septic tank**” means a watertight tank designed and constructed to receive and treat raw wastewater

(jj) “**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.

(kk) “**Service provider**” means a person authorized and trained by a system manufacturer or their vendor to operate and maintain any proprietary system.

(ll) “**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.

(mm) “**Trench**” means an absorption surface with a width of three (3) feet or less.

**Section 5. Design Flows.**

The volume of wastewater shall be determined by one of the following:

- (a) Tables 1 and 2 provided in this section.
- (b) Metered water supply data from the facility.
- (c) Metered water supply data from another facility where similar water demands have been demonstrated.

**Table 1. Residential Design Flow Rates per Bedroom (gallons per day, gpd)<sup>1</sup>**

1 bedroom	150
2 bedrooms	280
3 bedrooms	390
4 bedrooms	470
5 bedrooms	550
6 bedrooms	630

<sup>1</sup>An unfinished basement is considered two (2) additional bedrooms.

<sup>2</sup>The design flow shall be increased by eighty (80) gpd for each additional bedroom over six (6).

**Table 2. Non-Residential Wastewater Design Flow Rates<sup>1</sup>**

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 table 1
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

<sup>1</sup>Values shown in the above table are the typical flow rates from *Wastewater Engineering Treatment and Reuse*, Metcalf and Eddy, 2003.

#### **Section 6. Systems Not Specifically Covered by This Rule.**

This section is provided to encourage new technology and equipment and provide a process for evaluating and permitting designs that deviate from this rule. The proposed construction of facilities and processes not in compliance with this rule may be permitted provided that the facility, when constructed and operated, meets the objective of these rules.

(a) Each application for a permit to construct shall include an engineering design report, detailed construction plans, and technical specifications for all piping, tanks, and equipment. All of the documents shall have a suitable title showing the owner's name and the Wyoming registration number, seal, and signature of the engineer.

(b) Each application for a permit to construct will be evaluated on a case-by-case basis using the best available technology. The application shall include at least one of the following:

(i) Data obtained from a full scale, comparable installation that demonstrates the acceptability of the design.

(ii) Data obtained from a pilot plant operated under the design condition for a sufficient length of time to demonstrate the acceptability of the design.

(iii) Data obtained from the theoretical evaluation of the design that demonstrates a reasonable probability the facility will meet the design objectives.

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

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

#### **Section 7. Site Suitability.**

(a) 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.

(b) The site must 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 (100%) percent 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.

(c) 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.

(d) The depth to high groundwater shall be at least four (4) feet below the bottom of the absorption surface for all treatment systems except pressure distribution. For pressure distribution systems, the depth to high groundwater shall be at least three (3) feet below the bottom of the absorption surface if the percolation rate of the soil is five (5) minutes per inch or greater (5-60 mpi).



(e) Slope

(i) Table 3 shows the maximum permissible slopes of the site on which an absorption system may be constructed

**Table 3. Slope and Percolation Rates for Absorption Systems**

<b>Percolation Rate (minutes/inch)</b>	<b>Maximum Slope<sup>1</sup></b>
5	25%
6-45	20%
46-60	15%

<sup>1</sup> Flatter slopes may be required where the effluent surfaces downslope.

(ii) Serial distribution, with the use of drop boxes or approved fittings, is the preferred installation method for sloping terrain. The bottom of individual trenches shall be level and the trenches shall be constructed to follow the contours of the land.

(iii) 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.

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

(f) Soil Exploration Pit and Percolation Tests

(i) Delegated small wastewater programs shall require a percolation test in addition to the soil exploration pit.

(ii) A minimum of one soil exploration pit within the proposed soil absorption system location shall be excavated to a minimum depth of four (4) feet below the bottom of the proposed soil absorption system to evaluate the subsurface conditions.

(iii) The percolation test shall be performed in accordance with Appendix A of this chapter. An evaluation of the soil texture, in the proposed soil absorption system location, by a person experienced in soils classification, may be used as an additional tool to confirm the percolation rate.

(g) Minimum horizontal setback distances (in feet) are as follows:

**Table 4. Minimum Horizontal Setbacks for Domestic Wastewater in Feet<sup>1,2</sup>**

<b>From</b>	<b>To Septic Tank Or Equivalent</b>	<b>To Absorption System</b>
Wells (includes neighboring wells)	50	100
Public Water Supply Well	100	200 <sup>2</sup>
Property Lines	10	10
Foundation Wall (w/o drains)	5	10
Foundation Wall (with drains)	5	25
Potable Water Pipes	25	25
Septic Tank	N/A	10
Surface Water, Spring (including seasonal and intermittent)	50	50
Cisterns	25	25

<sup>1</sup> For disposal of non-domestic wastewater, the setback distance shall be determined by a hydrogeological study in accordance with Section 17(b) of Chapter 3, but shall not be less than the distances shown in Table 4.

<sup>2</sup> Small wastewater systems that discharge to the same aquifer that supplies a public water supply well and are located within Zone 1 or 2 (Attenuation) of the public water supply well, as determined by *Wyoming Department of Environmental Quality Source Water Assessment Project (2004)* or as established in Section 2 of the [Wyoming Wellhead Protection Guidance Document \(1997\)](#), shall provide additional treatment. These systems will be required to obtain an individual permit to construct and will require that a PE sign, stamp, and date the application, as stated in Section 2 of this chapter. The additional treatment shall be in accordance with Chapter 3 Section 2(b)(ii). The treatment system shall be designed to reduce the nitrates to less than 10 mg/L of NO<sub>3</sub>- as N and provide 4-log removal of pathogens before the discharge leaves the property boundary of each small wastewater system.

**Section 8. Soil Absorption System Sizing.**

(a) The total infiltration surface area of a soil absorption system shall be calculated by dividing the design flow rates (gpd) from Table 1 or Table 2 by the loading rate (gpd/ft<sup>2</sup>) found in Table 5.

**Table 5. Rates of Wastewater Application for Soil Absorption System Areas**

<b>Percolation Rate (mpi)</b>	<b>Loading Rate (gpd/ft<sup>2</sup>)</b>	<b>Percolation Rate (mpi)</b>	<b>Loading Rate (gpd/ft<sup>2</sup>)</b>
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

(b) The total infiltration area shall be defined as follows:

(i) For standard trenches the total infiltration area shall be calculated based on the following formula:

$$A = L(W + 2S)$$

A = Total infiltration area

L = Total length of trench

W = Bottom width

S = Sidewall height of 12 inches or less

(A) The sidewall height is the depth below the flowline of the pipe to the bottom of the trench.

(B) The maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve inches.

(ii) For chamber trenches, the total infiltration area shall be calculated based on the following formula:

$$A = L(E + 2S)$$

$A$  = Total infiltration area

$L$  = Total length of trench

$E$  = Effective bottom width (Multiply width of the chamber by factor of 1.43 to get effective bottom width)

$S$  = Sidewall height of 12 inches or less

(A) The factor of 1.43 incorporates a thirty percent (30%) reduction of the bottom area.

(B) The maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve (12) inches.

(C) 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.

(D) The total length of the trench is the number of chambers in a row multiplied by the length of one piece of chamber.

(iii) For standard bed systems, the total infiltration area shall be calculated based on the following formula:

$$A = LW$$

$A$  = Total infiltration area

$L$  = Total length of bed

$W$  = Width of the bed

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

(iv) For chamber bed systems, the total infiltration area shall be calculated based on the following formula:

$$A = L(E \times R)$$

$A$  = 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.)

(A) The factor of 1.43 incorporates a thirty percent (30%) reduction of the bottom area.

(B) The total length is the number of chambers in a row multiplied by the length of one piece of chamber.

(c) Coarse sand or soils having a percolation rate less than one (1) minute per inch (mpi) are unsuitable for subsurface effluent disposal. These soils may be used if a one (1) foot layer of fine 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 9. Building Sewer Pipes.**

All building sewers shall be installed in accordance with the 2012 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:

(a) 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.

(b) 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.

(c) Sewer pipe shall not decrease in size flowing downstream.

(d) Building sewer pipes shall be laid at a standard slope of 1/4 inch per foot, and shall not be flatter than 1/8 inch per foot.

(e) Cleanouts shall be provided between the structure and the tank, at branch connections, every change in alignment, and at least every 100 feet in straight runs.

(f) 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.

(g) Special care shall be used to prevent lateral movement or deformation 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 10. Septic Tanks and Other Treatment Tanks.**

(a) Septic Tanks

(i) 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. As part of the application review process, Department of Environmental Quality, Water Quality Division (DEQ/WQD) or the delegated small wastewater program shall review the design of prefabricated septic tanks for compliance with applicable construction standards.

(ii) 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.

(A) 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.

(B) Backfill around and over the septic tank shall be placed in such a manner as to prevent undue strain or damage to the tank or connected pipes.

(C) Septic tanks shall not be placed in areas subject to vehicular traffic unless engineered for the anticipated load.

(iii) Size

(A) The minimum liquid volume of a septic tank shall be 1000 gallons for residences up to a four (4) bedroom capacity. Additional capacity of 150 gallons per bedroom shall be provided for each bedroom over four (4).

(B) Septic tanks for high strength wastewater or non-residential units shall have a minimum effective liquid capacity sufficient to provide at least 48 hour retention at design flow or 1,000 gallons, whichever is greater.

(iv) Configuration

(A) Single compartment septic tanks shall have a length to width ratio of no less than two (2) to one (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 40% of the liquid level. The outlet tees or baffles shall extend below the liquid level at least ten (10) inches but no more than 45% 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.

(v) 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.

(vi) 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 riser from the access opening shall terminate at a maximum of six (6) inches below the ground surface. Riser covers terminating above grade shall have an approved locking device.

(vii) Land application of domestic septage in remote areas that meet the conditions found in Appendix B will be permitted as a permit by rule. Delegated small wastewater programs may issue individual permits.

(viii) 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.

(b) Dosing Tanks

(i) Dosing tanks shall meet the same material and installation requirements as septic tanks. Dosing tanks shall have a minimum 20-inch diameter access opening and it shall have a riser from the access opening to the ground surface. The following table shall be used to calculate the size of the dosing tank:

**Table 6. Dosing Tank Volume (gallons)**

Average Design Flows (gpd)	0-499	500-999	1000-1499	1500-2000
Between Pump “off” and Tank Inlet	350	700	1000	1300
Between Tank Inlet and Alarm Switch	200	400	600	800
Between Alarm switch and Pump “on”	50	100	100	100
Between Pump “on” and Pump “off”	100	200	300	400
Recommended Pump Capacity (gpm)	10	20	30	40

(ii) High water alarms shall be provided for all tanks that use pumps or siphons. The alarm device shall be an audible alarm or an indoor illuminated alarm or both.

(iii) The minimum effluent level shall achieve complete submergence of the pump.

(iv) Dosed systems using a siphon shall have a dose counter installed to check for continued function of the siphon.

(c) Holding Tanks

(i) 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 ground surface from the access opening.

(ii) 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 soil absorption system when other alternatives are unavailable.

(iii) Holding tanks must be located in an area readily accessible to the 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.

(iv) The minimum liquid volume shall be the greater of 1,000 gallons or seven (7) days storage based upon flow rate determined from Section 5.

(v) All holding tanks shall be equipped with a high-water level 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.

(vi) A design package for holding tanks is provided online at the Division’s website to assist the applicant in submitting a completed application for coverage under the general permit for small wastewater systems. The worksheet and calculations were prepared by a registered professional engineer employed by the Wyoming Department of Environmental Quality, Water Quality Division. The general design requirements stated in this section are incorporated into the worksheets such that by properly completing the forms and installing the components, the system will comply with these requirements.

(d) Grease Interceptors



(i) A commercial or institutional food preparation facility with a waste stream containing fat, oil, and grease (FOG) in excess of 25 mg/L shall install an exterior grease interceptor or a device approved by the delegated health department or county. Facilities that typically have waste streams high in FOG are, but not limited to, restaurants, cafeterias, slaughterhouses, and institutional kitchens.

(ii) Waste streams high in FOG shall be plumbed separately and directly to a grease interceptor prior to the waste treatment process.

(iii) Waste streams from sanitary facilities such as bathrooms, toilets, urinals, or other similar fixtures shall not be discharged into the grease interceptor. These sources must be connected at least four to six (4-6) feet downstream of the grease interceptor's discharge. The design shall prevent any backflow from the sanitary sources into the grease interceptor.

(iv) Only one source facility per grease interceptor shall be allowed.

(v) Grease interceptors shall be located so that they are easily accessible for inspection, cleaning, and removal of the collected wastes. The interceptor shall not be closer than fifteen (15) feet from the last discharging fixture and no further away than thirty-five (35) feet.

(vi) Grease interceptors shall have at least two (2) compartments with a 20-inch minimum diameter access opening for each compartment for cleanout. Each access opening shall have a riser brought to the surface and have a sealed lid that is rated for any anticipated load. There shall be a means provided to sample the effluent.

(vii) There shall be no internal cleanout tees or bypasses.

(viii) The inlet and outlet of the grease interceptor shall be vented. The vent pipe shall be at least two (2) inches in diameter. The inlet and outlet vents shall not be interconnected.

(ix) The outlet pipe invert shall be no more than two (2) inches lower than the inlet invert.

(x) The dividing wall between compartments shall be the same height as the other walls and the cover should contact the top of the dividing wall. If the partition/dividing wall does not contact the cover, the outlet tee or baffle shall extend below the liquid level, 40-50% of the total liquid depth.

(xi) The effluent from each compartment shall be drawn from the bottom of a riser pipe that terminates at least eighteen (18) inches below the inlet pipe invert of that same compartment.

(xii) Grease interceptors shall be accessible during normal business hours without interrupting normal business operations.

(xiii) Grease interceptors shall be installed in accordance with the manufacturer's instructions and applicable requirements of this section. A copy of the manufacturer's instructions shall be submitted with every permit to construct application submitted to DEQ/WQD.

(xiv) Grease interceptors shall be sized according to the following:

**Kitchens (grease, garbage)**

Number of meals per peak hour	<b>X</b>	Waste Flow rate*	<b>X</b>	Retention time**	<b>X</b>	Storage factor***	=	Interceptor size (liquid capacity)
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\*Waste flow rate – see Table 2.

\*\*Retention times

Kitchen waste:	
Dishwasher and/or disposal	2.5 hours
Single service kitchen:	
Single serving with disposal	1.5 hours

\*\*\*Storage factors

Fully equipped commercial kitchen	8 hr. operation: 1 16 hr. operation: 2 24 hr. operation: 3
Single service kitchen:	1.5

(A) The minimum interceptor size (liquid capacity) shall be 750 gallons.

(e) Other Interceptors

(i) Interceptors are required for oil, grease, sand, and other substances harmful or hazardous to the building drainage system, or the small wastewater treatment system.

(A) Laundries

(I) Commercial laundries, laundromats, and dry-cleaners shall be equipped with an interceptor in order to reduce the quantity of lint and silt that enter the collection system.

(II) The system must be of adequate size and design to allow for cool-down of wastewater so that separation can be more readily achieved.

(III) The interceptor shall be installed with a wire basket or similar device. The wire basket or similar device shall be removable for cleaning and shall prevent passage into the drainage system of solids 1/2 inch (12.7 mm) or larger in size, such as string, rags, buttons, or other materials which are detrimental to the waste treatment system.

(IV) Sizing must be in accordance with the following formula:

**Laundries (grease, lint, silt)**

Total gallons per cycle	<b>X</b>	Cycles per hour	<b>X</b>	Retention time*	<b>X</b>	Storage factor**	=	Interceptor
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\*Retention times

Institutional laundries	2.5 hours
Standard commercial laundry	2.0 hours
Light commercial laundry	1.5 hours

\*\*Storage factors

8 hours of operation	1.0
12 or more hours of operation	1.5

(B) Car Washes

(I) Where automobiles are washed (including detail shops using hand-wash practices), separators shall have a minimum capacity of 1000 gallons for the first bay, with an additional 500 gallons of capacity for every other bay.

(II) Additionally, wash racks must be constructed to eliminate or minimize the impact of run-off from rain/storm events. Minimum requirements are roofed structures with at least two walls and appropriate grading to prevent stormwater infiltration into the sanitary sewer.

(III) An effluent sampling point is required.

(f) Abandonment of Septic and Holding Tanks

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

(i) The abandoned tank should be pumped and the septage hauled to a licensed facility approved to receive the waste or the septage pumped into the newly constructed septic or holding tank. Discharging to a central sewer requires coordination with, and the approval of, the owner/operator of the sewer system.

(ii) Once the abandoned tank is empty, it should 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.

(iii) If the abandoned tank is part of a Class V UIC facility, the abandonment must also be in compliance with Chapter 27, Section 19.

## **Section 11. Effluent Distribution Devices.**

Distribution boxes and flow divider tees are suitable for level or nearly level ground and are installed before the soil absorption system with the goal of splitting flows equally between soil absorption system laterals. Drop boxes are suitable for sloping ground and are installed to achieve serial loading.

### (a) Distribution Boxes

(i) The distribution box shall be installed on a level, stable base to prevent tilting or settling, and to minimize movement from frost heave.

(ii) Boxes shall be watertight and constructed of concrete or other durable material.

(iii) 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.

(iv) The box shall be protected against freezing and made accessible for observation and maintenance.

(v) Boxes shall have flow equalizers installed on each outflow.

(b) Flow divider tees may be used in place of distribution boxes.

(c) Drop boxes are suitable for sloping ground and are installed to achieve serial loading. The drop boxes shall meet the requirements in paragraphs (a)(i through v) of this section.

## **Section 12. Standard Soil Absorption Systems.**

### (a) General Design Requirements:

(i) All 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.

(ii) 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.

(iii) 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.

(iv) 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.

(v) 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 construction or backfilling.

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

(A) The perforated pipe shall have a minimum diameter of 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 PE.

(B) The aggregate shall be 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.

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

(D) 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.

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

(F) Minimum spacing of 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. For clay loam soils that have percolation rates greater than 60 min/in., the nine (9) foot spacing shall also be required but it is not considered as reserve area.

(vii) Standard beds shall conform to the same pipe and aggregate requirements for trenches as found in subparagraphs (vi)(A through D) of this section. Standard beds shall also conform to the following:

(A) The soils shall have percolation rates less than 60 minutes per inch (5-60 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) Distribution laterals within a bed must be spaced on not greater than six (6) feet centers. Sidewalls shall not be more than three (3) feet from a distribution lateral.

(C) 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.

(D) Rubber tired vehicles must not be driven on the bottom surface of any bed excavation.

(viii) Chambered trenches, when used in lieu of perforated pipe and aggregate, shall be installed in conformance with the manufacturer recommendations. No cracked, weakened, modified, or otherwise damaged chamber units shall be used in any installation.

(A) All chambers shall be an open, arch-shaped structure of durable, non-degradable design, suitable for distribution of effluent without filter material.

(B) 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.

(C) Inlet and outlet effluent sewer pipes shall enter and exit the chamber endplates. Inspection ports shall be installed at all outlet effluent sewer pipes.

(D) All chambers shall have a splash plate under the inlet pipe or another design feature to avoid unnecessary channeling into the trench bottom.

(E) 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.

(F) Minimum spacing of 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. For clay loam soils that have percolation rates greater than 60 min/in., the nine (9) foot spacing shall also be required but it is not considered as reserve area.

(ix) Chambered beds shall conform to the same requirements for chambered trenches as found in subparagraphs (viii)(A through D) of this section. Aggregate, as specified in subparagraph (vi)(B) of this section, or native soil shall be used to fill the space between the chambers.

(x) Serial Sidehill Trench:

(A) A minimum of six (6) feet of undisturbed soil shall be maintained between adjacent trench or bed side walls.

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

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

(b) A design package for standard soil absorption systems is provided online at the Division's website to assist the applicant in submitting a completed application for coverage under the general permit for small wastewater systems. The worksheet and calculations were prepared by a registered professional engineer employed by the Wyoming Department of Environmental Quality, Water Quality Division. The general design requirements stated in this section are incorporated into the worksheets such that by properly completing the forms and installing the components, the system will comply with these requirements.

### **Section 13. Pressure Distribution Systems.**

(a) General Design Requirements:

(i) The basic elements of a pressure distribution system include a dosing tank, filter, and a means to deliver specified doses to a small diameter pipe network within a soil absorption system. Pressure distribution is required for mound systems or for bed systems with a width greater than twenty-five (25) feet.

(ii) Pumps must be sized to match the distribution system curve or demand. Pumps shall be designed for sewage pumping applications and be accessible from the ground surface.

(iii) The control system for the pump and dosing tank shall, at a minimum, consist of a "pump off" switch, a "pump on" switch, and a "high liquid alarm".

(A) All electrical connections must be made outside of the chamber in either an approved weatherproof box or an explosion-proof junction box.

(B) The wiring from the junction box to the control box must pass through a sealing fitting to prevent corrosive gases from entering the control panel.

(C) All wires must be contained in solid conduit from the dosing chamber to the control box.

(iv) The pressure transport piping between the tank and the soil absorption system shall be designed to prevent freezing.

(A) The ends of lateral piping shall be constructed with long sweep elbows or an equivalent method to bring the end of the pipe to finished grade. The ends of the pipe shall be provided with threaded plugs, caps, or other devices to allow for access and flushing of the lateral.

(B) All joints in the manifold, lateral piping, and fittings shall be solvent-welded using the appropriate joint compound for the pipe material. Pressure transport piping may be solvent-welded or flexible gasket jointed.

(C) Where automatic siphons or other devices are used, they shall be designed to empty the dosing tank in less than ten (10) minutes.

(v) The pressure distribution system shall have a combination of at least three (3) vertical feet of filter sand and/or unsaturated native soil above the high groundwater level. The filter sand shall conform to ASTM C-33, with less than 2% passing the #200 sieve.

(b) A design package for pressure distribution systems is provided online at the Division's website to assist the applicant in submitting a completed application for coverage under the general permit for small wastewater systems. The worksheet and calculations were prepared by a registered professional engineer employed by the Wyoming Department of Environmental Quality, Water Quality Division. The general design requirements stated in this section are incorporated into the worksheets such that by properly completing the forms and installing the components, the system will comply with these requirements.

#### **Section 14. Sand Mound Systems.**

The sand mound consists of a sand fill, an aggregate bed and a soil cap.

(a) Selection Criteria:

The high groundwater level, bedrock, or impervious clay layer is less than four (4) feet below the bottom of the soil absorption system excavation.

(b) Site Requirements:

(i) A minimum of one (1) foot of vertical separation of the native soil is required between the bottom of the sand fill and the top of the high groundwater level, any restrictive layer, or any highly permeable material.

(ii) The percolation rate of the native soil at the interface of the sand fill shall be greater than five (5) and less than sixty (60) minutes per inch (5-60 mpi). The percolation shall be measured in the top twelve (12) inches of native soil.

(c) General Design Requirements:

(i) Sand Layer

(A) Filter sand shall conform to ASTM C-33, with less than two percent (2%) passing through the #200 sieve.



(B) The minimum depth of sand below the aggregate bed surface shall be one (1) foot.

(C) The sand mound shall have a combination of at least four (4) vertical feet of filter sand and unsaturated native soil above the high groundwater level.

(I) For sand mounds using pressure distribution systems, the depth to high groundwater shall be three (3) feet below the bottom of the absorption surface if the percolation rate of the soil is five (5) minutes per inch or greater (5-60 mpi).

(D) The top of the sand layer under the aggregate bed shall be level in all directions.

(E) The sand layer shall fill around the perimeter of and to the top of the aggregate bed.

(F) The slope of all sides shall be three (3) horizontal to one (1) vertical or flatter. The side slopes shall be graded to prevent seepage and/or ponding at the bottom of the slope.

(G) The infiltration area, which is the bottom of the sand fill, shall be calculated by dividing the design flowrates (gpd) from Table 1 or Table 2 by the loading rate (gpd/ft<sup>2</sup>) found in Table 5.

(ii) Aggregate Bed

(A) The aggregate shall be crushed rock, gravel or other acceptable, durable and inert material that is free from fines, and has an effective diameter between one-half (1/2) inch and two and one half (2 ½) inch.

(B) The aggregate bed depth shall not be less than nine (9) inches with a minimum of six (6) inches of clean aggregate placed below the distribution pipe and two (2) inches above the distribution pipe. The aggregate shall be covered with an approved geotextile material after installation and testing of the pressure distribution system.

(C) The design shall be a long, narrow bed design with a maximum width of twenty-five (25) feet.

(D) The infiltration area, which is the bottom of the aggregate bed, shall be calculated by dividing the design flowrates (gpd) from Table 1 and Table 2 by the loading rate of 0.8 gpd/ft<sup>2</sup>.

(iii) Soil Cover

(A) The soil cap shall be constructed of a sandy loam, loamy sand, or silt loam. The depth of the soil cap shall be at least six (6) inches at the edges to twelve (12) inches at the center. The slope of all sides shall be three (3) horizontal to one (1) vertical or flatter.

(B) A layer of top soil at least six (6) inches thick shall be placed over the entire sand mound area. The sand mound should be planted with vegetation that does not require watering and will not establish deep roots. Native grasses are commonly used.

(d) A design package for sand mound systems is provided online at the Division's website to assist the applicant in submitting a completed application for coverage under the general permit for small wastewater systems. The worksheet and calculations were prepared by a registered professional engineer employed by the Wyoming Department of Environmental Quality, Water Quality Division. The general design requirements stated in this section are incorporated into the worksheets such that by properly completing the forms and installing the components, the system will comply with these requirements.

**Section 15. Small Wastewater Lagoons.**

(a) Selection Criteria:

(i) Lagoons shall only be considered in areas of Wyoming where the annual evaporation exceeds the annual precipitation during the active use of the lagoon.

(ii) Lagoons shall only be allowed when the percolation rate exceeds sixty (60) minutes per inch and the soil extends vertically down at least two (2) feet from the bottom of the lagoon to the seasonal high groundwater table or bedrock formations.

(iii) A lagoon shall not be constructed within the 100 year floodplain.

(b) General Design Requirements:

(i) Beyond the horizontal setback distances requirements specified in Section 7(g) of this rule, the lagoon shall not be placed within one hundred (100) feet of the owner's property line.

(ii) The use of a septic tank that meets the specifications in Section 9 of this rule shall be required before the small wastewater lagoon.

(iii) The lagoon shall be located and constructed so it will not receive surface runoff water.

(iv) The slope of the lagoon site shall not exceed five percent (5%).

(v) The lagoon site must be located in an area of maximum exposure to sun and wind.

(vi) The lagoon shall be designed for complete retention.

(vii) The area of the lagoon shall be calculated based on the following formula.

$$A = \frac{584 \times Q}{(365 \times S) + (E - P)}$$

$A$  = Area of the lagoon (in square feet) at the maximum operating depth of five (5) feet.

$Q$  = Average daily sewage flow, gallons per day. (Multiply values from Table 1 or 2 by 0.6 to get average daily flow.)

$E$  = Average annual lake evaporation in inches per year. (Note: lake evaporation is less than pan evaporation; lake evaporation equals pan evaporation times a pan coefficient of 0.7)

$P$  = Average annual precipitation rate in inches per year.

$S$  = Seepage rate in decimal form, in inches per day.

(viii) The slopes of the dikes shall not be steeper than three (3) horizontal to one (1) vertical. The minimum width of the top of the dike shall be four (4) feet.

(ix) All fill shall consist of impervious material that is well compacted and free of rocks, frozen soil, or other large material.

(x) The minimum operating depth shall be two (2) feet. The dikes shall provide a minimum freeboard of two (2) feet.

(xi) The floor of the lagoon shall be level and maintained free of all vegetation.

(xii) The influent line into the lagoon must discharge near the center.

(xiii) A cleanout, with a tightly fitting cap, ~~or manhole~~ shall be provided in the influent line near the dike.

(xiv) The area around the small wastewater lagoon shall be fenced to preclude the entrance of livestock, pets, and humans. The fence shall be equipped with a locking gate. The gate shall have a sign indicating "NO TRESPASSING – WASTEWATER LAGOON".

(c) A design package for a small wastewater lagoons is provided online at the Division's website to assist the applicant in submitting a completed application for coverage under the general permit for small wastewater systems. The worksheet and calculations were prepared by a registered professional engineer employed by the Wyoming Department of Environmental Quality, Water Quality Division. The general design requirements stated in this section are incorporated into the worksheets such that by properly completing the forms and installing the components, the system will comply with these requirements.

**Section 16. Privies or Outhouses.**

Privies or outhouses that meet the requirements of this section are permitted by rule. A permit by rule requires the owner to submit the information contained in paragraph (g) of this section to the Wyoming Department of Environmental Quality, Water Quality Division prior to constructing or installing the facility. By submission of the required information, the owner acknowledges and certifies they will comply with the requirements contained in this section.

Pre-fabricated privies or outhouses shall be sealed, water-tight vaults and shall meet the following conditions.

- (a) The horizontal setback distance requirements for sealed privies or outhouses shall comply with Section 7(g) for septic tanks.
- (b) The depth to seasonally high groundwater from the bottom of a water tight vault shall be sufficient to prevent floatation of the empty vault.
- (c) The vault must have sufficient capacity for the dwelling served, and must have at least 27 cubic feet or 200 gallons of capacity.
- (d) Privies or 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.
- (e) Privies or outhouses must be adequately vented.
- (f) Privies or outhouses shall not be constructed within the 100 year floodplain.
- (g) Owner's name, address, phone number, legal description of privy or outhouse (address, latitude/longitude, or ¼ ¼ section), and the date construction or installation will begin.

**Section 17. Greywater Systems.**

Greywater systems that meet the requirements of this section are permitted by rule. A permit by rule requires the owner to submit the information contained in paragraph (e) of this section to the Wyoming Department of Environmental Quality, Water Quality Division prior to constructing, modifying, or installing the system. By submission of the required information, the owner acknowledges and certifies they will comply with the requirements contained in this section.

- (a) Greywater Operation and Requirements
  - (i) Restrictions
    - (A) Greywater shall not leave the property on which it is generated. Ponding or runoff is prohibited.
    - (B) Greywater systems shall not be installed in a delineated floodplain.

(C) The volume of greywater shall not exceed an average of 2000 gallons per day.

(D) Greywater shall not come in direct contact with or adversely impact surface or groundwater.

(E) Food crops for direct human consumption should not be harvested for 30 days after application of greywater.

(ii) Odor control of the greywater system shall meet the requirement of Wyoming DEQ Air Quality Regulations Chapter 2, Section 11.

(iii) If the greywater system is to be used during the winter, the greywater system shall be designed to prevent freezing.

(b) Estimating Greywater Discharge

(i) The greywater discharge for single family and multi-family dwellings shall be calculated by estimates of greywater use based on water use records, or the following procedure:

(A) The number of occupants of each dwelling unit shall be calculated as 2 occupants per bedroom.

(B) The estimated greywater flows of each occupant shall be calculated in gallons per day (gpd) as follows:

Showers, bathtubs and wash basins – 25 gpd/occupant

Laundry – 15 gpd/occupant

(ii) The total number of occupants shall be multiplied by the applicable estimated greywater discharge as provided above and the type of fixtures connected to the greywater system.

(c) Greywater System Configurations

(i) All greywater systems shall have means to direct greywater to either the blackwater system or the greywater system.

(ii) Diverter valves shall not have the potential to allow backflow from the blackwater system into the greywater system.

(iii) Greywater used for surface irrigation should be disinfected. The disinfection should achieve a fecal coliform level of 200 cfu/100 mL or less.

(d) Setbacks

(i) A 30 foot buffer zone is required between the greywater application site and adjacent property lines and any public right-of-way.

(ii) A 30 foot separation distance is required between greywater application sites and all surface waters.

(iii) A 100 foot separation distance is required between greywater application sites and all potable water supply wells.

(e) Owner's name, address, phone number, legal description of greywater system (address, latitude/longitude, or ¼ ¼ section), and the date construction or installation will begin.

**Section 18. Operation and Maintenance.**

(a) For any 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) Septic tanks shall be pumped as needed to prevent solids carryover into the soil absorption system.

(c) Holding tanks and sealed vaults shall be pumped prior to reaching their maximum capacity.

(d) 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 the Division or delegated authority.

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

(f) Composting or non-discharging toilets, where permitted, shall have their waste disposed of at a permitted wastewater treatment facility or landfill, or in a manner approved by the Division or delegated authority.

**Section 19. Commercial and Industrial Wastes and/or Domestic Wastes Greater Than 2000 Gallons per Day.**

(a) Commercial/industrial wastewater systems or combination commercial/industrial and domestic wastewater systems are subject to applicable requirements listed in sections 1 through 15 of this chapter, in addition to requirements in this section.

(b) If the wastewater is classified as, or determined to be hazardous, toxic, and/or contain petroleum products, the applicant shall demonstrate to the administrator that any discharge or seepage from the wastewater facility will not cause a violation of the surface and/or groundwaters of the state in accordance with Chapter 1, "Quality Standards for Wyoming Surface Waters" and Chapter 8, "Quality Standards for Wyoming Groundwaters."

(c) If the impact of the hazardous, toxic, and/or petroleum products cannot be determined and mitigated, disposal of the wastewater using a soil absorption system shall be prohibited.

(d) Pre-treatment of the wastewater to remove the hazardous, toxic, and/or petroleum products shall be required prior to disposal if deemed necessary to protect the groundwater(s) and surface water(s) of the state.

(e) The minimum horizontal setback distances (in feet) shown in Table 7 shall be maintained for commercial and industrial wastes and/or wastes greater than 2000 gallons per day but less than 10,000 gallons per day.

**Table 7. Minimum Horizontal Setbacks for Commercial and Industrial Wastes in Feet<sup>1</sup>**

<b>From</b>	<b>To Septic Tank Or Equivalent</b>	<b>To Absorption System</b>
Wells (includes neighboring wells)	50	200
Public Water Supply Well	100	500 <sup>2</sup>
Property Lines	10	10
Foundation Wall (w/o drains)	5	10
Foundation Wall (with drains)	5	50
Potable Water Pipes	25	50
Septic Tank	N/A	10
Surface Water, Spring (including seasonal and intermittent)	50	100
Cisterns	50	50

<sup>1</sup> For systems larger than 10,000 gallons per day, the isolation distance shall be determined by a hydrogeological study in accordance with Section 17(b) of Chapter 3, but shall not be less than those shown in Table 7.

<sup>2</sup> Wastewater systems that discharge to the same aquifer that supplies a public water supply well and are located within Zone 1 or 2 (Attenuation) of the public water supply well, as determined by [Wyoming Department of Environmental Quality Source Water Assessment Project \(2004\)](#) or as established in [Section 2 of the Wyoming Wellhead Protection Guidance Document \(1997\)](#), shall provide additional treatment. These systems will be required to obtain an individual permit to construct and will require that a PE sign, stamp, and date the application, as stated in Section 2 of this chapter. The additional treatment shall be in accordance with Chapter 3, Section 2(b)(ii). The treatment shall reduce the nitrates to less than 10 mg/L of NO<sub>3</sub>- as N and provide 4-log removal of pathogens before the discharge leaves the property boundary of each small wastewater system.

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## **APPENDIX A Percolation Test Procedure**

### **Section 1. Purpose**

(a) Percolation tests are used to determine absorption system site suitability and to size the absorption system.

### **Section 2. Procedure**

(a) General Requirements:

(i) Percolation tests shall not be conducted in test holes that extend into groundwater, bedrock, or frozen ground.

(ii) The percolation test shall be conducted only after the soil exploration pit has been dug and examined.

(iii) A minimum of three (3) percolation test holes are required.

(iv) The percolation test holes shall be spaced uniformly over the proposed soil absorption system site.

(b) Preparation

(i) A twelve (12) inch diameter hole shall be dug or bored to the proposed depth of the soil absorption system.

(ii) The walls shall be vertical, with the natural soil surface exposed without smearing.

(iii) The sides and bottom shall be scarified with a sharp pointed instrument and the loose material shall be removed from the hole.

(iv) Two (2) inches of gravel or coarse sand shall be placed in the bottom of the hole to prevent it from scouring and sealing during water addition.

(c) Presoaking

(i) 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.

(A) Fill each hole with clear water to a level at least eighteen (18) inches above the gravel or coarse sand. If the eighteen (18) inches of water seeps away in eighteen (18) minutes or less, add eighteen (18) inches of water a second time. If the second filling of eighteen (18) inches of water seeps away in eighteen (18) minutes or less, this indicates the soil is sandy



49 and is excessively permeable. The soil absorption system shall meet the requirements of Section  
50 8 (c).

51  
52 (B) If either the first or second fillings of eighteen (18) inches of water does  
53 not seep away in ninety (90) minutes, eighteen (18) inches of water must be maintained in the  
54 hole for at least four (4) hours to presoak the test hole. After the four (4) hours of water contact  
55 time, wait at least twelve (12) hours before starting the percolation rate measurement.

56  
57 (d) Percolation Rate Measurement

58  
59 (i) Fill each test hole with twelve (12) inches of water and allow the soil to  
60 rehydrate for fifteen (15) minutes prior to any measurements.

61  
62 (ii) Establish a fixed reference point to measure the incremental water level drop at  
63 constant time intervals. The water level drop should be measured to the nearest  $\frac{1}{8}$  of an inch and  
64 the minimum time interval is ten (10) minutes.

65  
66 (iii) Refill the test hole to twelve (12) inches above the gravel before starting the  
67 measurements. Continue to measure the incremental water level drop at a constant time interval  
68 until a consistent incremental water level drop is achieved. A consistent water level drop is  
69 achieved when three (3) consecutive water level drops are within  $\frac{1}{8}$  inches of each other.

70  
71 (iv) Before the water level drops below one (1) inch above the gravel, refill the test  
72 hole to twelve (12) inches and continue to measure the incremental water level drop.

73  
74 (v) The percolation rate is calculated for each hole using the following formula:

75

$$\frac{\text{Time Interval (Minutes)}}{\text{Final Water Level Drop (inches)}} = \text{Percolation Rate (minutes/inch)}$$

76 (vi) If only three to five percolation tests are performed, the design percolation rate  
77 for the absorption system is the largest rate from all the holes tested. If six or more percolation  
78 tests are performed, the design percolation rate for the absorption system is the average of all the  
79 holes tested as determined by the above formula.

80  
81 (e) The following information shall be recorded:

82  
83 (i) Date(s) of test(s);

84  
85 (ii) Location, diameter, and depth of each test hole;

86  
87 (iii) Duration of presoak;

88  
89 (iv) Time of day for beginning and end of each water-level drop interval;

90  
91 (v) Each water-level drop measurement;

92  
93 (vi) Calculated percolation rate;

94

95	(vii) Name and signature of person performing test;
96	
97	(viii) Name of owner or project name; and
98	
99	(ix) Certification that the percolation test was done in accordance with Wyoming
100	Water Quality Rules and Regulations Chapter 25 Appendix A.
101	

102                   **APPENDIX B     Land Application of Domestic Septage in Remote Areas**

103  
104                   **Section 1. Restrictions and Requirements**

105  
106                   To qualify for the land application of domestic septage in remote areas, the following  
107 conditions must be met.

108  
109                   (a)    Location restrictions:

110  
111                   (i)    Domestic septage generated on a specific property may be land applied on said  
112 property, and shall not be transported to another location for land application.

113  
114                   (ii)   No land application of domestic septage shall occur within 1,000 feet of all  
115 adjacent properties.

116  
117                   (iii)  No land application of domestic septage shall occur within 300 feet of a public  
118 road, permanent surface water body, or intermittent stream.

119  
120                   (b)    Site restrictions:

121  
122                   (i)    The land application of domestic septage shall only occur on those sites with  
123 established vegetation such as rangeland, pasture or hay meadows.

124  
125                   (ii)   No more than 5,000 gallons of domestic septage per acre per year shall be land  
126 applied.

127  
128                   (iii)  No land application of domestic septage shall occur where the site's slope  
129 exceeds five percent (5%) or where the depth to groundwater is less than four (4) feet.

130  
131                   (iv)   The land application of domestic septage shall not occur between November 1  
132 and May 1, or any other time when frozen or saturated ground conditions exists.

133  
134                   (v)    No public access shall be allowed to any site where domestic septage has been  
135 applied for at least one (1) year following application.

136  
137                   (vi)  No grazing animals shall be allowed access to any site where domestic septage  
138 has been land applied for at least thirty (30) days following application.

139  
140                   (c)    Crop restrictions:

141  
142                   (i)    No root crops shall be harvested from soils where domestic septage has been  
143 land applied for at least thirty-eight (38) months following application

144  
145                   (ii)   No truck crops (harvested parts touch land surface) shall be harvested from  
146 soils where domestic septage has been land applied for at least fourteen (14) months following  
147 application.

148

149 (iii) No commodity crops (other food, feed, and fiber crops whose harvested parts  
150 do not touch land surface) from soils where domestic septage has been land applied shall be  
151 harvested for at least thirty (30) days following application.

152  
153 (iv) No turf shall be harvested from soils where domestic septage has been land  
154 applied for at least one (1) year following application.

155  
156 (d) Reporting Requirements:

157  
158 (i) The property owner shall notify the appropriate Department of Environmental  
159 Quality, Water Quality Division (DEQ/WQD) District Engineer prior to the land application of  
160 domestic septage to confirm the requirements and to arrange a possible DEQ/WQD inspection of  
161 the land application.

162  
163 (ii) All records related to each septage application will be maintained for at least  
164 five (5) years.

165  
166 (iii) There is a worksheet provided online at the Division's website that must be  
167 completed, signed, and returned to the DEQ/WQD, or the appropriate delegated local permitting  
168 authority, within 15 days of the land application.

CHAPTER 25

SEPTIC TANKS, ~~AND/OR~~ SOIL ABSORPTION SYSTEMS, AND OTHER SMALL  
WASTEWATER SYSTEMS

Section 1. ~~General~~ Authority.

This rule is promulgated pursuant to Wyoming Statutes (W.S.) 35-11-101 through 35-11-1904, specifically 35-11-302(a)(iii).

Section 2. ~~Definitions~~ Objective.

~~(formerly Section 1)~~ This ~~part~~ Chapter contains the minimum standards for the design and construction of ~~sewerage small wastewater systems, treatment works and disposal systems for domestic wastes and industrial wastes generated by facilities other than specifically covered by other parts of this Chapter~~ that are defined by W.S. 35-11-103(c)(ix). In addition, this Chapter contains the minimum standards for the design and construction of Underground Injection Control (UIC) Class V facilities 5C1-5C3, 5C6, 5D1, 5E1, 5E3-5E5 as defined in Chapter 27, Appendices C and D.

The following situations will require the application package to be sealed, signed, and dated by a professional engineer (PE): non-domestic wastewater from commercial and industrial facilities, high strength wastewater, individual permits to construct, or standard soil absorption systems with a soil percolation rate that is either less than 5 minutes per inch (mpi) or more than 60 minutes per inch (mpi).

These standards pertain to permits required pursuant to Chapters 3 and 25, Wyoming Water Quality Rules and Regulations. The installation of all components of a small wastewater system require a permit to construct. Permits to construct are specified throughout this chapter as general permits, described in Chapter 3, Section 7; permit by rule, described in Chapter 3, Section 8; or as individual permits to construct, described in Chapter 3, Section 6.

Section 3. ~~Design Flows~~ Timing of Compliance with These Regulations.

Any Chapter 3 permit-to-construct issued for facilities otherwise subject to this chapter prior to the effective date of these regulations, and any facility authorized under the Division's "General Permit to Construct, Install, Modify or Operate a Small Wastewater Facility" shall remain covered under those permits. New construction or modification of existing facilities following the effective date of this regulation must obtain authorization under a new permit.

Section 4. ~~Isolation~~ 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.~~ "100 year floodplain" means a tract of land throughout a watershed that has a one-in-one hundred chance or occurrence of flooding in any given year or a return period of once every 100 years, as determined by the United States Geological Survey (USGS), Federal Emergency Management Agency (FEMA) or a local planning and development authority.

51 (b) ~~“Aerobic unit” means a covered, watertight receptacle which receives wastewater.~~  
52 ~~The unit removes settleable solids, floatable material, and a part of soluble organic matter by the~~  
53 ~~use of aerobic biological treatment. “Absorption surface” means the interface where treated~~  
54 ~~effluent infiltrates into native or fill soil.~~

55 (c) ~~“Building drain” means the building drain is that part of the lowest piping of a~~  
56 ~~drainage system which receives the discharge from soil, waste and other drainage pipes inside the~~  
57 ~~walls of the building and conveys it to the building sewer beginning two feet (.6m) outside the~~  
58 ~~building wall. “Bed” means a soil treatment and dispersal system where the width is greater than~~  
59 ~~three (3) feet.~~

60  
61 (d) ~~“Bedrock” means geological layers, of which greater than 50 percent by volume~~  
62 ~~consist of unweathered in-place consolidated rock or rock fragments. Bedrock also means~~  
63 ~~weathered in-place rock that cannot be hand augered or penetrated with a knife blade.~~

64  
65 (e) ~~“Bedroom” means any room that is or may be used for sleeping.~~

66  
67 (f) ~~“Dosing system” means the system of tanks, pumps or syphons, and piping located~~  
68 ~~between the septic tank and soil absorption system which is intended to apply a large quantity of~~  
69 ~~settled wastewater to the absorption system in a short period of time. “Blackwater” means water~~  
70 ~~containing fecal matter and/or urine~~

71  
72 (g) ~~“Hydrogeological study” means a study of the occurrence, distribution, quality and~~  
73 ~~movement of the shallowmost groundwater of the site and the potential impact of wastewaters on~~  
74 ~~the groundwater. “Five day biochemical oxygen demand (BOD<sub>5</sub>)” means a measurement of~~  
75 ~~the dissolved oxygen used by microorganisms in the biochemical oxidation of organic matter~~  
76 ~~during a five (5) day period.~~

77  
78 (h) ~~“Impermeable soil” means any soil which has a percolation rate greater than 60~~  
79 ~~minutes per inch.~~

80  
81 ~~Previously 2(d) “Building sewer” means the building sewer is that part of the horizontal piping~~  
82 ~~the pipe of a drainage system which extends from the end of the building drain and conveys the~~  
83 ~~building drain discharge to the septic tank or other onsite sewage disposal facility that carries~~  
84 ~~wastewater from the building.~~

85  
86 (i) ~~“Pump Tank” means a tank in which the dosing pumps or syphons are installed.~~  
87 ~~“Chamber” means a domed open bottom structure that is used in lieu of perforated distribution~~  
88 ~~pipe and gravel media.~~

89  
90 (j) ~~“Delegated small wastewater program” means a local governmental entity,~~  
91 ~~delegated by the Administrator, with the authority to administer the provisions of W.S. 35-11-~~  
92 ~~301(a) (iii) for small wastewater systems pursuant to the provisions of W.S. 35-11-304.~~

93  
94 (k) ~~“Direct human consumption food crops” are crops consumed directly by humans.~~  
95 ~~These include, but are not limited to fruits, vegetables and grains grown for human consumption.~~

96  
97 (l) ~~“Domestic wastewater” means a combination of the liquid or water-carried wastes~~  
98 ~~from residences, business buildings, institutions, and other establishments arising from normal~~  
99 ~~living activities.~~

100

101 ~~Previously 2(e) (m) “Domestic sewage septage” “Domestic”~~ means the liquid ~~and~~  
102 ~~waterborne wastes or solid material derived removed from the ordinary living processes a waste~~  
103 ~~treatment vessel, free from industrial wastes, and of such character as to permit satisfactory~~  
104 ~~disposal without special treatment~~ that has received only wastes from residences, business  
105 buildings, institutions, and other establishments arising from normal living activities.  
106

107 (n) “Dosing tank” means a tank equipped with an automatic siphon or pump designed  
108 to discharge effluent on an intermittent basis.  
109

110 (o) “Effluent” means a liquid flowing out of a septic tank, other treatment vessel or  
111 system.  
112

113 (p) “Effluent filter” means a removable, cleanable device inserted into the outlet piping  
114 of a septic tank or other treatment vessel designed to trap solids that would otherwise be  
115 transported to the soil absorption system or other downstream treatment components.  
116

117 (q) “Evapotranspiration” means the combined loss of water from soil by evaporation  
118 from the soil or water surface and by transpiration from plants.  
119

120 (r) “Greywater” means untreated wastewater that has not been contaminated by any  
121 toilet discharge; that is unaffected by infectious, contaminated, or unhealthy bodily wastes; and  
122 does not present a threat from contamination by unhealthful processing, manufacturing, or  
123 operating wastes. “Greywater” includes but is not limited to wastewater from bathtubs, showers,  
124 washbasins, clothes washing machines (unless soiled diapers are serviced), laundry tubs, and  
125 kitchen sinks.  
126

127 (s) “Grease interceptor” means a device designed to separate fats, oils, and grease  
128 from wastewater.  
129

130 (t) “Groundwater” means subsurface water that fills available openings in rock or soil  
131 materials such that they may be considered water saturated under hydrostatic pressure.  
132

133 (u) “High groundwater” means seasonally or periodically elevated levels of  
134 groundwater.  
135

136 (v) “High strength wastewater” means a wastewater stream with a BOD<sub>5</sub> higher than  
137 200 mg/L.  
138

139 (w) “Holding Tank” means a watertight receptacle designed to receive and store  
140 wastewater.  
141

142 (x) “Manifold” means a non-perforated pipe that distributes effluent to individual  
143 distribution pipes.  
144

145 (y) “Mound system” means an onsite wastewater system where any part of the  
146 absorption surface is above the elevation of the existing site grade, and the absorption surface is  
147 contained in a mounded fill body above the grade.  
148

149 (z) “Mulch basin” means an excavated area that has been refilled with a highly  
150 permeable media, organic and inorganic materials intended to distribute greywater to irrigate  
151 vegetation.

152  
153 (aa) “Pathogens” are disease-causing organisms. These include, but are not limited to,  
154 certain bacteria, protozoa, viruses, and viable helminth ova.

155  
156 (bb) “Percolation rate” means the time expressed in minutes per inch required for water  
157 to seep into saturated soil at a constant rate.

158  
159 (cc) “Pipe invert” means the bottom of the internal surface of the pipe.

160  
161 (dd) “Percolation test” means the method used to measure the percolation rate of water  
162 into soil as described in Appendix A.

163  
164 (ee) “Permit by rule” means an authorization included in these rules that does not  
165 require either an individual permit or a general permit. A facility which is permitted by rule must  
166 meet the requirements found in this chapter, but is not required to apply for and obtain a permit to  
167 construct and operate the facility.

168  
169 (ff) “Pressure distribution” means a network of pipes in which effluent is forced  
170 through orifices under pressure.

171  
172 (gg) “Restrictive layer” means a nearly continuous layer that has one or more physical,  
173 chemical, or thermal properties that significantly impede the movement of water and air through  
174 the soil or that restrict roots or otherwise provide unfavorable root conditions. Examples are  
175 bedrock, cemented layers, dense layers, and frozen layers.

176  
177 (hh) “Septage” means liquid or solid material removed from a waste treatment vessel  
178 that has received wastes from residences, business buildings, institutions, and other  
179 establishments.

180  
181 (ii) “Septic tank” means a watertight tank designed and constructed to receive and  
182 treat raw wastewater.

183  
184 (jj) “Serial distribution” means a group of trenches arranged so that the total effective  
185 absorption area of one trench is used before liquid flows into the next trench.

186  
187 (kk) “Service provider” means a person authorized and trained by a system  
188 manufacturer or their vendor to operate and maintain any proprietary system.

189  
190 (ll) “Soil absorption system” means a shallow, covered, excavation surface, or mound  
191 made in unsaturated soil into which wastewater effluent from the septic tank is discharged  
192 through distribution piping for application onto absorption surfaces through porous media or  
193 manufactured components.

194  
195 (mm) “Trench” means an absorption surface with a width of three (3) feet or less.

196  
197 **Section 5. ~~Site Suitability~~ Design Flows.**

198  
199 ~~(formerly Section 3) The sewerage system, treatment works and disposal system shall have a~~  
200 ~~minimum absorption area based on the minimum peak design flows listed in Table 1 below. The~~  
201 ~~volume of wastewater shall be determined by one of the following:~~

202



203  
204  
205  
206  
207  
208  
209  
210  
211

- (a) Tables 1 and 2 provided in this section.
- (b) Metered water supply data from the facility.
- (c) Metered water supply data from another facility where similar water demands have been demonstrated.

**Table 1**

**Quantities of Domestic Sewage Flows**

Type of Establishment	Flow (gallons 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/home*
<b>Commercial Facilities</b>	
Airports	4/passengers
Bar	3/patron
Bathhouses and swimming pools	10/person
Campgrounds (individual sewer outlets available)	100/site
Campgrounds (service building only)	75/site
Car or truck wash	200/vehicle
Church (no food preparation and/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/machine or 50/cycle
Motels	80/double bed or 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
<b>Schools</b> Boarding	100/resident student
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
Warehouses	30/employee

212  
213  
214

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

215  
216

**Table 1. Residential Design Flow Rates per Bedroom (gallons per day, gpd)<sup>1</sup>**

<a href="#">1 bedroom</a>	<a href="#">150</a>
<a href="#">2 bedrooms</a>	<a href="#">280</a>
<a href="#">3 bedrooms</a>	<a href="#">390</a>
<a href="#">4 bedrooms</a>	<a href="#">470</a>
<a href="#">5 bedrooms</a>	<a href="#">550</a>
<a href="#">6 bedrooms</a>	<a href="#">630</a>

217  
218  
219  
220

<sup>1</sup>An unfinished basement is considered two (2) additional bedrooms.

<sup>2</sup>The design flow shall be increased by eighty (80) gpd for each additional bedroom over six (6).

**Table 2. Non-Residential Wastewater Design Flow Rates<sup>1</sup>**

Facility	Unit	Flow (gallons/unit/day)
Airports	<a href="#">person</a>	4
<a href="#">Apartment</a>	<a href="#">bedroom</a>	<a href="#">120</a>
<a href="#">Automobile</a> Service Station	vehicle served	10
Bars	<a href="#">seat</a>	<a href="#">20</a>
Bathhouses and swimming pools	person	10
Campgrounds ( <a href="#">w/ toilets only</a> )	<a href="#">person</a>	<a href="#">25</a>
Campgrounds ( <a href="#">w/shower facility</a> )	<a href="#">person</a>	<a href="#">45</a>
<a href="#">Church</a>	<a href="#">person</a>	4
Country Club	member	<a href="#">25</a>
<a href="#">Day School, Office Building, Retail Store, Warehouse (no showers)</a>	<a href="#">person</a>	<a href="#">15</a>
Hospital	bed	<a href="#">250</a>
<a href="#">Industrial Building (sanitary waste only)</a>	<a href="#">employee</a>	<a href="#">20</a>
Laundry (self-service)	<a href="#">machine</a>	<a href="#">450</a>
Mobile Home	<a href="#">bedroom</a>	<a href="#">See table 1</a>
Motel, <a href="#">Hotel, Resort</a>	<a href="#">bedroom</a>	<a href="#">140</a>
<a href="#">Recreational Vehicle</a>	<a href="#">each</a>	<a href="#">100</a>
Rest Home, <a href="#">Care Facility, Boarding School</a>	bed	100
Restaurant	meal	<a href="#">10</a>

<u>Restaurant (kitchen waste only)</u>		<u>meal</u>	<u>6</u>
Theater		<u>seat</u>	<u>3</u>

<sup>1</sup>Values shown in the above table are the typical flow rates from *Wastewater Engineering Treatment and Reuse*, Metcalf and Eddy, 2003 Edition.

**Section 6. ~~Building Sewer Pipes~~ Systems not Specifically Covered by This Rule.**

This section is provided to encourage new technology and equipment and provide a process for evaluating and permitting designs that deviate from this rule. The proposed construction of facilities and processes not in compliance with this rule may be permitted provided that the facility, when constructed and operated, meets the objective of these rules.

(a) Each application for a permit to construct shall include an engineering design report, detailed construction plans, and technical specifications for all piping, tanks, and equipment. All of the documents shall have a suitable title showing the owner's name and the Wyoming registration number, seal, and signature of the engineer.

(b) Each application for a permit to construct will be evaluated on a case-by-case basis using the best available technology. The application shall include at least one of the following:

(i) Data obtained from a full scale, comparable installation that demonstrates the acceptability of the design.

(ii) Data obtained from a pilot plant operated under the design condition for a sufficient length of time to demonstrate the acceptability of the design.

(iii) Data obtained from the theoretical evaluation of the design that demonstrates a reasonable probability the facility will meet the design objectives.

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

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

**Section 7. ~~Soil Absorption System Sizing~~ Site Suitability.**

(a) ~~(Formerly 4(e) Location. Surface runoff shall be diverted around or away from all soil absorption systems. 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. Formerly 4(e))~~ Absorption systems ~~Small wastewater systems~~ Small wastewater systems shall not be located beneath buildings, parking lots, roadways, driveways, irrigated landscaping, or ~~other similarly~~ compacted areas.

(formerly 10(a)(i))(b) ~~Replacement area. An area shall be designated and shown on the plans for future installation of a replacement absorption system. The site must 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 (100%) percent of the wastewater flow. If a trench system is used, the replacement-area soil~~

269 absorption system may ~~include the area be located~~ between the trenches ~~of the proposed soil~~  
270 absorption system if ~~sufficient spacing has been provided~~ there is at least nine (9) feet of spacing  
271 between trench sidewalls. ~~At least three feet of undisturbed soil shall remain between the existing~~  
272 ~~and replacement trench side walls.~~

273  
274 ~~—— (formerly 5(e)) Groundwater protection and bedrock or impermeable soil separation.~~

275  
276 ~~(formerly 5(e)(i))~~ (c) For single family homes, For standard soil absorption systems the  
277 effective suitable soil depth ~~to bedrock or impermeable soil must be shall extend~~ at least four (4)  
278 feet ~~from below~~ the bottom of the absorption system ~~stone and the natural ground surface to any~~  
279 restrictive layer, fractured rock, or highly permeable material.

280  
281 ~~(formerly 5(e)(i))(d)~~ ~~——~~ The depth to ~~seasonally high groundwater must shall~~ be at least  
282 four (4) feet ~~from below~~ the bottom of the absorption ~~system surface stone and at least two feet~~  
283 ~~from the natural ground surface.~~ for all treatment systems except pressure distribution. ~~(formerly~~  
284 ~~5(e)(ii))~~ ~~——~~ For all systems other than single family homes up to 2000 gallons per day, the depth  
285 ~~to bedrock or impermeable soil must be at least four feet from the natural ground surface. The~~  
286 ~~depth to seasonally high groundwater must be at least four feet from the bottom of the absorption~~  
287 ~~system stone and at least two feet from the natural ground surface. Also, For pressure distribution~~  
288 systems, the depth to high groundwater shall be a minimum of at least three (3) feet of  
289 unsaturated soil shall be maintained between below the bottom of the absorption ~~system stone~~  
290 surface and the estimated groundwater mound imposed on the seasonally high groundwater table.  
291 if the percolation rate of the soil is five (5) minutes per inch or greater (5-60 mpi). ~~The height of~~  
292 ~~the groundwater mound may be estimated from Figures 1 through 6. The average daily flow~~  
293 ~~should be used and may be estimated as 0.6 times the flow determined from Table.~~

294  
295 ~~(formerly 5(e) (iii))~~ For all systems larger than 2000 gallons per day, a minimum of  
296 ~~three feet of unsaturated soil shall be maintained between the bottom of the absorption system~~  
297 ~~stone and the estimated groundwater mound imposed on the seasonally high groundwater table.~~  
298 ~~The maximum height of the groundwater mound shall be estimated by the design engineer.~~

299  
300 ~~—— (formerly Section 5(e))(e) Sloping ground installations~~ Slope

301  
302 ~~(formerly Section 5(e)(i))(i)~~ Absorption systems shall not be located in an area  
303 ~~where the natural slope is steeper than stated below. The following are Table 3 shows~~ the  
304 maximum permissible slopes on which an absorption system may be constructed.

305  
306 ~~(formerly contained in Section 5(e)(i))~~ Table 3. Slope and Percolation Rates for Absorption  
307 Systems

308

Percolation Rate (minutes/inch)	Maximum Slope <sup>1</sup>
<del>Faster than</del> 5	25%
6-45	20%
46-60	15%

309 <sup>1</sup> Flatter slopes may be required where the effluent ~~may surface~~ sufaces downslope.

310  
311 ~~(formerly 5(e)(ii))~~ “Saturated thickness” Distance between the seasonally high groundwater table  
312 ~~and the under lying impervious layer such as clay, bedrock or soils with significantly lower~~

313 permeability.

314

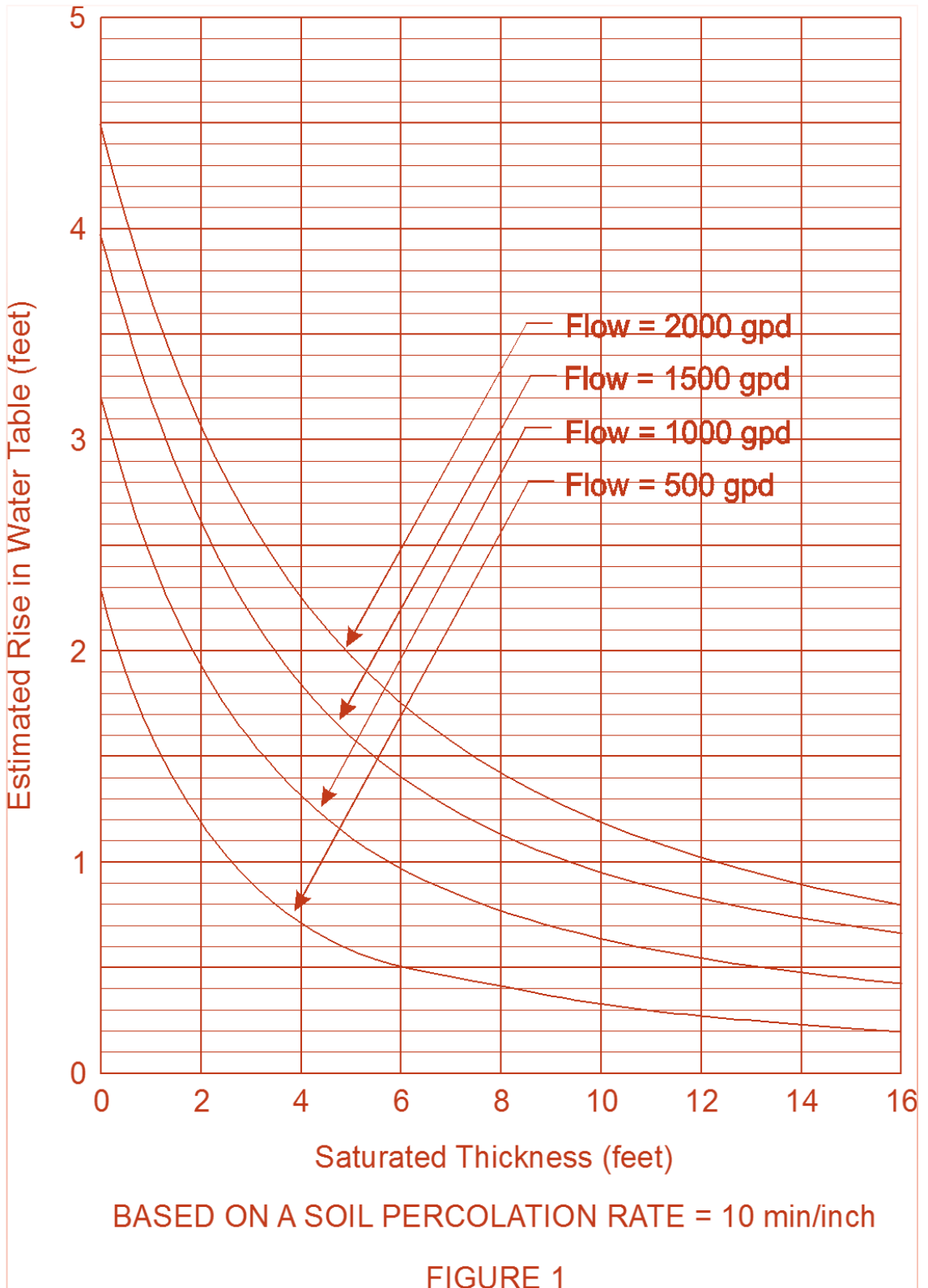
315 (formerly 5 (e)(ii)) "~~Estimated Rise in Water Table~~": ~~The estimated distance the water table will~~  
316 ~~rise at the center of the absorption system above the initial water table when the indicated flow is~~  
317 ~~applied daily.~~

318

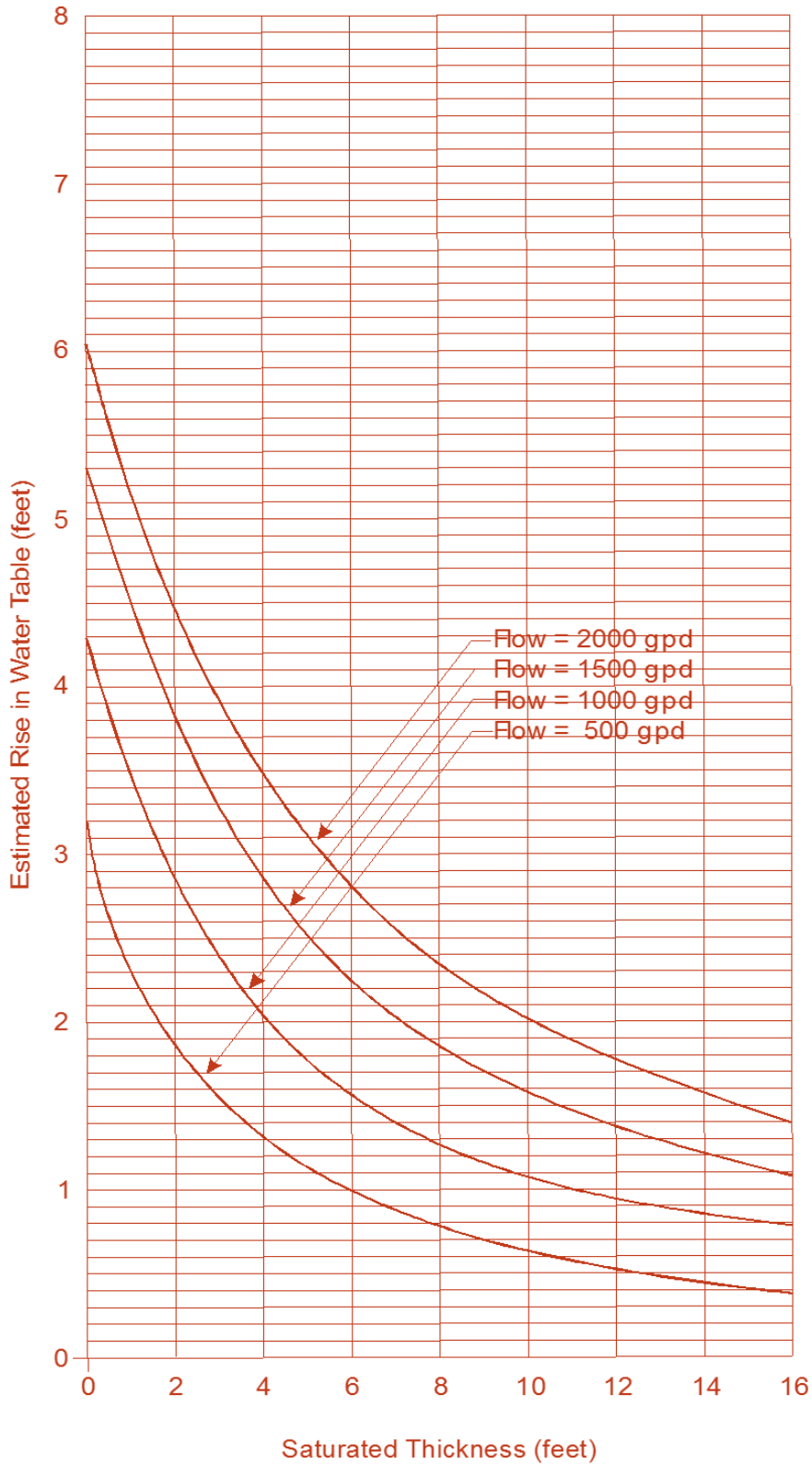
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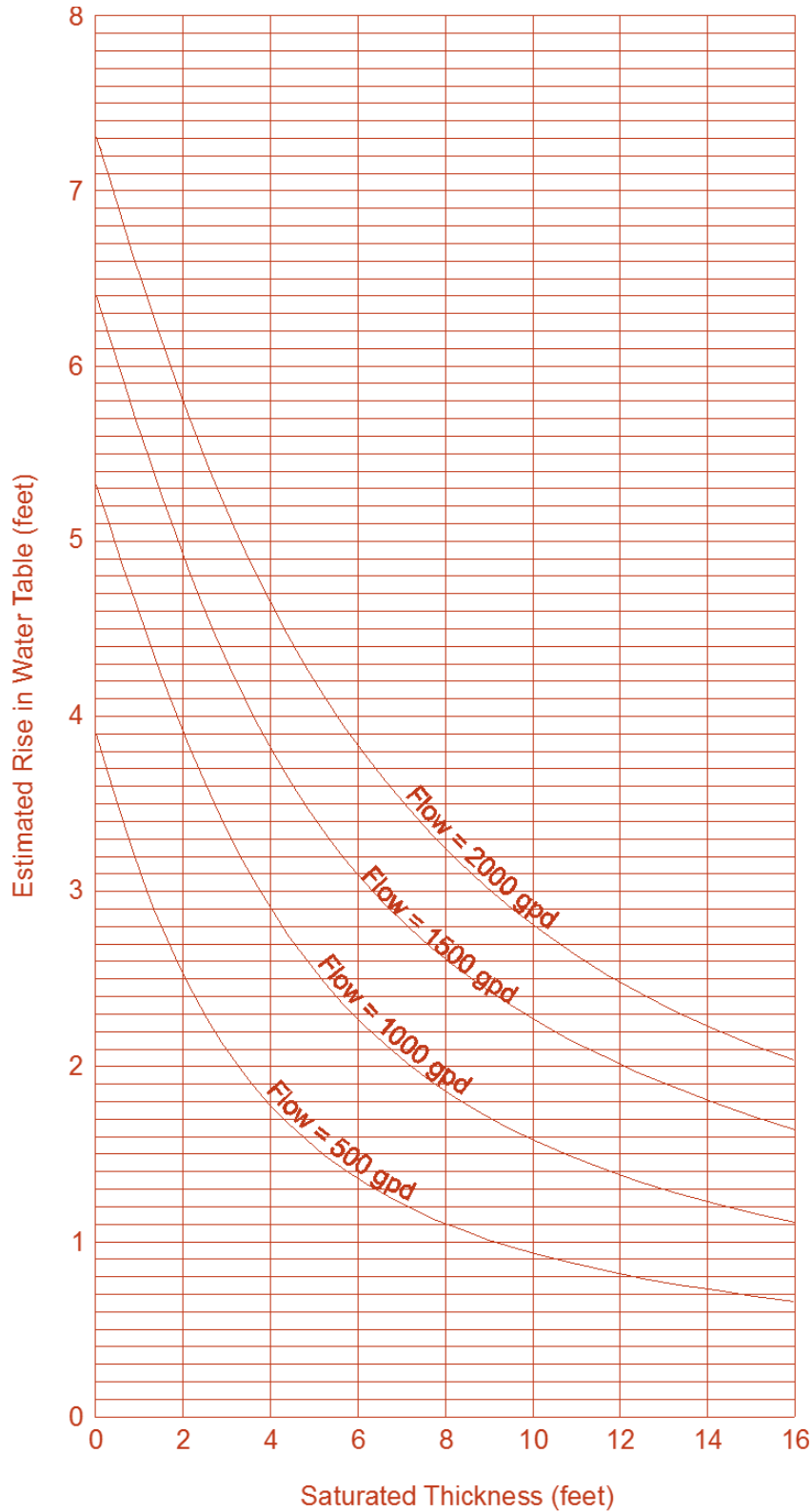
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323



BASED ON A SOIL PERCOLATION RATE = 20 min/inch

FIGURE 2

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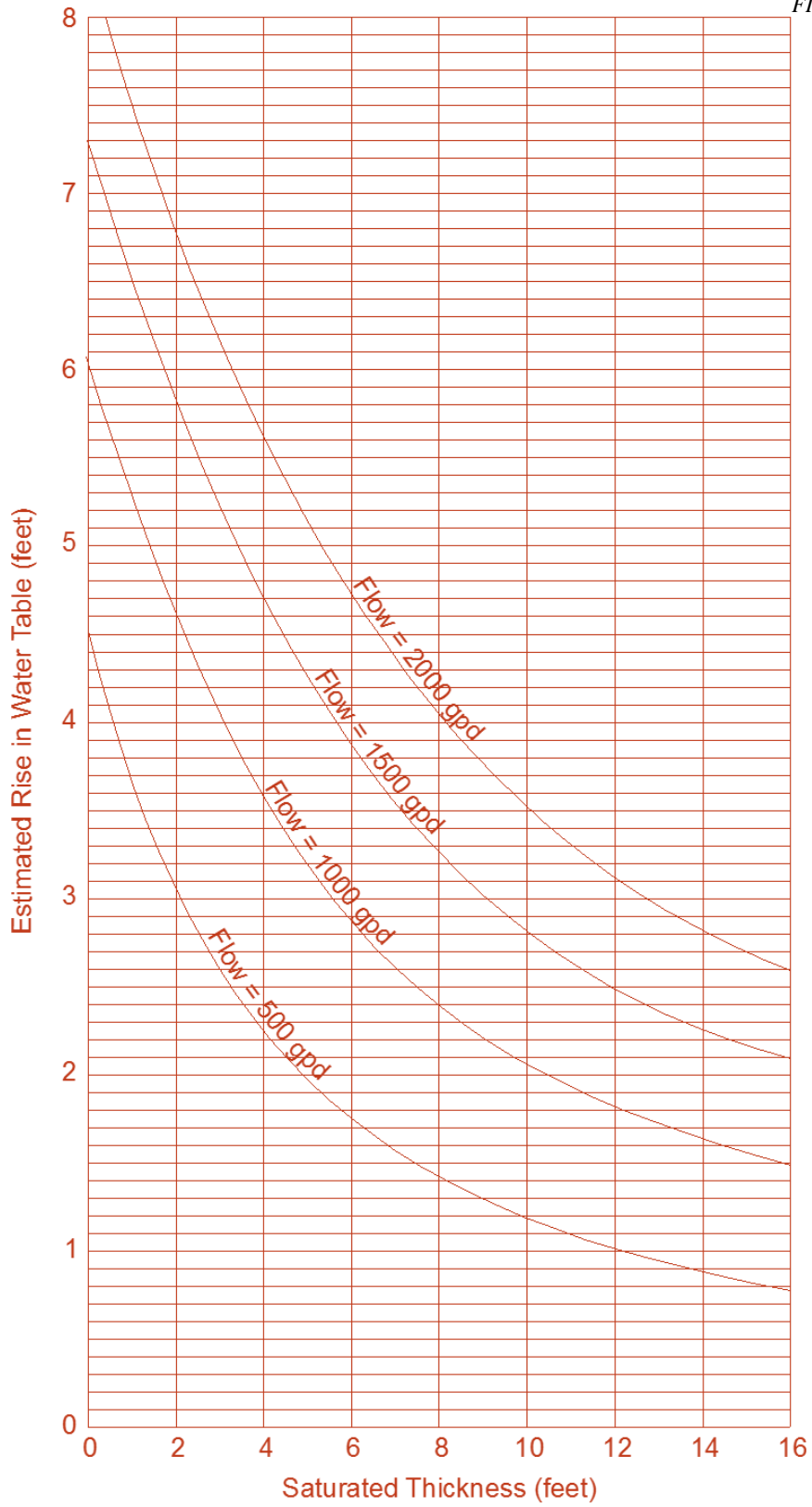


BASED ON A SOIL PERCOLATION RATE = 30 min/inch

FIGURE 3



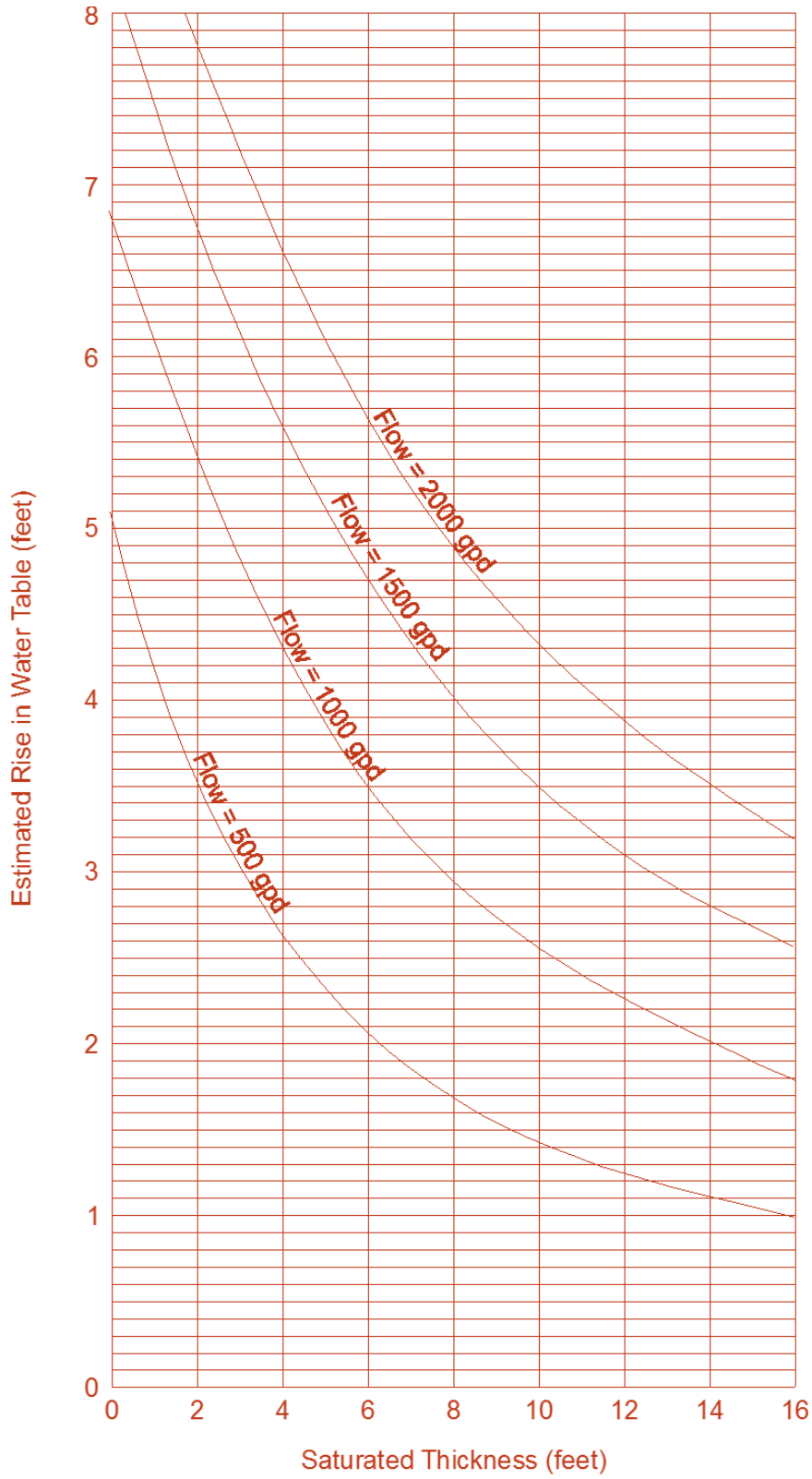
375



BASED ON A SOIL PERCOLATION RATE = 40 min/inch

FIGURE 4

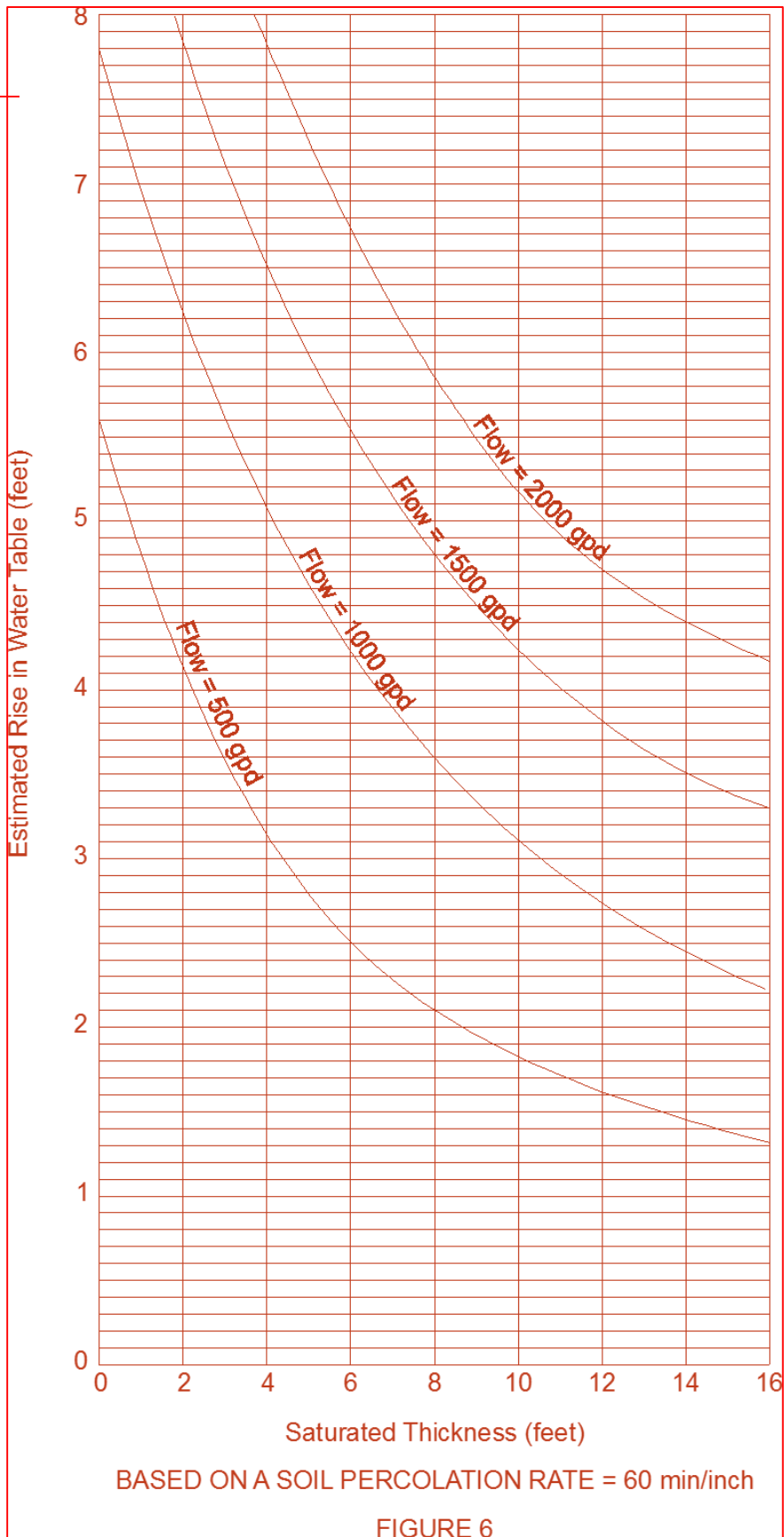
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BASED ON A SOIL PERCOLATION RATE = 50 min/inch

FIGURE 5

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381 (ii) Serial distribution, with the use of drop boxes or approved fittings, is the  
382 preferred installation method for sloping terrain. The bottom of individual trenches shall be level  
383 and the trenches shall be constructed to follow the contours of the land.

384  
385 (iii) The placement of multiple trenches, with each subsequent trench down slope of  
386 the previous trench shall be avoided when the addition of effluent to the soil absorption system  
387 trenches may lead to either an unstable slope or seepage down slope.

388  
389 ~~(formerly 5(e)(ii))(iv)~~ All absorption surfaces must be located at least 15  
390 horizontal feet from the top of any break in slope ~~which that~~ exceeds the maximum ~~allowed in~~  
391 ~~subsection (i) above~~ slope allowed.

392  
393 (f) Soil Exploration Pit and Percolation Tests

394  
395 (i) Delegated small wastewater programs shall require a percolation test in  
396 addition to the soil exploration pit.

397  
398 (ii) ~~(formerly 5(a)) — Soil exploration. Soil exploration~~ A minimum of one soil  
399 exploration pit within the proposed soil absorption system location shall be excavated to a  
400 minimum depth of four (4) feet below the bottom of the proposed soil absorption system ~~shall be~~  
401 ~~made to provide information on subsoil conditions~~ to evaluate the subsurface conditions.

402  
403 ~~(formerly 5(b)) — Soil evaluation.~~

404  
405 ~~(formerly 5(b)(i)) — No less than three percolation tests shall be run in the~~  
406 ~~proposed absorption system location. The percolation tests shall be performed in accordance with~~  
407 ~~Appendix A of this part. The type of soil encountered at the percolation test location shall be~~  
408 ~~specified.~~

409  
410 ~~((formerly 5b)(ii))~~ (iii) The percolation test shall be performed in accordance with  
411 Appendix A of this chapter. An evaluation of the soil texture, in the proposed soil absorption  
412 system location, by a person experienced in soils classification, may be used as an additional tool  
413 to confirm the percolation rate. ~~but at least one percolation test shall be performed.~~

414  
415 ~~(formerly Section 4)(g)~~ Isolation Minimum horizontal setback distances (in feet) are as  
416 follows:

417  
418 ~~(formerly 4(a)) — Domestic wastewater. The isolation distances listed below apply when~~  
419 ~~domestic wastewater is the only wastewater present.~~

420  
421 ~~(formerly 4(a)(i)) — If the flow is less than 2000 gallons per day (gpd), the~~  
422 ~~minimum isolation distance (in feet) shown in Table 2 shall be maintained.~~

432  
433  
434

~~(formerly Table 2)~~ **Table 4. Minimum Horizontal Setbacks for Domestic Wastewater in Feet<sup>1, 2</sup>**

From	To Septic Tank Or Equivalent	To Absorption System
Wells (includes neighboring wells)	50	100
<u>Public Water Supply Well</u>	<u>100<sup>2</sup></u>	<u>200<sup>2</sup></u>
Property Lines	10	10
Foundation Wall (w/o drains)	5	10
Foundation Wall (with drains)	5	25
Potable Water Pipes	25	25
Septic Tank	<u>N/A</u>	10
<del>Stream or</del> Surface <del>Body of</del> Water, <u>Spring</u> (including seasonal and intermittent)	50	50
<u>Cisterns</u>	<u>25</u>	<u>25</u>

435 <sup>1</sup> ~~(formerly 4(b)) Non-domestic wastewater.~~ For disposal of ~~wastewaters other than~~  
436 ~~domestic non-domestic~~ wastewater, the ~~isolation~~ setback distance shall be determined by a  
437 hydrogeological study in accordance with Section ~~15~~ 17(b) of Chapter 3, but shall not be less than  
438 the distances shown in Table 4.

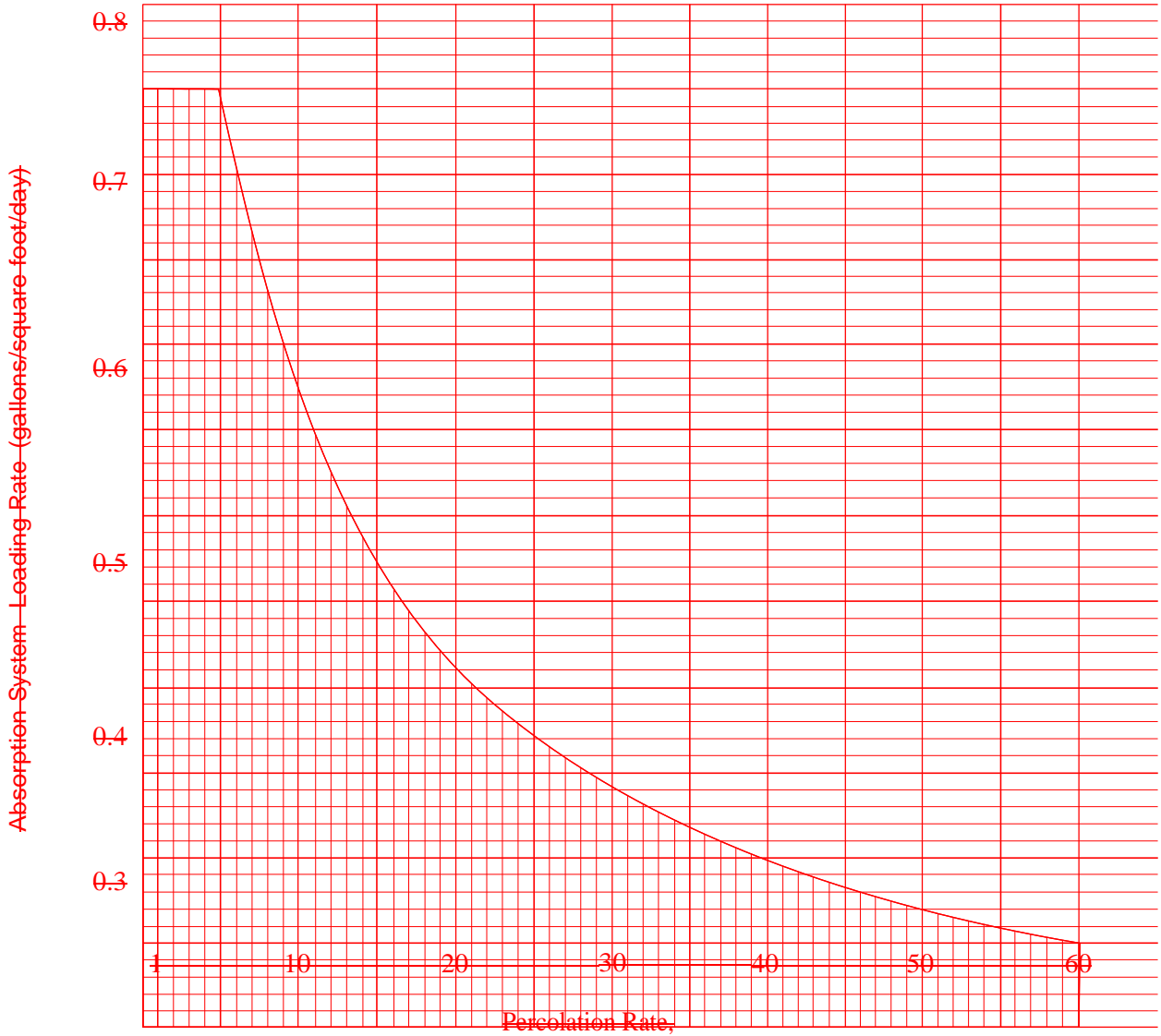
439  
440 <sup>2</sup> Small wastewater systems that discharge to the same aquifer that supplies a public water  
441 supply well and are located within Zone 1 or 2 (Attenuation) of the public water supply well, as  
442 determined by Wyoming Department of Environmental Quality Source Water Assessment Project  
443 (2004) or as established in Section 2 of the Wyoming Wellhead Protection Guidance Document  
444 (1997), shall provide additional treatment. These systems will be required to obtain an individual  
445 permit to construct and will require that a PE sign, stamp, and date the application, as stated in  
446 Section 2 of this chapter. The additional treatment shall be in accordance with Chapter 3 Section  
447 2(b)(ii). The treatment system shall be designed to reduce the nitrates to less than 10 mg/L of  
448 NO<sub>3</sub>- as N and provide 4-log removal of pathogens before the discharge leaves the property  
449 boundary of each small wastewater system.

450  
451 **Section 8. ~~Pretreatment~~ Soil Absorption System Sizing.**

452  
453 ~~(formerly Section 7(a)-(a) Trench, bed and seepage pit systems.~~ The total ~~infiltrative~~  
454 ~~infiltration surface of a soil absorption system~~ area of a soil absorption system shall be calculated  
455 ~~based on the flow rate as determined by the criteria stated in Section 3 and with the allowable~~  
456 ~~loading rate as determined by using Figure 7.~~ by dividing the design flow rates (gpd) from Table  
457 1 or Table 2 by the loading rate (gpd/ft<sup>2</sup>) found in Table 5. ~~The total infiltrative surface is the sum~~  
458 ~~of the sidewall and bottom areas of the absorption system below the invert of the distribution~~  
459 ~~pipe.~~

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(min/inch)

FIGURE 7

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517

**Table 5. Rates of Wastewater Application for Soil Absorption System Areas**

<u>Percolation Rate (mpi)</u>	<u>Loading Rate (gpd/ft<sup>2</sup>)</u>	<u>Percolation Rate (mpi)</u>	<u>Loading Rate (gpd/ft<sup>2</sup>)</u>
<u>5</u>	<u>0.80</u>	<u>21</u>	<u>0.45</u>
<u>6</u>	<u>0.75</u>	<u>22</u>	<u>0.44</u>
<u>7</u>	<u>0.71</u>	<u>23-24</u>	<u>0.43</u>
<u>8</u>	<u>0.68</u>	<u>25</u>	<u>0.42</u>
<u>9</u>	<u>0.65</u>	<u>26-27</u>	<u>0.41</u>
<u>10</u>	<u>0.62</u>	<u>28-29</u>	<u>0.40</u>
<u>11</u>	<u>0.60</u>	<u>30-31</u>	<u>0.39</u>
<u>12</u>	<u>0.58</u>	<u>32-33</u>	<u>0.38</u>
<u>13</u>	<u>0.56</u>	<u>34-35</u>	<u>0.37</u>
<u>14</u>	<u>0.54</u>	<u>36-37</u>	<u>0.36</u>
<u>15</u>	<u>0.52</u>	<u>38-40</u>	<u>0.35</u>
<u>16</u>	<u>0.50</u>	<u>41-43</u>	<u>0.34</u>
<u>17</u>	<u>0.49</u>	<u>44-46</u>	<u>0.33</u>
<u>18</u>	<u>0.48</u>	<u>47-50</u>	<u>0.32</u>
<u>19</u>	<u>0.47</u>	<u>51-55</u>	<u>0.31</u>
<u>20</u>	<u>0.46</u>	<u>56-60</u>	<u>0.30</u>

518

519

520

(b) ~~Soils with a percolation rate of 60 minutes per inch or greater are unacceptable for standard absorption systems.~~ The total infiltration area shall be defined as follows:

521

522

523

(i) For standard trenches the total infiltration area shall be calculated based on the following formula:

524

525

$$A = L(W + 2S)$$

526

527

A = Total infiltration area

528

529

L = Total length of trench

530

531

W = Bottom width

532

533

S = Sidewall height of 12 inches or less

534

535

(A) The sidewall height is the depth below the flowline of the pipe to the bottom of the trench.

536

537

538

(B) The maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve inches.

539

540

541

542

(ii) For chamber trenches, the total infiltration area shall be calculated based on the following formula:

543

544

$$A = L(E + 2S)$$

545

546

A = Total infiltration area

547

548

549 L = Total length of trench  
550 \_\_\_\_\_  
551 E = Effective bottom width (Multiply width of the chamber by factor of 1.43 to  
552 get effective bottom width)  
553 \_\_\_\_\_  
554 S = Sidewall height of 12 inches or less  
555 \_\_\_\_\_  
556 (A) The factor of 1.43 incorporates a thirty percent (30%) reduction of the  
557 bottom area.  
558 \_\_\_\_\_  
559 (B) The maximum credit for sidewall height shall not exceed twelve (12)  
560 inches even if the actual sidewall height exceeds twelve (12) inches.  
561 \_\_\_\_\_  
562 (C) The sidewall height is the height of the slotted sidewall of the chamber or  
563 depth below the flow line of the inlet pipe, whichever is less.  
564 \_\_\_\_\_  
565 (iii) For standard bed systems, the total infiltration area shall be calculated based  
566 on the following formula:  
567 A = LW  
568 \_\_\_\_\_  
569 A = Total infiltration area  
570 \_\_\_\_\_  
571 L = Total length of bed  
572 \_\_\_\_\_  
573 W = Width of the bed.  
574 \_\_\_\_\_  
575 (A) The sidewall credit shall not be used in calculating the total infiltration area  
576 for a bed system.  
577 \_\_\_\_\_  
578 (iv) For chamber bed systems, the total infiltration area shall be calculated based  
579 on the following formula:  
580 A = L(E x R)  
581 \_\_\_\_\_  
582 A = Total infiltration area  
583 \_\_\_\_\_  
584 L = Total length of bed  
585 \_\_\_\_\_  
586 E = Effective bottom width of the chamber (Multiply width of the chamber by  
587 factor of 1.43 to get effective bottom width)  
588 \_\_\_\_\_  
589 R = Number of chamber rows (Multiply effective bottom width of chamber by  
590 number of chamber rows to get effective bottom width of bed.)  
591 \_\_\_\_\_  
592 (A) The factor of 1.43 incorporates a thirty percent (30%) reduction of the  
593 bottom area.  
594 \_\_\_\_\_  
595 \_\_\_\_\_  
596 ~~(formerly 5(d))(c) Excessively permeable soils. Coarse sand~~ or soils having a  
597 percolation rate ~~of less than one (1) minute per inch (mpi) or less~~ are unsuitable for subsurface  
598 ~~effluent-sewage disposal. These soils may be used if a six inch a one (1) foot layer of soil-fine~~  
599 ~~sand or loamy sand having a percolation rate of five minutes per inch or greater is placed between~~



600 ~~the leach system stone and the existing soil below the constructed soil absorption system.~~ The  
601 soil absorption system shall be sized based on the percolation rate of the fill material.  
602

603 **Section 9. ~~(formerly Dosing Systems Following Septic Tanks)~~ Building Sewer Pipes.**

604 ~~(formerly 6(a))—Building drain pipe. All building drain pipe shall comply with the~~  
605 ~~standards published in the Uniform Plumbing Code 1982 or other locally approved, nationally~~  
606 ~~recognized plumbing code.~~

607  
608 ~~(formerly 6(b))—Building sewer pipe. All building sewers shall be installed in accordance~~  
609 ~~with the Uniform Plumbing Code 1982 or other locally approved, nationally recognized~~  
610 ~~plumbing code 2012 International Plumbing Code (IPC). In the absence of ~~an a locally~~ approved~~  
611 ~~plumbing code, and in addition to the IPC, the building sewer shall comply with the following:~~  
612

613  
614 ~~(formerly 6(b)(i)) (a) (Material) Suitable building sewer pipe materials are Ppolyvinyl C~~  
615 ~~chloride (PVC) or Acrylonitrile-acrylonitrile-Butadiene-Styrene (ABS) east or ductile iron,~~  
616 ~~portland cement, or vitrified clay pipe shall be used for sewer pipes.~~ The septic tank inlet and  
617 outlet pipes shall be ~~east or ductile iron or~~ schedule 40 PVC ~~or ABS pipe~~ and shall ~~extend past~~  
618 ~~the septic tank excavation to solid ground~~ span the excavations for the septic tank and/or dosing  
619 chamber. American Society for Testing and Materials (ASTM) D-3034 Standard Dimension  
620 Ratio (SDR) 35 plastic pipe may be used if the void at the tank's side is filled with material that is  
621 granular, clean and compacted.  
622

623 ~~(formerly 6(b)(ii)) (b) Size. Building sewer pipes shall not be smaller than four inches in~~  
624 ~~diameter. They shall be sized to handle the peak hourly flow from the building.~~  
625 Building sewer pipes shall be sized to handle the peak hourly flow from the building and shall  
626 not be smaller than four (4) inches in diameter. When two different sizes or types of sewer pipes  
627 are to be connected, a proper type of fitting or conversion adapter shall be used.  
628

629 (c) Sewer pipe shall not decrease in size flowing downstream.

630  
631 ~~(formerly 6(b)(iii))(d) Slope. Building sewer pipes should shall be laid at a ~~minimum~~~~  
632 ~~standard~~ slope of 1/4 inch per foot, ~~but and~~ shall not be flatter than 1/8 inch per foot.  
633

634 ~~(formerly 6(b)(iv)) Alignment. Building sewer pipes should be laid in a straight~~  
635 ~~line. Any single change or cumulative change of alignment of 22 ½ degrees or greater shall be~~  
636 ~~served by a cleanout.~~

637  
638 ~~(formerly 6(b)(v))(e) Cleanouts. Cleanouts shall be provided at branch connections,~~  
639 ~~every change in alignment, and at least every 100 feet in straight runs ~~maximum.~~~~

640  
641 ~~(formerly 6(b)(vi))(f) Backfilling. All sewer piping shall be laid on a firm bed~~  
642 ~~throughout its entire length. It shall be protected from damage due to rocks, hard lumps of soil,~~  
643 ~~debris and the like.~~

644  
645 ~~(formerly 6(b)(vi))(g) Special care shall be ~~utilized~~ used to prevent lateral movement or~~  
646 ~~ovalation deformation~~ during backfill. The backfill material shall be compacted to a density at  
647 least equivalent to the trench walls. Backfill over the pipe shall be of sufficient depth to protect  
648 the pipe from expected traffic loads and the wastewater from freezing.  
649

650 **Section 10. ~~Subsurface Treatment and Disposal Systems~~ Septic Tanks and Other**  
651 **Treatment Tanks.**

652 ~~(formerly 8(a))~~(a) Septic tanks:-

653 ~~(formerly 8(a)(i))~~ (i) ~~Material. The~~ Septic tanks shall be fabricated or  
654 constructed of durable concrete, fiberglass, thermoplastic or an approved material ~~not subject~~  
655 ~~to excessive corrosion or decay and structurally capable of supporting the loads to which it~~  
656 ~~will be subjected.~~ ~~The~~ ~~†~~Tanks shall be water tight and fabricated to constitute an individual  
657 structure, and shall be designed and constructed to withstand anticipated loads. As part of the  
658 application review process, Department of Environmental Quality, Water Quality Division  
659 (DEQ/WQD) or the delegated small wastewater program shall review the design of  
660 prefabricated septic tanks for compliance with applicable construction standards.

661 ~~(formerly 8(a)(v))~~ (ii) ~~Installation.~~ The septic tank shall be placed on a level  
662 grade and a firm bedding to prevent settling. Where rock or other undesirable protruding  
663 obstructions are encountered, the opening for the septic tank shall be over excavated, as needed,  
664 and backfilled with sand, crushed stone, or gravel to the proper grade.

665 (A) Septic tanks shall not be buried deeper than the tank manufacturer's  
666 maximum designed depth for the tank. The minimum depth of soil cover over the top of the tank  
667 is six (6) inches.

668 (B) Backfill around and over the septic tank shall be placed in such a manner  
669 as to prevent undue strain or damage to the tank or connected pipes.

670 (C) Septic tanks shall not be placed in areas subject to vehicular traffic unless  
671 engineered for the anticipated load.

672 ~~(formerly 8(a)(ii))~~(iii) Size

673 ~~(formerly 8(a)(ii)(A))~~(A) ~~Residential units serving no more than 4 families.~~ ~~The~~  
674 minimum liquid volume of a septic tanks shall be 1000 gallons for residences ~~through four~~  
675 ~~bedroom capacity~~ up to a four (4) bedroom capacity. Additional capacity of ~~250~~150 gallons per  
676 bedroom shall be provided for each bedroom over four (4).

677 ~~(formerly 8(a)(ii)(B))~~(B) ~~Commercial/industrial units.~~ Septic tanks for high strength  
678 wastewater or non-residential units shall have a minimum effective liquid capacity sufficient to  
679 provide at least ~~36~~ 48 hour retention at peak flow or 1,000 gallons, whichever is greater.

680 ~~(formerly 8(a)(iii))~~(iv) Configuration

681 ~~(formerly 8(a)(iii)(A))~~(A) ~~The Single compartment~~ septic tanks shall have a length  
682 to width ratio of no less than two (2) to one (1), or be so partitioned ~~as to provide protection~~  
683 ~~protect~~ against short circuiting of flow. ~~The inlet pipe shall be at least three inches higher than the~~  
684 ~~outlet pipe.~~

685 ~~(formerly 8(a)(iii)(B))~~(B) ~~If the septic tank is partitioned,~~ For septic tanks with two  
686 (2) compartments or more ~~the volume of the first compartment must be at least 50 percent of the~~  
687 ~~total required volume,~~ the inlet compartment shall not be less than one-half (1/2) of the total  
688 capacity of the tank.-

701  
702 ~~(formerly 8(a)(iii)-(A)) (C)~~ The water depth shall be no less than  
703 ~~four feet nor greater than six feet.~~ The liquid depth shall not be less than three (3) feet nor greater  
704 than six (6) feet.  
705  
706 ~~(formerly 8(a)(iii)(C))~~ The outlet elevation shall be designed to  
707 provide a distance of 20 percent of the liquid depth between the top of the liquid and the bottom  
708 of the septic tank cover for scum storage.  
709  
710 ~~(formerly 8(a)(iii)-(B)) (D)~~ The partition shall allow venting of the  
711 ~~tank.~~ The tank partition shall allow the venting of gases between compartments and out through  
712 the vent stack on the plumbing system of the house. Gases generated during liquefaction of the  
713 solids are normally vented through the building's plumbing stack vent.  
714  
715 ~~(formerly 8(a)(iii)(A)) (E)~~ The septic tank inlet and outlet on all  
716 tanks or tank compartments shall be provided with a open-ended sanitary tees or baffles. The  
717 outlet shall be provided with a tee or baffle that extends into the middle third of the water depth to  
718 prevent floating or settled solids from carrying over into the disposal field or bed. The inlet shall  
719 be provided with tee or baffle made of approved materials constructed to distribute flow and  
720 retain scum in the tank or compartments.  
721  
722 (I) The tees or baffles shall extend above the liquid  
723 level a minimum distance of five (5) inches.  
724  
725 (II) The inlet tees or baffles shall extend below the  
726 liquid level at least eight (8) inches but no more than 40% percent of the liquid level. The outlet  
727 tees or baffles shall extend below the liquid level at least ten (10) inches but no more than 45% of  
728 the liquid level.  
729  
730 (III) A minimum of one (1) inch of clear space shall be  
731 provided over the top of the baffles or tees for venting.  
732  
733 ~~(formerly 8(a)(iii)(A)) (IV)~~ The inlet pipe shall be at  
734 least ~~three two (2)~~ inches higher than the outlet pipe. ~~(formerly 8(a)(iii)(C))~~ The outlet elevation  
735 shall be designed to provide a minimum distance of nine (9) inches or twenty (20) percent of the  
736 liquid depth, whichever is greater, between the top of the liquid and the bottom of the septic tank  
737 cover for scum storage and the venting of gases.  
738  
739 (v) If additional septic tank capacity over 1,000 gallons is needed, it may be  
740 obtained by joining tanks in series provided the following requirements are met:  
741  
742 (A) The inlet of each successive tank shall be at least two (2) inches lower  
743 than the outlet of the preceding tank, and shall have no tee or baffle except for the inlet to the  
744 first tank and the outlet for the last tank.  
745  
746 (B) The first tank or the first compartment of the first tank shall be equal to  
747 fifty percent (50%) or larger of the total septic tank system volume.  
748  
749 ~~(formerly 8(a)(iv)) (vi)~~ Access. A manway An-access opening shall be provided  
750 to each compartment of the septic tank for inspection and cleaning. ~~A cleanout having a minimum~~

751 ~~diameter of six inches shall be provided in each tank compartment and shall extend to the ground~~  
752 ~~surface and be capped.~~

753  
754 ~~(formerly 8(a)(iv))~~ (A) The ~~manway~~-access opening(s) in the cover/lid of  
755 the tank shall have a minimum ~~opening diameter~~ of twenty-(20) inches ~~in the least dimension.~~  
756 Both inlet and outlet devices shall be accessible.

757  
758 (B) The riser from the access opening shall terminate at a maximum of six  
759 (6) inches below the ground surface. Riser covers terminating above grade shall have an  
760 approved locking device.

761  
762 (vii) Land application of domestic septage in remote areas that meet the conditions  
763 found in Appendix B will be permitted as a permit by rule. Delegated small wastewater programs  
764 may issue individual permits.

765  
766 (viii) An effluent filter with an opening of 1/8-inch or smaller shall be provided on  
767 the outlet of a septic tank or other tank that precedes a small diameter pressure distribution  
768 system.

769  
770 ~~(formerly 8(b))—Aerobic units.~~

771  
772 ~~(formerly 8(b)(i)) Residential units serving no more than four dwelling units.~~  
773 ~~Aerobic treatment units can be used as a pretreatment device for a single residential unit serving~~  
774 ~~no more than four families provided the unit carries the seal of testing and approval from the~~  
775 ~~National Sanitation Foundation (NSF) for the NSF Standard No. 40—1978. The unit shall be~~  
776 ~~sized based on the flow quantities stated in Section 3. No reduction in the sizing of soil absorption~~  
777 ~~systems or the final treatment systems shall be permitted if an aerobic unit is used instead of a~~  
778 ~~septic tank.~~

779  
780 ~~(formerly 8(b)(ii)) Commercial and residential units serving more than four families.~~  
781 ~~Aerobic units treating wastewater generated from other than a single residential unit serving four~~  
782 ~~families or less shall meet the design requirements of Part B or Part C of Chapter XI~~

783  
784 ~~(formerly 9(a))~~(b) Pumping systems for flow up to 2000 gallons per day. Dosing Tanks

785  
786 ~~formerly 9(a)(i))~~ (i) Pump tank. ~~Where only one pump is provided, the pump~~  
787 ~~tank shall have the minimum volume as required in Table 4 below. The~~ Dosing tanks  
788 ~~shall comply with the~~ meet the same material and installation requirements for as septic  
789 ~~tanks. The pump tank shall be vented. The vent shall have a downward turn that~~  
790 ~~terminates at least 12 inches above ground and be provided with a screen. The pump tank~~  
791 ~~shall have an access manhole provided with an opening at least 20 inches in least~~  
792 ~~dimension.~~ Dosing tanks shall have a 20-inch diameter access opening and it shall have a  
793 riser from the access opening to the ground surface.

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**Table 4**

**Pump-Tank  
Volume (gallons) Required Between**

<b>AVERAGE FLOWS (gallons per day)</b>	<b>“OFF” &amp; “ON” SWITCH</b>	<b>“ON” &amp; “ALARM” SWITCH</b>	<b>“ALARM” SWITCH &amp; TANK-INLET</b>	<b>RECOMMENDED PUMP CAPACITY (gpm)</b>
0-499	100	50	200	10
500-999	200	100	400	20
1000-1499	300	100	600	30
1500-2000	400	100	800	40

807  
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810

**Table 6. Dosing Tank Volume (gallons)**

<b>Average Design Flows (gpd)</b>	<b>0-499</b>	<b>500-999</b>	<b>1000-1499</b>	<b>1500-2000</b>
<b>Between Pump “off” and Tank Inlet</b>	<b>350</b>	<b>700</b>	<b>1000</b>	<b>1300</b>
<b>Between Tank Inlet and Alarm Switch</b>	<b>200</b>	<b>400</b>	<b>600</b>	<b>800</b>
<b>Between Alarm switch and Pump “on”</b>	<b>50</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Between Pump “on” and Pump “off”</b>	<b>100</b>	<b>200</b>	<b>300</b>	<b>400</b>
<b>Recommended Pump Capacity (gpm)</b>	<b>10</b>	<b>20</b>	<b>30</b>	<b>40</b>

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823

~~(formerly 9(a)(ii)—Pumps.~~

~~(formerly 9(a)(ii)(A)—Sizing. The pump shall have a flow rate of at least ten 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. Table 5 may be used to estimate the head loss of the pipe when pumping ten gallons per minute and using plastic pipe.~~

**Table 5**

<b>Diameter (inches)</b>	<b>Head Loss per 100 feet of pipe (in feet)</b>
<b>1</b>	<b>12</b>
<b>1¼</b>	<b>4</b>
<b>1½</b>	<b>2</b>

824  
825  
826  
827  
828  
829  
830

~~(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 8 inch block~~

831 ~~minimizes the transfer of any solids that may enter the pump tank.~~

832

833 ~~(iii) — Pressure transfer pipe. The pressure transfer piping between the tank and~~  
834 ~~the leach system shall be designed to drain after each pump cycle to prevent freezing. This~~  
835 ~~can be accomplished by either eliminating the check valve at the pump or by providing a~~  
836 ~~weep hole in the pipe in the tank. If the pipe is long, the tank shall be enlarged by the~~  
837 ~~volume of the pipe to accommodate the volume of liquid drained from the pipe.~~

838

839 ~~(b) Syphons. Where automatic syphons are used, they shall be designed to empty the~~  
840 ~~syphon tank in less than 20 minutes. The syphon tank shall be sized in accordance with Section~~  
841 ~~9(a)(i) above.~~

842

843 ~~(c) For all systems exceeding 2000 gallons per day. The pumping system shall~~  
844 ~~comply with the standards of Part B of Chapter XI.~~

845

846 ~~(formerly 9(a)(ii)(C)) (ii) Electrical controls. The electrical control system for the~~  
847 ~~wastewater pump shall consist of a “pump off” switch, a “pump on” switch, and a “high water~~  
848 ~~alarm” switch which shall be located to provide the necessary volumes as stated in Table 4.~~  
849 High water alarms shall be provided for all tanks that use pumps or siphons. The alarm device  
850 shall be an audible alarm or an indoor illuminated alarm or both. All electrical controls (pump  
851 electrical cord, switches, etc.) shall comply with the National Electrical Code—1981, Class 1,  
852 Group D, Division 1 locations. All openings around the cables or cords entering the tank shall  
853 be sealed.

854

855 (iii) The minimum effluent level shall achieve complete submergence of the pump.

856

857 (iv) Dosed systems using a siphon shall have a dose counter installed to check for  
858 continued function of the siphon.

859

860 ~~(formerly Section 12)-(c) Holding tanks~~

861

862 (i) Holding tanks shall meet the same material requirements as septic tanks.  
863 Holding tanks shall have a twenty (20)-inch minimum diameter access opening. A riser shall be  
864 brought to ground surface from the access opening.

865

866 ~~(formerly 12(a)) (ii) Uses. Holding tanks shall not be used for residential~~  
867 ~~systems when other alternative systems are available, except on a temporary, seasonal or~~  
868 ~~intermittent basis, or when used to correct a failed ~~subsurface disposal~~ soil absorption system~~  
869 ~~when other alternatives are unavailable. ~~Use of holding tanks for new construction is~~~~  
870 ~~prohibited.~~

871

872 ~~(formerly 12(b)) — Acceptance. A letter of verification from the local~~  
873 ~~receiving agency, denoting acceptance of the wastewater generated shall be submitted with~~  
874 ~~the plans.~~

875

876 ~~(formerly 12(e)) (iii) — Location. The location and construction of~~  
877 ~~holding tanks shall meet the requirements for septic tanks in Sections 4(a)(i) and Section~~  
878 ~~8(a)(i) respectively. Holding tanks must be located in an area readily accessible to the~~  
879 pump truck and where the tank itself will not float due to a high groundwater. If seasonal  
880 high groundwater may be present, the tank shall be properly anchored.

881

882 ~~(formerly 12(a)) (iv)~~ ~~Where holding tanks are allowed, they shall be sized on the basis~~  
883 ~~of seven days storage at the flow rate determined from Table 1. The minimum liquid volume shall~~  
884 ~~be the greater of 1,000 gallons or seven (7) days storage based upon flow rate determined from~~  
885 ~~Section 5.~~

886  
887 ~~(formerly 12(d))~~ ~~Vent. Each holding tank shall be provided with a two inch~~  
888 ~~minimum diameter vent ending in a return elbow above final grade. The vent shall terminate~~  
889 ~~at least 30 feet from any door, window, or fresh air inlet. The vent should be screened.~~

890  
891 ~~(formerly 12(e))~~ ~~(v)~~ ~~Alarm.~~ All holding tanks shall be equipped with a high water  
892 ~~level~~ alarm. The device shall be an audible alarm or an indoor illuminated alarm or both. The  
893 ~~alarm level shall be placed~~ device shall be installed so that the alarm is triggered when the water  
894 level reaches at 3/4 of the depth of the tank capacity.

895  
896 ~~(formerly 12(f))~~ ~~Pumpout. A six inch pump out pipe which extends to the~~  
897 ~~surface shall be provided. It shall be capped at all times.~~

898  
899 (vi) A design package for holding tanks is provided online at the Division's website to  
900 assist the applicant in submitting a completed application for coverage under the general permit  
901 for small wastewater systems. The worksheet and calculations were prepared by a registered  
902 professional engineer employed by the Wyoming Department of Environmental Quality, Water  
903 Quality Division. The general design requirements stated in this section are incorporated into  
904 the worksheets such that by properly completing the forms and installing the components, the  
905 system will comply with these requirements.

906  
907 ~~(formerly 8(e)(d))~~ Grease Interceptors ~~—grease, oil, silt and sand.~~

908  
909 ~~(formerly 8(e)(i)) (i)~~ ~~When required. Liquid wastes containing grease, oil, or silt and~~  
910 ~~sand~~ A commercial or institutional food preparation facility with a waste stream containing fat,  
911 oil, and grease (FOG) in excess of 25 mg/L shall provide install an exterior grease interceptor or a  
912 device approved by the delegated health department or county before the septic tank. Waste  
913 streams from residential living units are exempt from this requirement. Facilities that typically  
914 have waste streams high in FOG are, but not limited to, restaurants, cafeterias, slaughterhouses,  
915 and institutional kitchens.

916  
917 ~~(formerly 8(e)(ii)) (ii)~~ ~~Material. The interceptor shall meet the material~~  
918 ~~requirements of Section 8(a)(i).~~ Waste streams high in FOG shall be plumbed separately and  
919 directly to a grease interceptor prior to the waste treatment process.

920  
921 (iii) Waste streams from sanitary facilities such as bathrooms, toilets, urinals, or  
922 other similar fixtures shall not be discharged into the grease interceptor. These sources must be  
923 connected at least four to six (4-6) feet downstream of the grease interceptor's discharge. The  
924 design shall prevent any backflow from the sanitary sources into the grease interceptor.

925  
926 (iv) Only one source facility per grease interceptor shall be allowed.

927  
928 ~~(formerly 8(e)(v))~~ ~~Access. The access shall meet the requirements of Section~~  
929 ~~8(a)(iv).~~

930  
931 ~~(formerly 8(e)(vi))~~ (v) Location. Grease interceptors shall be located so that  
932 they are easily accessible for inspection, cleaning, and removal of the collected wastes.



933 ~~Interceptors shall be placed as close as practical to the fixture it serves. The wastewater from~~  
 934 ~~fixtures not producing grease, oil, or sand and silt shall bypass the interceptor. The interceptor~~  
 935 ~~shall not be closer than fifteen (15) feet from the last discharging fixture and no further away than~~  
 936 ~~thirty-five (35) feet.~~

937  
 938 ~~(formerly 8(e)(iv)) (vi) Configuration. Grease interceptors shall have a minimum~~  
 939 ~~at least of two (2) compartments with the first compartment having at least 50 percent of the total~~  
 940 ~~required volume a 20-inch minimum diameter access opening for each compartment for cleanout.~~  
 941 ~~Each compartment shall be vented. Each access opening shall have a riser brought to the surface~~  
 942 ~~and have a sealed lid that is rated for any anticipated load. There shall be a means provided to~~  
 943 ~~sample the effluent.~~

944  
 945 (vii) There shall be no internal cleanout tees or bypasses.

946  
 947 (viii) The inlet and outlet of the grease interceptor shall be vented. The vent pipe  
 948 shall be at least two (2) inches in diameter. The inlet and outlet vents shall not be interconnected.

949  
 950 (ix) The outlet pipe invert shall be no more than two (2) inches lower than the inlet  
 951 invert.

952  
 953 (x) The dividing wall between compartments shall be the same height as the other  
 954 walls and the cover should contact the top of the dividing wall. If the partition/dividing wall does  
 955 not contact the cover, the outlet tee or baffle shall extend below the liquid level, 40-50% of the  
 956 total liquid depth.

957  
 958 (xi) The effluent from each compartment shall be drawn from the bottom of a riser  
 959 pipe that terminates at least eighteen (18) inches below the inlet pipe invert of that same  
 960 compartment.

961  
 962 (xii) Grease interceptors shall be accessible during normal business hours without  
 963 interrupting normal business operations.

964  
 965 (xiii) Grease interceptors shall be installed in accordance with the manufacturer's  
 966 instructions and applicable requirements of this section. A copy of the manufacturer's  
 967 instructions shall be submitted with every permit to construct application submitted to  
 968 DEQ/WQD.

969  
 970 ~~(formerly 8(e)(iii)) (xiv) Grease interceptors shall be sized using one of the~~  
 971 ~~according to the following formulas:~~

972  
 973 ~~**Commercial kitchens (grease, garbage)**~~  
 974  
 975

<del>Number of meals per peak hour</del>	<del>X</del>	<del>Waste Flow rate*</del>	<del>X</del>	<del>Retention time**</del>	<del>X</del>	<del>Storage factor***</del>	<del>=</del>	<del>Interceptor size(liquid capacity)</del>
--	--------------	-----------------------------	--------------	-----------------------------	--------------	------------------------------	--------------	--

976  
 977 ~~**Car**~~  
 978 ~~**wash**~~  
 979 ~~**(sand,**~~  
 980 ~~**silt,**~~  
 981 ~~**oil)**~~  
 982



Total washer equipment flow rate (GPM)	X	60	X	Retention time	X	Storage factor	=	Interceptor size (liquid capacity)
--	---	----	---	----------------	---	----------------	---	------------------------------------

983  
984  
985  
986  
987  
988

**Laundries (grease, lint, silt)**

Number of 2-cycles machines X per hour	X	Waste flow rate	X	Retention time	X	Storage factor	=	Interceptor size (liquid capacity)
--	---	-----------------	---	----------------	---	----------------	---	------------------------------------

989  
990  
991  
992  
993  
994

\*Waste flow rate—see Table 1.

\*\* Retention Times

Commercial kitchen waste:	
Dishwasher and/or disposal	2.5 hours
Single service kitchen:	
Single serving with disposal	1.5 hours
Car washers	2.0 hours
Laundries	2.0 hours

995  
996  
997

\*\*\*Storage Factors

Fully equipped commercial kitchen	8 hr. operation: 1 16 hr. operation: 2 24 hr. operation: 3
Single service kitchen	1.5
Carwashers	self-serve: 1.5 employee operated: 2
Laundries	1.5 (allows for rock filter)

998  
999  
1000

**Commercial Kitchens (grease, garbage)**

Number of meals per peak hour	X	Waste Flow rate*	X	Retention time**	X	Storage factor***	=	Interceptor size (liquid capacity)
-------------------------------	---	------------------	---	------------------	---	-------------------	---	------------------------------------

1001  
1002  
1003  
1004  
1005

\*Waste flow rate – see Table 2.

\*\*Retention times

Kitchen waste:	
Dishwasher and/or disposal	2.5 hours
Single service kitchen:	
Single serving with disposal	1.5 hours

1006  
1007

\*\*\*Storage factors

1008

<u>Fully equipped commercial kitchen</u>	<u>8 hr. operation: 1</u> <u>16 hr. operation: 2</u> <u>24 hr. operation: 3</u>
<u>Single service kitchen:</u>	<u>1.5</u>

1009

(A) The minimum volume shall not be less than 750 gallons

1010

1011

1012

(e) Other Interceptors

1013

1014

(i) Interceptors are required for oil, grease, sand and other substances harmful or hazardous to the building drainage system, or the small wastewater treatment system.

1015

1016

1017

(A) Laundries

1018

1019

(I) Commercial laundries, laundromats, and dry-cleaners shall be equipped with an interceptor in order to reduce the quantity of lint and silt that enter the collection system.

1020

1021

1022

1023

(II) The system must be of adequate size and design to allow for cool-down of wastewater so that separation can be more readily achieved.

1024

1025

1026

(III) The interceptor must be installed with a wire basket or similar device, removable for cleaning, that prevents passage into the drainage system of solids ½ inch (12.7 mm) or larger in size, string, rags, buttons, or other materials that are detrimental to the waste treatment system.

1027

1028

1029

1030

(IV) Sizing must be in accordance with the following formula:

1031

1032

1033

1034

**Laundries (grease, lint, silt)**

1035

<u>Total gallons per cycle</u>	<u>X</u>	<u>Cycles per hour</u>	<u>X</u>	<u>Retention time*</u>	<u>X</u>	<u>Storage factor**</u>	<u>=</u>	<u>Interceptor</u>
--------------------------------	----------	------------------------	----------	------------------------	----------	-------------------------	----------	--------------------

1036

1037

\*Retention times

1038

<u>Institutional laundries</u>	<u>2.5 hours</u>
<u>Standard commercial laundry</u>	<u>2.0 hours</u>
<u>Light commercial laundry</u>	<u>1.5 hours</u>

1039

1040

\*\*Storage factors

1041

<u>8 hours of operation</u>	<u>1.0</u>
<u>12 or more hours of operation</u>	<u>1.5</u>

1042

1043

(B) Car Washes

1044

1045 (I) Where automobiles are washed (including detail shops utilizing  
1046 hand-wash practices), separators shall have a minimum capacity of 1000 gallons for the first bay,  
1047 with an additional 500 gallons of capacity for every other bay.

1048  
1049 (II) Additionally, wash racks must be constructed to eliminate or  
1050 minimize the impact of run-off from rain/storm events. Minimum requirements are roofed  
1051 structures with at least two walls and appropriate grading to prevent stormwater infiltration into  
1052 the sanitary sewer.

1053  
1054 (III) An effluent sampling point is required.

1055  
1056 (f) Abandonment of Septic and Holding Tanks

1057  
1058 The following is the procedure to abandon septic tanks and holding tanks when the system is  
1059 upgraded, equipment replacement is necessary, or central sewer lines are made available.

1060  
1061 (i) The abandoned tank should be pumped and the septage hauled to a licensed  
1062 facility approved to receive the waste or the septage pumped into the newly constructed septic or  
1063 holding tank. Discharging to a central sewer requires coordination with, and the approval of, the  
1064 owner/operator of the sewer system.

1065  
1066 (ii) Once the abandoned tank is empty, it should be removed and the excavation  
1067 backfilled. As an alternative to removing the tank, the access covers can be removed; the bottom  
1068 drilled or broken up sufficient to drain; and the tank filled with native soil, pit run, or sand.

1069  
1070 (iii) If the abandoned tank is part of a Class V UIC facility, the abandonment must  
1071 also be in compliance with Chapter 46 27, Section 42-19.

1072  
1073 **Section 11. ~~Evapotranspiration Beds~~ Effluent Distribution Devices.**

1074  
1075 ~~Formerly Section 11(a) — Sizing. The area of evapotranspiration beds shall be determined using~~  
1076 ~~the following formula:~~

1077  
1078  
1079 
$$\text{AREA} = 586 \left[ \frac{Q}{\text{PET} - P} \right]$$

1080  
1081 where:

1082  
1083 ~~Area = Area of the evapotranspiration bed at the ground surface in square feet~~

1084  
1085 ~~Q = Average daily sewage flow, gallons per day, (0.6 times the flow determined from~~

1086 ~~Table 1) PET = Potential evapotranspiration rate in inches per year~~

1087  
1088 ~~P = Annual precipitation rate in inches per year.~~

1089 ~~Formerly 11 (b) — Construction.~~

1090  
1091 ~~Formerly 11 (b) (i) If an impervious barrier is necessary for the protection of~~  
1092 ~~groundwater it shall be installed between the evapotranspiration bed and the native soil. It shall~~

1093 ~~be a polyvinyl chloride sheet with a minimum thickness of 20 mils or equivalent. A 3 inch~~  
1094 ~~layer of sand shall be placed under and over the liner.~~

1095  
1096 ~~Formerly 11 (b) (ii) — The bottom 12 inches of the bed shall be filled with clean~~  
1097 ~~stone 1/2 — 2 1/2 inches in~~

1098  
1099 ~~Formerly 11 (b) (iii) — Perforated pipe complying with Section 10(a)(v) shall be~~  
1100 ~~placed in the stone.~~

1101  
1102 ~~Formerly 11 (b) (iv) — Four inches of pea gravel (less than 1/4 inch in~~  
1103 ~~diameter) or durable filter cloth shall be placed over the stone.~~

1104  
1105 ~~Formerly 11 (b)(v) A 24 inch uniform sand layer in the size range of D50~~  
1106 ~~(0.10mm) shall be placed on top of the pea gravel or filter cloth.~~

1107  
1108 ~~Formerly 11 (b) (vi) — A six inch layer of sandy topsoil shall be placed on top of~~  
1109 ~~the evapotranspiration bed.~~

1110  
1111 ~~Formerly 11 (b) (vii) — The bed should be vegetated with small shrubs and/or grasses~~  
1112 ~~such as fescue, brome, or alfalfa.~~

1113  
1114 ~~Formerly 11 (b) (viii) — The evapotranspiration bed shall be placed at a depth~~  
1115 ~~sufficient to prevent surcharging of the septic tank.~~

1116  
1117 Distribution boxes and flow divider tees are suitable for level or nearly level ground and are  
1118 installed before the soil absorption system with the goal of splitting flows equally between soil  
1119 absorption system laterals. Drop boxes are suitable for sloping ground and are installed to  
1120 achieve serial loading.

1121  
1122 (a) Distribution Boxes

1123  
1124 ~~(formerly 10(a)(vii)(i) Distribution box. If a~~ The distribution box is used, it shall  
1125 be installed to provide uniform distribution of the wastewater on a level, stable base to ensure  
1126 against tilting or settling and shall be placed so that it will not be subject to and to minimize  
1127 movement from frost heave.

1128  
1129 (ii) Boxes shall be watertight and constructed of concrete or other durable material.

1130  
1131 (iii) Boxes shall be designed to accommodate the inlet pipe and the necessary  
1132 distribution lines. The inlet piping to the distribution box shall be at least one (1) inch above the  
1133 outlet pipes and all pipes shall have a watertight connection to the distribution box.

1134  
1135 (iv) The box shall be protected against freezing and made accessible for  
1136 observation and maintenance.

1137  
1138 (v) Boxes shall have flow equalizers installed on each outflow.

1139  
1140 (b) Flow divider tees may be used in place of distribution boxes.

1141  
1142 (c) Drop boxes are suitable for sloping ground and are installed to achieve serial loading.  
1143 The drop boxes shall meet the requirements in paragraphs (a)(i through v) of this section.

1144  
1145 **Section 12. ~~Holding Tanks~~ Standard Soil Absorption Systems.**  
1146

1147 ~~(formerly 10(a))~~ (a) General Design ~~Requirements~~ Requirements:  
1148

1149 (i) All soil absorption systems shall be designed in such a manner that the  
1150 effluent is effectively filtered and retained below ground surface. The absorption surface accepts,  
1151 treats, and disperses wastewater as it percolates through the soil.  
1152

1153 ~~(formerly 10(a)(ii)(ii))~~ Protection. ~~Effort shall be made to protect the natural~~  
1154 ~~absorptive properties of the soil. Soil absorption systems shall not be installed during adverse~~  
1155 ~~weather or soil conditions. Rain, severely cold temperatures, or excessively moist soils are~~  
1156 ~~considered adverse weather or soil conditions. All smeared or compacted surfaces shall be~~  
1157 ~~restored to their original infiltrative conditions prior to placement of the stone.~~ Soil absorption  
1158 systems shall not be excavated when the soil is wet enough to smear or compact easily. Open soil  
1159 absorption system excavations shall be protected from surface runoff to prevent the entrance of  
1160 silt and debris. All smeared or compacted surfaces shall be raked to a depth of one (1) inch, and  
1161 loose material removed before filter or filler material is placed in the soil absorption system  
1162 excavation.  
1163

1164 ~~(formerly 10(a)(iii))~~ Runoff. ~~Surface runoff shall be diverted around or away from all~~  
1165 ~~soil absorption systems.~~  
1166

1167 (iii) Soil absorption systems shall be designed to approximately follow the ground  
1168 surface contours so that variation in excavation depths will be minimized. The trenches may be  
1169 installed at different elevations, but the bottom of each individual trench shall be level throughout  
1170 its length.  
1171

1172 ~~(formerly 10(a)(ix))~~ (iv) Earth cover. ~~Shallow soil absorption system depths are~~  
1173 encouraged to promote treatment and evapotranspiration. A minimum of 12 inches of earth shall  
1174 be placed over the absorption system stone. ~~The minimum soil cover depth over the soil~~  
1175 absorption system is one (1) foot. The maximum depth to the bottom absorption surface of a soil  
1176 absorption system is five (5) feet. The earth shall be permeable soil that will allow aeration of the  
1177 system and will support the growth of grass. The earth cover shall be graded to insure that water  
1178 will not pond on the surface. Finished grading shall prevent ponding and promote surface water  
1179 runoff.  
1180

1181 (v) Pipes, chambers or other products shall be bedded on firm, stable material.  
1182 Heavy equipment shall not be driven in or over soil absorption systems during construction or  
1183 backfilling.  
1184

1185 (vi) Standard trenches refer to perforated pipe embedded in aggregate-filled  
1186 trenches that shall conform to the following:  
1187

1188 ~~(formerly 10(a)(v))(A) Gravity pipe. All plastic gravity absorption system~~  
1189 ~~The perforated pipes shall have a minimum diameter of four 4 inches and shall conform to ASTM~~  
1190 ~~standard D2729. Suitable pipe materials include: ASTM D-2729-11 PVC, ASTM D-3034-08~~  
1191 ~~PVC, Schedule 40 PVC ASTM d1784-11, and ASTM F810-07 PE. Piping in all horizontally~~  
1192 ~~constructed absorption systems shall be laid with the holes centered around the vertical axis at~~  
1193 ~~the bottom of the pipe. All field tile pipe shall be spaced 1/4 inch apart. Piping in horizontally~~  
1194 ~~constructed absorption systems shall have a maximum slope of three inches per 100 feet.~~

1195  
1196 ~~(formerly 10(a)(vi)) Pressure pipe. All pressure distribution piping shall be~~  
1197 ~~designed to withstand the anticipated pressures with a safety factor of two, provide uniform~~  
1198 ~~application of the wastewater, and have non-clogging orifices.~~  
1199

1200 ~~(formerly 10(a)(iv)) (B) Stone. Soil absorption system stone. The aggregate~~  
1201 ~~shall be crushed rock, gravel or other acceptable, durable and inert material that is free of~~  
1202 ~~finer, sized and has an effective diameter between 1/2-inch to 2 1/2 inches.~~  
1203

1204 ~~(formerly 10(a)(viii)) (C) Stone cover. A suitable cover such as untreated~~  
1205 ~~building paper, filter cloth, or straw shall be placed over the stone prior to backfilling the system.~~  
1206 ~~Prior to backfilling, the aggregate shall be covered throughout with a woven/non-woven~~  
1207 ~~geotextile material or a three (3) inch layer of straw.~~  
1208

1209 ~~((formerly 10(a)(iv)) (D) At least two inches of stone shall be placed over the~~  
1210 ~~distribution pipe, and at least six inches of stone shall be placed under and beside the distribution~~  
1211 ~~piping. A minimum of 12 inches of stone shall be placed between a seepage pit wall and~~  
1212 ~~structural liner. The stone shall be free from sand, silt, and clay. Aggregate shall extend the full~~  
1213 ~~width and length of the soil absorption system to a depth of at least twelve (12) inches with at~~  
1214 ~~least six (6) inches of drain gravel under the distribution pipe and at least two (2) inches over the~~  
1215 ~~distribution pipe.~~

1216  
1217 ~~(E) Maximum width of trench excavation is three (3) feet.~~  
1218

1219 ~~(formerly 10(d)) (F) Special requirements for trench systems. A Minimum~~  
1220 ~~separation spacing of trenches (wall to wall) of is three (3) feet or a horizontal distance equal to~~  
1221 ~~1.25 times the vertical depth of the trenches, whichever is greater, of undisturbed soil shall be~~  
1222 ~~maintained between adjacent trench sidewalls. Trench spacing shall be increased to nine (9) feet~~  
1223 ~~when the area between each trench is considered as reserve area. For clay loam soils that have~~  
1224 ~~percolation rates greater than 60 min/in., the nine (9) foot spacing shall also be required but it is~~  
1225 ~~not considered as reserve area.~~

1226  
1227 ~~(formerly 10(f)) (vii) Special requirement for bed systems. The distribution~~  
1228 ~~system piping shall be spaced no more than 10 feet apart. Standard beds shall conform to the~~  
1229 ~~same pipe and aggregate requirements for trenches as found in subparagraphs (vi)(A through D)~~  
1230 ~~of this section. Standard beds shall also conform to the following:~~  
1231

1232 ~~(formerly 10(a)(x)) (A) Levelness.~~ The soils shall have percolation rates  
1233 less than 60 minutes per inch (5-60 mpi). The bottom of ~~soil absorption systems and each~~  
1234 ~~segment of a sidehill system~~ the bed ~~shall~~ must be level, therefore the site shall be relatively flat,  
1235 sloping no more than one (1) foot from the highest to the lowest point in the installation area.

1236  
1237 (B) Distribution laterals within a bed must be spaced on not greater than six  
1238 (6) feet centers. Sidewalls shall not be more than three (3) feet from a distribution lateral.

1239  
1240 (C) Beds must not be wider than twenty-five (25) feet if gravity distribution  
1241 is used. Multiple beds must be spaced at one-half the bed width.

1242  
1243 (D) Rubber tired vehicles must not be driven on the bottom surface of any  
1244 bed excavation.

1245  
1246 (viii) Chambered trenches, when used in lieu of perforated pipe and aggregate, shall  
1247 be installed in conformance with the manufacturer recommendations. No cracked, weakened,  
1248 modified, or otherwise damaged chamber units shall be used in any installation.

1249  
1250 (A) All chambers shall be an open, arch-shaped structure of durable, non-  
1251 degradable design, suitable for distribution of effluent without filter material.

1252  
1253 (B) All chamber endplates shall be designed so that the bottom elevation of  
1254 the inlet pipe is at least six (6) inches from the bottom of the chamber.

1255  
1256 (C) Inlet and outlet effluent sewer pipes shall enter and exit the chamber  
1257 endplates. Inspection ports shall be installed at all outlet effluent sewer pipes.

1258  
1259 (D) All chambers shall have a splash plate under the inlet pipe or another  
1260 design feature to avoid unnecessary channeling into the trench bottom.

1261  
1262 (E) Maximum width of trench excavation is three (3) feet.

1263  
1264 (F) Minimum spacing of trenches (wall to wall) is three (3) feet. Trench  
1265 spacing shall be increased to nine (9) feet when the area between each trench is considered as  
1266 reserve area. For clay loam soils that have percolation rates more than 60 min/in., the nine (9)  
1267 foot spacing shall also be required but it is not considered as reserve area.

1268  
1269 (ix) Chambered beds shall conform to the same requirements for chambered  
1270 trenches as found in subparagraphs (viii)(A through D) of this section. Aggregate, as specified in  
1271 subparagraph (vi)(B) of this section, or native soil shall be used to fill the space between the  
1272 chambers.

1273  
1274 ~~(formerly 10(e)(x)) Special requirements for serial sidehill trench or bed systems.~~  
1275 Serial Sidehill Trench:

1276  
1277 ~~(formerly 10(e)(i)) (A) — Separation.~~ A minimum of ~~three~~ six (6) feet of  
1278 undisturbed soil shall be maintained between adjacent trench or bed side walls.

1279  
1280 ~~(formerly 10(e)(ii)) (B) Levelness.~~ The bottom of each serial trench or bed  
1281 system shall be level.

1282  
1283 ~~(formerly 10(e)(iii)) (C) Overflow.~~ The overflow pipe between serial soil  
1284 absorption systems shall be set no higher than the mid-point of the upstream distribution pipe.  
1285 The overflow pipe shall not be perforated.

1286  
1287 ~~(formerly 10(b) — Special requirements for seepage pits. If a structural lining is needed to~~  
1288 ~~support stone in a seepage pit, it shall be constructed of durable material not subject to excessive~~  
1289 ~~corrosion or decay and structurally capable of supporting the loads to which it will be subjected.~~  
1290 ~~The lining shall be perforated or otherwise designed to allow the passage of wastewater. Seepage~~  
1291 ~~pits shall be separated by a minimum distance equal to 3 times their diameter.~~

1292  
1293 (b) A design package for standard soil absorption systems is provided online at the  
1294 Division’s website to assist the applicant in submitting a completed application for coverage  
1295 under the general permit for small wastewater systems. The worksheet and calculations were  
1296 prepared by a registered professional engineer employed by the Wyoming Department of  
1297 Environmental Quality, Water Quality Division. The general design requirements stated in this  
1298 section are incorporated into the worksheets such that by properly completing the forms and  
1299 installing the components, the system will comply with these requirements.

1300  
1301 **Section 13. ~~Privies~~ Pressure Distribution Systems.**

1302  
1303 (a) General Design Requirements:

1304  
1305 (i) The basic elements of a pressure distribution system include a dosing tank,  
1306 filter, and a means to deliver specified doses to a small diameter pipe network within a soil  
1307 absorption system. Pressure distribution is required for mound systems or for bed systems with a  
1308 width greater than twenty-five (25) feet.

1309  
1310 (ii) Pumps must be sized to match the distribution system curve or demand.  
1311 Pumps shall be designed for sewage pumping applications and be accessible from the ground  
1312 surface.

1313  
1314 (iii) The control system for the pump and dosing tank shall, at a minimum, consist  
1315 of a “pump off” switch, a “pump on” switch, a “high liquid alarm”.

1316  
1317 (A) All electrical connections must be made outside of the chamber in either  
1318 an approved weatherproof box or an explosion-proof junction box.

1319  
1320 (B) The wiring from the junction box to the control box must pass through a  
1321 sealing fitting to prevent corrosive gases from entering the control panel.

1322



1323 (C) All wires must be contained in solid conduit from the dosing chamber to  
1324 the control box.

1325  
1326 (iv) The pressure transport piping between the tank and the soil absorption system  
1327 shall be designed to prevent freezing.

1328  
1329 (A) The ends of lateral piping shall be constructed with long sweep elbows or  
1330 an equivalent method to bring the end of the pipe to finished grade. The ends of the pipe shall be  
1331 provided with threaded plugs, caps, or other devices to allow for access and flushing of the  
1332 lateral.

1333  
1334 (B) All joints in the manifold, lateral piping, and fittings shall be solvent-  
1335 welded using the appropriate joint compound for the pipe material. Pressure transport piping  
1336 may be solvent-welded or flexible gasket jointed.

1337  
1338 (C) Where automatic siphons or other devices are used, they shall be  
1339 designed to empty the dosing tank in less than ten (10) minutes.

1340  
1341 (v) The pressure distribution system shall have a combination of at least three (3)  
1342 vertical feet of filter sand and/or unsaturated native soil above the high groundwater level. The  
1343 filter sand shall conform to ASTM C-33, with less than 2% passing the #200 sieve.

1344  
1345 (b) A design package for pressure distribution systems is provided online at the  
1346 Division's website to assist the applicant in submitting a completed application for coverage  
1347 under the general permit for small wastewater systems. The worksheet and calculations were  
1348 prepared by a registered professional engineer employed by the Wyoming Department of  
1349 Environmental Quality, Water Quality Division. The general design requirements stated in this  
1350 section are incorporated into the worksheets such that by properly completing the forms and  
1351 installing the components, the system will comply with these requirements.

1352  
1353 **Section 14. ~~Chemical Toilets~~ Sand Mound Systems.**

1354  
1355 ~~(formerly 14(a) — General requirements. Chemical toilets shall only be used in the containment~~  
1356 ~~of body wastes. These requirements apply only to the use of chemical toilets for permanent~~  
1357 ~~structures.~~

1358  
1359 ~~— (formerly 14(b) — Greywater. If indoor plumbing is installed, a separate greywater~~  
1360 ~~disposal is required and shall meet the requirements of Section 3 through 12. The minimum~~  
1361 ~~design flows for greywater shall be obtained from Table 1 with a reduction of 33 percent~~  
1362 ~~allowed for the elimination of blackwater wastes.~~

1363  
1364 ~~— (formerly 14(e) — Disposal. All chemical toilet wastes shall be disposed of at an~~  
1365 ~~approved wastewater facility. A letter of verification from the receiving agency, denoting~~  
1366 ~~acceptance of the wastewater generated shall be submitted with the plans. These wastes shall~~  
1367 ~~not be discharged into a soil absorption system.~~

1368  
1369 ~~— (formerly 14(d) — Construction. Chemical toilets shall be constructed and installed to~~  
1370 ~~resist breakage or damage from routine usage. Outdoor chemical toilets shall be adequately~~  
1371 ~~stabilized and secured to prevent overturning. Materials used shall be resistant to the sewage~~  
1372 ~~wastes and the chemicals encountered. The holding compartment of the toilet shall be~~

1373 ~~constructed to prevent accessibility to the public and to disease transmitting vectors.~~  
1374  
1375 ~~— (formerly 14(e)) — Additives. No chemical or biological additive shall be placed in the~~  
1376 ~~toilet that may adversely affect the operation of a sewage treatment facility where the toilet~~  
1377 ~~waste will ultimately be disposed or that may adversely impact the quality of the groundwater~~  
1378 ~~as specified in Chapter VIII, “Quality Standards for Groundwater of Wyoming.”~~

1379  
1380 The sand mound consists of a sand fill, an aggregate bed and a soil cap.

1381  
1382 (a) Selection Criteria:

1383  
1384 The high groundwater level, bedrock or impervious clay layer is less than four (4) feet below the  
1385 bottom of the soil absorption system excavation.

1386  
1387 (b) Site Requirements:

1388  
1389 (i) A minimum of one (1) foot of vertical separation of the native soil is required  
1390 between the bottom of the sand fill and the top of the high groundwater level, any restrictive  
1391 layer, or any highly permeable material.

1392  
1393 (ii) The percolation rate of the native soil at the interface of the sand fill shall be  
1394 greater than five (5) and less than sixty (60) minutes per inch (5-60 mpi). The percolation shall  
1395 be measured in the top twelve (12) inches of native soil.

1396  
1397 ~~(formerly 10(e)) (c) — Special requirements for mounded systems.~~ General Design  
1398 Requirements:

1399  
1400 ~~(formerly 10(c)(i)) — Sizing (i) Sand Layer~~

1401  
1402 ~~(A) The infiltrative surface between the stone and the fill material shall be~~  
1403 ~~sized based on the flow rate as determined by Section 3 and the allowable loading rate as~~  
1404 ~~determined by Figure 7 of Section 7 for the percolation rate of the fill. The total infiltrative~~  
1405 ~~surface is the sum of the sidewall and bottom areas of the stone — soil interface below the~~  
1406 ~~distribution pipe.~~

1407  
1408 ~~(B) The interface area between the fill soil and the native soil shall be sized~~  
1409 ~~based on the infiltration rate of the native soil as determined by Figure 7 of Section 38 but shall~~  
1410 ~~not be smaller than a system designed to the requirements of subsection (ii) below.~~

1411  
1412 (A) Filter sand shall conform to ASTM C-33, with less than 2% passing the  
1413 #200 sieve.

1414  
1415 (B) The minimum depth of sand below the aggregate bed surface shall be  
1416 one (1) foot.

1417  
1418 (C) The sand mound shall have a combination of at least four (4) vertical

1419 feet of filter sand and unsaturated native soil above the high groundwater level.

1420

1421 (I) For sand mounds using pressure distribution systems, the depth  
1422 to high groundwater shall be three (3) feet below the bottom of the absorption surface if the  
1423 percolation rate of the soil is five (5) minutes per inch or greater (5-60 mpi).

1424

1425 (D) The top of the sand layer under the aggregate bed shall be level in all  
1426 directions.

1427

1428 (E) The sand layer shall fill around the perimeter of and to the top of the  
1429 aggregate bed.

1430

1431 ~~(formerly 10(c)(ii))(F) Grade. The finished grade shall extend at~~  
1432 ~~least three feet horizontally beyond the stone and then be sloped to the parent soil at a grade no~~  
1433 ~~steeper than four horizontal to one vertical. The slope of all sides shall be three (3) horizontal to~~  
1434 ~~one (1) vertical or flatter.~~

1435

1436 ~~(formerly 10(c)(i)(B))(G) The interface infiltration area between the fill soil~~  
1437 ~~and the native soil, which is the bottom of the sand fill, shall be sized calculated based on the~~  
1438 ~~infiltration rate of the native soil as determined by Figure 7 of Section 38 by dividing the design~~  
1439 ~~flowrates (gpd) from Table 1 or Table 2 by the loading rate (gpd/ft<sup>2</sup>) found in Table 5, but shall~~  
1440 ~~not be smaller than a system designed to the requirements of subsection (ii) below.~~

1441

1442 (ii) Aggregate Bed

1443

1444 (A) The aggregate shall be crushed rock, gravel or other acceptable, durable  
1445 and inert material that is free from fines, and has an effective diameter between one-half (1/2)  
1446 inch and two and one half (2 ½) inch.

1447

1448 (B) The aggregate bed depth shall not be less than nine (9) inches with a  
1449 minimum of six (6) inches of clean aggregate placed below the distribution pipe and two (2)  
1450 inches above the distribution pipe. The aggregate shall be covered with an approved geotextile  
1451 material after installation and testing of the pressure distribution system.

1452

1453 (C) The design shall be a long, narrow bed design with a maximum width of  
1454 twenty-five (25) feet.

1455

1456 (D) The infiltration area, which is the bottom of the aggregate bed, shall be  
1457 calculated by dividing the design flowrates (gpd) from Table 1 and Table 2 by the loading rate of  
1458 0.8 gpd/ft<sup>2</sup>.

1459

1460 (iii) Soil Cover

1461

1462                   (A) The soil cap shall be constructed of a sandy loam, loamy sand, or silt  
1463 loam. The depth of the soil cap shall be at least six (6) inches at the edges to twelve (12) inches  
1464 at the center. The slope of all sides shall be three (3) horizontal to one (1) vertical or flatter.

1465  
1466                   ~~(formerly 10(c)(iii))(B) — Fill soil. The fill soil that is~~ A layer of top soil at  
1467 least six (6) inches thick shall be placed ~~between the native soil and the stone over the entire sand~~  
1468 mound area. shall have a minimum percolation rate of five minutes per inch. Topsoil shall be  
1469 placed over the mound to promote vegetative cover. The sand mound should be planted with  
1470 vegetation that does not require watering and will not establish deep roots. Native grasses are  
1471 commonly used.

1472  
1473                   ~~(formerly 10(c)(iv)) — Preparation. All trees, roots, and other organic matter shall be~~  
1474 removed from the area to be occupied by the mound.

1475  
1476                   (d) A design package for sand mound systems is provided online at the Division’s  
1477 website to assist the applicant in submitting a completed application for coverage under the  
1478 general permit for small wastewater systems. The worksheet and calculations were prepared by a  
1479 registered professional engineer employed by the Wyoming Department of Environmental  
1480 Quality, Water Quality Division. The general design requirements stated in this section are  
1481 incorporated into the worksheets such that by properly completing the forms and installing the  
1482 components, the system will comply with these requirements.

1483  
1484                   **Section 15. ~~Small Non-discharging Waste Stabilization Ponds~~ Small Wastewater**  
1485 **Lagoons.**

1486  
1487                   (a) ~~General requirements.~~ Selection Criteria:

1488  
1489                   (i) ~~The use of this section for small nondischarging waste stabilization ponds~~  
1490 ~~applies only to those systems defined as small wastewater systems. All other treatment systems~~  
1491 ~~shall meet the requirements of Part B or Part C of Chapter XI as applicable.~~ Lagoons shall only  
1492 be considered in areas of Wyoming where the annual evaporation exceeds the annual  
1493 precipitation during the active use of the lagoon.

1494  
1495                   (ii) ~~Non-discharging waste stabilization ponds Lagoons~~ shall only be constructed  
1496 in soils allowed where when the percolation rate exceeds sixty (60) minutes per inch and the soil  
1497 is at least 1 foot thick on both the sides and bottom of the pond extends vertically down at least  
1498 two (2) feet from the bottom of the lagoon to the seasonal high groundwater table or bedrock  
1499 formations. If the 60 minute per inch percolation rate cannot be obtained, a sufficient clay shall be  
1500 incorporated into the top foot of soil until the 60 minute per inch percolation rate is reached. An  
1501 impermeable artificial liner of 20 mils in thickness may be substituted.

1502  
1503                   (iii) A lagoon shall not be constructed within the 100 year floodplain.

1504  
1505                   (b) General Design Requirements:

1506  
1507                   ~~(formerly 15(b)) (i) Isolation. The isolation distances shall meet the requirements for~~  
1508 absorption systems as specified in Section 4(a)(i). Beyond the horizontal setback distances

1509 requirements specified in Section 7(g) of this rule, the lagoon shall not be placed within one  
1510 hundred (100) feet of the owner's property line.

1511  
1512 (ii) The use of a septic tank that meets the specifications in Section 9 of this rule  
1513 shall be required before the small wastewater lagoon.

1514  
1515 (iii) The lagoon shall be located and constructed so it will not receive surface runoff  
1516 water.

1517 (iv) The slope of the lagoon site shall not exceed five percent (5%).

1518 (v) The lagoon site must be located in an area of maximum exposure to sun and  
1519 wind.

1520  
1521 (vi) The lagoon shall be designed for complete retention.

1522  
1523 ~~(formerly 15(d))—Sizing.~~ (vii) The area of the lagoon shall be calculated based on  
1524 the following formula.

1525

1526 
$$A = \frac{584 \times Q}{(365 \times S) + (E - P)} \times 1.3$$

1527

1528 A = Area of the lagoon (in square feet) at the maximum operating depth of 5 foot feet  
1529 ~~water level in square feet~~

1530

1531 Q = Average daily sewage flow, gallons per day. ~~(0.6 times the flow determined from~~  
1532 ~~Table 1)~~ (Multiply values from Table 1 or 2 by 0.6 to get average daily flow.)

1533

1534 E = Average annual lake evaporation rate in inches per year. (Note: lake evaporation is  
1535 less than pan evaporation; lake evaporation equals pan evaporation times a pan coefficient of 0.7)

1536

1537 P = Average annual precipitation rate in inches per year.

1538

1539 S = Soil permeability in inches per day ~~“S” cannot be greater than 0.25 inches per day~~  
1540 ~~“S” shall equal zero for an artificial liner or for bedrock~~ Seepage rate in decimal form, in inches  
1541 per day.

1542

1543 ~~(formerly 15(e))—Construction requirements.~~

1544

1545 ~~(formerly 15(e)(i)(viii))~~ (viii) The slopes of the ~~inside~~ dikes shall not be steeper than  
1546 three ~~(3)~~ horizontal to one (1) vertical ~~nor flatter than four horizontal to one vertical. The slopes~~  
1547 ~~of the outside dikes shall not be steeper than three horizontal to one vertical and shall not allow~~  
1548 ~~surface runoff to enter the pond. (formerly 15(e)(iv))~~ The minimum ~~top~~ width of the top of the  
1549 dike shall be ~~eight~~ four (4) feet.

1550

1551 ~~(formerly 15(e)(iii))~~ (ix) All fill ~~material~~ shall consist of impervious material that is  
1552 well compacted and free of rocks, frozen soil, or other large material.

1553

1554 (x) ~~(formerly 15(d)(ii))~~ ~~A~~ The minimum ~~water level operating depth~~ of at least two  
1555 feet shall be two (2) feet maintained in the pond at all times, including start-up. ~~(formerly~~

1556 ~~15(d)(iii) — A minimum free board of two feet shall be provided between the lowest embankment~~  
1557 ~~berm and the maximum water level. The maximum water level shall not be less than five feet. The~~  
1558 ~~dikes shall provide a minimum freeboard of two (2) feet.~~

1559  
1560 ~~(formerly 15(e)(ii)) (xi) — All organic material and debris shall be removed from the~~  
1561 ~~pond site prior to construction. The floor of the lagoon shall be level and maintained free of all~~  
1562 ~~vegetation.~~

1563  
1564 (xii) The influent line into the lagoon must discharge near the center.

1565  
1566 (xiii) A cleanout or manhole shall be provided in the influent line near the dike.

1567  
1568 (xiv) The area around the small wastewater lagoon shall be fenced to preclude the  
1569 entrance of livestock, pets, and humans. The fence shall be equipped with a locking gate. The  
1570 gate shall have a sign indicating “NO TRESPASSING – WASTEWATER LAGOON”.

1571  
1572 (c) A design package for a small wastewater lagoons is provided online at the Division’s  
1573 website to assist the applicant in submitting a completed application for coverage under the  
1574 general permit for small wastewater systems. The worksheet and calculations were prepared by a  
1575 registered professional engineer employed by the Wyoming Department of Environmental  
1576 Quality, Water Quality Division. The general design requirements stated in this section are  
1577 incorporated into the worksheets such that by properly completing the forms and installing the  
1578 components, the system will comply with these requirements.

1579  
1580 ~~(formerly 15(e)) — Groundwater protection and bedrock or impermeable soil separation.~~

1581  
1582 ~~(formerly 15(e)(i)) — For single family homes, the depth to seasonally high~~  
1583 ~~groundwater shall be at least four feet from the bottom of pond.~~

1584  
1585 ~~(formerly 15(e)(ii)) For all “small wastewater systems” other than single family~~  
1586 ~~homes, a minimum of three feet of unsaturated soil shall be maintained between the bottom of the~~  
1587 ~~pond and the estimated groundwater mound imposed on the seasonally high groundwater table.~~  
1588 ~~The height of the groundwater mound can be estimated from Figures 1-6, Section 5 in~~  
1589 ~~conjunction with the average daily sewage flow.~~

1590  
1591 **Section 16. ~~Commercial/Industrial Wastes~~ Privies or Outhouses.**

1592  
1593 Privies or outhouses that meet the requirements of this section are permitted by rule. A permit by  
1594 rule requires the owner to submit the information contained in paragraph (g) of this section to the  
1595 Wyoming Department of Environmental Quality, Water Quality Division prior to constructing or  
1596 installing the facility. By submission of the required information, the owner acknowledges and  
1597 certifies they will comply with the requirements contained in this section.

1598  
1599 Pre-fabricated privies or outhouses shall be sealed, water-tight vaults and shall meet the following  
1600 conditions.

1601  
1602 ~~(formerly 13(a)) General requirements.~~

1603  
1604 ~~(formerly 13(a)(ii)) If indoor plumbing is installed, the grey water disposal method~~  
1605 ~~shall meet the requirements of Section 3 through 12. The minimum design flow for grey water~~

1606 shall be obtained from Table 1 with a reduction of 33 percent allowed for the elimination of black  
1607 wastes.

1608  
1609 ~~(formerly 13(a)(iii)) The privy shall consist of a vault and an outhouse building.~~

1610  
1611 ~~(formerly 13(b)(a))~~ Isolation. The ~~isolation~~ horizontal setback distance requirements  
1612 for sealed privies or outhouses shall comply with Section 7(g) for septic tanks.

1613  
1614 ~~(formerly 13(d)(ii))(b)~~ The depth to seasonally high groundwater from the bottom of a  
1615 water tight vault shall be sufficient to prevent floatation of the empty vault.

1616  
1617 ~~(formerly 13(e))~~ Soil exploration. ~~Soil exploration to a minimum depth of 4 feet below~~  
1618 ~~the bottom of the proposed vault shall be made to provide information on subsoil condition.~~

1619  
1620 (c) The vault must have sufficient capacity for the dwelling served, and must have at  
1621 least 27 cubic feet or 200 gallons of capacity.

1622  
1623 ~~(formerly 13(a)(i))(d)~~ All privies shall be designed and constructed to prevent access  
1624 by flies and rodents. Privies or outhouses must be insect tight; must have a self-closing door; the  
1625 privy or outhouse seat must include a cover; and all exterior openings, including vent openings,  
1626 shall be screened.

1627  
1628 ~~(formerly 13(d))~~ Groundwater and bedrock separation.

1629  
1630 ~~(formerly 13(d)(i))~~ The depth to seasonally high groundwater and bedrock or  
1631 impermeable soil shall be at least four feet from the bottom of an unlined vault.

1632  
1633 ~~(formerly 13(e))~~ Sizing. ~~Vaults shall have a minimum capacity of 500 gallons per riser~~  
1634 ~~and shall be a minimum of 4.5 feet deep.~~

1635  
1636 ~~(formerly 13(f))~~ Construction.

1637  
1638 ~~(formerly 13(f)(i))~~ The vault shall be constructed and installed to resist breakage and  
1639 damage imposed by frost heave, uplift pressures from a fluctuating water table, loads imposed by  
1640 the outhouse building and soils, and damage that may be caused by vandalism or rough cleaning  
1641 procedures. The vault shall be constructed  
1642 to prevent access by flies.

1643  
1644 ~~(formerly 13(f)(ii))~~ Materials used for vault construction shall be resistant to alkali  
1645 attack, hydrogen sulfide gas, and other corrosive elements associated with decomposing waste.

1646  
1647 ~~(formerly 13(f)(iii))~~ A clean-out manhole shall be installed and shall have a  
1648 minimum opening of 20 inches in the least dimension. The manhole shall be located outside of  
1649 the outhouse building and be equipped with a tightfitting secure cover.

1650  
1651 ~~(formerly 13(f)(iv))(e)~~ Privies or outhouses must be adequately vented.  
1652 The vault shall be ventilated to a point outside and above the outhouse building. The outhouse  
1653 building shall have a set of vents installed near the floor on two opposite sides of the building and  
1654 a roof vent that has a rain cap. All vents shall be screened.

1655  
1656 ~~(formerly 13(g))~~ Vault additives. ~~No chemical or biological additive shall be placed in the~~

1657 ~~vault that may adversely effect the operation of a sewage treatment facility where the vault waste~~  
1658 ~~will ultimately be disposed or that may adversely impact the quality of the groundwater as~~  
1659 ~~specified in Chapter VIII, "Quality Standards for Groundwater of Wyoming".~~

1660  
1661 (f) Privies or outhouses shall not be constructed within the 100 year floodplain.

1662  
1663 (g) Owner's name, address, phone number, legal description of privy or outhouse  
1664 (address, latitude/longitude, or ¼ ¼ section), and the date construction or installation will begin.

1665  
1666 **Section 17. Greywater Systems.**

1667  
1668 Greywater systems that meet the requirements of this section are permitted by rule. A permit by  
1669 rule requires the owner to submit the information contained in paragraph (e) of this section to the  
1670 Wyoming Department of Environmental Quality, Water Quality Division prior to constructing,  
1671 modifying, or installing the system. By submission of the required information, the owner  
1672 acknowledges and certifies they will comply with the requirements contained in this section.

1673  
1674 (a) Greywater Operation and Requirements

1675  
1676 (i) Restrictions

1677  
1678 (A) Greywater shall not leave the property on which it is generated.  
1679 Ponding or runoff is prohibited.

1680  
1681  
1682 (B) Greywater systems shall not be installed in a delineated floodplain.

1683  
1684 (C) The volume of greywater shall not exceed an average of 2000 gallons  
1685 per day.

1686  
1687 (D) Greywater shall not come in direct contact with or adversely impact  
1688 surface or groundwater.

1689  
1690  
1691 (ii) Odor control of the greywater system shall meet the requirement of  
1692 Wyoming DEQ Air Quality Regulations Chapter 2, Section 11.

1693  
1694  
1695 (iii) If the greywater system is to be used during the winter, the greywater system  
1696 shall be designed to prevent freezing.

1697  
1698 (b) Estimating Greywater Discharge

1699  
1700 (i) The greywater discharge for single family and multi-family dwellings shall be  
1701 calculated by estimates of greywater use based on water use records, or the following procedure:

1702  
1703 (A) The number of occupants of each dwelling unit shall be calculated as 2  
1704 occupants per bedroom.

1705  
1706 (B) The estimated greywater flows of each occupant shall be calculated in  
1707 gallons per day (gpd) as follows:



1708  
1709  
1710  
1711  
1712  
1713  
1714  
1715  
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1717  
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1753  
1754

Showers, bathtubs and wash basins – 25 gpd/occupant

Laundry – 15 gpd/occupant

(ii) The total number of occupants shall be multiplied by the applicable estimated greywater discharge as provided above and the type of fixtures connected to the greywater system.

(c) Greywater System Configurations

(i) All greywater systems shall have a means to direct greywater to either the blackwater system or the greywater system.

(ii) Diverter valves shall not have the potential to allow backflow from the blackwater system into the greywater system.

(iii) Greywater used for surface irrigation should be disinfected. The disinfection should achieve a fecal coliform level of 200 cfu/100 mL or less.

(d) Setbacks

(i) A 30 foot buffer zone is required between the greywater application site and adjacent property lines and any public right-of-way. This buffer zone requirement may be met by the use of a subsurface drip irrigation system.

(ii) A 30 foot separation distance is required between greywater application sites and all surface waters.

(iii) A 100 foot separation distance is required between greywater application sites and all potable water supply wells.

(e) Owner's name, address, phone number, legal description of greywater system (address, latitude/longitude, or ¼ ¼ section), and the date construction or installation will begin.

**Section 18. Operation and Maintenance.**

(a) For any 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) Septic tanks shall be pumped as needed to prevent solids carryover into the soil absorption system.

1755 (c) Holding tanks and sealed vaults shall be pumped prior to reaching their maximum  
1756 capacity. It is preferable that these types of tanks be pumped before the wastewater volume  
1757 exceeds 75% of the tank's capacity.

1758  
1759 (d) Any service provider that pumps septic tanks, holding tanks, or sealed vaults, shall  
1760 dispose of the wastewater contents at a permitted wastewater treatment facility or in a manner  
1761 approved by the Division or delegated authority.

1762  
1763 (e) Damaged fittings and broken, crushed or plugged piping associated with any small  
1764 wastewater system shall be replaced in a timely manner.

1765  
1766 (f) Composting or non-discharging toilets where permitted shall have their waste  
1767 disposed of at a permitted wastewater treatment facility or landfill, or in a manner approved by  
1768 the Division or delegated authority.

1769  
1770 **Section 19. Commercial and Industrial Wastes and/or Domestic Wastes Greater**  
1771 **Than 2000 Gallons per Day.**

1772  
1773 ~~(formerly 16(a))~~ (a) General requirements. Those Commercial/industrial wastewater systems or  
1774 combination commercial/industrial and domestic wastewater systems are subject to applicable  
1775 requirements listed in Section 1 through ~~12 and~~ 15 of this chapter, in addition to requirements in  
1776 this section.

1777  
1778 ~~(formerly 16(b))~~ (b) — Hydrogeologic investigation. If the wastewater is classified as, or  
1779 determined to be hazardous and/or toxic and/or contain petroleum products, the applicant shall  
1780 demonstrate to the administrator that any discharge or seepage from the wastewater facility will  
1781 not cause a violation of the surface and/or groundwaters of the state in accordance with Chapter  
1782 1, "Quality Standards for Wyoming Surface Waters" and Chapter 8, "Quality Standards for  
1783 Wyoming Groundwaters." Due to the wide variety of wastes, wastewater and site conditions, the  
1784 latest available scientific information shall be used to demonstrate that violation will not occur.

1785  
1786 ~~(formerly 16(e))~~ (c) — Impact. If the impact of the hazardous and/or toxic substance  
1787 and/or petroleum products cannot be determined and mitigated, disposal of the wastewater using  
1788 a soil absorption system shall be prohibited.

1789  
1790 ~~(formerly 16(d))~~ (d) — Pre-treatment. Pre-treatment of the wastewater to remove the  
1791 hazardous, ~~and/or toxic, substance(s)~~ and/or petroleum products shall be required prior to disposal  
1792 if deemed necessary to protect the groundwater and surface water(s) of the state .

1793

1794 ~~(formerly 4(a)(ii)) (c) If the flow is greater than 2000 gpd but less than 10,000 gpd, the~~  
 1795 ~~minimum isolation distances (in feet) shown in Table 3 shall be maintained.~~ The minimum  
 1796 horizontal setback distances (in feet) shown in Table 7 shall be maintained for commercial and  
 1797 industrial wastes and/or wastes greater than 2000 gallons per day but less than 10,000 gallons per  
 1798 day.

1800 ~~(formerly Table 3)~~ **Table 7. Minimum Horizontal Setbacks for Commercial and**  
 1801 **Industrial Wastes in Feet<sup>1</sup>**  
 1802

From	To Septic Tank Or Equivalent	To Absorption System
Wells (includes neighboring wells)	50	200
<u>Public Water Supply Well</u>	<u>100<sup>2</sup></u>	<u>500<sup>2</sup></u>
Property Lines	10	10
Foundation Wall (w/o drains)	5	10
Foundation Wall (with drains)	5	50
Potable Water Pipes	25	50
Septic Tank	N/A	10
<del>Stream or</del> Surface <del>Body of</del> Water, <u>Spring</u> (including seasonal and intermittent)	50	100
<u>Cisterns</u>	<u>50</u>	<u>50</u>

1803 <sup>1</sup> ~~(formerly 4(a)(iii))~~ For systems larger than 10,000 gallons per day, the isolation distance shall be  
 1804 determined by a hydrogeological study in accordance with ~~Section 15(b)~~ Section 17(b) of Chapter  
 1805 III, but shall not be less than those ~~in subsection two above~~ shown in Table 7.

1806  
 1807 <sup>2</sup> Wastewater systems that discharge to the same aquifer that supplies a public water supply well and  
 1808 are located within Zone 1 or 2 (Attenuation) of the public water supply well, as determined by  
 1809 Wyoming Department of Environmental Quality Source Water Assessment Project (2004) or as  
 1810 established in Section 2 of the Wyoming Wellhead Protection Guidance Document (1997), shall  
 1811 provide additional treatment. These systems will be required to obtain an individual permit to  
 1812 construct and will require that a PE sign, stamp, and date the application, as stated in Section 2 of  
 1813 this chapter. The additional treatment shall be in accordance with Chapter III, Section 2(b)(ii). The  
 1814 treatment shall reduce the nitrates to less than 10 mg/L of NO<sub>3</sub>- as N and provide 4-log removal of  
 1815 pathogens before the discharge leaves the property boundary of each small wastewater system.

1816  
 1817

1818 **APPENDIX A**  
1819 **Percolation Test Procedure**

1820  
1821 **Section 1. Purpose**

1822  
1823 (a) Percolation tests are used to determine absorption system site suitability and to size  
1824 the absorption system.

1825  
1826 **Section 2. Procedure**

1827  
1828 ~~(formerly (a))~~ (a) ~~Location.~~ General Requirements:

1829  
1830 (i) Percolation tests shall not be conducted in test holes that extend into  
1831 groundwater, bedrock, or frozen ground.

1832  
1833 (ii) The percolation test shall be conducted only after the soil exploration pit has  
1834 been dug and examined.

1835  
1836 ~~(formerly (a))~~ (iii) A minimum of three (3) percolation test holes are required.

1837  
1838 ~~(formerly (a))~~ (iv) The percolation test holes shall be spaced uniformly over the  
1839 proposed soil absorption system site.

1840  
1841 ~~(formerly (b))~~ (b) Preparation.

1842  
1843 ~~(formerly (b))~~ (i) A ~~four (4) inch to~~ twelve (12) inch diameter hole shall be dug or  
1844 bored to the proposed depth of the soil absorption ~~field~~ system.

1845  
1846 (ii) The walls shall be vertical, with the natural soil surface exposed without  
1847 smearing.

1848  
1849 ~~(iii) To expose a natural soil surface~~ The sides and bottom shall be ~~seraped~~ scarified  
1850 with a sharp pointed instrument and the loose material shall be removed from the hole.

1851  
1852 (iv) Two (2) inches of ~~Coarse sand or gravel~~ gravel or coarse sand shall be placed  
1853 in the bottom of the hole to prevent it from scouring and sealing during water addition.

1854  
1855 (c) Presoaking

1856  
1857 ~~(formerly (c))~~ (i) ~~Presoaking.~~ The purpose of presoaking is to have the water  
1858 conditions in the soil reach a stable condition similar to that which exists during continual  
1859 wastewater application. The minimum time of presoaking varies with soil conditions but must  
1860 be sufficiently long so that the water seeps away at a constant rate. The following presoaking  
1861 instructions are usually sufficient to obtain a constant rate.

1862  
1863 ~~(formerly (c)(i))~~ (A) ~~In sandy soils, place 12 inches of water in the hole. Fill~~  
1864 each hole with clear water to a level at least eighteen (18) inches above the gravel or coarse  
1865 sand and allow it to seep away. Fill the hole again with 12 inches of water and if the water  
1866 seeps away in ten minutes or less, it indicates that the soil is excessively permeable and

1867 ~~requirements in Section 5(d) of these regulations shall be followed. If the eighteen (18) inches~~  
1868 ~~of water seeps away in eighteen (18) minutes or less, add eighteen (18) inches of water a~~  
1869 ~~second time. If the water remains after ten minutes, additional saturation is necessary. Refer to~~  
1870 ~~Appendix A(e)(ii) below. If the second filling of eighteen (18) inches of water seeps away in~~  
1871 ~~eighteen (18) minutes or less, this indicates the soil is sandy and is excessively permeable. The~~  
1872 ~~soil absorption system shall meet the requirements of Section 8 (c).~~

1873  
1874 ~~(formerly (e) (ii)) (B) In other soils, maintain 12 inches of water in the hole~~  
1875 ~~for at least four hours. If either the first or second fillings of eighteen (18) inches of water~~  
1876 ~~does not seep away in ninety (90) minutes, eighteen (18) inches of water must be~~  
1877 ~~maintained in the hole for at least four (4) hours to presoak the test hole. After the four (4)~~  
1878 ~~hours of water contact time, allow the soil to swell for wait at least twelve (12) hours before~~  
1879 ~~starting the percolation rate measurement as stated in Appendix A (d) below.~~

1880  
1881 ~~(formerly (d) (d) Percolation Rate Measurement The water level should be~~  
1882 ~~adjusted to six inches above the gravel initially and after each time interval measurement~~  
1883 ~~when necessary.~~

1884  
1885 ~~(formerly (i)) (i) In other soils, establish a fixed reference point and measure the~~  
1886 ~~drop in water level at constant intervals. The water level drop should be measured to the~~  
1887 ~~nearest 1/8 of an inch. The test may be terminated when the water drop is consistent for three~~  
1888 ~~consecutive measurements. Fill each test hole with twelve (12) inches of water and allow the~~  
1889 ~~soil to rehydrate for 15 minutes prior to any measurements~~

1890  
1891 (ii) Establish a fixed reference point to measure the incremental water level  
1892 drop at constant time intervals. The water level drop should be measured to the nearest 1/8 of  
1893 an inch and the minimum time interval is ten (10) minutes.

1894  
1895 (iii) Refill the test hole to twelve (12) inches above the gravel before starting  
1896 the measurements. Continue to measure the incremental water level drop at a constant time  
1897 interval until a consistent incremental water level drop is achieved. A consistent water level  
1898 drop is achieved when three (3) consecutive water level drops are within 1/8 inches of each  
1899 other.

1900 (iv) Before the water level drops below one (1) inch above the gravel, refill the  
1901 test hole to twelve (12) inches and continue to measure the incremental water level drop.

1902  
1903 ~~(formerly d(ii))(v) The percolation rate for each hole is calculated as follows~~  
1904 ~~for each hole using the following formula:~~  
1905

$$\begin{array}{l} \text{Time Interval (Minutes)} \\ \text{Final Water Level Drop (inches)} \end{array} = \begin{array}{l} \text{Percolation Rate} \\ \text{(minutes/inch)} \end{array}$$

1906 ~~(formerly d(ii)) (vi) If only three to five percolation tests are performed, the~~  
1907 ~~design percolation rate for the absorption system is the slowest rate from all the holes tested. If six~~  
1908 ~~or more percolation tests are performed, the design percolation rate for the absorption system is~~  
1909 ~~the average of all the holes tested as determined by the above formula.~~

1910  
1911 (e) The following information shall be recorded:  
1912

- 1913            (i) Date(s) of test(s);  
1914  
1915            (ii) Location, diameter, and depth of each test hole;  
1916  
1917            (iii) Duration of presoak;  
1918  
1919            (iv) Time of day for beginning and end of each water-level drop interval;  
1920  
1921            (v) Each water-level drop measurement;  
1922  
1923            (vi) Calculated percolation rate;  
1924  
1925            (vii) Name and signature of person performing test;  
1926  
1927            (viii) Name of owner or project name; and  
1928  
1929            (ix) Certification that the percolation test was done in accordance with Wyoming  
1930 Water Quality Rules and Regulations Chapter 25 Appendix A.  
1931

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~~(Formerly Chapter 15, Appendix C)~~ **APPENDIX B**  
~~General Statewide Permit~~  
~~For~~ Land Application of Domestic Septage in Remote Areas

~~Department of Environmental Quality/Water Quality Division~~  
~~Septage Land Application Worksheet~~

Section 1. Restrictions and Requirements

To qualify for the land application of domestic septage (~~domestic septage being defined as either liquid or solid material removed from a septic tank result from normal household wastes~~) in remote areas, the following conditions must be met.

**DEFINITIONS**

\* ~~“Permanent waterbody” means perennial streams, lakes, wetlands, etc. that have water throughout the year~~

\* ~~“Intermittent stream” means a stream or part of a stream that is below the local water table for some part of the year but is not a perennial stream.~~

\* ~~“Ephemeral stream” means a stream which flows only in direct response to precipitation in the immediate watershed or in response to snow melt, and has a channel bottom that is always above the prevailing water table.~~

\* ~~“Wetland” means those areas having all three essential characteristics:~~

~~—— (A) Hydrophytic vegetation;~~

~~—— (B) Hydric soils;~~

~~—— (C) Wetlands hydrology.~~

(a) Location restrictions

(i) Only domestic septage generated on the property owner's location may be land applied on the same property owner's location. Domestic septage generated on a specific property may be land applied on said property, and shall not be transported to another location for land application.

(ii) A minimum distance of at least 1,000 feet must be maintained from all adjacent properties. No land application of domestic septage shall occur within 1,000 feet of all adjacent properties.

(iii) No land application of domestic septage may occur within 300 feet of a permanent waterbody, intermittent stream, ephemeral stream or wetland.

~~—— No land application of domestic septage may occur within 300 feet of public road.~~

1980 ~~\_\_\_\_\_~~ No land application of domestic septage shall occur within 300 feet of a public road,  
1981 permanent surface water body, or intermittent stream.

1982  
1983 ~~\_\_\_\_\_~~ No land application of domestic sewage may occur within 1000 feet of a residence

1984  
1985 (b) Site restrictions;

1986  
1987 (i) The land application of domestic septage shall only occur on those sites with  
1988 established vegetation such as rangeland, pasture or hay meadows.

1989  
1990 (ii) No more than 5,000 gallons of domestic septage per acre per year shall be land  
1991 applied.

1992  
1993 (iii) ~~No land application of domestic septage may occur where the depth from the~~  
1994 ~~surface to groundwater is less than four (4) feet.~~

1995  
1996 ~~\_\_\_\_\_~~ No land application of domestic septage may occur where site slopes exceed five  
1997 percent (5%).

1998  
1999 ~~\_\_\_\_\_~~ No land application of domestic septage shall occur where the site's slope exceeds  
2000 five percent (5%) or where the depth to groundwater is less than four (4) feet.

2001  
2002 (iv) The land application of domestic septage shall not occur between November 1  
2003 and May 1, or any other time when frozen or saturated ground conditions exists.

2004  
2005 (v) No public access shall be allowed to any site where domestic septage has been  
2006 applied for at least one (1) year following application. ~~to any site where domestic septage has~~  
2007 ~~been applied.~~

2008  
2009 ~~\_\_\_\_\_~~ Lime stabilization of the septage to pH 12 for 30 minutes prior to land application is  
2010 optional

2011 (vi) No grazing animals shall be allowed access to any site where domestic septage  
2012 has been land applied for at least thirty (30) days following application. ~~to any site where~~  
2013 ~~domestic septage has been land applied.~~

2014  
2015 (c) Crop restrictions;

2016  
2017 (i) No root crops shall be harvested from soils where domestic septage has been  
2018 land applied for at least thirty-eight(38) months following application. ~~from soils where domestic~~  
2019 ~~septage has been land applied.~~

2020  
2021 (ii) No truck crops (harvested parts touch land surface) shall be harvested from  
2022 soils where domestic septage has been land applied for at least fourteen(14) months following  
2023 application. ~~from soils where domestic septage has been land applied.~~

2024  
2025 (iii) No commodity crops (other food, feed, and fiber crops whose harvested parts  
2026 do not touch land surface) shall be harvested from soils where domestic septage has been land  
2027 applied for at least thirty(30) days following application. ~~from soils where domestic septage has~~  
2028 ~~been land applied.~~



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(iv) No turf shall be harvested from soils where domestic septage has been land applied for at least one(1) year following application. ~~from soils where domestic septage has been land applied.~~

(d) Reporting Requirements:

(i) The property owner shall notify the appropriate Department of Environmental Quality, Water Quality Division (DEQ/WQD) District Office Engineer prior to the land application of domestic septage to confirm the requirements and to arrange a possible DEQ/WQD inspection of the land application.

(ii) All records concerned with each septage application will be maintained for at least five (5) years.

(iii) There is a worksheet provided online at the Division's website that must be completed, signed and returned to the DEQ/WQD or the appropriate delegated local permitting authority within 15 days of the land application.

~~This worksheet must be completed, signed, and returned to the Department of Environmental Quality, Water Quality Division or the appropriate delegated local permitting authority within 15 days of the land application.~~

~~Provide the following information concerning your site. Enter NA if not applicable.~~

- ~~1. Date of the application: \_\_\_\_\_~~
- ~~2. Number of acres receiving septage: \_\_\_\_\_~~
- ~~3. Number of gallons of septage land applied: \_\_\_\_\_~~
- ~~4. Type of vegetation receiving: \_\_\_\_\_~~
- ~~5. Name, address and telephone number of septage hauler:~~

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

~~6. If septage was optionally alkali stabilized, please indicate what material was used for stabilization and how pH was measured: \_\_\_\_\_~~

\_\_\_\_\_  
\_\_\_\_\_

~~7) Please indicate that the site sketch on the back of this sheet has been completed and complies with the site restriction distances yes/no:~~

\_\_\_\_\_  
\_\_\_\_\_

~~8) Please indicate if photos of the land application site will be sent to the appropriate District Office: Yes/no. \_\_\_\_\_~~

~~9) Please provide physical address or legal description of land application site: \_\_\_\_\_~~

\_\_\_\_\_  
\_\_\_\_\_

~~10) Please give the name of the DEQ/WQD representative contacted, and time and date. This contact needs to be made prior to the domestic septage land application: \_\_\_\_\_~~

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SITE  
SKETCH



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REQUIRED ISOLATION  
DISTANCE FROM LAND  
APPLICATION SITE

- ) 1,000 feet from adjacent property
- ) 1,000 feet from any dwelling
- ) 300 feet from any live water, into stream or drainage

~~I certify that the information provided in this worksheet is accurate and meets the requirements set forth~~  
her

~~Signature of landowner \_\_\_\_\_ Date~~

\_\_\_\_\_  
Name (printed)

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signature of applicator \_\_\_\_\_ Date

Name (printed)

**Response to Comments for Water Quality Division Rulemaking Before the Environmental Quality Council (EQC) on June 15, 2016**

The Wyoming Department of Environmental Quality Water Quality Division's proposed rulemaking involves revising Wyoming Water Quality Rules and Regulations Chapter 15, Standards for the Use or Surface Disposal of Biosolids.

No written comments were received during the 45-day public comment period.

**RULE MAKING DOCUMENT**

**Responses to Electronic and Written Comments**

**Received May 26, 2016**

**Environmental Quality Council**

**Wyoming Water Quality Rules and Regulations**

**Chapter 25**

**Small Wastewater Systems**



**WYOMING**

**June 9, 2016**

## Chapter 25 Response to Comments

The Water Quality Division received one electronic comment and no written comments during the 45-day public notice period.

### List of Commenters

Mr. Louis Harmon

### Comments and Responses

**Entity:** Mr. Louis Harmon

**Comment:** I have participated in the public review process since it began in 2014. Myself and many others had significant concerns with the first version of Chapter 25 presented to the Water and Waste Advisory Board as relates to small wastewater and grey water systems. The concerns were that the regulatory restrictions on the use of grey water were unnecessarily restrictive, that the permitting process was too cumbersome for low risk activities and that the septic tank dimensions required caused manufacturers to make expensive changes to forms without any real environmental benefit. The version of Chapter 25 that was forwarded to the Environmental Quality Council did not adequately address the concerns raised.

The same concerned citizens appeared at the EQC hearing, which asked the Water Quality Division to consider the issues raised and to present the changes to WWAB. The revised Chapter 25 presented to the WWAB on December 11, 2015 carefully considered and fully addressed the concerns. The resulting grey water regulation is much simpler and does not place a significant regulatory burden on home owners wanting to minimize their total water usage. The changes made to the septic tank dimensions eliminated the impact to existing forming systems.

I want to thank everyone, The WQD staff, the Water and Waste Advisory Board, and the Environmental Quality Council for carefully considering and modifying the initial proposal to better address the needs of the citizens of Wyoming. Even if it took a lot of time, the process worked.

**Response:** WDEQ/WQD appreciates Mr. Harmon's support of the proposed changes to the design and construction standards for greywater, privies or outhouses, and septic tank dimensions.