Notice is hereby given that the Eastern Summit County Sewer Advisory Committee (ESAC) will meet electronically, via zoom, on Thursday, June 18, 2020 at 8:30 a.m.

AGENDA

1. Public input not on the agenda

2. Review and clarification on the Policies and Procedures of the Eastern Summit County Sewer Advisory Committee.

Please click the link below to participate in the Zoom Meeting:
https://summitcountyut.zoom.us/j/94577050080?pwd=T0pNV3FTYkFwdVVDN3FiZVVaSIYvQT09

To listen by phone dial:
US: +1 669 900 9128 or +1 346 248 7799
Zoom Meeting ID: 945 7705 0080
Password: 719114

Individuals with questions, comments, or needing special accommodations pursuant to the Americans with Disabilities Act regarding this meeting may contact Melissa Hardy in the Community Development Department at (435) 336-3157.

Posted: June 12, 2020
Published: June 12, 2020-The Summit County News
To: Eastern Summit County Sewer Advisory Board (ESAC)

From: Helen E. Strachan, Deputy County Attorney

Date: January 23, 2020

RE: District policies and a path forward

The County Council recently adopted changes to the governing structure of the Eastern Summit County Water Conservancy Special Service District. Now, ESAC will be reviewing wastewater systems that serve four or more lots, if the lots are less than 10 acres in size. Smaller subdivisions will be reviewed by the Health Department. I’ve included a copy of our new code as well as a flowchart (Attachment A). Now, we need to put in place specific requirements with respect to those waste water systems.

Another reason we need to really get our District up and running is because the District will be responsible for the system proposed by the Indian Hollow subdivision off of Democrat Alley. That subdivision has been annexed into the District boundaries and the wastewater system they are proposing is under the “sponsorship” of our District (Attachment B). “Sponsorship” isn’t a defined term but the State has interpreted that to mean that our District is responsible, once built, for the wastewater system’s future maintenance and operation. It is important that we have in place a set of policies and procedures so that we have a way we can operate these types of systems in the future. This is also the first of many. We have a number of master planned development applications pending, which will likely require similar systems that will be under the “sponsorship” of our District.

Utah Environmental Quality, Water Quality Rule 317-5 “Large Underground Wastewater Disposal (LUWD) Systems:

The types of systems ESAC will be reviewing are known as LUWDS, which are underground systems designed to handle more than 5,000 gallons per day of domestic waste water. I have attached a copy of R317-5, which is the rule that governs these types of systems (Attachment C). LUWD’s are permitted through the State of Utah; not through the local health department. However, LUWDS are required by
state law to be under the “sponsorship” of a body politic such as the Eastern Summit County Water Conservancy SSD as I’ve explained above with respect to Indian Hollow.

R317-5-4 covers what the State looks at in terms of the feasibility of having a LUWD in a certain location (i.e. location of wells, drinking water source protection zones, distance to existing sewer, etc.). When a developer submits its plans to the State for a LUWD, the State works closely with the local health department. In fact, R317-5-5 states that it is the applicant’s responsibility to ensure that a LUWD system application is in compliance with “local health department requirements regarding the location, design, construction and maintenance of a LUWD system prior to the applicant submitting a request for a construction permit to the division. Where the petition has been approved by the director, the applicant is required to submit documentation that the local health department has approved the proposed LUWD system before a construction permit may be issued.”

While much of this is addressed well before the State issues an “Approval in Concept” letter to a developer, I think it might be worthwhile to have our own standards with respect to LUWD’s. That is, we can require certain types of LUWD’s and prohibit others. This is something that will be up for discussion at the meeting.

**Examples from Weber-Morgan:** I have attached too for your review samples within the jurisdiction of Weber-Morgan Health Department, including regulations they have in place for LUWD’s as well as a sample contract they have entered into with a developer with respect to future maintenance and operation of LUWD’s (Attachment D).

I realize that this is a lot of information and I do not expect us to have answers to everything at an initial meeting. I’m hoping that you will have time to review the attachments and come prepared to discuss.
SUMMIT COUNTY, UTAH ORDINANCE NO. 717-B

AN ORDINANCE AMENDING TITLE 2, CHAPTER 20 OF THE SUMMIT COUNTY CODE
“EASTERN SUMMIT COUNTY WATER CONSERVANCY SPECIAL SERVICE DISTRICT”

PREAMBLE

WHEREAS, pursuant to Utah Code Annotated, §17D-1-101 et. seq. (the “Utah Special Service District Act”), 1953, amended, the then-Summit County Board of Commissioners adopted Resolution Number 2008-11 providing a Notice of Intention to establish the Eastern Summit County Water Conservancy Special Service District (the “District”) on April 16, 2008 and Resolution Number 2008-32 creating the District on December 17, 2008; and

WHEREAS, the Summit County Council adopted Ordinance No. 717, the Governing Ordinance for the District on May 20, 2009 setting forth, among other things, the powers and duties of the District; and

WHEREAS, on February 24, 2010, the Summit County Council adopted Ordinance No. 717-A, amending Ordinance No. 717, delegating select rights, powers and authorities to the County Manager pursuant to UCA Utah Code Annotated, §17D-1-103, 17D-1-105, 17D-1-106, 17D-1-301, and 17D-1-501 et. seq.; and

WHEREAS, while it was anticipated that the District’s structure would include the creation of policies and procedures, an Administrative Control Board and associated fees for wastewater system approvals, in the decade or so since the District’s creation, there has been little large-scale development within Eastern Summit County; and

WHEREAS, in the past two years, the Eastern Summit County Development Code has been amended, requiring a Master Planned Development for any subdivision of four or more lots; and

WHEREAS, the Community Development Department is beginning to see more and more applications for Master Planned Developments, triggering the need to re-evaluate the District’s structure; and

WHEREAS, the Summit County Council, acting as the Governing Body of the District, desires to amend Title 2, Chapter 20 of the Code, which governs the District’s structure, to streamline the process of approving wastewater systems within Eastern Summit County; and

NOW, THEREFORE, the County Council of the County of Summit, State of Utah, ordains as follows

Section 1. Title 2, Chapter 20 of the Summit County Code is amended as depicted in Exhibit A.
Section 2: This Ordinance shall take effect fifteen (15) days after the date of its publication.

APPROVED, ADOPTED, AND PASSED and ordered published by the Summit County Council, this 9th day of October, 2019.

SUMMIT COUNTY COUNCIL
SUMMIT COUNTY, UTAH

By Council Chair

ATTEST:

SUMMIT COUNTY CLERK

Date of Publication 10/16/2019

EXHIBIT A
Title 2, Chapter 20
EASTERN SUMMIT COUNTY WATER CONSERVANCY SPECIAL SERVICE DISTRICT

2-20-1: PURPOSE:

2-20-2: DEFINITIONS:

2-20-3: GOVERNING BOARD:

2-20-4: POWERS AND DUTIES:

2-20-5: GENERAL MANAGER:

2-20-6: SEWER ADVISORY COMMITTEE:

2-20-7: APPROVAL OF WASTEWATER SYSTEMS

2-20-8: OPERATION:

2-20-9: INDEMNIFICATION:

2-20-10: INSURANCE:

2-20-11: ANNUAL REPORT:

2-20-1: PURPOSE:

To provide for the public health, safety, and general welfare of the residents living within the jurisdictional boundaries of the eastern Summit County water conservancy special service District, the District is authorized to provide a system for the collection, treatment, and disposition of sewage through facilities or systems acquired or constructed for that purpose through construction, purchase, lease, contract, gift or condemnation or any combination thereof.

2-20-2: DEFINITIONS:

COUNTY: Summit County, Utah.

COUNTY COUNCIL: The Summit County Council who exercises legislative authority in the County.

COUNTY MANAGER: The chief executive officer of the County.

DISTRICT: The Eastern Summit County Water Conservancy Special Service District.

ESAC: The Eastern Summit County Sewer Advisory Committee or "the Committee" comprised of Summit County staff from the Community Development Department, Engineering Department, the Health Department, and two (2) members from the public at large.

GOVERNING BOARD: The County Council of Summit County.

OWNERS: The owners of property within the boundaries of the Eastern Summit County Water Conservancy Special Service District.

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2-20-3: GOVERNING BOARD:

As provided pursuant to Utah Code Annotated sections 17D-1-102(5) and 17D-1-301, the District is hereby governed by the County Council and is considered the Governing Board of the District.

2-20-4: POWERS AND DUTIES:

The Governing Board of the District hereby has all rights, powers, authority and duties to exercise all or any of the powers provided for in Utah Code Annotated sections 17D-1-103, 17D-1-105, 17D-1-106, 17D-1-301, and 17D-1-501 et seq. The Governing Board has control and supervisory authority of the District and may delegate such further powers and authority as provided by statute. In addition, the Governing Board shall have the following authority and duties:

A. The board shall conduct its business according to bylaws, which it shall adopt, with the board meeting as needed to act on the business of the District. The bylaws may be amended from time to time by a majority vote of the board.

B. The board shall appoint the County Manager as the general manager for the District, who shall have the duties described in section 2-20-5 of this chapter.

C. The board shall appoint members of ESAC, on recommendation by the general manager.

D. The board, with the guidance of the general manager and ESAC, shall adopt policies, procedures, and regulations for the District.

2-20-5: GENERAL MANAGER:

The Governing Board hereby delegates the following powers, authorities and duties to a general manager, who shall oversee the District:

A. To govern the day to day operations of the District;

B. To prepare, in cooperation with the Governing Board, an annual budget for the District, which will conform to Utah Code Annotated section 17B-1-601 et seq., "fiscal procedures for local district" and recommend the budget so prepared to the County Council. The budget shall demonstrate all proposed expenditures and the fees to be established and collected as revenue to the District's budget;
C. To provide a recommendation to the board as to the operation of the District, including policies, procedures, and regulations for the District;

D. To provide a recommendation to the Governing Board as to the establishment and collection of the fees and charges for the various wastewater management services provided to the Owners with the fee schedules reviewed and approved by the County Council.

2-20-6: SEWER ADVISORY COMMITTEE:

A. Creation, Purpose, And Authority: The Governing Board hereby creates the "Eastern Summit County Sewer Advisory Committee", which shall act in an advisory capacity to the Governing Board and the general manager. ESAC shall generally advise the Governing Board and the general manager on wastewater issues and systems within eastern Summit County. There shall be no actual or apparent authority vested in this committee except for the authority granted herein.

B. Guiding Principles For ESAC: The following guiding principles shall exist for ESAC:

1. In conjunction with the Summit County Health Department and the municipalities of eastern Summit County, analyze the existing wastewater systems and conduct an inventory of existing wastewater systems.

2. Create an efficient process for the approval by either the general manager or the Governing Board of wastewater systems in eastern Summit County.

3. Jointly review all proposed wastewater systems with staff of the Summit County Community Development Department, Engineering Department, and Health Department, who shall address regional impacts and opportunities of wastewater systems.

C. Powers And Duties: The Governing Board hereby delegates the following powers and duties to ESAC:

1. To assist the general manager in governing the day to day operations of the District.

2. To assist the general manager with providing a recommendation to the Governing Board as to the operation of the District, including policies, procedures, and regulations for the District.

3. To assist the general manager with providing a recommendation to the Governing Board as to the establishment and collection of the fees and charges for the various wastewater management services provided to the Owners with the fee schedules reviewed and approved by the County Council.
4. To provide a recommendation to either the general manager or the Governing Board on wastewater systems, as described in subsection 2-20-5E of this chapter.

5. To act in an advisory role to the general manager and the Governing Board or to other officials and departments in any matters pertaining to wastewater issues within eastern Summit County.

6. ESAC, through its chair, or his/her designee, shall make both an oral and written report annually to the Governing Board concerning its activities during the past year and its proposals for the coming year.

7. ESAC shall not have the power to obligate the County for funds and/or expenditures or incur any debt on behalf of the County.

8. All powers and duties prescribed and delegated herein are delegated to ESAC as a unit, and all action hereunder shall be of ESAC acting as a whole. No action of any individual committee member is authorized, except through the approval of the Governing Board.

9. ESAC shall have any other power and/or duty as prescribed and authorized by the Governing Board.

D. Membership:

1. ESAC shall consist of five (5) members who shall be appointed by the Governing Board, on the recommendation of the general manager.

2. Membership of ESAC shall be as follows:
   a. One member from the Community Development Department.
   b. One member from the Engineering Department.
   c. One member from the Health Department.
   d. Two (2) members from the public at large.

3. One representative of the County Attorney's Office shall serve as ex officio member of ESAC, but shall have no right to vote on any matter before the committee.

4. ESAC may, in its discretion, add up to three (3) ex officio members, to assist with the communications and functions of the committee. Said ex officio members shall not have any voting rights.
5. Members of ESAC serve at the pleasure of the general manager and may be removed and replaced at any time. There are no terms limits.

E. Officers:

1. The voting members of ESAC shall appoint a chair and vice chair. The chair shall prepare meeting agendas and shall preside over and conduct all meetings. The chair, or his/her designee, shall act as the representative to the general manager and the Governing Board for all committee transactions and shall have the responsibility of presenting all proposals from ESAC to the general manager and/or the Governing Board. The chair and vice chair shall serve a term of one year.

F. Meetings And Procedures:

1. ESAC shall meet as needed. A notice of the time and place of each meeting shall be given to ESAC members not less than three (3) days in advance of the meeting.

2. All meetings of ESAC shall comply with the Utah open meetings laws as found in section 52-4-101 et seq., Utah Code Annotated (1953), as amended.

3. Executive closed sessions may be scheduled whenever the chair deems such action permissible under the Utah open meetings act, and with the concurrence of the County attorney.

4. Written minutes of each open meeting shall be prepared, preserved and made available for public inspection.

5. A majority of the voting committee members shall constitute a quorum and the action of the majority of the members present shall be the action of the committee.

6. Committee members shall attend all meetings unless their absence is excused by the chairperson.

7. All recommendations shall be made at a public meeting by motion, made and seconded and by a voice vote. The motion shall be in the form of findings of fact and shall state the reason for the findings by the committee and a statement of any conditions to be attached to the action.

2-20-7: APPROVAL OF WASTEWATER SYSTEMS

A. Summit County Health Department: The following shall be reviewed and approved, denied, or approved with conditions by the Summit County Health Department pursuant to the Summit County Health Code:
1. Proposed wastewater systems that serve proposed subdivisions or development of three (3) or less lots or parcels pursuant to Title 11, Chapter 4 Section 5 (B) of the code; or

2. Proposed wastewater systems that serve proposed subdivisions of four (4) or more lots pursuant to Title 11, Chapter 4 Section 5 (C) of the code, but only if any of the proposed lot sizes are (10) acres in size or greater.

3. Notwithstanding Section 2-20-7 (B) below, any proposed subdivision where the Summit County Health Department has determined that public sewer is “reasonably available” as that phrase is defined by the Summit County Health Code.

B. ESAC: The following shall be reviewed and a recommendation of approval, denial, or approval with conditions provided by ESAC:

1. Proposed wastewater systems that serve proposed subdivisions of four (4) or more lots pursuant to Title 11, Chapter 4 Section 5 (C) of the code, but only if any of the proposed lot sizes are less than ten (10) acres in size.

   a. For proposed wastewater systems that serve proposed subdivisions of ten (10) or less lots, ESAC shall review the application and make a recommendation on the proposed wastewater system to the General Manager of the District. The General Manager shall review the proposed wastewater system, ESAC’s recommendation and make a final decision on the application’s wastewater system. The General Manager’s decision may be appealed to the Governing Board within ten (10) business days.

   b. For proposed wastewater systems that serve proposed subdivisions of eleven (11) or more lots, ESAC shall review the application and make a recommendation on the proposed wastewater system to the Governing Board of the District. The Governing Board shall review the proposed wastewater system, ESAC’s recommendation and make a final decision on the application’s wastewater system. The Governing Board’s decision may be appealed to 3rd District Court within thirty (30) calendar days.

2. Any development that, in the discretion of the Summit County Health Department, has been identified as requiring a recommendation and approval by the District due to, for example, the intensity of the proposed uses or the proposed daily septic flows of over 5,000 gallons of water per day.

2. Notwithstanding Section 2-20-7(A), above, if an applicant, as that term is defined in Title 11, Appendix A “Definitions,” desires to install a community system, that proposed wastewater system shall be reviewed and a final decision made by either the General Manager or the Governing Body of the District depending on the size of the proposed subdivision as outlined in Section (B) above.
C. **ESAC Submittals:** Prior to the scheduling of any development application before ESAC, the applicant shall submit to the Community Development Department sufficient information in order for ESAC to make its recommendation. The applicant may consult with Environmental Quality, Water Quality Rule 317-4, Onsite Wasterwater Systems and the Summit County Health Department, Environmental Health Division to determine what information may be beneficial to ESAC during the review of the application. However, at the discretion of ESAC, other information may be required in order for ESAC to make its recommendation.

**2-20-8: OPERATION:**

The District may utilize the services of the County treasurer and auditor to assist in financial matters. All collections, investments, disbursements, procurement, and other financial transactions will be managed by the County treasurer, who is delegated the role of District treasurer. The Governing Board delegates the recording and safeguarding of all minutes of meetings of the board to the County clerk of Summit County, who shall act as secretary of the District.

**2-20-9: INDEMNIFICATION:**

The District shall indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending, or completed action, suit, or proceeding, whether civil or criminal, administrative or investigative, by reason of the fact that he or she is or was the general manager, a director, officer, employee, or agent of the District. The indemnification shall be for all expenses (including attorney fees), judgments, fines, and amount paid in settlement, actually and reasonably incurred by him or her in connection with the action, suit, or proceeding, including any appeal of the action, suit or proceeding, if he or she acted in good faith or in a manner he or she reasonably believed to be in or not opposed to the best interests of the District, and with respect to any criminal action or proceeding, if he or she had no reasonable cause to believe the conduct was unlawful.

Determination of any action, suit, or proceeding by judgment, order, settlement, conviction or on a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that the party did not meet the applicable standard of conduct. Indemnification under this section may be paid by the District in advance of the final disposition of any action, suit, or proceeding, on a preliminary determination that the director, officer, employee, or agent met the applicable standard of conduct and on receipt of an undertaking by or on behalf of the general manager, director, officer, employee, or agent to repay the amount, unless it is ultimately determined that he or she is not entitled to be indemnified by the District as authorized in this section.

The District shall also indemnify any director, officer, employee, or agent who has been successful on the merits or otherwise, in defense of any action, suit, or proceeding, or in defense of any claim, issue, or matter in the action, suit, or proceeding, against all expenses, including attorney fees, actually and reasonably incurred, without the necessity of an
independent determination that the general manager, a director, officer, employee, or agent met any appropriate standard of conduct.

The indemnification provided for in this section shall continue as to any person who has ceased to be the general manager, a director, officer, employee, or agent, and shall inure to the benefit of the heirs, executors, and administrators of that person.

2-20-10: INSURANCE:

The District shall have power to purchase and maintain insurance on behalf of any person who is the general manager, a director, officer, employee, or agent of the District against any liability asserted against him or her and incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the District would have authority to indemnify him or her against the liability under the provisions of this section, or under law.

2-20-11: ANNUAL REPORT:

The District shall make an annual presentation to the County Council of its goals, budget and activities.
November 8, 2019

Eastern Summit County Water Conservancy Creek SSD
ATTN: ROGER ARMSTRONG
c/o Summit County Council
PO BOX 128
Coalville, Utah 84017

Subject: Approval-in-Concept – Indian Hollow Creek Subdivision Large Underground Wastewater Disposal System (LUWDS) – near Democrat Alley and Blackhawk Drive (West of Kamas, Summit County)

Dear Mr. Armstrong:

This letter is a revised document (originally issued October 2, 2018) made to reflect a change in the sponsoring body politic for the proposed subdivision. Utah Department of Environmental Quality, Division of Water Quality (DWQ) has reviewed the engineering report prepared by Richard Jex, of Jex Environmental Solutions, LLC for a LUWDS to serve a total of 65 residential connections for this project. Proposed cumulative wastewater discharge flows of 26,000 gallons per day for this project place review and permitting authority under the Division of Water Quality. An Approval-in-Concept, as constituted by this letter, is issued subject to the following conditions:

1. This Concept-in-Approval is for a LUWDS with the following characteristics:
   - The LUWDS shall be managed under the sponsorship of the Eastern Summit County Water Conservancy Creek Special Service District (SSD);
   - The LUWDS shall be designed to serve 65 residential connections;
   - Designed wastewater flows shall be 400 gallons per day per residence as required in R317-5-6.1.A;
   - Each residential connection shall have its own septic tank;
   - Wastewater collection network shall collect and convey septic tank effluent to centralized treatment system
   - The wastewater collection network shall include a sewer “stub out” extending to the Democrat Alley roadway and a manhole providing access to the stub out;
• A drain field including both the drain field and the replacement areas (two
duplicate systems), in addition to a suitable reserve area shall be required as
described in R317-5-3.12.

2. Any changes to the design criteria described above shall be approved in writing by DWQ.

3. Soil data gathered in 2008 is within the general area of the proposed system and may be
used for drain field sizing and placement. Test pit locations are appropriate and are of
sufficient number for the initial and replacement drain field areas. Any relocation or
changes to drain field areas may require additional soil testing if deemed necessary by the
Director.

4. Sponsorship proposed constitutes a management district. The SSD shall acknowledge,
in a written document, its sponsorship and ownership of the LUWDS and the SSD’s
responsibilities for operation, maintenance, repairs, inspections, reporting, and
sampling, and record keeping as required in R317-5-9 and R317-5-10. A plan of
operation, as listed in R317-3-1.1.8, shall be required to be submitted to DWQ as a
condition of any construction permit.

5. The SSD shall submit a completed Utah Underground Injection Control (UIC) Inventory
Information Form for UIC-Regulated Domestic Wastewater Disposal Systems as required
in R317-7 as a condition of any LUWDS construction permit. This form is available
online at: https://deq.utah.gov/legacy/programs/water-quality/utah-underground-injection-
control/index.htm. Please contact Brianna Ariotti, of DWQ, by telephone at
(801) 536-4351 for more information.

6. The SSD shall obtain a construction permit before beginning any excavation, construction,
or installation of equipment. The SSD shall submit the following to provide adequate
information for DWQ review and issuance of a construction permit:

• All plans and design reports shall meet the applicable requirements of R317-3 and
R317-5 and shall be submitted by the managing political entity, Eastern Summit
County Water Conservancy Creek Special Service District;

• Septic tanks shall be designed and installed for each single family residence on
individual parcels in accordance with R317-4. Once installed, septic tanks shall
comply with ongoing operation and maintenance requirements listed in R317-4-
14.Appendix E. In addition, plans shall identify means of access (i.e. easements or
other acceptable method) for septic tank maintenance by authorized SSD
personnel;

• Detailed plans for the wastewater collection system and collection pipe network, in
accordance with R317-3-2, shall be submitted as applicable. Plans shall include
the required sewer “stub out” extending to the Democrat Alley roadway and
manhole providing access to the stub out. Such plans shall include appropriate
hydraulic calculations and design specifications;
- Detailed plans and design reports for an Orenco Advantex treatment system capable of treating 26,000 gallons of wastewater per day shall be submitted and approved prior to beginning any construction. The wastewater effluent loading rate to the treatment system may not exceed 30 gallons per day per square foot without a waiver issued by DWQ. Plans and specifications for a flow meter that monitors and records daily wastewater flows to the treatment system shall be required. Such plans shall include appropriate hydraulic calculations and design specifications;
- Detailed plans for a pressurized drain field including both the drain field and the replacement area (two duplicate systems) shall be required. In addition, suitable area for a reserve area shall be designated and shown on system plans as required in R317-5.3.12. Such plans shall include appropriate hydraulic calculations and design specifications.

7. Once the LUWDS is installed, inspected, and an operating permit has been issued, the SSD shall comply with ongoing operation and maintenance, inspection, sampling, and reporting requirements listed in R317-5.9 and R317-5.10.

8. This Approval-in-Concept is not a construction permit or a permit to operate. No construction may begin until plans and design specifications are approved and a construction permit is issued. The issuance of this Approval-in-Concept does not relieve the system owner or the owner’s agent, in any way, of any obligations to comply with all applicable regulatory requirements, or obtaining applicable permits from other agencies. We recommend you contact Phil Bondurant, Summit County Health Department (435) 333-1584, for compliance with local requirements.

This Concept-in-Approval shall expire one year after the issue date, unless plans and specifications for a construction permit have been submitted to DWQ. The Director may require additional information or that plans, design reports, and specifications be resubmitted if a Concept-in-Approval letter has expired or an applicant fails to make substantial progress toward obtaining a construction permit.

Please submit design plans and specifications that incorporate the comments and any changes indicated above as referenced in R317-5.5. Two full sets of plans, specifications, calculations, and engineering reports that are sealed, signed, and dated by a professional engineer and Level 3 certified onsite professional shall be submitted for review and issuance of a construction permit.

Please call me at (801) 536-4380 or email me at rbeers@utah.gov if you have any questions regarding this letter or need any additional information.

Sincerely,

Robert R. Beers, MBA, EHS
Engineering Section
cc: Brianna Ariotti, DEQ Environmental Scientist
Nathan Brooks, Summit County Health Department
Richard Jex, Jex Environmental Solutions, LLC
Mike Gabel, Keller Williams SLC

File: P:\WQ\DWQ\Databases\LargeUndergroundSystemDatabase\Project Documents\Indian Hollow\DWQ-2019-015944
R317-5-1. Authority, Purpose, Scope, Jurisdiction, Waiver Approval and Administrative Requirements.

1.1. Authority.
Construction and operating permits and approvals are issued pursuant to the provisions of Utah Water Quality Act Sections 19-5-104, 19-5-106, 19-5-107 and 19-5-108. Violation of these permits or approvals including compliance with the conditions thereof, or beginning construction, or modification without the director's approval, is subject to the penalties provided in Section 19-5-115.

1.2. Purpose.
A. The purpose of this rule is to protect the public health and the environment from potential adverse effects from large underground wastewater disposal systems within the boundaries of Utah.
B. This rule incorporates specific provisions contained in Rule R317-4 that are referenced herein, and pertinent to large underground wastewater disposal (LUWD) systems for the purpose of providing minimum design standards. Where the engineered design includes information supporting a deviation from the minimum requirements within this rule or referenced to in Rule R317-4, then the engineer may request a waiver. This rule also establishes the administrative requirements for obtaining from the division a LUWD system:
   1. approval-in-concept;
   2. construction permit;
   3. authorization to use; and
   4. operating permit

1.3 Scope.
This rule applies to large underground wastewater disposal systems designed to handle more than 5,000 gallons per day of domestic wastewater, or wastewater that originates in multiple units under separate ownership (except condominiums), or any other underground wastewater disposal system not covered under the definition of an onsite wastewater system per Rule R317-4.
A. The engineer shall use recognized practice standards for wastewater treatment to increase long term performance and lessen potential impacts to public health and the environment. Depending on site-specific characteristics, the division may require a LUWD system to pretreat effluent prior to disposal in the absorption system. In general, systems with high waste strength or flows over 15,000 gpd should consider pretreatment. Factors that should be evaluated include, but are not limited to, the following:
   1. design flow (gpd)
   2. highly variable flows, including seasonal fluctuations;
   3. wastewater strength characteristics;
   4. site characteristics.
   5. proximity to ground water table, considering various soil types and separation distance;
   6. ground water classification;
   7. proximity to nearby drinking water sources, or location within a drinking water source protection zone; and
   8. anticipated system life expectancy.

1.4. Jurisdiction. Large underground wastewater disposal systems are under the jurisdiction of the Division of Water Quality.
Local Health Departments may petition the division to require local review for compliance with local requirements prior to the division initiating its review.

1.5 Waiver.

The director may grant a waiver from the minimum requirements stated in this rule, subject to site-specific consideration and justification, but not overriding the safeguarding of public health, protection of water quality or engineering practice. The intent of the waiver is to allow the engineer to utilize site specific information, recognized practice standards, or other acceptable justification while designing an appropriate LUWD system for the property. The engineer is encouraged to discuss waivers with the division staff prior to formal application for feasibility determination review.


2.1. Definitions found in Rules R317-1 and R317-4 apply to large underground wastewater disposal systems except where specifically replaced by the following definitions:

"Alternative system" means a LUWD system that is not a conventional system.

"Building sewer" means the pipe that carries wastewater from the building to a public sewer, a LUWD system, or other point of dispersal. It sometimes is synonymous with "house sewer".

"Conventional system" means a LUWD system typically consisting of a building sewer, septic tank, and an absorption system utilizing absorption trenches, absorption beds, or deep wall trenches.

"Curtain drain" means any ground water interceptor or drainage system that is backfilled with gravel or other suitable material and is intended to interrupt or divert the course of shallow ground water or surface water away from the LUWD system.

"Malfunctioning or failing system" means a LUWD system that is not functioning in compliance with the requirements of this rule and may include:

1. absorption systems that seep or flow to the surface of the ground or into waters of the state;
2. systems that overflow from any of their components;
3. systems that cause backflow into any portion of a building drainage system;
4. systems discharging effluent that does not comply with applicable effluent discharge standards of its operating permit;
5. leaking septic tanks; or
6. noncompliance with standards stipulated in or by the construction permit, operating permit, or both.

"Maximum ground water table" means the highest elevation that the top of the "ground water table" or "ground water table, perched" is expected to reach for any reason over the full operating life of a LUWD system at that site.

"Mound system" means an alternative LUWD system where the bottom of the absorption system is placed above the elevation of the original site, and the absorption system is contained in a mounded fill body above that grade.

"Packed bed media system" means an alternative LUWD system that uses natural or synthetic media to treat wastewater. Biological
treatment is facilitated via microbial growth on the surface of the media. The system may include a pump tank, a recirculation tank, or both.

"Public health hazard" means, for the purpose of this rule, a condition whereby there are sufficient types and amounts of biological, chemical, or physical agents relating to water or sewage that are likely to cause human illness, disorders or disability. These may include pathogenic viruses and bacteria, parasites, toxic chemicals and radioactive isotopes. A malfunctioning LUWD system constitutes a public health hazard.

"Sand lined trench system" means an alternative LUWD system consisting of a series of narrow excavated trenches utilizing sand media and pressure distribution.

"Unapproved LUWD system" means any LUWD system that is deemed by the division to be any of the following:
1. installation without the required division oversight, permits, or inspections;
2. repairs to an existing system without the required division oversight, permits, or inspections; or
3. alteration to an existing system without the required division oversight, permits, or inspections.

"Waiver" means an acceptable deviation from the requirements established within this rule or referenced rules. The waiver must be acceptable to division staff based on the engineer providing adequate design justification to demonstrate that the deviation proposed will not override the safeguarding of public health, the protection of water quality, or the protection of the receiving environment. Waiver requests should be based on acceptable engineering practice and standards.


3.1. Failure to Comply With Rules.
Any person failing to comply with this rule shall be subject to enforcement action as specified in Sections 19-5-115 and 26A-1-123.

3.2. Feasibility.
LUWD systems are not feasible in some areas and situations. If property characteristics indicate conditions that may fail in any way to meet the requirements specified herein, the use of a LUWD system shall be prohibited.

3.3. Prohibited Flows.
No ground water drainage, drainage from roofs, roads, yards, or other similar sources shall discharge into any portion of a LUWD system, but shall be disposed of so they will in no way affect the system. Non-domestic wastes such as chemicals, paints, or other substances that are detrimental to the proper functioning of a LUWD system may not be disposed of in such systems.

3.4. Increased Flows Prohibited.
Wastewater flow may not exceed the design flow of a LUWD system.

3.5. Property Lines Crossed.
Privately owned LUWD systems, including replacement areas, shall be located on the same lot as the building served unless, when approved by the division, a perpetual utility easement and right-of-way is established and recorded on an adjacent or nearby lot for the
construction, operation, and continued maintenance, repair, alteration, inspection, relocation, and replacement of a LUWD system, including all rights to ingress and egress necessary or convenient for the full or complete use, occupation, and enjoyment of the granted easement. The easement shall be large enough to accommodate the proposed LUWD system and replacement area. The easement shall meet the setbacks specified in Section R317-4-13 Table 2.

3.6. Initial Absorption Area and Replacement Area.
A. All properties that utilize LUWD systems shall be required to have a replacement area.
B. The absorption area, including installed system and replacement area, may not be subject to activity that is likely to adversely affect the soil or the functioning of the system. This may include vehicular traffic, covering the area with asphalt, concrete, or structures, filling, cutting or other soil modifications.

3.7. Operation and Maintenance.
Owners of a LUWD systems shall operate, maintain, and service their systems according to the standards of this rule.

3.8. No Discharge to Surface Waters or Ground Surface.
Effluent from any LUWD system may not be discharged to surface waters or upon the surface of the ground. Wastewater may not be discharged into any abandoned or unused well, or into any crevice, sinkhole, or similar opening, either natural or artificial.

3.9. Repair of a Malfunctioning or Unapproved System.
Upon determination by the regulatory authority that a malfunctioning or unapproved LUWD wastewater system creates or contributes to any dangerous or unsanitary condition that may involve a public health hazard, or noncompliance with this rule, the regulatory authority shall order the owner to take the necessary action to cause the condition to be corrected, eliminated or otherwise come into compliance.

A. For malfunctioning systems, the regulatory authority shall require and order:
1. all necessary steps, such as maintenance, servicing, repairs, and replacement of system components to correct the malfunctioning system, to meet all rule requirements to the extent possible and may not create any new risk to the environment or public health;
2. effluent quality testing as required by Subsection R317-5-9.2.D;
3. evaluation of the system design including non-approved changes to the system, the wastewater flow, and biological and chemical loading to the system;
4. additional tests or samples to troubleshoot the system malfunction.

3.10. Procedure for Wastewater System Abandonment. Whenever the use of a LUWD system has been abandoned or discontinued, the owner of the real property on which such wastewater system is located shall render it safe by having the septic tank, any other tanks, hollow seepage pit, or cesspool wastes pumped out or otherwise disposed of in an approved manner. Within 30 days the tanks shall be:

A. crushed in place and the void filled;
B. completely filled with earth, sand, or gravel; or
C. removed and backfilled.
3.11. Septage Management. A person shall only dispose of septage, or sewage contaminated materials in a location or manner in accordance with the requirements of the division and any local agencies having jurisdiction.


The common components of the LUWD system, including the reserve absorption area, shall be under the sponsorship of a body politic.

A. The subsurface absorption system shall be designed and constructed to provide duplicate capacity, meaning two independent systems. Each system shall be designed to accommodate the total anticipated maximum daily flow. The duplicate system shall be designed with appropriate valving, etc., to allow for periodic alternation of the use of each system.

B. Sufficient land area with suitable characteristics shall be planned and available to provide for a third absorption system capable of handling the total maximum daily wastewater flow. This area shall be kept free of permanent structures, traffic or soil modification.


Large underground wastewater disposal (LUWD) systems with design flow rates of 5,000 gallons per day or more are co-regulated by the Utah 1422 Underground Injection Control (UIC) Program in Rule R317-7. LUWD systems are authorized-by-rule under the UIC program provided they remain in compliance with the construction and operating permits issued according to Rule R317-5. However, if any noncompliance with these permits results in the potential for or demonstration of actual exceedance of any Utah Maximum Contaminant Levels (MCLs) in a receiving ground water, the noncompliance may also be a violation of the Utah UIC administrative rules and therefore be subject to enforcement action. Owners and operators of a large underground wastewater disposal system are required to submit UIC inventory information according to Subsection R317-7-6.4(C) using the approved form for a LUWD system.


4.1. General Criteria for Determining LUWD System Feasibility. The division shall determine the feasibility of using a LUWD system. Upon favorable determination for feasibility an approval-in-concept will be granted by the division.

A. General Information. The required information shall include:

1. situs address if available;
2. name and address of the property owner and person requesting feasibility;
3. the location, type, and depth of all existing and proposed private and public drinking water wells, and other water supply sources within 1500 feet of the proposed LUWD system;
4. the location of all drinking water source protection zones delineated on the project site;
5. the location of all existing creeks, drainages, irrigation ditches, canals, and other surface and subsurface water conveyances within 1500 feet of the proposed LUWD system;
6. the location and distance to nearest sewer, owner of sewer,
whether property is located within service boundary, and size of sewer; and

7. statement of proposed use if other than a single-family dwelling.

B. If the proposed LUWD system is located in aquifer recharge areas or areas of other particular geologic concern, the division may require such additional information relative to ground water movement, or possible subsurface wastewater flow.

C. Soil and Site Evaluation.
1. Soil Exploration Pit and Percolation Test.
   a. A minimum of five soil exploration pits shall be excavated to allow the evaluation of the soils. The soil exploration pits shall be constructed and soil logs recorded as detailed in Section R317-4-14 Appendix C.
   b. The division may require percolation tests in addition to the soil exploration pits.
   c. The division may require additional pits, tests, or both where:
      i. soil structure varies;
      ii. limiting geologic conditions are encountered; or
      iii. the division deems it necessary.
   d. The percolation test shall be conducted as detailed in Section R317-4-14 Appendix D.
   e. Soil exploration pits and percolation tests shall be conducted as closely as possible to the proposed absorption system site. The division shall have the option of inspecting the open soil exploration pits and monitoring the percolation test procedure. All soil logs and percolation test results shall be submitted to the division.
   f. When there is a substantial discrepancy between the percolation rate and the soil classification, it shall be resolved through additional soil exploration pits, percolation tests, or both.
   g. Absorption system feasibility and sizing shall be based on Section R317-4-13 Table 5 or 6.
2. Wind-Blown Sand.
   The extremely fine grained wind-blown sand found in some parts of Utah shall be deemed not feasible for LUWD systems unless pretreatment is provided, as percolation test results in wind-blown sand will generally be rapid, but experience has shown that this soil has a tendency to become sealed with minute organic particles within a short period of time.
3. Suitable Soil Depth.
   For conventional systems, effective suitable soil depth shall extend at least 48 inches or more below the bottom of the dispersal system to bedrock formations, impervious strata, or excessively permeable soil. Some alternative LUWD systems may have other requirements.
   The elevation of the anticipated maximum ground water table shall meet the separation requirements of the anticipated absorption systems.
   Maximum ground water table shall be determined where the anticipated maximum ground water table, including irrigation induced
water table, might be expected to rise closer than 48 inches to the elevation of the bottom of a LUWD system. Maximum ground water table shall be determined where alternative LUWD wastewater systems may be considered based on groundwater elevations. The maximum ground water table shall be determined by the following.

i. Regular monitoring of the ground water table, or ground water table, perched, in an observation well for a period of one year, or for the period of the maximum groundwater table.

(1) Previous ground water records and climatological or other information may be consulted for each site proposed for a LUWDS system and may be used to adjust the observed maximum ground water table elevation.

ii. Direct visual observation of the maximum ground water table in a soil exploration pit for:

(1) evidence of crystals of salt left by the maximum ground water table; or

(2) chemically reduced iron in the soil, reflected by redoximorphoric features i.e., a mottled coloring.

(3) Previous ground water records and climatological or other information may be consulted for each site proposed for a LUWD system and may be used to adjust the observed maximum ground water table elevation in determining the anticipated maximum ground water table elevation.

iii. In cases where the anticipated maximum ground water table is expected to rise to closer than 34 inches from the original ground surface and an alternative LUWD system would be considered, previous ground water records and climatological or other information shall be used to adjust the observed maximum ground water table in determining the anticipated maximum ground water table.

b. Curtain Drains.

A curtain drain or other effective ground water interceptor may be allowed as an attempt to lower the groundwater table to meet the requirements of this rule. The division shall require that the effectiveness of such devices in lowering the ground water table be demonstrated during the season of maximum ground water table.

5. Ground Slope.

Absorption systems may not be placed on slopes where the addition of fluids is judged to create an unstable slope.

a. Absorption systems may be placed on slopes between 0% and 25%, inclusive.

b. Absorption systems may be placed on slopes greater than 25% but not exceeding 35% if:

i. all other requirements of this rule can be met;

ii. effluent from the proposed system will not contaminate ground water or surface water, and will not surface or move off site before it is adequately treated to protect public health and the environment;

iii. no slope will fail, and there will be no other landslide or structural failure if the system is constructed and operated adequately, even if all properties in the vicinity are developed with a LUWD system; and

iv. a report is submitted by a professional engineer or professional geologist that is licensed to practice in Utah. The report shall be imprinted with the engineer's or geologist's
registration seal and signature and shall include the following.

1. Predictions and supporting information of ground water transport from the proposed system and of expected areas of ground water mounding.

2. A slope stability analysis that shall include information about the geology of the site and surrounding area, soil exploration and testing, and the effects of adding effluent.

3. The cumulative effect on slope stability of added effluent if all properties in the vicinity were developed with LUWD systems.
   c. Absorption systems may not be placed on slopes greater than 35%.

6. Other Factors Affecting a LUWD System Feasibility.
   a. The locations of all rivers, streams, creeks, dry or ephemeral washes, lakes, canals, marshes, subsurface drains, natural storm water drains, lagoons, artificial impoundments, either existing or proposed, that will affect building sites, shall be provided.
   b. Areas proposed for LUWD wastewater systems shall comply with the setbacks in Section R317-4-13 Table 2.
   c. If any part of a property lies within or abuts a flood plain area, the flood plain shall be shown within a contour line and shall be clearly labeled on the plan with the words "flood plain area".

7. Unsuitable.
   Where soil and other site conditions are clearly unsuitable for the placement of a LUWD system, there is no need for conducting soil exploration pits or percolation tests.

   All engineering reports, plans and specifications shall be prepared by a registered professional engineer licensed to practice in the State of Utah and certified Level 3 in accordance with Rule R317-11.

5.1 Engineering Report.
   An engineering report shall be submitted which shall contain design criteria along with all other information necessary to clearly describe the proposed project and demonstrate project feasibility as described in feasibility determination and approval-in-concept of Section R317-5-4.

5.2. Plan Review.
   Submission of plans for review. Plans for new, alterations, repairs and replacements of large underground wastewater disposal systems shall be submitted to the division for review as required by Rule R317-1 and include the following:
   A. Local Health Departments Requirements.
      It is the applicant's responsibility to ensure that a LUWD System application to the division is in compliance with local health department requirements regarding the location, design, construction and maintenance of a LUWD system prior to the applicant submitting a request for a construction permit to the division. Where the petition has been approved by the director, the applicant is required to submit documentation that the local health department has approved the proposed LUWD system before a construction permit may be issued.
   B. Information Required.
      Plans submitted for review shall be drawn to scale, 1" = 10', 20' or 30', or other scale as approved by the division.
be prepared in such a manner that the contractor can read and follow
them in order to install the system properly. Depending on the
individual site and circumstances, or as determined by the division,
some or all of the following information may be required.

1. Applicant Information.
   a. The name, current address, and telephone number of the
      applicant.
   b. Complete address, legal description of the property, or both
to be served by this LUWD system.

2. LUWD System Site Plan.
   a. Submittal date of plan.
   b. North arrow.
   c. Lot size and dimensions.
   d. Legal description of property.
   e. Ground surface contours, preferably at 2 foot intervals,
of both the original and proposed final grades of the property, or
relative elevations using an established bench mark.
   f. Location and explanation of type of dwelling(s) or
structure(s) to be served by a LUWD system.
   g. Location and dimensions of paved and unpaved driveways,
roadways and parking areas.
   h. Location and dimensions of the essential components of the
wastewater system including the replacement area for the absorption
system.
   i. Location of all soil exploration pits and all percolation
test holes.
   j. Location of building sewer and water service line to serve
the building.
   k. Location of sewer mains, manholes, clean-outs, and other
appurtenances.
   l. Location of easements or drainage right-of-ways affecting
the property.
   m. Location of all intermittent or year-round streams, ditches,
watercourses, ponds, subsurface drains, etc. within 100 feet of
proposed LUWD system.
   n. The location, type, and depth of all existing and proposed
water supply sources.
   o. Delineation of all drinking water source protection zones
located on the project site.
   p. Distance to nearest public water main and size of main.
   q. Distance to nearest public sewer, size of sewer, and whether
accessible by gravity.

3. Statement with Site Plan.
   Statement indicating the source of culinary water supply, whether
a well, spring, non-public or public system, its location and distances
from all LUWD systems.

   a. Soil Logs, Percolation Test Certificates, or both.
   b. Statement with supporting evidence indicating the maximum
anticipated ground water table and the flooding potential for LUWD
system sites.

5. Relative Elevations.
   Show relative elevations of the following, using an established
bench mark.
a. Building drain outlet.
b. The inlet and outlet inverts of any septic tanks.
c. Septic tank access cover, including height and diameter of riser, if used.
d. Pump tank inlet, if used, including height and diameter of riser.
e. The outlet invert of the distribution box, if provided, and the ends or corners of each distribution pipe lateral in the absorption system.
f. The final ground surface over the absorption system.

Details for said site, plans, and specifications are listed in Design in Section R317-4-6.

a. Schedule or grade, material, diameter, and minimum slope of building sewer and effluent sewer.
b. Septic tank and pump tank capacity, design, cross sections, etc., materials, and dimensions. If tank is commercially manufactured, state the name and address of manufacturer.
c. Absorption system details, including the following:
   i. details of drop boxes or distribution boxes, if provided;
   ii. schedule or grade, material, and diameter of distribution pipes;
   iii. length, slope, and spacing of each absorption system component;
   iv. maximum slope across ground surface of absorption system area;
   v. distance of absorption system from trees, cut banks, fills, or subsurface drains; and cross section of absorption system showing the:
      (1) depth and width of absorption system excavation;
      (2) depth of distribution pipe;
      (3) depth of filter material;
      (4) barrier material, i.e., synthetic filter fabric, straw, etc., used to separate filter material from cover; and
      (5) depth of cover.
d. Pump, if provided, details as referenced in Section R317-4-14 Appendix B.
e. If an alternative LUWD system is designed, include all pertinent information to allow plan review and permitting for compliance with this rule.

C. Plans Submitted.
1. All applicants requesting plan approval for a LUWD shall submit two copies of the above required information to enable the division to retain one copy as a permanent record.
2. Applications may be rejected if proper information is not submitted.

5.3. Construction Permit Required.
No person shall make or construct any device for treatment or discharge of wastewater without first receiving a permit to do so from the director.

R317-5-6. Design Requirements.
6.1. Shall meet the requirements of Section R317-4-6, with these exceptions:
A. When a LUWD serves multiple single family dwellings the wastewater flow shall be estimated at 400 gpd per dwelling.

B. Minimum separation distance from the bottom of the absorption trenches to the anticipated maximum ground water table is 48 inches. If a mound, sand lined trench, or packed bed pretreatment unit is designed and installed on the LUWD system, the horizontal separation distance may be reduced to 24 inches.

6.2. Components Required in a LUWD System:
A. A septic tank;
B. An effluent filter;
C. A pressurized subsurface disposal system.
1. This may be an absorption field, deep wall trenches, absorption beds, or, for packed bed media applications, drip irrigation dispersal, depending on location, topography, soil conditions and maximum ground water level.
2. Pressurized systems require cleanouts at the end of pressurized laterals and typically require a dosing chamber or dosing tank.
3. The Utah Guidance for Performance, Application, Design, Operation and Maintenance: Pressure Distribution Systems document shall be used for design requirements, along with the following:
   a. Dosing pumps, controls and alarms shall comply with Section R317-4-14 Appendix B.
   b. Pressure distribution piping.
      i. All pressure transport, manifold, lateral piping, and fittings shall meet PVC Schedule 40 standards or equivalent.
      ii. The ends of lateral piping shall be constructed with sweep elbows or an equivalent method to bring the end of the pipe to the final grade. The ends of the pipe shall be provided with threaded plugs, caps, or other devices acceptable to the division to allow for access and flushing of the lateral.
D. Accessibility components to insure proper maintenance and servicing. These include that all tanks shall have access risers to the surface of the ground; and absorption field inspection ports.
E. Additional components may also be required depending on the waste stream characteristics and the need to provide adequate protection to groundwater. These components may include pretreatment devices such as grease traps, or may involve secondary treatment using packed bed media systems.

   Shall meet the requirements of Section R317-4-7.

8.1. Final inspection.
   Upon completion of construction, but before backfilling, the system designer must notify the division of completion and schedule a final inspection with the division. Where the local health department has the authority to issue operating permits they shall be included in the final inspection. The final inspection shall meet the requirements of Section R317-4-8. No wastewater may be introduced into a LUWD system until an authorization to use has been issued by the division.
8.2. Authorization to Use
The following documents, sealed by the engineer, must be provided to the division in order to receive authorization to use:

A. Written certification that the system was installed in accordance with the construction permit and any approved change orders.
B. Two record drawings of the completed system.
C. Two Operation and Maintenance Manuals. Manuals must include details of:
   1. individuals of contact for the installed system;
   2. list of all key components of the system;
   3. maintenance and service instructions of each component;
   4. schedule of maintenance inspections and servicing.
D. Written recommendation to the owner to place the facilities into service, pending issuance of the authorization to use by the division.


9.1. Operation and maintenance shall be provided by the owner to ensure the disposal system is functioning properly at all times.
9.2. The owner is responsible for maintaining a LUWD system and for performing periodic inspections, servicing and monitoring of its system as detailed in the issued operating permit, including the following:

A. Any new system installed after April 2009 must have a written operation and maintenance manual document describing the treatment and disposal system and outlining routine maintenance procedures, including checklists and maintenance logs needed for proper operation of the system.
B. Each LUWD Conventional System shall be assessed after the first year of operation and annually thereafter.
C. Each LUWD Pressure Distribution System shall be inspected as outlined in Section R317-4-23 Tables 7.1 and 7.2.
D. LUWD Alternative Systems.
   1. Each alternative system shall be inspected as outlined in Section R317-4-13 Tables 7.1 and 7.2.
   2. Each packed bed media system shall be sampled a minimum of every six months as outlined in Section R317-4-13 Table 7.3.
      a. The grab sample shall be taken before discharge to an absorption system.
      b. Effluent not meeting the standards of Section R317-4-13 Table 7.3, shall be followed with two successive weekly tests of the same type within a 30 day period from the first exceedance.
   3. If two successive samples exceed the minimum standards, the system shall be deemed to be malfunctioning, and shall require further evaluation and a corrective action plan, see Subsection R317-5-3.9.

R317-5-10. Operating Permits and Annual Inspection Reports.

10.1. Operating Permit required.
An operating permit is required for all LUWD systems to monitor that proper operation and maintenance is occurring for the protection of the environment and public health. The operating permit shall be issued by the director or, by delegated authority, the local health department having jurisdiction, and shall be effective for a period not to exceed 5 years from the date of issuance.
10.2. Local Health Department Authority to Issue Operating Permits.

Local health departments may request delegated authority to administer the operating permit program. The request must include an agreement to implement and enforce inspection, servicing, monitoring, and reporting requirements of this rule. The local health department must submit an annual report on or before September 1 of each calendar year, to the division containing:

A. A list of LUWD systems under delegation.
B. A summary listing the compliance status of each system, showing those systems that are currently failing, and those systems that have been repaired.
C. A summary of any enforcement actions taken, identifying those actions that are still pending, and those that been resolved.

10.3. Annual Inspection Report.

The owner of a LUWD system shall submit an annual inspection report covering the period of July 1 to June 30, the "reporting year", to the permitting agency no later than August 1 of each year. In this report, the owner shall report on all requirements listed in the operating permit. As a minimum, the report shall include the following items:

A. Facility name and address; owner name, address, and phone number;
B. List of facility components, e.g., septic tank, pump tank, gravel drainfield trench, gravelless chambers, pressure drainfield, etc.;
C. Design flow in gallons per day and number and type of connections;
D. Type of waste treated and disposed, i.e., residential, restaurant, other commercial establishment, etc.;
E. Checklist of inspections performed including the date of the inspection and a list of findings. The report must include, where pertinent:
   1. measured sludge and scum levels;
   2. date tanks were last pumped;
   3. verify pumps, floats; and control panel are operating as designed;
   4. date pump filter last cleaned;
   5. date pressure laterals last cleaned and flushed and squirt height recorded;
   6. any surfacing in absorption field; and
   7. any observed or suspected system malfunction;
F. Packed Bed media system sampling results, where pertinent;
G. Name of the certified individual per Rule R317-11 conducting the inspection;
H. Signature of owner or certified operator, and date.

KEY: water pollution, large underground wastewater, sewerage, engineering
Date of Enactment or Last Substantive Amendment: March 26, 2014
Notice of Continuation: April 25, 2017
Authorizing, and Implemented or Interpreted Law: 19-5
TRAPPERS CROSSING CLUSTER SUBDIVISION

SEWER MAINTENANCE AGREEMENT
THIS AGREEMENT is made by and between WEBER COUNTY (hereinafter the County), PC LAND DEVELOPMENT, L.L.C. (hereinafter the Developer), and TRAPPERS CROSSING HOMEOWNERS ASSOCIATION, Inc. (hereinafter the Association). The foregoing are referenced herein either individually as a Party or collectively as the Parties.

RECIPIENTS:

A. The Developer has acquired title to a 77.52 acre tract of land to be developed into a community of 26 single family residential home sites as well as an additional connection directly below the subdivision in the Ogden Valley.

B. The County has granted preliminary and anticipate final approval to the development proposed by the Developer.

C. The Association has been established as a Utah non-profit corporation with the Utah Department of Commerce and will conduct the affairs of the homeowners in the development as it relates to common areas and expenses.

D. As part of the approval process the County will require a sewage collection system and a sewage treatment and disposal system.

E. This gravity sewer collection system has been approved by the Utah Department of Environmental Quality and will consist of a gravity sewer collection system with 8-inch diameter pipe flowing towards a central treatment plant. The treatment and disposal systems consist of large septic tanks, a treatment plant and a pressurized effluent disposal system. Lines from individual homes to the 8 inch
collection system are private.

F. The purpose of this agreement is to set forth the rights, duties and responsibilities of the Parties relating to the sewer distribution and collection system for future maintenance and operation.

NOW, THEREFORE, the Parties hereto intending to be legally bound and in consideration of the respective undertakings made and described herein, do agree as follows:

1. **Installation of Sewer Systems.** The Developer shall be solely responsible for the entire cost, expense and supervision of the design, engineering, construction and installation of the sewer collection, treatment and disposal system. The Developer shall be responsible to obtain title to the Property on which the treatment plant, central septic tanks and drain fields will be located.

2. **Agricultural Preservation Easement.** The pressurized drain fields and collection lines will be located on a parcel of property in the development which has been designated on the plat as LAND PRESERVATION EASEMENT on the proposed plat. The LAND PRESERVATION EASEMENT is a parcel is to be owned by the Association with an easement for the County.

3. **Area “EX-1”.** The package treatment plant will be located on a parcel of property in the development designated on the plat as EX-1. Parcel EX-1 will be deeded to the County upon or after recording of the subdivision plat.

4. **Department of Environmental Quality.** Upon completion of the sewer system construction and installation, the Developer shall be responsible to obtain an inspection and approval of the system from the Utah State Department of Environmental Quality. Once the Developer has obtained approval of the system
from the State Department of Environmental Quality, the Developer shall provide
notice thereof to the County who shall also inspect the same for approval of any
bond release by Weber County to the Developer.

5. **County Responsibilities.** The County shall at that time begin to provide
oversight and supervision of the sewer systems. The rights and duties of the
County relating to the sewer system and to the Association’s operation and
maintenance therefore shall be governed by the State’s description of the rights
and responsibilities of A Body Politic as such are currently defined by Utah
Law and as such may be hereafter amended from time to time.

6. **Maintenance.** It is anticipated at this time that the ownership, control and
maintenance of the sewer system including the collection, treatment, and disposal
systems shall be vested in the County in perpetuity. Lateral lines from mainline
to the home are the responsibility of the Property Owner.

7. **Easement.** The County shall enjoy an easement on the Association property in
order to conduct its inspections for purposes of ingress, egress construction, repair
and any other related access needs.

8. **County Recommendations.** The Association agrees to be bound by the
requirements and recommendations which the County shall make to the
Association in connection with the County’s agreement to act as the Body Politic
for this sewer system. Any cost of maintenance, upgrade, repair or operation
which is reasonably required by the County in its capacity as Body Politic over
this system shall be borne by the Association (By Monthly Fee). The County
shall have no financial responsibility relating to the sewer system except for
routine inspections. If the County imposes conditions upon the Association which
the Association fails to reasonably implement, the County has the right, but not
the duty, to incur the expense of implementation thereof and to recover the costs
of said implementation from the Association and to take any other action
permitted by law to recover said costs.

9. **Future Sewer District.** Upon request from Weber County officials, the
Association hereby consents to the sewer system annexing into or to otherwise
become a part of any future sewer district, existing sewer district, or other body
politic which may eventually be organized by the County or local municipality. If
and when at any time in the future the drainfield is bypassed or no longer used,
this agreement shall be automatically terminated.

10. **Reserve Fund.** The Association shall establish, maintain and replenish a reserve
fund in the amount of $20,000.00. The fund is to be established within 12 months
of final system inspection and approval and is to be utilized for the express
purpose of funding ongoing repairs, improvements, and potential catastrophes to
the sewer system. The amount shall be reviewed by the Weber County Officials
on an annual basis and may be revised as deemed necessary. The fund shall be
maintained in an escrow account acceptable to the County, and the County shall
have access to the fund to provide any maintenance, repairs, or improvements to
the sewer system that, in the opinion of the County Engineer, are deemed
necessary. This reserve fund provided by the developer may be reduced if and
when reserve funds are provided by user fees generate equivalent financial
guarantee.
11. **Ownership & Sale of Connections.** The sewer system was designed to accommodate the connections for each lot in the Trappers Crossing Subdivision, and an additional forty (40) connections from a proposed development north of Highway 39, which was known as The Rivers. The Rivers project failed. As a result of The River’s failure, Developer was not reimbursed by The Rivers for the cost and expense of designing and constructing the sewer system to accommodate The Rivers forty (40) lots. In order to allow Developer to recoup those costs and expenses, the parties agree that ownership of The Rivers forty (40) connections shall be the sole and exclusive property of Developer, and Developer shall have the right to sell or transfer such connections to other property owners who desire to connect to the sewer system. Developer shall have the sole responsibility to collect any amount charged for the sale of such connections. Developers rights identified in this paragraph may be transferred by Developer to its successors, and/or assignees. The anticipated connection fee is $7,812.05 per hookup. An anticipated total of $312,482.00 for the forty hookups.

12. **Waivers** No waiver of any requirements, breach or default shall constitute a waiver of any other requirement, breach or default, whether of the same or any other covenant or conditions. No waiver, benefit, privilege or service voluntarily given or performed by either party shall give the other any contractual right by custom, estoppel, or otherwise.

13. ** Entire Agreement** This Agreement contains the entire agreement between the parties. No promise, representation, warranty or covenant not included in this Agreement shall be binding upon the parties unless reduced to writing and signed
by each party.

14. **Amendment.** No subsequent amendment or addition to this Agreement shall be binding upon the parties unless reduced to writing and signed by each party.

15. **Notices.** Any notice, demand, request, consent, approval or other communication to be given by one Party to the other shall be given by; hand delivery, confirmed overnight mail or by mailing in the United States mail, certified or registered, addressed to the applicable Party at their respective addresses. Any such notice shall be deemed to have been given (i) upon delivery, if personally delivered or delivered by any form of Federal Express' overnight delivery service, or (ii) if mailed, upon receipt. Either party may change the address at which it desires to receive notice upon giving written notice of such request to the other Party.

16. **Successors and Assigns; Survival.** This Agreement shall inure to the benefit of, and be binding upon, the Parties hereto and their respective successors, assigns and nominees. All covenants, representations and warranties contained herein shall survive Closing.

17. **Governing Law.** This Agreement shall be governed by, interpreted under, and enforced in accordance with, the laws of the State of Utah applicable to agreements made and to be performed wholly within the State of Utah.

18. **Execution of Other Documents; Compliance with Regulations.** The Parties hereto will do all other things and will execute all documents which are necessary for the transaction contemplated hereby to close. Furthermore, the Parties will comply at their own expense with all applicable laws and governmental regulation required for this transaction to close, including without limitation any required
filings with governmental authorities.

19. **No Joint Venture.** The Parties understand, acknowledge and agree that this Agreement shall not constitute nor be regarded as joint venture agreement and that the Parties shall not be regarded in any manner whatsoever as partners or joint venturers in connection with the Property or the transactions contemplated hereunder. The Parties are merely entering into this agreement to allow for this process to be completed in an expeditious fashion. However, the Parties are responsible for their respective tax, liability and business consequences resulting from said cooperation.

20. **Captions.** The captions of the various paragraphs of this Agreement are for convenience and ease of reference only and do not define, limit, augment or describe the scope, content, or intent of this Agreement or of any part of this Agreement.

21. **Partial Invalidity.** If any term of this Agreement or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Agreement, or the application of such term to persons or circumstances other than those as to which it is held invalid or unenforceable, the remainder of this Agreement, or the application of such term to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term, covenant or condition of this Agreement shall be valid and be enforced to the fullest extent permitted by law.

22. **Warranty of Authority.** The individuals signing this Agreement for the Parties each Grants, by his signature, that he has full authority to enter into this
Agreement in behalf of the party for whom signs.

IN WITNESS WHEREOF, the Parties have signed this Agreement as of the day and year first above written.

DATED this 18 day of October 2008.

WEBER COUNTY

By: Jan M Zagmanster

Its: Commission Chair

STATE OF UTAH

) ss

COUNTY OF WEBER

The foregoing instrument was acknowledged before me by

Jan M Zagmanster, this 18 day of October, 2008

Witness my hand and official seal

FATIMA M FERNELIUS
NOTARY PUBLIC • STATE OF UTAH
COMMISSION NO. 608229
COMM. EXP. 04-01-2015

Notary Public

DATED this _____ day of __________ 2008.
PC LAND DEVELOPMENT L.L.C.

By: 

Its: Managing Member

STATE OF UTAH) 

) ss

COUNTY OF WEBER) 

The foregoing instrument was acknowledged before me by

___________________, this ______ day of ________, 2008

Witness my hand and official seal

___________________
Notary Public

DATED this _______ day ofOct_________ 2011.
CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of San Luis Obispo

On Oct. 13, 2011 before me, J.E. Zucker, Notary Public, personally appeared Paul J. Laughton, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/ her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature J.E. Zucker
Signature of Notary Public

Place Notary Seal Above

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Sewer Maintenance Agreement - First Amendment

Document Date: Oct. 13, 2011
Number of Pages: 10

Signer(s) Other Than Named Above: None

Capacity(ies) Claimed by Signer(s)

Signer’s Name: Paul J. Laughton

Signer’s Name: ______________________

☐ Individual
☐ Corporate Officer — Title(s): ______________________
☐ Partner — ☐ Limited ☐ General
☐ Attorney in Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other: INC. - MANAGING MEMBER

Signer Is Representing: ______________________

RIGHT THUMPRINT OF SIGNER
Top of thumb here

RIGHT THUMPRINT OF SIGNER
Top of thumb here

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By: [Signature]

Its: Declarant

STATE OF UTAH)

) ss

COUNTY OF WEBER)

The foregoing instrument was acknowledged before me by

_____________________, this _____ day of __________, 2008

Witness my hand and official seal

_____________________

Notary Public
CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of San Luis Obispo

On Oct. 13, 2011 before me, J. E. Zucker, Notary Public

personally appeared Paul J. Laughton

Name(s) of Signer(s)

J. E. Zucker
Commission # 1936201
Notary Public - California
San Luis Obispo County
My Comm. Expires Jun 9, 2015

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Sewer Maintenance Agreement - First Amendment

Document Date: Oct. 13, 2011

Number of Pages: 10

Signer(s) Other Than Named Above: None

Capacity(ies) Claimed by Signer(s)

Signer's Name: Paul J. Laughton

☐ Individual
☐ Corporate Officer — Title(s):
☐ Partner — Limited
☐ General
☒ Attorney in Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other: Home Owners ASSOC. DECLANT

Signer Is Representing:

Signer's Name:

☐ Individual
☐ Corporate Officer — Title(s):
☐ Partner — Limited
☐ General
☐ Attorney in Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other:

Signer Is Representing:

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WEBER-MORGAN HEALTH DEPARTMENT

LARGE UNDERGROUND WASTEWATER TREATMENT SYSTEMS
REGULATION

Adopted by the Weber-Morgan Board of Health

October 26, 2009

Under Authority of Section 26A-1-121
Utah Code Annotated, 1953, as amended

By [Signature]
Gary M. House, Health Officer/Director

By [Signature]
Ken Johnson, Chair, Board of Health
WEBER-MORGAN HEALTH DEPARTMENT
LARGE UNDERGROUND WASTEWATER TREATMENT SYSTEMS
REGULATION

1.0 Title, Applicability and Purpose.

1.1 These standards shall be known as the Large Underground Wastewater Treatment System Regulation, hereinafter referred to as "this Regulation."

1.2 This regulation shall govern the treatment of wastewater by regulating large underground wastewater treatment systems.

1.3 This regulation establishes definitions; sets administrative requirements, soil and ground water requirements and design and installation requirements of onsite wastewater treatment systems to protect public health and the environment.

2.0 Authority.

2.1 It is the responsibility of the Weber-Morgan Health Department to provide wastewater management services for the citizens of Weber and Morgan Counties as legislated under Section 26A-1-106 and 26A-1-108 of the Utah Code Annotated, 1953 as amended.

2.2 The Weber-Morgan Board of Health is authorized to make standards and regulations pursuant to Subsection 26A-1-121(1) of the Utah Code Annotated, 1953 as amended.

2.3 The Weber-Morgan Board of Health is authorized to establish and collect fees pursuant to Section 26A-1-114 of the Utah Code Annotated, 1953 as amended.

2.4 The Weber-Morgan Health Department may deny any application for a permit if it appears that the operation of the onsite wastewater treatment system will not comply with this regulation.

3.0 Prohibitions.

3.1 It shall be unlawful to install, construct, alter, replace, enlarge, extend, or otherwise modify any Large Underground Wastewater Treatment System unless a Letter of Review and Feasibility is issued by the Department.
3.2 It shall be unlawful to change the use of real property, expand a building or dwelling, or add accessory buildings or structures occupying an area greater than 120 square feet, without a review of the wastewater treatment system by the Department.

3.2.A Accessory buildings or structures include, but are not limited to, garages, sheds, barns, swimming pools, patios, decks and driveways or parking areas.

3.3 It shall be unlawful to use or maintain any wastewater treatment system that is not adequately functioning. Wastewater treatment systems shall be maintained in good working order. There shall be no activities or conditions permitted which would interfere with the proper operation of wastewater treatment systems. It is specifically prohibited to construct or place buildings, to install paving, to plant trees or shrubs, to regrade or place fill, to allow crossing by vehicles, to install above ground pools, or to install driveways or parking areas over absorption systems.

3.4 It shall be unlawful to discharge anything but wastewater into a wastewater treatment system. Surface and subsurface water including roof, cellar, foundation, and storm drainage shall not be discharged into the wastewater treatment system and shall be disposed of so as to in no way affect the proper functioning of the system.

4.0 Incorporation by Reference.

The requirements as found in the Utah Department of Environmental Quality, Large Underground Wastewater Systems Rule, R317-5 are adopted and incorporated by reference with Weber-Morgan Health Department amendments:

Information to assist the User.
The structural nomenclature for amending the State Rule will be as follows:

<table>
<thead>
<tr>
<th>Title</th>
<th>R317</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule</td>
<td>R317-5</td>
</tr>
<tr>
<td>Section</td>
<td>R317-5-1</td>
</tr>
<tr>
<td>Section</td>
<td>R317-5-1.1</td>
</tr>
<tr>
<td>Subsection</td>
<td>R317-5-1.1.A</td>
</tr>
<tr>
<td>Subsection</td>
<td>R317-5-1.1.A.1</td>
</tr>
<tr>
<td>Subsection</td>
<td>R317-5-1.1.A.1.a</td>
</tr>
<tr>
<td>Subsection</td>
<td>R317-5-1.1.A.1.a.i</td>
</tr>
</tbody>
</table>

4.1 Amend subsection 1.3.A to read:

1.3.A Weber-Morgan Health Department Requirements – Plans for new Large Underground Wastewater Treatment Systems (LUWTS), alterations of LUWTS, or extensions of LUWTS shall be submitted to the Weber-
Morgan Health Department for review. Plans meeting the requirements of the Weber-Morgan Health Department Rule will receive a Letter of Feasibility and Review that shall be submitted to the Utah Division of Water Quality as part of the plans required for a LUWTS construction permit.

4.2 Amend section 1.4 to read:

1.4 Operation and Maintenance: Operation and maintenance shall be provided by the owner to ensure the LUWTS is functioning properly at all times. A renewable operating permit issued by the Weber-Morgan Health Department is required for all LUWTS.

A. Notice of Intent and Renewable Operating Permit Required:

1. The owner of a LUWTS shall provide a written notice of intent (NOI) to operate a LUWTS to the Division of Water Quality, and the Weber-Morgan Health Department. Those systems currently in operation must submit the NOI no later than January 01, 2010. New systems permitted under this rule must submit the NOI prior to final inspection. The NOI shall be specific for the renewable operating permit and shall include the following information:
   a. Facility name and address; owner name, address and contact information.
   b. List of facility components. e.g., septic tank, pump tank, gravel drainfield trench, gravelless chambers, pressure drainfield, etc.
   c. Design flow (gallons per day) and number and type of connections.
   d. Type of waste treated and disposed, i.e., residential, restaurant, other commercial establishment, etc.
   e. Sketch plan of existing system showing major facility components.

2. Renewable Operating Permit Required: Operating permits shall be renewed annually on or before August 01st of the calendar year.

3. Failure to renew the operating permit prior to expiration will result in a late fee being assessed. The late fee will consist of the permit fee being doubled for thirty days overdue, tripled for sixty
days overdue, and quadrupled for ninety days overdue.

4. Failure to renew an operating permit after ninety days will result in the Department conducting the required inspections, or contracting out the required inspections to a contract service provider. All costs incurred by the Department to insure a permitted system is inspected as required will be billed to the property owner.

5. Operating permits shall only be issued when the following requirements are met:
   a. The system has been installed and tested according to the approved design.
   b. The operation and maintenance instructions have been finalized and approved by the Department.
   c. All other requirements of the construction permit have been met.

6. Operating permits shall be renewed only after the following requirements have been met:
   a. The system has been inspected as required by R317-5, and inspection results have been submitted to the Department.
   b. All required sample results for packed-bed media have been submitted and meet the requirements.
   c. Deficiencies noted in inspections have been corrected.
   d. The system is operated and maintained as approved.
   e. The system is deemed compliant as per rule.
   f. All applicable fees have been paid.

B. Local Health Department Authority to Issue Operating Permits:
   1. The Weber-Morgan Health Department has received approval from the Division of Water Quality to administer renewable operating permits for LUWTS within Weber and Morgan Counties. This approval gives the Weber-Morgan Health department the authority to implement and enforce inspection, servicing, monitoring and reporting requirements of this rule.
   2. The Weber-Morgan Health Department must submit an annual report on or before September 01
of the calendar year, to the Division of Water Quality containing:
a. A list of LUWT systems under delegation.
b. A summary listing compliance status of each system
c. A summary of any enforcement actions taken, identifying those actions that are still pending, and those that have been resolved.

C. Annual Report. The owner shall submit an annual report covering the period of July 01 to June 30 (the “reporting year”) to the Weber-Morgan Health Department no later than August 01 of each calendar year. The Owner shall report the following items:
   1. All information required to be submitted for the NOI.
   2. Checklist of inspections performed as required by rule, including the date of the inspection and a list of findings.
   3. Sampling results as required for packed-bed-media.
   4. Signature of owner or certified operator, and date.

D. Owner Responsibility to Maintain System: Owners are responsible for maintaining their LUWTS and for performing periodic inspections and servicing of the system. Inspections of conventional systems (gravity, or pump to gravity) shall be not less than once each reporting year, and inspections of at-grade, pressure, mound and packed bed media systems shall not be less than twice each reporting year. At a minimum, the owner is responsible for inspecting these components of the various types of system:
   1. Community septic tank or treatment unit – measure sludge and scum levels and pump when necessary.
      a. The tanks shall be pumped when the floating scum mat is within three inches of the bottom of the outlet device, or
      b. When the sludge level has built up to twelve inches from the bottom of the outlet device
      c. Recommendations are to pump tanks before these limits are reached
   2. Effluent screen/filter – clean when necessary.
   3. Distribution boxes, drop boxes, alternating valves or other components that direct water flow.
   4. Pumps chambers, floats, alarms and control panels. Flow meter, hour meter and event counter readings must be reported.
   5. Absorption field(s), monitoring wells, and ground surface conditions.
6. Pressure distribution laterals, lateral head pressures, initial readings, adjustments and final readings must be reported.

E. Operation and Maintenance Manual Required: New systems must have a written operation and maintenance document describing the treatment system and outlining routine maintenance procedures, including checklists and maintenance logs needed for proper operation of the system. A copy of this document must be provided to the Weber-Morgan Health Department during plan review.

F. Packed Bed Media System Sampling and Monitoring Requirements: The owner of a packed bed media system is responsible for sampling and monitoring for Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Total Inorganic Nitrogen (TIN) at an interval not exceeding six calendar months. Additional sampling and monitoring may be required if it has been determined that there is a potential for groundwater impacts. Effluent quality of a grab sample, before discharge to an absorption system, shall not exceed 75 mg/L COD and 25 mg/L TSS.

1. Effluent COD exceeding 75 mg/L of TSS exceeding 25 mg/L TSS shall be followed by weekly sampling until two successive results are obtained that are within the limits.

2. Two successive samples resulting in readings that exceed either the 75 mg/L of TSS or the 25 mg/L TSS shall result in the system being deemed non-compliant requiring further evaluation and a corrective action plan.

3. For non-complying systems, The Weber-Morgan Health Department shall issue an order requiring:
   a. the owner to take the necessary steps to correct the system performance;
   b. effluent sampling for COD and TSS, weekly, until two successive samples are found to be in compliance;
   c. payment of fees for additional inspections, review and testing;
   d. an evaluation of the system design including non-approved changes, wastewater flows, and biological and chemical loading to the system;
   e. an investigation of wastewater generator practices related to the discharge of chemicals into the system, such as photo-finishing chemicals, laboratory chemicals, excessive amounts of cleaners or detergents, etc.; and
   f. additional tests or samples to troubleshoot the system malfunction.
4.3 Amend section 1.7 to read:

NEW PROCESSES AND METHODS OF DISPOSAL: Where unusual conditions exist, other methods of disposal not described herein may be employed if approved by the Utah Water Quality Board and by the Weber-Morgan Health Department. The approval will be based on evidence of adequacy to meet water quality standards and other requirements of the Code.

4.4 Amend Table 5-1 item Seepage Pits (Trenches) to read:

Deep Wall Trenches

4.5 Amend Table 5-1 footnote (e) to read:

(e) Deep wall trenches must be installed within an established absorption zone. The absorption zone will be sized based on the ratio of ground surface area "GSA" to the required sidewall area "SWA". The GSA/SWA ratio must be at least 2.5. The trenches shall be installed within the absorption zone such that the spacing between trenches will be equal. Spacing of 12 feet (sidewall to sidewall) shall be a minimum. Distance to the edge or boundary of the established absorption zone shall be a minimum of 15 feet. The system must also conform to all other separation requirements identified in Table 5-1.

4.6 Amend section 1.11 to read:

CONSTRUCTION INSPECTION: approval to operate the constructed/installed facilities shall be issued following a final inspection by a representative of the Weber-Morgan Health Department and a representative of the Division of Water Quality. The facilities must be inspected after installation but prior to backfilling.

4.7 Amend subsection 2.6.C to read:

C. If the top of the tank is located more than 18 inches below finished grade, all access openings required in subsection (1) above, shall be extended to within 6 inches of the finished grade.

4.8 Add new subsection 2.6.D to read:

The maximum depth of fill material allowed over the top of a septic tank shall be 36 inches.
4.10 Amend subsection 3.1.B to read:

Absorption devices placed in sloping ground shall be so constructed that the horizontal distance between the center of the distribution line (perforated pipe or chamber) and the ground surface is at least 11 feet, 6 inches.

4.11 Amend subsection 3.1.C to read:

Soil having excessively high permeability, such as gravel with large voids, affords little filtering and is unsuitable for absorption systems. Percolation rates greater than 1 minute per inch are not acceptable for placement of a LUWTS. For percolation rates of 1 minute per inch to 5 minutes per inch, packed bed media systems are required.

4.12 Amend section 3.3 to read:

3.3 SEEPAGE PITS: Seepage pits are not permitted by the Weber-Morgan Health Department

4.13 Amend section 3.5 to read:

3.5 DEEP WALL TRENCHES: Deep wall trenches consist of deep trenches filled with clean, coarse material. They shall conform to the requirements:

4.14 Amend Table 5-7 to read:

<table>
<thead>
<tr>
<th>ITEM</th>
<th>UNIT</th>
<th>MINIMUM</th>
<th>MAXIMUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance between deep wall trenches</td>
<td>feet</td>
<td>12(a)</td>
<td>-</td>
</tr>
<tr>
<td>Diameter of distribution pipe</td>
<td>inches</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Size of coarse material</td>
<td>inches</td>
<td>3/4</td>
<td>12</td>
</tr>
<tr>
<td>Bottom of trench to maximum ground water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom of trench in unsuitable soil</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE 5-7
DEEP WALL TRENCH CONSTRUCTION DETAILS
or bedrock formations  feet  4  -  
Depth of coarse material:
Under pipe  feet  4  -  
Over distribution pipe  inches  2  -  
Depth of backfill over material  inches  6  48  
Seepage trench width  feet  2  -  
Seepage trench length  feet  -  100  
Effluent Distribution pipe
Diameter  inches  4  -  
Slope  percent  level  level  

Footnotes:  
(a) See Table 5-1  

4.14 Amend Table 5-8 title to read:  
DEEP WALL TRENCH ALLOWABLE SIDEWALL SEEPAGE RATES  

4.15 Add new subsection 4.A.4 to read:  
One or more percolation tests shall be made in separate test holes on the proposed absorption system site to assure that the results are representative of the soil conditions present. Percolation tests for deep wall trenches shall comply with R317-4-9. Where questionable or poor soils conditions exist, the number of percolation tests and soils explorations necessary to yield accurate, representative information shall be determined by the regulatory authority and may be accepted only if conducted with an authorized representative present.  

4.16 Amend Subsection 4.B.1 to read:  
1. Test results shall be considered an essential part of plans for absorption systems and shall be submitted on a signed “Percolation Test Certificate” or equivalent, certifying that the test were conducted in accordance with these requirements, and indicating the depth and rate of each test in minutes per inch, the date of the tests, the logs of soils exploration pits, a statement of the present and maximum groundwater table, and all other factors affecting percolation test results. Percolation tests shall be conducted in accordance with the certification requirements of R317-11, and in accordance with the following:
5.0 Adjudicative Proceedings.

In accordance with the Weber-Morgan Health Department Adjudicative Proceedings, a Department conference may be requested in writing within ten (10) days of any action in which a party is aggrieved.

6.0 Conflict.

In any case where a provision of this Regulation is found to be in conflict with a provision of any ordinance or local law, or with a provision of any statute, rule, or order of the State of Utah, the provision which established the higher standard for the promotion of the health, welfare and safety of the citizens of Weber or Morgan Counties shall prevail. In any case where a provision of this Regulation is found to be in conflict with a provision of any other ordinance or local law existing on the effective date of this local law, or with a provision of any statute, rule, or order of the State of Utah, which established a lower standard for the promotion of the health, welfare and safety of the citizens of the municipality, the provisions of this local law shall be deemed to prevail.

7.0 Severability.

The provisions of this Regulation shall be several, and if any clause, sentence, paragraph, subdivision, section, or part of this local law shall be judged by competent jurisdiction as being invalid, such judgment shall not affect, impair, or invalidate the remainder thereof, but shall be confined to the part thereof directly involved in the controversy in which such judgment shall have been rendered.

8.0 Effective Date.

This Regulation including Appendix X shall become effective the day following its adoptions by the Weber-Morgan Board of Health. And will supersede previous onsite wastewater system regulations adopted by the Board of Health. Appendices may be modified by the Department without affecting the rest of this Regulation. Appendices when amended by the Board of Health shall become effective on the day following adoption.
EASTERN SUMMIT COUNTY
WATER CONSERVANCY
SPECIAL SERVICE DISTRICT

REGULATIONS GOVERNING
LARGE UNDERGROUND WASTEWATER
TREATMENT SYSTEMS

ADOPTED BY THE EASTERN SUMMIT COUNTY WATER CONSERVANCY SPECIAL SERVICE DISTRICT:

__________________________  __________________
CHAIR OF THE EASTERN SUMMIT COUNTY
SEWER ADVISORY COMMITTEE  DATE

__________________________  __________________
CHAIR OF GOVERNING BOARD OF THE
EASTERN SUMMIT COUNTY WATER
CONSERVANCY SPECIAL SERVICE DISTRICT  DATE
1. DEFINITIONS:

1.1. **Applicant**: The owner of land and/or his/her representative seeking sponsorship of a Large Underground Wastewater Disposal System by the District.

1.2. **County**: Summit County, Utah.

1.3. **County Council**: The Summit County Council who exercises legislative authority in the County.

1.4. **County Manager**: The chief executive officer of the County.

1.5. **District**: The Eastern Summit County Water Conservancy Special Service District.

1.6. **Division**: the Utah State Division of Water Quality

1.7. **ESAC**: The Eastern Summit County Sewer Advisory Committee or "the Committee" comprised of Summit County staff from the Community Development Department, Engineering Department, the Health Department, and two (2) members from the public at large.

1.8. **Governing Board**: The County Council of Summit County.

1.9. **Large Underground Wastewater Disposal System (“LUWDS”)**: means the same type of device as an Onsite Wastewater System except that it meets one of the following:

   1.9.1. designed to handle more than 5,000 gallons per day of domestic wastewater; or
   1.9.2. wastewater that originates in multiple units under separate ownership (except condominiums, townhomes, or other multi-family housing units where sewer would be required as part of the development agreement); or
   1.9.3. any other system not covered under the definition of an Onsite Wastewater System per Summit County Health Code and Utah Administrative Code, Rule R317-4.

1.10. **Onsite Wastewater System**: means an underground wastewater disposal system for domestic wastewater which is designed for a capacity of 5,000 gallons per day or less and is not designed to serve multiple dwelling units which are owned by separate owners except condominiums and twin homes. It usually consists of a building sewer, a septic tank and an absorption system.

1.11. **State Rules**: Refers to the “Utah Department of Environmental Quality”, Water Quality Administrative Rules, Title R317.
2. TITLE, APPLICABILITY AND PURPOSE:

2.1. These standards shall be known as the “Large Underground Wastewater Treatment System Regulation,” hereinafter referred to as “this Regulation.”

2.2. The purpose of this Regulation is to protect the public health and the environment from potential adverse effects from LUWDS within the boundaries of the District.

2.3. This Regulation establishes definitions; sets administrative requirements, soil and ground water requirements and design and installation requirements of LUWDS to protect public health, safety & welfare and the environment.

3. AUTHORITY:

3.1. It is the responsibility of the District to provide wastewater management services to the citizens within the District’s boundaries as provided for under Title 2, Chapter 20 of the Summit County Code and Utah Code Annotated, Title 17D-1-101, et. seq.

3.2. The District is authorized to make standards and regulations pursuant to Title 2, Chapter 20 of the Summit County Code and Utah Code Annotated, Title 17D-1-101, et. seq.

3.3. The District is authorized to establish and collect fees pursuant to Title 2, Chapter 20 of the Summit County Code and Utah Code Annotated, Title 17D-1-101, et. seq.

3.4. The District may deny sponsorship of a LUWDS if it appears that its operation will not comply with this Regulation or State Rule.

4. INCORPORATION BY REFERENCE:

4.1. The requirements as found in the Utah Department of Environmental Quality, “Large Underground Wastewater Disposal Systems” Rule, R317-5 are adopted and incorporated by reference. Except as outlined in this Regulation, all requirements of R317-5 must be met before a LUWDS may be constructed, installed, operated, or maintained.

5. LUWDS SUBMITTALS AND “LETTER OF FEASIBILITY” FROM THE DISTRICT:
5.1. To ensure compliance with District requirements, an Applicant for a new LUWDS, alterations to an existing LUWDS or extensions of a LUWDS shall submit the following to the District for review prior to the Applicant obtaining a feasibility determination from the Division per Rule 317-5-4 (as amended):

5.1.1. General information outlined in Rule 317-5-4 (as amended); and
5.1.2. Engineering report containing all design criteria; and
5.1.3. Plans for the LUWDS outlined in Rule 317-5-5(B) (as amended).
5.1.4. The District may, in its discretion, request from the Applicant other information not listed herein in order for ESAC to make its determination.

5.2. If the proposed LUWDS meets the requirements of Section 6 of this Regulation and receive a favorable determination for feasibility by the District, the Applicant shall receive a “Letter of Feasibility” that shall be submitted to the Division by the Applicant. Issuance of a “Letter of Feasibility” by the District does not guarantee that the District will sponsor the LUWDS. The “Letter of Feasibility” is valid for a period of one (1) year and if it expires, the Applicant shall re-apply to the District for a new “Letter of Feasibility” and follow the process described above in Section 5.2.

6. LUWDS LOCATION AND DESIGN REQUIREMENTS

6.1. Some LUWDS are not feasible in some areas and situations. If property characteristics indicate conditions that may fail in any way to meet this Regulation or State Rule, the use of a LUWDS shall not be sponsored by the District.

6.2. The Applicant shall be solely responsible for the entire cost, expense, and supervision of the design and engineering of the LUWDS.

6.3. Location Requirements:

6.4. Design Requirements:

7. APPROVAL IN CONCEPT LETTER AND DISTRICT SPONSORSHIP

7.1. It is the Applicant’s responsibility to ensure that a LUWDS application to the Division is in compliance with the District’s Regulations regarding the location, design, construction and maintenance of a LUWDS prior to the Applicant submitting a request for a construction permit to the Division.

7.2. Approval in Concept: If an Applicant for a LUWDS receives an “Approval in Concept” from the Division, the Applicant shall forward a copy of the “Approval in Concept” to the District. After issuance of an “Approval in Concept,” the proposed LUWDS may be scheduled with the District for possible sponsorship of the LUWDS.

8. CONSTRUCTION, INSPECTION & AUTHORIZATION TO USE
8.1. Construction and Installation of the LUWDS shall follow the requirements of State Rule R317-4-7.

8.2. The Applicant shall be solely responsible for the entire cost, expense, and supervision of the construction and installation of the LUWDS, including the responsibility to obtain title to the property on which the LUWDS will be located.

8.3. Final Inspection: The District shall be included in the final inspection of the LUWDS required by the Division. The District shall also inspect the LUWDS for any bond release by the District to the Applicant.

8.4. The Applicant shall be required to warranty the LUWDS for a period of one (1) year after the District’s obtains ownership of the LUWDS.

9. PROHIBITIONS

9.1. It shall be unlawful to install, construct, alter, replace, enlarge, extend, or otherwise modify any LUWDS unless a Letter of Review and Feasibility is issued by the District.

9.2. It shall be unlawful to change the use of real property, expand a building or dwelling, or add accessory buildings or structures occupying an area greater than 120 square feet, without a review of the wastewater treatments system by the District.

9.3. It shall be unlawful to use or maintain any LUWDS that is not adequately functioning. LUWDS shall be maintained in good working order. There shall be no activities or conditions permitted which would interfere with the property operation of LUWDS. It is specifically prohibited to construct or place buildings, to install paving, to plant trees or shrubs, to regrade or place fill, to allow crossing by vehicles, to install above ground pools, or to install driveways or parking areas over absorption systems.

9.4. It shall be unlawful to discharge anything but wastewater into a LUWDS. Surface and subsurface water including roof, cellar, foundation, and storm drainage shall not be discharged into the LUWDS and shall be disposed of so as to in no way affect the proper functioning of the system.
R317-1. Definitions and General Requirements.
R317-1-1. Definitions.

Note that some definitions are repeated from statute to provide clarity to readers.

"Assimilative Capacity" means the difference between the numeric criteria and the concentration in the waterbody of interest where the concentration is less than the criterion.

"Biological assessment" means an evaluation of the biological condition of a water body using biological surveys and other direct measurements of composition or condition of the resident living organisms.

"Biological criteria" means numeric values or narrative descriptions that are established to protect the biological condition of the aquatic life inhabiting waters that have been given a certain designated aquatic life use.

"Board" means the Utah Water Quality Board.

"BOD" means 5-day, 20 degrees C. biochemical oxygen demand.

"Body Politic" means the State or its agencies or any political subdivision of the State to include a county, city, town, improvement district, taxing district or any other governmental subdivision or public corporation of the State.

"Building sewer" means the pipe which carries wastewater from the building drain to a public sewer, a wastewater disposal system or other point of disposal. It is synonymous with "house sewer".

"CBOD" means 5-day, 20 degrees C., carbonaceous biochemical oxygen demand.

"Challenging Party" means a Person who has or is seeking a permit in accordance with Title 19, Chapter 5, the Utah Water Quality Act and chooses to use the independent peer review process to challenge a Proposal as defined in Subsection 19-5-105.3(1)(a).

"COD" means chemical oxygen demand.

"Conflict of Interest" means a Person who has any financial or other interest which has the potential to negatively affect services to the Division or Challenging Party because it could impair the individual's objectivity or it could create an unfair competitive advantage for any Person or organization.

"Deep well" means a drinking water supply source which complies with all the applicable provisions of the State of Utah Public Drinking Water rules.

"Digested sludge" means sludge in which the volatile solids content has been reduced by at least 38% using a suitable biological treatment process.

"Director" means the Director of the Division of Water Quality.

"Division" means the Utah State Division of Water Quality.

"Domestic wastewater" means a combination of the liquid or water-carried wastes from residences, business buildings, institutions, and other establishments with installed plumbing facilities, together with those from industrial establishments, and with such ground water, surface water, and storm water as may be present. It is synonymous with the term "sewage".

"Ecosystem respiration (ER)" means the spatially explicit rate of organic degradation derived from open channel, diel stream oxygen models.
"Effluent" means the liquid discharge from any unit of a wastewater treatment works, including a septic tank.

"Existing Uses" means those uses actually attained in a water body on or after November 28, 1975, whether or not they are included in the water quality standards.

"Expert" means a person with technical expertise, knowledge, or skills in a subject matter of relevance to a specific water quality investigation, HISA, or Proposal including persons from other regulatory agencies, academia, or the private sector.

"Filamentous Algae Cover" means patches of filamentous algae greater than 1 cm in length or mats greater than 1 mm thick, expressed as the proportion of visible stream bed where it is observed and where it is not.

"Gross primary production" means the spatially explicit rate of autotrophic biomass formation derived from open channel, diel stream oxygen models.

"Human-induced stressor" means perturbations directly or indirectly caused by humans that alter the components, patterns, and/or processes of an ecosystem.

"Human pathogens" means specific causative agents of disease in humans such as bacteria or viruses.

"Highly Influential Scientific Assessment (HISA)" means a Scientific Assessment developed by the Division or an external Person, that has material relevance to a decision by the Division, and the Director determines could have a significant financial impact on either the public or private sector or is novel, controversial, or precedent-setting, and is not a new or renewed permit issued to a Person.

"Independent Peer Review" means scientific review conducted on request from a Challenging Party in accordance with Section 19-5-105.3 and is a subcategory of Independent Scientific Review.

"Independent Scientific Review" means any technical or scientific review conducted by Experts in an area related to the material being reviewed who were not directly or indirectly involved with the development of the material to be reviewed and who do not have a real or perceived conflict of interest. When an Independent Peer Review is conducted, the conditions in Subsection 19-5-105.3(5) shall apply.

"Industrial wastes" means the liquid wastes from industrial processes as distinct from wastes derived principally from dwellings, business buildings, institutions and the like. It is synonymous with the term "industrial wastewater".

"Influent" means the total wastewater flow entering a wastewater treatment works.

"Great Salt Lake impounded wetland" means wetland ponds which have been formed by dikes or berms to control and retain the flow of freshwater sources in the immediate proximity of Great Salt Lake.

"Large underground wastewater disposal system" means the same type of device as an onsite wastewater system except that it is designed to handle more than 5,000 gallons per day of domestic wastewater, or wastewater that originates in multiple dwellings, commercial establishments, recreational facilities, schools, or any other underground wastewater disposal system not covered under the definition of an onsite wastewater system. The Division controls
the installation of such systems.

"Onsite wastewater system" means an underground wastewater disposal system for domestic wastewater which is designed for a capacity of 5,000 gallons per day or less and is not designed to serve multiple dwelling units which are owned by separate owners except condominiums and twin homes. It usually consists of a building sewer, a septic tank and an absorption system.

"Operating Permit" is a State issued permit issued to any wastewater treatment works covered under Rules R317-3 or R317-5 with the following exceptions:
- C. Any wastewater treatment permitted under Utah Pollutant Discharge Elimination System (UPDES) Rule R317-8.
- E. Any wastewater treatment permitted by a Local Health Department under Onsite Wastewater Systems Rule R317-4.

"Person" means any individual, trust, firm, estate, company, corporation, partnership, association, state, state or federal agency or entity, municipality, commission, or political subdivision of a state. "Point source" means any discernible, confined and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flow from irrigated agriculture.

"Pollution" means such contamination, or other alteration of the physical, chemical, or biological properties of any waters of the state, or such discharge of any liquid, gaseous or solid substance into any waters of the state as will create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

"Proposal" means any science-based initiative proposed by the division on or after January 1, 2016, that would financially impact a Challenging Party and that would:
- A. change water quality standards;
- B. develop or modify total maximum daily load requirements;
- C. modify wasteloads or other regulatory requirements for permits; or
- D. change rules or other regulatory guidance. A Proposal is not an individual permit issued to a Person, nor is it a technology based limit applied in accordance with Effluent limitations, 33 U.S.C. Sec. 1311, National pollutant discharge elimination system, 33 U.S.C. Sec. 1342, and Information and guidelines, 33 U.S.C. Sec. 1314.

"Regulatory requirements" for permits means the methods or policies used by the Division to derive permit limits such as wasteload analyses, reasonable potential determinations, whole effluent toxicity policy, interim permitting guidance, antidegradation reviews, or Technology Based Nutrient Effluent Limit requirements.
"Scientific Assessment" means an evaluation of a body of credible scientific or technical knowledge that synthesizes scientific literature, data analysis and interpretation, and models, and includes any assumptions used to bridge uncertainties in the available information.

"Scientific basis" means empirical data or other scientific findings, conclusions, or assumptions used as the justification for a rule, regulatory guidance, or a regulatory tool.

"Scientifically necessary to protect the designated beneficial uses of a waterbody" as referenced in Subsection 19-5-105.3(8) means a Technology Based Nutrient Effluent Limit that under current and future growth projections, will:

A. prevent circumstances that would cause or contribute to an impairment of any designated or existing use in the receiving water or downstream water bodies based on Utah's water quality standards, Section R317-2-7; or
B. improve water quality conditions that are causing or contributing to any existing impairment in the receiving water or downstream water bodies, as defined by Utah's water quality standards, Section R317-2-7.

"Sewage" is synonymous with the term "domestic wastewater".

"Shallow well" means a well providing a source of drinking water which does not meet the requirements of a "deep well".

"Sludge" means the accumulation of solids which have settled from wastewater. As initially accumulated, and prior to treatment, it is known as "raw sludge".

"SS" means suspended solids.

"Technology Based Nutrient Effluent Limit" means maximum nutrient limitations based on the availability of technology to achieve the limitations, rather than based on a water quality standard or a total maximum daily load.

Total Maximum Daily Load (TMDL) means the maximum amount of a particular pollutant that a waterbody can receive and still meet state water quality standards, and an allocation of that amount to the pollutant's sources.

"Treatment works" means any plant, disposal field, lagoon, dam, pumping station, incinerator, or other works used for the purpose of treating, stabilizing or holding wastes. (Section 19-5-102).

"TSS" means total suspended solids.

"Underground Wastewater Disposal System" means a system for underground disposal of domestic wastewater. It includes onsite wastewater systems and large underground wastewater disposal systems.

"Use Attainability Analysis" means a structured Scientific Assessment of the factors affecting the attainment of the uses specified in Section R317-2-6. The factors to be considered in such an analysis include the physical, chemical, biological, and economic use removal criteria as described in 40 CFR 131.10(g) (1-6).

"Wastes" means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. (Section 19-5-102).

"Wastewater" means sewage, industrial waste or other liquid
substances which might cause pollution of waters of the state. Intercepted ground water which is uncontaminated by wastes is not included.

"Waters of the state" means all streams, lakes, ponds, marshes, water-courses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this state or any portion thereof, except that bodies of water confined to and retained within the limits of private property, and which do not develop into or constitute a nuisance, or a public health hazard, or a menace to fish and wildlife, shall not be considered to be "waters of the state" under this definition (Section 19-5-102).

"Water Quality Based Effluent Limit (WQBEL)" means an effluent limitation that has been determined necessary to ensure that water quality standards in a receiving body of water will not be violated.


2.1 Water Pollution Prohibited. No person shall discharge wastewater or deposit wastes or other substances in violation of the requirements of these rules.

2.2 Construction Permit. No person shall make or construct any device for treatment or discharge of wastewater (including storm sewers) without first receiving a permit to do so from the Director or its authorized representative, except as provided herein.

A. Body Politic Required. A permit for construction of a new treatment works or a sewerage system, or modifications to an existing treatment works or sewerage system for multiple units under separate ownership will be issued only if the treatment works or sewerage system are under the sponsorship of a body politic as defined in R317-1-1.

B. Submission of Plans. Any person desiring a permit shall submit complete plans, specifications, and other pertinent documents covering the proposed construction to the Director for review. Liquid waste storage facilities at animal feeding operations must be designed and constructed in accordance with Table 2a - Criteria for Siting, Investigation, and Design of Liquid Waste Storage Facilities with a water depth greater than 2 feet; Table 2b - Criteria for Siting, Investigation, and Design of Liquid Waste Storage Facilities with a water depth of 2 feet or less; and Table 2c - Criteria for runoff ponds with a water depth of 2 feet or less and a storage period less than 90 days annually, contained in the U.S.D.A. Natural Resource Conservation Service (NRCS) Conservation Practice Standard, Waste Storage Facility, Code 313, dated August 2006. This rule incorporates by reference Tables 2a, 2b, and 2c in the August 2006 U.S.D.A. NRCS Conservation Practice Standard, Waste Storage Facility, Code 313.

C. Review of Plans. The Division shall review said plans and specifications as to their adequacy of design for the intended purpose and shall require such changes as are found necessary to assure compliance with pertinent parts of these rules.

D. Approval of Plans. Issuance of a construction permit shall be construed as approval of plans for the purposes of authorizing release of federal or state funds allocated for planning or construction purposes.

E. Permit Expiration. Construction permits shall expire one
year after date of issuance unless substantial and continuous construction is under way. Upon application, construction permits may be extended on an individual basis provided application for such extension is made prior to the permit expiration date.

F. Exceptions.

1. Wastewater facilities that discharge to an existing sewer system and serve only units that are under single ownership, or serve multiple units under separate ownership where the wastewater facilities are under the sponsorship of the public sewer system to which they discharge. This exception does not apply to pumping stations having the installed capacity in excess of 1 million gallons per day (3,785 cubic meters per day).

2. Onsite Wastewater Disposal Systems. Construction plans and specifications for onsite wastewater disposal systems shall be submitted to the local health authority having jurisdiction and need not be submitted to the Division. Such devices, in any case, shall be constructed in accordance with rules for onsite wastewater disposal systems adopted by the Water Quality Board. Compliance with the rules shall be determined by an on-site inspection by the appropriate health authority.

3. Small Animal Waste (Manure) Lagoons and Runoff Ponds. Construction plans and specifications for small animal waste lagoons as defined in R317-6 (permitted by rule for ground water permits) need not be submitted to the Division if the design is prepared or certified by the U.S.D.A. Natural Resources Conservation Service (NRCS) in accordance with criteria provided for in the Memorandum of Agreement between the Division and the NRCS, and the construction is inspected by the NRCS. Compliance with these rules shall be determined by on-site inspection by the NRCS.

2.3 Compliance with Water Quality Standards. No person shall discharge wastes into waters of the state except in compliance with these rules and under circumstances which assure compliance with water quality standards in R317-2.

2.4 Operation of Wastewater Treatment Works. Wastewater treatment works shall be so operated at all times as to produce effluents meeting all requirements of these rules and otherwise in a manner consistent with adequate protection of public health and welfare. Complete daily records shall be kept of the operation of wastewater treatment works covered under R317-3 on forms approved by the Division and a copy of such records shall be forwarded to the Division at monthly intervals.


3.1 Compliance With Water Quality Standards.

All persons discharging wastes into any of the waters of the State shall provide the degree of wastewater treatment determined necessary to insure compliance with the requirements of Rule R317-2 Water Quality Standards, except that the Director may waive compliance with these requirements for specific criteria listed in Rule R317-2 where it is determined that the designated use is not being impaired or significant use improvement would not occur or where there is a reasonable question as to the validity of a specific criterion or for other valid reasons as determined by the Director.

3.2 Compliance With Secondary Treatment Requirements.
All persons discharging wastes from point sources into any of the waters of the State shall provide treatment processes which will produce secondary effluent meeting or exceeding the following effluent quality standards.

A. The arithmetic mean of BOD values determined on effluent samples collected during any 30-day period shall not exceed 25 mg/L, nor shall the arithmetic mean exceed 35 mg/L during any 7-day period. In addition, if the treatment plant influent is of domestic or municipal sewage origin, the BOD values of effluent samples shall not be greater than 15% of the BOD values of influent samples collected in the same time period. As an alternative, if agreed to by the person discharging wastes, the following effluent quality standard may be established as a requirement of the discharge permit and must be met:

The arithmetic mean of CBOD values determined on effluent samples collected during any 30-day period shall not exceed 20 mg/L nor shall the arithmetic mean exceed 30 mg/L during any 7-day period. In addition, if the treatment plant influent is of domestic or municipal sewage origin, the CBOD values of effluent samples shall not be greater than 15% of the CBOD values of influent samples collected in the same time period.

B. The arithmetic mean of SS values determined on effluent samples collected during any 30-day period shall not exceed 25 mg/L, nor shall the arithmetic mean exceed 35 mg/L during any 7-day period. In addition, if the treatment plant influent is of domestic or municipal sewage origin, the SS values of effluent samples shall not be greater than 15% of the SS values of influent samples collected in the same time period.

C. The geometric mean of total coliform and fecal coliform bacteria in effluent samples collected during any 30-day period shall not exceed either 2000 per 100 mL or 200 per 100 mL respectively, nor shall the geometric mean exceed 2500 per 100 mL or 250 per 100 mL respectively, during any 7-day period; or, the geometric mean of E. coli bacteria in effluent samples collected during any 30-day period shall not exceed 126 per 100 mL nor shall the geometric mean exceed 158 per 100 mL respectively during any 7-day period. Exceptions to this requirement may be allowed by the Director where domestic wastewater is not a part of the effluent and where water quality standards are not violated.

D. The effluent values for pH shall be maintained within the limits of 6.5 and 9.0.

E. Exceptions to the 85% removal requirements may be allowed where infiltration makes such removal requirements infeasible and where water quality standards are not violated.

F. The Director may allow exceptions to the requirements of Subsections R317-1-3.2.A, R317-1-3.2.B, and R317-1-3.2.D where the discharge will be of short duration and where there will be no significant detrimental effect on receiving water quality or downstream beneficial uses.

G. The Director may allow that the BOD5 and TSS effluent concentrations for discharging domestic wastewater lagoons shall not exceed 45 mg/L for a monthly average nor 65 mg/L for a weekly average provided the following criteria are met:

1. the lagoon system is operating within the organic and hydraulic design capacity established by Rule R317-3;
2. the lagoon system is being properly operated and maintained;
3. the treatment system is meeting all other permit limits;
4. there are no significant or categorical industrial users (IU) defined by 40 CFR Part 403, unless it is demonstrated to the satisfaction of the Director that the IU is not contributing constituents in concentrations or quantities likely to significantly affect the treatment works; and
5. a Waste Load Allocation (WLA) indicates that the increased permit limits would not impair beneficial uses of the receiving stream.

3.3 Technology-based Limits for Controlling Phosphorus Pollution.

A. Technology-based Phosphorus Effluent Limits (TBPEL)
1. All non-lagoon treatment works discharging wastewater to surface waters of the state shall provide treatment processes which will produce effluent less than or equal to an annual mean of 1.0 mg/L for total phosphorus.
2. The TBPEL shall be achieved by January 1, 2020, or no later than January 1, 2025, after a variance has been granted under Subsection R317-1-3.3.C.1.e.

B. Discharging Lagoons -Phosphorus Loading Cap
1. No TBPEL will be instituted for discharging treatment lagoons. Instead, each discharging lagoon will be evaluated to determine the current annual average total phosphorus load measured in pounds per year based on monthly average flow rates and concentrations. Absent field data to determine these loads, and in case of intermittent discharging lagoons, the phosphorus load cap will be estimated by the Director.
2. A cap of 125% of the current annual total phosphorus load will be established and referred to as phosphorus loading cap. Once the lagoon's phosphorus loading cap has been reached, the owner of the facility will have five years to construct treatment processes or implement treatment alternatives to prevent the total phosphorus loading cap from being exceeded.
3. The load cap shall become effective July 1, 2018.

C. Variances for TBPEL and Phosphorus Loading Caps
1. The Director may authorize a variance to the TBPEL or phosphorus loading cap under any of the following conditions:
   a. Where an existing TMDL has allocated a total phosphorus wasteload to a treatment works, no TBPEL or phosphorus loading cap, as applicable, will be applied.
   b. If the owner of a discharging treatment works can demonstrate that imposing the TBPEL or phosphorus loading cap would result in an economic hardship, an alternative TBPEL or phosphorus loading cap that would not cause economic hardship may be applied. "Economic hardship" for a publicly owned treatment works is defined as sewer service costs that, as a result of implementing a TBPEL or phosphorus loading cap, would be greater than 1.4% of the median adjusted gross household income of the service area based on the latest information compiled by the Utah State Tax Commission, after inclusion of grants, loans, or other funding made available by the Utah Water Quality Board or other sources. The Director will consider other demonstrations of economic hardship on a case-by-case basis.
   c. If the owner of a discharging treatment works can demonstrate that the TBPEL or phosphorus loading cap are clearly unnecessary to
protect waters downstream from the point of discharge, no TBPEL or phosphorus loading cap will be applied.

d. If the owner of the discharging treatment works can demonstrate that a commensurate phosphorus reduction can be achieved in receiving waters using innovative alternative approaches such as water quality trading, seasonal offsets, effluent reuse, or land application.

e. Where the owner of a non-lagoon discharging treatment works demonstrates due diligence toward construction of a treatment facility designed to meet the TBPEL, the compliance date shall be no later than January 1, 2025.

2. All variances to TBPEL and phosphorus loading caps shall be revisited no more frequently than every five years, or when a substantive change in facility operations or a substantive facility upgrade occurs, to determine if the rationale used to justify the conditions in Subsection R317-1-3.3.C remains applicable.

3. For treatment works required to implement TBPEL or a phosphorus loading cap, the demonstration under Subsection R317-1-3.3.C must be made by January 1, 2018. Unless this demonstration is made, the owner of the discharging treatment works must proceed to implement the TBPEL or phosphorus loading cap, as applicable, in accordance with, respectively, Subsections R317-1-3.3.A and R317-1-3.3.B.

D. Facility Optimization to Remove Total Inorganic Nitrogen

1. If the owner of a discharging treatment works agrees to optimize the owner's facility, either through operational changes, a capital construction project, or both, to reduce effluent total inorganic nitrogen concentrations to a level agreeable to the Director, a waiver of up to ten years from meeting either water quality-based effluent limits or technology-based effluent limits for total inorganic nitrogen will be granted. This includes meeting any total inorganic nitrogen limit that may result from a TMDL or other water quality study that is specific to the receiving water of the treatment works.

2. The waiver period under this section would begin upon implementation of the optimization improvements or another date agreed to by the owner of the treatment works and the Director.

3. The elements of the waiver under this section will be identified in a compliance agreement that will be incorporated into the facility's UPDES permit.

4. The waiver identified under this section must be granted before January 1, 2020. Thereafter, no such waiver will be considered or granted.

E. Monitoring

1. All discharging treatment works are required to implement, at a minimum, monthly monitoring of:
   a. influent for total phosphorus (as P) and total Kjeldahl nitrogen (as N) concentrations; and
   b. effluent for total phosphorus and orthophosphate (as P), and ammonia, nitrate-nitrite, and total Kjeldahl nitrogen (as N).

2. The Director may authorize a variance to the monitoring requirements identified in Subsection R317-1-3.3.D.1.

3. All monitoring under Subsection R317-1-3.3.D shall be based on 24-hour composite samples by use of an automatic sampler or by
combining a minimum of four grab samples collected at least two hours apart within a 24-hour period.

4. These monitoring requirements shall be self-implementing beginning July 1, 2015.

3.4 Pollutants In Diverted Water Returned To Stream.

A user of surface water diverted from waters of the State will not be required to remove any pollutants which such user has not added before returning the diverted flow to the original watercourse, provided there is no increase in concentration of pollutants in the diverted water. Should the pollutant constituent concentration of the intake surface waters to a facility exceed the effluent limitations for such facility under a federal National Pollutant Discharge Elimination System permit or a permit issued pursuant to State authority, then the effluent limitations shall become equal to the constituent concentrations in the intake surface waters of such facility. This section does not apply to irrigation return flow.

R317-1-4. Utilization and Isolation of Domestic Wastewater Treatment Works Effluent.

4.1 Untreated Domestic Wastewater. Untreated domestic wastewater or effluent not meeting secondary treatment standards as defined by these rules shall be isolated from all public contact until suitably treated. Land disposal or land treatment of such wastewater or effluent may be accomplished by use of an approved total containment lagoon as defined in R317-3 or by such other treatment approved by the Director as being feasible and equally protective of human health and the environment.

4.2 Use of Secondary Effluent at Plant Site. Secondary effluent may be used at the treatment plant site in the following manner provided there is no cross-connection with a potable water system:

A. Chlorinator injector water for wastewater chlorination facilities, provided all pipes and outlets carrying the effluent are suitably labeled.

B. Water for hosing down wastewater clarifiers, filters and related units, provided all pipes and outlets carrying the effluent are suitably labeled.

C. Irrigation of landscaped areas around the treatment plant from which the public is excluded.

R317-1-5. Use of Industrial Wastewaters.

5.1 Use of industrial wastewaters (not containing human pathogens) shall be considered for approval by the Director based on a case-specific analysis of human health and environmental concerns.

R317-1-6. Disposal of Domestic Wastewater Treatment Works Sludge.

6.1 General. No person shall use, dispose, or otherwise manage sewage sludge through any practice for which pollutant limits, management practices, and operational standards for pathogens and vector attraction reduction requirements are established in 40 CFR 503, July 1, 1994, except in accordance with such requirements.

6.2 Permit. All treatment works producing, treating and disposing of sewage sludge must comply with applicable permit
requirements at R317-3, 6 and 8.

6.3 Septic Tank Contents. The dumping or spreading of septic tank contents is prohibited except in conformance with 40 CFR 503 and R317-550-7.

6.4 Effective Date. Notwithstanding the effective date for incorporation by reference of 40 CFR 503 provided in R317-8-1.10(9), those portions of 40 CFR 503 specified in R317-1-6.1 and 6.3 are effective immediately.

R317-1-7. TMDLs.

The following TMDLs are approved by the Board and hereby incorporated by reference into these rules:

7.1 Middle Bear River -- February 23, 2010
7.2 Chalk Creek -- December 23, 1997
7.3 Otter Creek -- December 23, 1997
7.4 Little Bear River -- May 23, 2000
7.5 Mantua Reservoir -- May 23, 2000
7.6 East Canyon Creek -- September 14, 2010
7.7 East Canyon Reservoir -- September 14, 2010
7.8 Kents Lake -- September 1, 2000
7.9 LaBaron Reservoir -- September 1, 2000
7.10 Minersville Reservoir -- September 1, 2000
7.11 Puffer Lake -- September 1, 2000
7.12 Scofield Reservoir -- September 1, 2000
7.13 Onion Creek (near Moab) -- July 25, 2002
7.14 Cottonwood Wash -- September 9, 2002
7.15 Deer Creek Reservoir -- September 9, 2002
7.16 Hyrum Reservoir -- September 9, 2002
7.17 Little Cottonwood Creek -- September 9, 2002
7.18 Lower Bear River -- September 9, 2002
7.19 Malad River -- September 9, 2002
7.20 Mill Creek (near Moab) -- September 9, 2002
7.21 Spring Creek -- September 9, 2002
7.22 Forsyth Reservoir -- September 27, 2002
7.23 Johnson Valley Reservoir -- September 27, 2002
7.24 Lower Fremont River -- September 27, 2002
7.25 Mill Meadow Reservoir -- September 27, 2002
7.26 UM Creek -- September 27, 2002
7.27 Upper Fremont River -- September 27, 2002
7.28 Deep Creek -- October 9, 2002
7.29 Uinta River -- October 9, 2002
7.30 Pineview Reservoir -- December 9, 2002
7.31 Browne Lake -- February 19, 2003
7.32 San Pitch River -- November 18, 2003
7.33 Newton Creek -- June 24, 2004
7.34 Panguitch Lake -- June 24, 2004
7.35 West Colorado -- August 4, 2004
7.36 Silver Creek -- August 4, 2004
7.37 Upper Sevier River -- August 4, 2004
7.38 Lower and Middle Sevier River -- August 17, 2004
7.39 Lower Colorado River -- September 20, 2004
7.40 Upper Bear River -- August 4, 2006
7.41 Echo Creek -- August 4, 2006
7.42 Soldier Creek -- August 4, 2006

8.1 Introduction. Section 19-5-115 of the Water Quality Act provides for penalties of up to $10,000 per day for violations of the act or any permit, rule, or order adopted under it and up to $25,000 per day for willful violations. Because the law does not provide for assessment of administrative penalties, the Attorney General initiates legal proceedings to recover penalties where appropriate.

8.2 Purpose And Applicability. These criteria outline the principles used by the State in civil settlement negotiations with water pollution sources for violations of the UWPCA and/or any permit, rule or order adopted under it. It is designed to be used as a logical basis to determine a reasonable and appropriate penalty for all types of violations to promote a more swift resolution of environmental problems and enforcement actions.

To guide settlement negotiations on the penalty issue, the following principles apply: (1) penalties should be based on the nature and extent of the violation; (2) penalties should at a minimum, recover the economic benefit of noncompliance; (3) penalties should be large enough to deter noncompliance; and (4) penalties should be consistent in an effort to provide fair and equitable treatment of the regulated community.

In determining whether a civil penalty should be sought, the State will consider the magnitude of the violations; the degree of actual environmental harm or the potential for such harm created by the violation(s); response and/or investigative costs incurred by the State or others; any economic advantage the violator may have gained through noncompliance; recidivism of the violator; good faith efforts of the violator; ability of the violator to pay; and the possible deterrent effect of a penalty to prevent future violations.

8.3 Penalty Calculation Methodology. The statutory maximum
penalty should first be calculated, for comparison purposes, to determine the potential maximum penalty liability of the violator. The penalty which the State seeks in settlement may not exceed this statutory maximum amount.

The civil penalty figure for settlement purposes should then be calculated based on the following formula: CIVIL PENALTY = PENALTY + ADJUSTMENTS - ECONOMIC AND LEGAL CONSIDERATIONS

PENALTY: Violations are grouped into four main penalty categories based upon the nature and severity of the violation. A penalty range is associated with each category. The following factors will be taken into account to determine where the penalty amount will fall within each range:

A. History of compliance or noncompliance. History of noncompliance includes consideration of previous violations and degree of recidivism.

B. Degree of willfulness and/or negligence. Factors to be considered include how much control the violator had over and the foreseeability of the events constituting the violation, whether the violator made or could have made reasonable efforts to prevent the violation, whether the violator knew of the legal requirements which were violated, and degree of recalcitrance.

C. Good faith efforts to comply. Good faith takes into account the openness in dealing with the violations, promptness in correction of problems, and the degree of cooperation with the State.

Category A - $7,000 to $10,000 per day. Violations with high impact on public health and the environment to include:
1. Discharges which result in documented public health effects and/or significant environmental damage.
2. Any type of violation not mentioned above severe enough to warrant a penalty assessment under category A.

Category B - $2,000 to $7,000 per day. Major violations of the Utah Water Pollution Control Act, associated regulations, permits or orders to include:
1. Discharges which likely caused or potentially would cause (undocumented) public health effects or significant environmental damage.
2. Creation of a serious hazard to public health or the environment.
3. Illegal discharges containing significant quantities or concentrations of toxic or hazardous materials.
4. Any type of violation not mentioned previously which warrants a penalty assessment under Category B.

Category C - $500 to $2,000 per day. Violations of the Utah Water Pollution Control Act, associated regulations, permits or orders to include:
1. Significant excursion of permit effluent limits.
2. Substantial non-compliance with the requirements of a compliance schedule.
3. Substantial non-compliance with monitoring and reporting requirements.
4. Illegal discharge containing significant quantities or concentrations of non toxic or non hazardous materials.
5. Any type of violation not mentioned previously which warrants a penalty assessment under Category C.
Category D - up to $500 per day. Minor violations of the Utah Water Pollution Control Act, associated regulations, permits or orders to include:

1. Minor excursion of permit effluent limits.
2. Minor violations of compliance schedule requirements.
3. Minor violations of reporting requirements.
4. Illegal discharges not covered in Categories A, B and C.
5. Any type of violations not mentioned previously which warrants a penalty assessment under category D.

ADJUSTMENTS: The civil penalty shall be calculated by adding the following adjustments to the penalty amount determined above:
1) economic benefit gained as a result of non-compliance; 2) investigative costs incurred by the State and/or other governmental levels; 3) documented monetary costs associated with environmental damage.

ECONOMIC AND LEGAL CONSIDERATIONS: An adjustment downward may be made or a delayed payment schedule may be used based on a documented inability of the violator to pay. Also, an adjustment downward may be made in consideration of the potential for protracted litigation, an attempt to ascertain the maximum penalty the court is likely to award, and/or the strength of the case.

8.4 Mitigation Projects. In some exceptional cases, it may be appropriate to allow the reduction of the penalty assessment in recognition of the violator's good faith undertaking of an environmentally beneficial mitigation project. The following criteria should be used in determining the eligibility of such projects:

A. The project must be in addition to all regulatory compliance obligations;
B. The project preferably should closely address the environmental effects of the violation;
C. The actual cost to the violator, after consideration of tax benefits, must reflect a deterrent effect;
D. The project must primarily benefit the environment rather than benefit the violator;
E. The project must be judicially enforceable;
F. The project must not generate positive public perception for violations of the law.

8.5 Intent Of Criteria/Information Requests. The criteria and procedures in this section are intended solely for the guidance of the State. They are not intended, and cannot be relied upon to create any rights, substantive or procedural, enforceable by any party in litigation with the State.

8.6 Expedited Settlement Offer (ESO). Only enforcement cases classified as Category C or Category D violations may qualify for an ESO in lieu of the penalty process found in Subsection R317-1-8.3 Penalty Calculation Methodology. Except in cases where recidivism has been established by a pattern of non-compliance, an ESO may be used when violations are readily identifiable, readily correctable, and do not cause significant harm to human health or the environment.

A. A violator is not compelled to sign an ESO. If the violator does not sign the ESO, then the penalty will be recalculated according to Subsection R317-1-8.3.
B. The violator has 30 days total from receipt of the ESO to
sign and return the ESO to the division. If the violator signs the ESO, then the violator must comply with its conditions within 15 days after receipt of the final ESO signed by the director, or as otherwise designated in the ESO. If the violator signs the ESO they agree to waive:

1. the right to contest the findings and specified penalty amount;
2. the opportunity for an administrative hearing pursuant to Section 19-1-301; and
3. the opportunity for judicial review.

C. Deficiency Form. A deficiency form is used to list the violations and corresponding penalties. Multiple violations at a site are totaled providing a final penalty commensurate with the extent of non-compliance. Penalties developed for the list of program violations on the deficiency form should be estimated at about 60% of the penalty as calculated in Subsection R317-1-8.3.


(a) Pursuant to the authority of Utah Code Ann. Subsection 46-4-501(a), the submission of Discharge Monitoring Reports and related information may be conducted electronically through the EPA's NetDMR program, provided the requirements of subsection (b) are met.

(b) A person may submit Discharge Monitoring Reports and related information only after (1) completion of a Subscriber Agreement in a form designated by the Director to ensures that all requirements of 40 CFR 3, EPA's Cross - Media Electronic Reporting Regulation (CROMERR) are met; and (2) completion of subsequent steps specified by EPA's CROMERR, including setting up a subscriber account.

(c) The Subscriber Agreement will continue until terminated by its own terms, until modified by mutual consent or until terminated with 60 days written notice by any party.

(d) Any person who submits a Discharge Monitoring Report or related information under the NetDMR program, and who electronically signs the report or related information, is, by providing an electronic signature, making the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

R317-1-10. Independent Scientific Review.

10.1 Applicability.

A. Independent Scientific Review may be used to solicit formal evaluations from outside Experts on the strengths and weaknesses of the scientific basis used to support any new Division Proposal or Highly Influential Scientific Assessment (HISA).

B. Independent Peer Reviews for permits shall be limited to modifications to wasteloads used in UPDES discharge permits, or the
scientific basis of any other modification to a regulatory requirement used in developing permit limits. Review of individual permits shall follow existing adjudicative processes that govern their issuance or renewal in accordance with Subsection 19-5-105.3(1)(c)(iii).

C. The Director shall initiate an Independent Scientific Review when one of the following conditions is met:

1. A Challenging Party requests an Independent Peer Review on the scientific basis of a Division Proposal under Section 19-5-105.3 and provides the information described in Subsection R317-1-10.3.C.

2. The Director makes a determination that a new Scientific Assessment is a Highly Influential Scientific Assessment (HISA) and that sufficient resources are available to support an Independent Scientific Review.

D. Implementing an Independent Scientific Review or an Independent Peer Review does not affect any applicable public comment or public hearing requirements for any Proposal or other action considered during such a review. If a proposal or other action that is subject to a public comment or public hearing requirement is changed after a comment period has begun or hearing has been held, DEQ shall provide a new opportunity for comment or a new hearing, as appropriate. See also Subsection R317-1-10.4.D.

10.2 Independent Scientific Review process.


B. Independent Scientific Reviews shall entail development of a scope of work for review; selection of independent Experts; management of the Independent Scientific Reviews; submission by Experts of findings and recommendations; development of a Division response to review findings; finalization of the Proposal or HISA; and publication for public comment.

1. The Director shall prepare a scope of work that defines the objectives of an Independent Scientific Review and provide instructions for the Experts. The Director shall also prepare a schedule for the review. In the case of an Independent Peer Review the Director will seek and incorporate input from the Challenging Party into the development of the scope of work.

a. The scope of work shall include several components:

i. A summary of the Proposal or HISA under consideration and reasons for the review.

ii. The specific charge questions that articulate the issues, areas of concern, or advice sought through the Independent Scientific Review process. Charge questions shall generally focus on the degree of confidence, certainty, and major data gaps with respect to the interpretation or application of the scientific basis of a proposed rule, regulatory guidance, or regulatory tool.

iii. A compilation of data, reports or other scientific information that has a material influence on the scientific basis of the Proposal or HISA under review.

iv. A statement of qualifications and expertise required for Experts that will be considered in conducting the Independent Scientific Review.

v. Other important instructions to Experts such as reporting
expectations or communication protocols.

vi. A schedule for accomplishing the review.

b. The scope of work shall be made available for public comment for a minimum of 30 days and no more than 60 days to help identify missing data or missing elements of the charge questions. In the event of a condition which poses hazard to human health or the environment that may increase significantly during a review period, a shorter period may be specified. The Director shall prepare a response to any comments that are received and shall refine the scope of work, as appropriate, before sending the scope of work to the Experts.

2. The Director shall select Experts to conduct Independent Scientific Reviews using the following criteria:
   a. Experts shall be selected who have demonstrated expertise in scientific disciplines that are relevant to the scientific basis of the Proposal or HISA.
   b. Experts shall not have a conflict of interest that could jeopardize their objectivity or impartiality.
   c. An Independent Scientific Review shall be conducted by at least three independent Experts. Additional Experts may be asked to conduct reviews, as needed, to fairly reflect the breadth of scientific perspectives or fields of knowledge related to the scientific basis under review. If the Independent Scientific Review is an Independent Peer Review, the conditions in Section 19-5-105.3 shall apply.

   a. Management of Independent Scientific Reviews may be conducted by any of the following:
      i. the Division;
      ii. the United States Environmental Protection Agency;
      iii. an independent contractor; or,
      iv. an independent organization such as an editorial board of a relevant scientific journal, appropriate trade organization, or other research institute.
   b. From the time they accept the invitation to participate in an Independent Scientific Review, Experts should avoid interaction with the Division, a challenging party, the general public or others that might create a real or perceived Conflict of Interest regarding the Proposal under review to ensure that Expert findings are independent and objective.

   a. Each Expert shall submit written comments that include responses to the charge questions and an evaluation of the scientific basis of the Proposal or HISA.
   b. The Director shall charge Experts to identify in their written comments any areas of scientific uncertainty or major data gaps that have a reasonable likelihood of altering material provisions of a Proposal or HISA, including descriptions of the nature of the uncertainty, estimates of the relative extent of this uncertainty, and any recommendations for resolving areas of uncertainty.

10.3 Special provisions for Independent Peer Reviews conducted in accordance with Section 19-5-105.3.
A. On request from a Challenging Party, the Director shall conduct an Independent Peer Review of the scientific basis of a
Proposal made by the Division on or after January 1, 2016, provided that the following conditions are met:

1. A Challenging Party requests the review, in writing, during the public comment period on a Proposal.
2. The Challenging Party agrees to fund the Independent Peer Review.
3. The Challenging Party provides the information described in Subsection R317-1-10.3.C.
4. The Challenging Party would be substantially impacted by the adoption of the Proposal.

B. Funding Independent Peer Reviews.
1. Costs associated with the peer reviews will be incurred by the Division and billed to the Challenging Party and may include management of the peer review process by an independent contractor agreed to by the Director and Challenging Party, honorariums provided to Experts to conduct the reviews, and expenses incurred by the Experts.
2. An estimate of projected costs for conducting an Independent Peer Review, including expenses identified in Subsection R317-1-10.3.B.1, shall be estimated by the Director and provided to the Challenging Party prior to finalization of contracts or other financial agreements with Experts.
3. If there is more than one Challenging Party to the scientific basis of a Proposal, the challenges will be consolidated for the Independent Peer Review. Those requesting the review will be responsible for the costs of the review and allocation of costs between parties.

C. The written request for an Independent Peer Review from a Challenging Party shall be included in the final scope of work and shall include the following as best determined by the Challenging Party:
1. An explanation of the specific scientific elements of the Proposal that the Challenging Party questions and an explanation of why these elements may not be scientifically defensible.
2. If the challenge involves review of whether a Technology Based Nutrient Effluent Limit is scientifically necessary, the Challenging Party should include an explanation of why the limits are or are not necessary, including consideration of:
   a. all designated beneficial uses of the receiving water and the uses of downstream, hydrologically connected water bodies;
   b. current conditions and projected future conditions with respect to wastewater effluent and receiving water quantity and quality; and
   c. any other nutrient sources under current and projected future conditions that it is reasonable to believe may affect the same receiving water and downstream hydrologically connected water bodies.
3. Access to sources of data, reports or other information that can be used to establish a scientific basis to the challenge that the Challenging Party would like to be included as supporting materials in the scope of work.
4. Recommendations for qualified independent Experts, who do not have a conflict of interest and whom the Challenging Party would support as Experts based on their documented expertise in areas of relevance to the technical basis of the Proposal being challenged.
D. The Independent Scientific Review process specified in Subsection R317-1-10.2 shall be followed for Independent Peer Reviews conducted at the behest of a Challenging Party with the exception of several limitations outlined in this subsection that are needed to maintain consistency with Section 19-5-105.3.

1. An Independent Peer Review panel shall consist of at least three Experts who do not have direct association with the Division or Challenging Party in accordance with Subsection 19-5-105.3(1)(b)(iii) and shall be selected by both the Division and Challenging Party as described in Subsection 19-5-105.3(5).

2. The Director shall designate one member of the Independent Peer Review Panel to serve as a chair to develop and oversee the preparation of a final synthesis report. In the event that Experts are selected through Subsection 19-5-105.3(5)(c), then the mutually agreed upon member shall serve as the Independent Peer Review Panel chair.

3. Management of the Independent Peer Review process shall be conducted by an independent contractor, who does not have a conflict of interest with the Division or the Challenging Party.

4. Management responsibilities of Independent Peer Reviews include the following:
   a. Estimation of appropriate honorariums for the Experts to complete their individual written reviews with consideration for the breadth of the review identified in the scope of work and volume of supporting materials including additional compensation for the Independent Peer Review Panel chair for overseeing and writing a final written report as described in Subsection R317-1-10.3.D.5.
   b. Development of a work timeline and interim progress tracking to ensure timely completion of the Independent Peer Review process.
   c. Development and oversight of contracts or other financial agreements with Experts or others identified as integral to the review process.
   d. Facilitation of necessary communication among the Division, Challenging Party and Experts throughout the review process, in a way that ensures all parties have access to any additional information, such as clarification to charge questions or charge questions that were not considered in development of the scope of work.
   e. Regular progress updates to the Division and Challenging Party.

5. The Director shall charge the Independent Peer Review panel chair with development of a final written report, which:
   a. is written by the chair after written independent reviews have been submitted by each Expert;
   b. is reviewed by all members of the Independent Peer Review panel;
   c. documents areas of consensus and dissention among Experts on elements of the scientific basis of the Proposal that Experts believe to have material influence of the Proposal under review;
   d. provides a final recommendation from the Independent Peer Review panel on the scientific defensibility of the Division's Proposal, as specified in Subsection 19-5-105.3(7); and
   e. includes a determination of scientific necessity for any review that involves an evaluation of the application of a Technology Based Nutrient Effluent Limit; and
f. includes the Experts' written findings of the underlying rationale for making a determination that any element of the scientific basis of a Proposal is not scientifically defensible or is scientifically defensible with conditions, and any applicable and reasonable conditions to remedy their concerns.

E. To avoid inordinate delays in rulemaking or other regulatory decisions, Independent Peer Reviews must be completed within one year following appointment of the Independent Peer Review panel.

10.4 Use of Independent Scientific Review results.

A. The Director shall incorporate as needed recommendations and findings from the Experts in the finalization of the Proposal or HISA under review.

B. The Director shall document how the findings of the Experts were applied to the Proposal or HISA.

C. All materials associated with any review process shall be made available during the public comment period applicable to the HISA or Proposal under review, including:
   1. the scope of work used to conduct the peer review;
   2. the written independent findings from individual Experts;
   3. summary reports that were developed after individual Expert reviews were submitted, if appropriate; and
   4. the final decision of the Director and rationale for any modifications to the original agency Proposal or HISA in response to Independent Scientific Review findings and recommendations.

D. In the event that the Proposal or HISA under review does not have an established public comment process that occurs after the Independent Scientific Review Process, the Director shall make peer review material available for public comment for a minimum of 30-days and shall consider all substantive public comments prior to finalization of the Proposal or HISA.

E. The Director shall prepare a responsiveness summary that includes:
   1. all substantive public comments related to the Independent Scientific Review,
   2. the Director's response to public comments, and
   3. any changes to the Proposal or HISA that were made in response to public comments.

F. Incorporation of the Director's decisions into existing Division processes.

   1. If the Expert findings result in a decision by the Director to modify any element of any UPDES permit, this decision will be summarized in the Statement of Basis on the next issuance of the permit and all Independent Peer Review materials shall be made available as supporting documentation when the permit is published for public comment. If the Proposal is a wasteload or other regulatory requirements for a permit the results shall be incorporated into the proposed permit on which the wasteload is based.

   2. If the Proposal under review is regarding the application of a Technology Based Nutrient Effluent Limit and the Independent Peer Review panel determines that the limit is not scientifically necessary, then this finding shall be included in the Statement of Basis in the new or renewed permit as a justification for not including Technology Based Nutrient Effluent Limits that would otherwise have been required. All materials associated with the Independent Peer
Review shall be made available during the public comment period for this permit as support for this determination.

3. The decision to modify any permit element, based upon the results of an Independent Scientific Review, is not final until the permit is actually issued.

4. The decision to modify a rule, based upon the results of an Independent Scientific Review, is not final until the rule is actually modified.

KEY: TMDL, water pollution
Date of Enactment or Last Substantive Amendment: July 1, 2019
Notice of Continuation: August 30, 2017
Authorizing, and Implemented or Interpreted Law: 19-5
R317-4-1. Authority, Purpose, Scope, and Administrative Requirements.

1.1 Authorization.
These rules are administered by the division authorized by Title 19 Chapter 5.

1.2 Purpose.
The purpose of this rule is to protect the public health and environment from potential adverse effects from onsite wastewater disposal within the boundaries of Utah.

1.3 Scope.
This rule shall apply to onsite wastewater systems.

1.4 Jurisdiction.
Local health departments have jurisdiction to administer this rule. Nothing contained in this rule shall be construed to prevent local health departments from:
A. adopting stricter requirements than those contained herein;
B. issuing an operating permit, with a term not exceeding five years, with an inspection showing a satisfactory performance of the permitted system by the department's staff before renewal;
C. taking necessary steps for ground water quality protection:
   1. through adoption of a ground water quality protection management policy based on a ground water management study; or
   2. by an onsite wastewater systems management planning policy and land use planning through the county's agency;
D. prohibiting any alternative system within its jurisdiction;
E. assessing fees for administration of this rule;
F. requiring the onsite systems within its jurisdiction be placed under an umbrella of a:
   1. responsible management entity overseen by the local health department;
   2. contract service provider overseen by the local health department; or
   3. management district body politic created by the county for the purpose of operation, maintenance, repairs and monitoring of alternative or all onsite wastewater systems;
G. requiring conventional and alternative systems to be serviced; and
H. receiving a request for a variance, conducting a review, and granting either an approval or denial.

1.5 Alternative System Administration.
Local health departments shall administer an alternative systems program.
A. The local board of health may restrict its administration of these systems by notifying the division that it is exempt from this requirement by:
   1. adopting a resolution or regulation; or
   2. presenting an ordinance.
B. An alternative systems program shall:
   1. advise the owner of the:
      a. type of alternative system;
      b. information concerning risk of failure;
      c. level of maintenance required;
d. financial liability for repair, modification or replacement of a failed system; and
e. periodic monitoring requirements;
2. ensure that a Notice of the existence of the alternative system is recorded in the chain of title for that property;
3. provide oversight of installed alternative systems;
4. inspect all installed alternative systems at frequency specified in this rule, through:
a. the department's staff;
b. contracted service providers;
c. responsible management entities;
d. a management district body politic created by the county for the purpose of managing onsite wastewater systems; or
e. any combination of the above options;
5. maintain records of all installed alternative systems, failures, modifications, repairs and all inspections, recording the condition of the system at the time of inspection, such as overflow, surfacing, ponding, and nuisance;
6. submit an annual report to the division on or before September 1 for the previous state of Utah fiscal year's activities showing:
a. the type and number of alternative systems approved, installed, modified, repaired, failed, and inspected;
b. a summary of enforcement actions taken, pending and resolved; and
c. a summary of performance of water quality data collected;
7. require all alternative systems to be inspected and serviced as detailed in Section R317-4-13 Table 7 and Section R317-4-11.
1.6. Variance Administration Authority.
The Water Quality Board delegates the authority to grant or deny variances to the design requirements provided for in this rule to the local health departments. The board may amend, suspend, or rescind this delegation of authority to a local health department if it is determined that the local health department is not accepting or conducting reviews as described in Section R317-4-12.

A. The local health department having jurisdiction shall accept applications for variance requests on lots that are deemed not feasible for permitting an onsite wastewater system. Upon completion of a review, the local health department will grant or deny a variance to this rule as outlined in Section R317-4-12. The local health department also will submit an annual report of completed variance determinations to the division.

B. If a local health department fails to evaluate variance requests according to Section R317-4-12, the director shall notify the local health department. The director on behalf of the board may thereafter amend, suspend, or rescind the delegation of variance authority to the local health department. The variance authority would then revert to the division, and requests will be reviewed as follows.

1. The director may appoint a variance advisory committee to consider variance requests and make recommendations to the director. Any such advisory committee shall include at least one representative from a local health department. The director may refer any variance request to the variance advisory committee.

2. Upon review of the recommendation submitted by the variance
advisory committee, the director shall render a written determination of the requested variance. If no committee was appointed by the director, the director shall render a written determination. Written determinations must be given within 180 days of the receipt of a complete and technically adequate variance request.

3. The director's final written determination will be forwarded to the local health department that has jurisdiction. The local health department is not required to approve or deny an operating or construction permit based on the director's determination of a variance request.

R317-4-2. Definitions.

"Absorption area" means the entire area used for the subsurface treatment and dispersion of effluent by an absorption system.

"Absorption bed" means an absorption system consisting of large excavated areas utilizing drain media or chambers.

"Absorption system" means a covered system constructed to receive and to disperse effluent, from gravity or a pump, in such a manner that the effluent is effectively filtered and retained below the ground surface.

"Absorption trench" means an absorption system consisting of a series of narrow excavated trenches utilizing drain media, chambers, or bundled synthetic aggregate units.

"Alternative onsite wastewater system" means an onsite wastewater system that is not a conventional onsite wastewater system.

"At-grade system" means an alternative onsite wastewater system where the bottom of the absorption system is placed at or below the elevation of the existing site grade, and the top of the distribution pipe is above the elevation of existing site grade, and the absorption system is contained within fill that extends above that grade.

"Barrier material" means an effective, pervious material such as an acceptable synthetic filter fabric, or a two-inch layer of compacted straw.

"Bedrock" means the rock, usually solid, that underlies soil or other unconsolidated, superficial material.

"Bedroom" means any portion of a dwelling that is so designed as to furnish the minimum isolation necessary for use as a sleeping area. It may include a den, study, sewing room, or sleeping loft. Unfinished basements shall be counted as a minimum of one additional bedroom.

"Board" means the Utah Water Quality Board.

"Body politic" means the state or its agencies or any political subdivision of the state to include a county, city, town, improvement district, taxing district or other governmental subdivision or public corporation of the state.

"Building sewer" means the pipe that carries wastewater from the building to a public sewer, an onsite wastewater system or other point of dispersal. It is synonymous with "house sewer".

"Bundled synthetic aggregate trench" means an absorption trench utilizing bundled synthetic aggregate units.

"Bundled synthetic aggregate unit" means a cylindrically shaped manufactured unit of synthetic aggregate enclosed in polyolefin netting, which may contain a perforated pipe.

"Chamber" means an open bottom, chambered structure of an
approved material and design.

"Chambered trench" means an absorption trench utilizing chambers.

"Cleanout" means a device designed to provide access for removal of deposited or accumulated materials, generally from a pipe.

"Closed loop distribution" means a distribution method where the absorption system layout has the inlet and outlet ends of each lateral connected creating a complete and continuous pathway for effluent flow.

"Coarse drain media" means drain media ranging from 3/4 to 12 inches in diameter.

"Condominium" means the ownership of a single unit in a multi-unit project together with an undivided interest in common, in the common areas and facilities of the property.

"Connecting trench" means an absorption trench that is used to connect other absorption trenches, is less than 20 feet in length, and may be used to calculate total required absorption area.

"Construction permit" means the permit that authorizes an onsite wastewater system to be installed according to an approved design. An additional construction permit may also authorize activities associated with the repair or alteration of a malfunctioning or failing system.

"Conventional onsite wastewater system" means an onsite wastewater system typically consisting of a building sewer, a septic tank, and an absorption system utilizing absorption trenches, absorption beds, deep wall trenches, or seepage pits.

"Cover" means soils used to overlay the absorption area that is free of large stones 10 inches diameter or larger, frozen clumps of earth, masonry, stumps, or waste construction material, or other materials that could damage the system.

"Curtain drain" means any ground water interceptor or drainage system that is backfilled with gravel or other suitable material and is intended to interrupt or divert the course of shallow ground water or surface water away from the onsite wastewater system.

"Designer" means a person who fulfills the requirements of Rule R317-11.

"Deep wall trench" means an absorption system consisting of deep excavated trenches utilizing coarse drain media, with a minimum sidewall absorption depth of 24 inches of suitable soil formation below the distribution pipe.

"Director" means the director of the Division of Water Quality or, for purposes of groundwater quality at a facility licensed by and under the Division of Radiation Control, the director of the Division of Radiation Control.

"Distribution box" means a watertight structure that receives effluent and distributes it concurrently, in essentially equal portions, into two or more pipes leading to an absorption system.

"Distribution pipe" means an approved pipe, solid or perforated, used in the dispersion of effluent in an absorption system.

"Diversion valve" means a watertight structure that receives effluent through one inlet and distributes it to two or more outlets, only one of which is used at a time.

"Division" means the Utah Division of Water Quality.

"Domestic wastewater" means a combination of the liquid or
water-carried wastes from residences, business buildings, institutions, and other establishments with installed plumbing facilities, excluding non-domestic wastewater. It is synonymous with the term "sewage".

"Drain media" means media used in an absorption system. It shall consist of stone, crushed stone, or gravel, ranging from 3/4 to 2-1/2 inches in diameter. It shall be free from fines, dust, sand or organic material and shall be durable and inert so that it will maintain its integrity, will not collapse or disintegrate with time. The maximum fines in the media shall be 2% by weight passing through a US Standard #10 mesh or 2 millimeter sieve. It shall be protected by a barrier material.

"Drainage system" means all the piping within public or private premises that conveys sewage or other liquid wastes to a legal point of treatment and dispersal, but does not include the mains of a public sewer system or a public sewage treatment or disposal plant.

"Drop box" means a watertight structure that receives septic tank effluent and distributes it into one or more distribution pipes, and into an overflow leading to another drop box and absorption system located at a lower elevation.

"Dry wash" means the dry bed of an ephemeral stream that flows only after heavy rains and is often found at the bottom of a canyon.

"Dwelling" means any structure, building, or any portion thereof that is used, intended, or designed to be occupied for human living purposes including houses, mobile homes, hotels, motels, and apartments.

"Effluent" means the liquid discharge from any treatment unit including a septic tank.

"Effluent pump" means a pump used to lift effluent.

"Effluent sewer" means solid pipe that carries effluent to the absorption system.

"Ejector pump" means a device to elevate or pump sewage to a septic tank, public sewer, or other means of disposal.

"Ephemeral stream" means a stream that flows for a small period of time, a week or less, after a precipitation event.

"Excessively permeable soil" means soils having an excessively high permeability, such as cobbles or gravels with little fines and large voids, and having a percolation rate faster than 1 minute per inch.

"Experimental onsite wastewater system" means an onsite wastewater treatment and absorption system that is still in experimental use and requires further testing in order to provide sufficient information to determine its acceptance.

"Filter fabric" means a synthetic, non-degradable woven or spun-bonded sheet material that has adequate tensile strength to prevent ripping during installation and backfilling, adequate permeability to allow free passage of water and gases; and adequate particle retention to prevent downward migration of soil particles into the absorption system. The minimum physical properties for the fabric shall be 4.0 ounces per square yard or equivalent.

"Ground water" means that portion of subsurface water that is in the zone of soil saturation.

"Ground water table" means the surface of a body of unconfined ground water in which the pressure is equal to that of the atmosphere.
"Ground water table, perched" means unconfined ground water separated from an underlying body of ground water by an unsaturated zone. It is underlain by a restrictive strata or impervious layer. Perched ground water may be either permanent, where recharge is frequent enough to maintain a saturated zone above the perching bed, or temporary, where intermittent recharge is not great or frequent enough to prevent the perched water from disappearing from time to time as a result of drainage over the edge of or through the perching bed.

"Gulch" means a small rocky ravine or a narrow gorge, especially one with an ephemeral stream running through it.

"Gully" means a channel or small valley, especially one carved out by persistent heavy rainfall or an ephemeral stream.

"Impervious strata" means a layer that prevents water or root penetration. In addition, it shall be defined as unsuitable soils or soils having a percolation rate slower than 60 minutes per inch for conventional systems.

"Installer" means a qualified person with an appropriate contractor's license and knowledgeable in the installation or repair of an onsite wastewater system or its components.

"Intermittent stream" means a stream that flows for a period longer than an ephemeral stream on a seasonal basis or after a precipitation event.

"Invert" means the lowest portion of the internal cross section of a pipe or fitting.

"Lateral" means a length of distribution pipe or chambered trenches in the absorption system.

"Local health department" means a county or multi-county local health department established under Title 26A.

"Lot" means a portion of a subdivision, or any other parcel of land intended as a unit for transfer of ownership or for development or both and may not include any part of the right-of-way of a street or road.

"Malfunctioning or failing system" means an onsite wastewater system that is not functioning in compliance with the requirements of this regulation and may include:

A. absorption systems that seep or flow to the surface of the ground or into waters of the state;
B. systems that overflow from any of their components;
C. systems that, due to failure to operate in accordance with their designed operation, cause backflow into any portion of a building drainage system;
D. systems discharging effluent that does not comply with applicable effluent discharge standards;
E. leaking septic tanks; or
F. noncompliance with standards stipulated on or by the construction permit, operating permit, or both.

"Maximum ground water table" means the highest elevation that the top of the "ground water table" or "ground water table, perched" is expected to reach for any reason over the full operating life of the onsite wastewater system at that site.

"May" means discretionary, permissive, or allowed.

"Mound system" means an alternative onsite wastewater system where the bottom of the absorption system is placed above the elevation
of the original site, and the absorption system is contained in a
mounded fill body above that grade.
"Non-closed loop distribution" means a distribution method where
the absorption system layout has lateral ends that are not connected.
"Non-domestic effluent" means the liquid discharge from any
treatment unit including a septic tank that has a BOD5 equal or greater
than 250 mg/L; or TSS equal to or greater than 145 mg/L; or fats,
oils, and grease equal to or greater than 25 mg/L.
"Non-domestic wastewater" means process wastewater originating
from the manufacture of specific products. Such wastewater is usually
more concentrated, more variable in content and rate, and requires
more extensive or different treatment than domestic wastewater.
"Non-public water source" means a culinary water source that
is not defined as a public water source.
"Non-residential" means a building that produces domestic
wastewater, and is not a single family dwelling.
"Onsite wastewater system" means an underground wastewater
dispersal system that is designed for a capacity of 5,000 gallons
per day or less, and is not designed to serve multiple dwelling units
that are owned by separate owners except condominiums. It usually
consists of a building sewer, a septic tank and an absorption system.
"Operating permit" means the permit that authorizes the operation
and maintenance of an onsite wastewater system or wastewater holding
tank. It may have a fee component that requires periodic renewal.
"Packed bed media system" means an alternative onsite wastewater
system that uses natural or synthetic media to treat wastewater.
Biological treatment is facilitated via microbial growth on the
surface of the media. The system may include a pump tank, a
recirculation tank, or both.
"Percolation rate" means the time expressed in minutes per inch
required for water to seep into saturated soil at a constant rate
during a percolation test.
"Percolation test" means the method used to measure the
permeability of the soil by measuring the percolation rate as described
in these rules. This is sometimes referred to as a "perc test".
"Permeability" means the rate at which a soil transmits water
when saturated.
"Person" means an individual, trust, firm, estate, company,
corporation, partnership, association, state, state or federal agency
or entity, municipality, commission, or political subdivision of a
state as defined in Section 19-1-103.
"Pollution" means any man-made or man-induced alteration of the
chemical, physical, biological, or radiological integrity of any
waters of the state, unless the alteration is necessary for public
health and safety as defined in Section 19-5-102.
"Pressure distribution" means a method designed to uniformly
distribute effluent under pressure within an absorption system.
"Public health hazard" means, for the purpose of this rule, a
condition whereby there are sufficient types and amounts of
biological, chemical, or physical agents relating to water or sewage
that are likely to cause human illness, disorders or disability.
These may include pathogenic viruses and bacteria, parasites, toxic
chemicals and radioactive isotopes. A malfunctioning onsite
wastewater system constitutes a public health hazard.
"Public water source" means a culinary water source, either publicly or privately owned, providing water for human consumption and other domestic uses, as defined in Title R309.

"Pump tank" means a watertight receptacle equipped with a pump and placed after a septic tank or other treatment component.

"Pump vault" means a device installed in a septic or pump tank that houses a pump and screens effluent with 1/8 inch openings or smaller before it enters the pump.

"Recirculation tank" means the tank that receives, stores, and recycles partially treated effluent and recycles that effluent back through the treatment process or to the absorption area.

"Regulatory authority" means either the Utah Division of Water Quality or the local health department having jurisdiction.

"Replacement area" means sufficient land with suitable soil, excluding streets, roads, easements and permanent structures that complies with the setback requirements of these rules, and is intended for the 100% replacement of absorption systems.

"Rotary tilling" means a tillage operation. Working land by plowing and harrowing in order to make land ready for cultivation, or employing power driven rotary motion of the tillage tool to loosen, shatter and mix soil.

"Sand lined trench system" means an alternative onsite wastewater system consisting of a series of narrow excavated trenches utilizing sand media and pressure distribution.

"Sand media" means sand fill meeting the ASTM C33/C33M - 11A Standard Specification for Concrete Aggregates.

"Saprolite" means weathered material underlying the soil that grades from soft thoroughly decomposed rock to rock that has been weathered sufficiently so that it can be broken in the hands, cut with a knife or easily dug with a backhoe and is devoid of expansive clay. It has rock structure instead of soil structure and does not include hard bedrock or hard fractured bedrock.

"Scarification" means loosening and breaking up of soil compaction in a manner that prevents smearing and maintains soil structure.

"Scum" means a mass of sewage solids, which is buoyed up by entrained gas, grease, or other substances, floating on the surface of wastes in a septic tank.

"Seepage pit" means an absorption system consisting of one or more deep excavated pits, either hollow-lined or filled, utilizing coarse drain media, with a minimum sidewall absorption depth of 48 inches of suitable soil formation below the distribution pipe.

"Septage" means the semi-liquid material that is pumped out of a septic or pump tank, generally consisting of the sludge, liquid, and scum layer.

"Septic tank" means a watertight receptacle that receives the discharge of a drainage system or part thereof, designed and constructed so as to retain solids, digest organic matter through a period of detention and allow the liquids to discharge into the soil outside of the tank through an absorption system.

"Sequential distribution" means a distribution method in which effluent does not pass through an absorption area before it enters the succeeding areas through a distribution box or relief line allowing for portions of the absorption area to be isolated.
"Serial distribution" means a distribution method in which effluent passes through an absorption area before entering the succeeding areas through a distribution box or relief line creating a single uninterrupted flow path.

"Shall" means a mandatory requirement.

"Should" means recommended or preferred and is intended to mean a desirable standard.

"Single-family dwelling" means a building designed to be used as a home by the owner or lessee of such building.

"Sludge" means the accumulation of solids that have settled in a septic tank or a wastewater holding tank.

"Slope" means the ratio of the rise divided by the run between two points, typically described as a percentage (rise divided by run multiplied by 100).

"Soil exploration pit" means an open pit dug to permit examination of the soil to evaluate its suitability for absorption systems. This is also referred to as a "test pit".

"Soil log" means a detailed description of soil characteristics and properties.

"Soil structure" means the way in which the individual particles, sand, silt, and clay, are arranged into larger distinct aggregates called peds. The main types of soil structure are granular, platy, blocky, prismatic, and columnar. Soil may not have a visible structure because it is either single grain or massive.

"Soil texture" means the percent of sand, silt, and clay in a soil mixture. Field methods for judging the texture of a soil are found in Section R317-4-14 Appendix C.

"Standard trench" means an absorption trench utilizing drain media into which effluent is discharged through specially designed distribution pipes.

"Suitable soil" means undisturbed soil that through textural and structural analysis or percolation rate meets the requirements for placement of an absorption system.

"Test pit" see "soil exploration pit".

"Unapproved system" means any onsite wastewater system that is deemed by the regulatory authority to be any:

A. installation without the required regulatory oversight, permits, or inspections;
B. repairs to an existing system without the required regulatory oversight, permits, or inspections; or
C. alteration to an existing system without the required regulatory oversight, permits, or inspections.

"USDA system of classification" means the system of classifying soil texture used by the United States Department of Agriculture.

"Waste" means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water as defined in Section 19-5-102.

"Wastewater" means sewage, industrial waste or other liquid substances that might cause pollution of waters of the state. Intercepted ground water that is uncontaminated by wastes is not included.
"Wastewater holding tank" means a watertight receptacle designed to receive and store wastewater to facilitate treatment at another location.

"Waters of the state":
A. means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, that are contained within, flow through, or border upon this state or any portion of the state; and

B. does not include bodies of water confined to and retained within the limits of private property, and that do not develop into or constitute a nuisance, or public health hazard, or a menace to fish or wildlife.

"Wind-blown sand" means sand that is formed by the weathering and erosion of sandstone typically found in sand-dune or sand-sheet deposits and is capable of producing sand and dust storms when disturbed.


3.1. Failure to Comply With Rules.
Any person failing to comply with this rule shall be subject to enforcement action as specified in Sections 19-5-115 and 26A-1-123.

3.2. Feasibility.
Onsite wastewater systems are not feasible in some areas and situations. If property characteristics indicate conditions that may fail in any way to meet the requirements specified herein, the use of onsite wastewater systems shall be prohibited.

3.3. Onsite Wastewater System Required.
The drainage system of each dwelling, building or premises covered herein shall receive all wastewater, including bathroom, kitchen, and laundry wastes, and shall have a connection to a public sewer except when such sewer is not available or practicable for use, in which case connection shall be made:
A. to an onsite wastewater system found to be adequate and constructed in accordance with this rule; or
B. to any other type of wastewater system acceptable under Rules R317-1, R317-3, R317-5, R317-401, or R317-560.

No ground water drainage, drainage from roofs, roads, yards, or other similar sources shall discharge into any portion of an onsite wastewater system, but shall be disposed of so they will in no way affect the system. Non-domestic wastes such as chemicals, paints, or other substances that are detrimental to the proper functioning of an onsite wastewater system may not be disposed of in such systems.

3.5. Increased Flows Prohibited.
A person may not connect or expand the use of a single-family dwelling or nonresidential facility connected to an existing onsite wastewater system if the projected wastewater flows would be greater than the original design flow. When the design flow is exceeded, expansion may occur if the onsite wastewater system is modified, permitted, and approved by the regulatory authority for the increased flow.
3.6. Material Standards. 
All materials used in onsite wastewater systems shall comply with the standards in this rule.

3.7. Property Lines Crossed. 
Systems, including replacement areas, shall be located on the same lot as the building served unless, when approved by the regulatory authority, a perpetual utility easement and right-of-way is established on an adjacent or nearby lot for the construction, operation, and continued maintenance, repair, alteration, inspection, relocation, and replacement of an onsite wastewater system, including all rights to ingress and egress necessary or convenient for the full or complete use, occupation, and enjoyment of the granted easement. The easement shall be large enough to accommodate the proposed onsite wastewater system and replacement area. The easement shall meet the setbacks specified in Section R317-4-13 Table 2.

3.8. Initial Absorption Area and Replacement Area. 
A. All properties that utilize onsite wastewater systems shall be required to have a replacement area.
B. The absorption area, including installed system and replacement area, may not be subject to activity that is likely to adversely affect the soil or the functioning of the system. This may include vehicular traffic, covering the area with asphalt, concrete, or structures, filling, cutting or other soil modifications.

3.9. Operation and Maintenance. 
Owners of onsite wastewater systems shall operate, maintain, and service their systems according to the standards of this rule.

3.10. No Discharge to Surface Waters or Ground Surface. 
Effluent from any onsite wastewater system may not be discharged to surface waters or upon the surface of the ground. Wastewater may not be discharged into any abandoned or unused well, or into any crevice, sinkhole, or similar opening, either natural or artificial.

3.11. Repair of a Malfunctioning or Unapproved System. 
Upon determination by the regulatory authority that a malfunctioning or unapproved onsite wastewater system creates or contributes to any dangerous or unsanitary condition that may involve a public health hazard, or noncompliance with this rule, the regulatory authority shall order the owner to take the necessary action to cause the condition to be corrected, eliminated or otherwise come into compliance.
A. For malfunctioning systems, the local health department shall require and order:
1. all necessary steps, such as maintenance, servicing, repairs, and replacement of system components to correct the malfunctioning system, to meet all rule requirements to the extent possible and may not create any new risk to the environment or public health;
2. effluent quality testing as required by Subsection R317-4-11.4;
3. evaluation of the system design including non-approved changes to the system, the wastewater flow, and biological and chemical loading to the system;
4. additional tests or samples to troubleshoot the system malfunction.
B. The regulatory authority may require fees for additional
inspections, reviews, and testing.

A. When a dwelling served by an onsite wastewater system is connected to a public sewer, the septic tank shall be abandoned and shall be disconnected from and bypassed with the building sewer unless otherwise approved by the regulatory authority.
B. Whenever the use of an onsite wastewater system has been abandoned or discontinued, the owner of the real property on which such wastewater system is located shall render it safe by having the septic tank, any other tanks, hollow seepage pit, or cesspool wastes pumped out or otherwise disposed of in an approved manner. Within 30 days the tanks shall be:
1. crushed in place and the void filled;
2. completely filled with earth, sand, or gravel; or
3. removed.
C. The regulatory authority may require oversight, permit, or inspection of the abandonment process.

A person shall only dispose of septage, or sewage contaminated materials in a location or manner in accordance with the regulations of the division and the local health department having jurisdiction.

3.14. Multiple Dwelling Units.
Multiple dwelling units under individual ownership, except condominiums, may not be served by a single onsite wastewater system except where that system is under the sponsorship of a body politic. Plans and specifications for such systems shall be submitted to and approved by the division. Issuance of a construction permit by the board shall constitute approval of plans and authorization for construction. Before the permit is issued, the division shall review plans with the local health department having jurisdiction over the proposed onsite wastewater system.

R317-4-4. Feasibility Determination.
The regulatory authority shall determine the feasibility of using an onsite wastewater system. The regulatory authority will review required information for any existing or proposed lot to determine onsite wastewater system feasibility. The required information shall be prepared at the owner's expense by, or under the supervision of, a qualified person approved by the regulatory authority.
A. General Information.
The required information shall include:
1. the county recorder's plat and parcel ID and situs address if available;
2. name and address of the property owner and person requesting feasibility; and
3. the location, type, and depth of all existing and proposed non-public water supply sources within 200 feet of the proposed onsite wastewater systems, and of all existing or proposed public water supply sources within 1,500 feet of the proposed onsite wastewater systems.
   a. If the lot is located in aquifer recharge areas or areas of other particular geologic concern, the regulatory authority may require such additional information relative to ground water movement,
or possible subsurface wastewater flow.

b. If the proposed onsite wastewater system is located within any drinking water source protection zone two, this zone shall be shown.

4. The location and distance to nearest sewer, owner of sewer, whether property is located within service boundary, and size of sewer.

5. Statement of proposed use if other than a single-family dwelling.

B. Soil and Site Evaluation.

1. Soil Exploration Pit and Percolation Test.
   a. A minimum of one soil exploration pit shall be excavated to allow the evaluation of the soil. The soil exploration pit shall be constructed and soil log recorded as detailed in Section R317-4-14 Appendix C.
   b. The regulatory authority shall have the option of requiring a percolation test in addition to the soil exploration pit.
   c. The regulatory authority:
      i. shall require additional soil exploration pits, percolation tests, or both where flows are greater than 1,000 gallons per day; and
      ii. may require additional pits, tests, or both where:
         (1) soil structure varies;
         (2) limiting geologic conditions are encountered; or
         (3) the regulatory authority deems it necessary.
   d. The percolation test shall be conducted as detailed in Section R317-4-14 Appendix D.
   e. Soil exploration pits and percolation tests shall be conducted as closely as possible to the proposed absorption system site. The regulatory authority shall have the option of inspecting the open soil exploration pits and monitoring the percolation test procedure. All soil logs and percolation test results shall be submitted to the regulatory authority.
   f. When there is a substantial discrepancy between the percolation rate and the soil classification, it shall be resolved through additional soil exploration pits, percolation tests, or both.
   g. Absorption system feasibility shall be based on Section R317-4-13 Table 5 or 6.

2. Wind-Blown Sand.

   The extremely fine grained wind-blown sand found in some parts of Utah shall be deemed not feasible for absorption systems. This does not apply to lots that have received final local health department approval prior to the effective date of this rule.
   a. Percolation test results in wind-blown sand will generally be rapid, but experience has shown that this soil has a tendency to become sealed with minute organic particles within a short period of time. For lots that have received final local health department approval prior to the effective date of this rule, systems may be constructed in such material provided it is found to be within the required range of percolation rates specified in these rules, and provided further that the required area shall be calculated on the assumption of minimum acceptable percolation rate of 60 minutes per inch for standard trenches, deep wall trenches, and seepage pits, and 40 minutes per inch for absorption beds.

3. Suitable Soil Depth.
For conventional systems, effective suitable soil depth shall extend at least 48 inches or more below the bottom of the dispersal system to bedrock formations, impervious strata, or excessively permeable soil. Some alternative onsite wastewater systems may have other requirements.


The elevation of the anticipated maximum ground water table shall meet the separation requirements of the anticipated absorption systems. Local health departments and other local government entities may impose stricter separation requirements between absorption systems and the maximum ground water table when deemed necessary. Building lots recorded or having received final local health department approval prior to May 21, 1984 shall be subject to the ground water table separation requirements of the then Part IV of the Code of Waste Disposal Regulations dated June 21, 1967, that states "high ground water elevation shall be at least 1 foot below the bottom of absorption systems and at least 4 feet below finished grade". Notwithstanding this grandfather provision for recorded or other approved lots, the depth to ground water requirements are applicable if compelling or countervailing public health interests would necessitate application of the more stringent requirements of this regulation.


Maximum ground water table shall be determined where the anticipated maximum ground water table, including irrigation induced water table, might be expected to rise closer than 48 inches to the elevation of the bottom of the onsite wastewater system. Maximum ground water table shall be determined where alternative onsite wastewater systems may be considered based on groundwater elevations. The maximum ground water table shall be determined by the following.

i. Regular monitoring of the ground water table, or ground water table, perched, in an observation well for a period of one year, or for the period of the maximum groundwater table.

1. Previous ground water records and climatological or other information may be consulted for each site proposed for an onsite wastewater system and may be used to adjust the observed maximum ground water table elevation.

ii. Direct visual observation of the maximum ground water table in a soil exploration pit for:

1. evidence of crystals of salt left by the maximum ground water table; or

2. chemically reduced iron in the soil, reflected by redoxmorphic features, i.e. a mottled coloring.

3. Previous ground water records and climatological or other information may be consulted for each site proposed for an onsite wastewater system and may be used to adjust the observed maximum ground water table elevation in determining the anticipated maximum ground water table elevation.

iii. In cases where the anticipated maximum ground water table is expected to rise to closer than 34 inches from the original ground surface and an alternative or experimental onsite wastewater system would be considered, previous ground water records and climatological or other information shall be used to adjust the observed maximum ground water table in determining the anticipated maximum ground water
b. Curtain Drains.
A curtain drain or other effective ground water interceptor may be allowed as an attempt to lower the groundwater table to meet the requirements of this rule. The regulatory authority shall require that the effectiveness of such devices in lowering the ground water table be demonstrated during the season of maximum ground water table.

4. Ground Slope.
Absorption systems may not be placed on slopes where the addition of fluids is judged to create an unstable slope.
   a. Absorption systems may be placed on slopes between 0% and 25%, inclusive.
   b. Absorption systems may be placed on slopes greater than 25% but not exceeding 35% if:
      i. all other requirements of this rule can be met;
      ii. effluent from the proposed system will not contaminate ground water or surface water, and will not surface or move off site before it is adequately treated to protect public health and the environment;
      iii. no slope will fail, and there will be no other landslide or structural failure if the system is constructed and operated adequately, even if all properties in the vicinity are developed with onsite wastewater systems; and
      iv. a report is submitted by a professional engineer or professional geologist that is licensed to practice in Utah. The report shall be imprinted with the engineer's or geologist's registration seal and signature and shall include the following.
         (1) Predictions and supporting information of ground water transport from the proposed system and of expected areas of ground water mounding.
         (2) A slope stability analysis that shall include information about the geology of the site and surrounding area, soil exploration and testing, and the effects of adding effluent.
         (3) The cumulative effect on slope stability of added effluent if all properties in the vicinity were developed with onsite wastewater systems.
   c. Absorption systems may not be placed on slopes greater than 35%.

5. Other Factors Affecting Onsite Wastewater System Feasibility.
   a. The locations of all rivers, streams, creeks, dry or ephemeral washes, lakes, canals, marshes, subsurface drains, natural storm water drains, lagoons, artificial impoundments, either existing or proposed, that will affect building sites, shall be provided.
   b. Areas proposed for onsite wastewater systems shall comply with the setbacks in Section R317-4-13 Table 2.
   c. If any part of a property lies within or abuts a flood plain area, the flood plain shall be shown within a contour line and shall be clearly labeled on the plan with the words "flood plain area".

6. Unsuitable.
Where soil and other site conditions are clearly unsuitable for the placement of an onsite wastewater system, there is no need for conducting soil exploration pits or percolation tests.

C. Lot Size.
One of the following two methods shall be used for determining
minimum lot size. Determination of minimum lot size by the regulatory
authority would not preempt local governments from establishing larger
minimum lot sizes.
1. Method 1.
   The local health department having jurisdiction may determine
minimum lot size. Under this method, local health departments may
elect to involve other affected governmental entities and the division
in making joint lot size determinations. The division will develop
technical information, training programs, and provide engineering
and geohydrologic assistance in making lot size determinations that
will be available to local health departments upon their request.
Individuals or developers requesting lot size determinations under
this method will be required to submit to the local health department,
at their own expense, a report that accurately takes into account
at least the following factors:
   a. soil type and depth;
   b. area drainage, lot drainage, and potential for flooding;
   c. protection of surface and ground waters;
   d. setbacks from property lines, water supplies, etc.;
   e. source of culinary water;
   f. topography, geology, hydrology and ground cover;
   g. availability of public sewers;
   h. activity or land use, present and anticipated;
   i. growth patterns;
   j. individual and accumulated gross effects on water quality;
   k. reserve areas for additional subsurface dispersal;
   l. anticipated wastewater volume;
   m. climatic conditions;
   n. installation plans for wastewater system; and
   o. area to be utilized by dwelling and other structures.
   a. Whenever local health departments do not establish minimum
      lot sizes for single-family dwellings that will be served by onsite
      wastewater systems, the requirements of Section R317-4-13 Tables 1.1
      and 1.2 shall be met.
   b. For non-residential facilities, one-half of the buildable
      area of the lot must be available for the absorption system and
      replacement area.
      i. The area required for the absorption system and replacement
         area may be adjusted during the permitting process.
4.2. Subdivision Onsite Wastewater System Feasibility
Determination.
   A. In addition to information in Subsection R317-4-4.1, the
      following information must be provided on a plat map:
      1. the proposed street and lot layout with all lots
         consecutively numbered;
      2. size and dimensions of each lot, with the minimum required
         area sufficient to permit the safe and effective use of an onsite
         wastewater system, including a replacement area for the absorption
         system;
      3. location of all water lines;
      4. location of any easements; and
      5. areas proposed for wastewater dispersal, including
replacement area.

B. Surface drainage systems shall be included on the plan, as naturally occurring, and as altered by roadways or any drainage, grading or improvement, installed or proposed by the developer. The details of the system shall show the surface drainage structures, whether ditches, pipes, or culverts, will in no way affect onsite wastewater systems on the property.

C. Each proposed lot shall have at least one soil exploration pit, percolation test, or both.
   1. The regulatory authority may allow fewer tests based on the uniformity of prevailing soil and ground water characteristics and available percolation or soil log test data.
   2. If soil conditions and surface topography indicate, a greater number of soil exploration pits or percolation tests may be required by the regulatory authority.
   3. The location of all soil exploration pits and percolation test holes shall be clearly identified on the subdivision final plat and identified by a key number or letter designation.
   4. The results of such soil tests, including stratified depths of soils and final percolation rates for each lot shall be recorded on or with the final plat.
   5. Soil exploration pits and percolation tests shall be conducted as closely as possible to the dispersal system sites on the lots or parcels.

D. Whenever available, information from published soil studies of the area of the proposed subdivision shall be submitted for review.

E. If soil or site conditions exist in or near the project so as to complicate design and location of an onsite wastewater system, a detailed system layout shall be provided for those lots presenting the greatest design difficulty by meeting rules in Section R317-4-5.

4.3. Statement of Feasibility.

After review of all information, plans, and proposals, the regulatory authority shall make a written determination of feasibility stating the results of the review or the need for additional information.

A. An affirmative statement of feasibility for a subdivision does not imply that it will be possible to install onsite wastewater systems on all of the proposed lots, but shall mean that such onsite wastewater systems may be installed on the majority of the proposed lots in accordance with minimum state requirements and any conditions that may be imposed.

B. The regulatory authority shall establish the expiration, if any, of the statement of feasibility.

R317-4-5. Plan Review and Permitting.

5.1. Plan Review and Permitting.

A. Designer Certification.

All plans and specifications shall be prepared by an individual certified in accordance with Rule R317-11.

B. Domestic Wastewater.

Plans and specifications for the construction, alteration, extension, or change of use of onsite wastewater systems that receive domestic wastewater shall be submitted to the regulatory authority.

C. Non-Domestic Wastewater.
Plans and specifications for the construction, alteration, extension, or change of use of onsite wastewater systems that receive non-domestic wastewater shall be submitted to and approved by the local health department having jurisdiction and the division.

D. Construction Permit Required.

The regulatory authority shall review said plans and specifications as to their adequacy of design for the intended purpose, and shall, if necessary, require such changes as are required by these rules. When the reviewing regulatory authority is satisfied that plans and specifications are adequate for the conditions under which a system is to be installed and used, a construction permit shall be issued to the individual making the submittal.

1. Construction may not commence until the construction permit has been issued by the regulatory authority.

E. Information Required.

Plans submitted for review shall be drawn to scale, 1" = 10', 20' or 30', or other scale as approved by the regulatory authority. Plans shall be prepared in such a manner that the contractor can read and follow them in order to install the system properly. Depending on the individual site and circumstances, or as determined by the regulatory authority, some or all of the following information may be required.

1. Applicant Information.
   a. The name, current address, and telephone number of the applicant.
   b. Complete address, legal description of the property, or both to be served by this onsite wastewater system.

2. Onsite Wastewater System Site Plan.
   a. Submittal date of plan.
   b. North arrow.
   c. Lot size and dimensions.
   d. Legal description of property.
   e. Ground surface contours, preferably at 2 foot intervals, of both the original and proposed final grades of the property, or relative elevations using an established bench mark.
   f. Location and explanation of type of dwelling or structure to be served by an onsite wastewater system.
   i. Maximum number of bedrooms, including statement of whether a finished or unfinished basement will be provided, or if other than a single family dwelling, the number of occupants expected and the estimated gallons of wastewater generated per day.
   g. Location and dimensions of paved and unpaved driveways, roadways and parking areas.
   h. Location and dimensions of the essential components of the wastewater system including the replacement area for the absorption system.
   i. Location of all soil exploration pits and all percolation test holes.
   j. Location of building sewer and water service line to serve the building.
   k. Location of easements or drainage right-of-ways affecting the property.

1. Location of all intermittent or year-round streams, ditches, watercourses, ponds, subsurface drains, etc. within 100 feet of
proposed onsite wastewater system.

m. The location, type, and depth of all existing and proposed non-public water supply sources within 200 feet of onsite wastewater systems, and of all existing or proposed public water supply sources within 1500 feet of onsite wastewater systems and associated source protection zones.

n. Distance to nearest public water main and size of main.
o. Distance to nearest public sewer, size of sewer, and whether accessible by gravity.

3. Statement with Site Plan.
   Statement indicating the source of culinary water supply, whether a well, spring, non-public or public system, its location and distances from all onsite wastewater systems within 200 feet.

4. Site Assessment and Soil Evaluation.
   Soil Logs, Percolation Test Certificates, or both.
   a. Statement with supporting evidence indicating the maximum anticipated ground water table and the flooding potential for onsite wastewater system sites.

5. Relative Elevations.
   Show relative elevations of the following, using an established bench mark.
   a. Building drain outlet.
   b. The inlet and outlet inverts of any septic tanks.
   c. Septic tank access cover, including height and diameter of riser, if used.
   d. Pump tank inlet, if used, including height and diameter of riser.
   e. The outlet invert of the distribution box, if provided, and the ends or corners of each distribution pipe lateral in the absorption system.
   f. The final ground surface over the absorption system.

   Details for said site, plans, and specifications are listed in Section R317-4-6.
   a. Schedule or grade, material, diameter, and minimum slope of building sewer and effluent sewer.
   b. Septic tank and pump tank capacity, design, cross sections, etc., materials, and dimensions. If tank is commercially manufactured, state the name and address of manufacturer.
   c. Absorption system details, including the following:
      i. details of drop boxes or distribution boxes, if provided;
      ii. schedule or grade, material, and diameter of distribution pipes;
      iii. length, slope, and spacing of each absorption system component;
      iv. maximum slope across ground surface of absorption system area;
      v. distance of absorption system from trees, cut banks, fills, or subsurface drains; and
      vi. cross section of absorption system showing the:
          (1) depth and width of absorption system excavation;
          (2) depth of distribution pipe;
          (3) depth of filter material;
          (4) barrier material, i.e. synthetic filter fabric, straw,
etc., used to separate filter material from cover; and
(5) depth of cover.

d. Pump, if provided, details as referenced in Section R317-4-14 Appendix B.

e. If an alternative system is designed, include all pertinent information to allow plan review and permitting for compliance with this rule.

F. Plans Submitted.
   1. All applicants requesting plan approval for an onsite wastewater system shall submit a sufficient number of copies of the above required information to enable the regulatory authority to retain one copy as a permanent record.
   2. Applications may be rejected if proper information is not submitted.

R317-4-6. Design Requirements.

6.1. System Location.
   A. Onsite wastewater systems are not suitable in some areas and situations. Location and installation of each system shall be such that with reasonable maintenance, it will function in a sanitary manner and will not create a nuisance, public health hazard, or endanger the quality of any waters of the state.
   B. In determining a suitable location for the system, due consideration shall be given to such factors as:
      1. the minimum setbacks in Section R317-4-13 Table 2;
      2. size and shape of the lot;
      3. slope of natural and final grade;
      4. location of existing and future water supplies;
      5. depth of ground water and bedrock;
      6. soil characteristics and depth;
      7. potential flooding or storm catchment;
      8. possible expansion of the system; and
      9. future connection to a public sewer system.

   All systems, including the replacement area, shall conform to the minimum setback distances in Section R317-4-13 Table 2.

6.3. Maximum Ground Slope.
   All absorption systems, including the replacement area, shall conform to the ground slope requirements in Section R317-4-4.

6.4 Estimates of Wastewater Quantity.
   A. Single Family Dwellings.
      A minimum of 300 gallons per day, 1 or 2 bedroom, and 150 gallons per day for each additional bedroom shall be used.
   B. Non-Residential Facilities.
      The quantity of wastewater shall be determined accurately, preferably by actual measurement. Metered water supply figures for similar installations can usually be relied upon, providing the non-disposable consumption, if any, is subtracted. Where this data is not available, the minimum design flow figures in Section R317-4-13 Table 3 shall be used to make estimates of flow.

6.5. Design Capacity.
   In no event shall the anticipated maximum daily wastewater flow exceed the capacity for which a system is designed.

6.5. Non-Domestic Effluent.
Effluent shall be treated to levels at or below the defined parameters of non-domestic effluent before being discharged into an absorption system.

A. The building sewer shall have a minimum inside diameter of 4 inches and shall comply with the minimum standards in Section R317-4-13 Table 4.
   1. If the sewer leaving the house is three inches, the building sewer may be three inches.
B. Building sewers shall be laid on a uniform minimum slope of not less than 1/4 inch per foot or 2.08% slope.
C. The building sewer shall have a minimum of one cleanout and cleanouts every 100 feet.
   1. A cleanout is also required for each aggregate horizontal change in direction exceeding 135 degrees.
   2. Ninety degree ells are not recommended.
D. Building sewers shall be separated from water service pipes in separate trenches, and by at least 10 feet horizontally, except that they may be placed in the same trench when all of the following conditions are met.
   1. The bottom of the water service pipe, at all points, shall be at least 18 inches above the top of the building sewer.
   2. The water service pipe shall be placed on a solid shelf excavated at one side of the common trench with a minimum clear horizontal distance of at least 18 inches from the sewer or drain line.
   3. The number of joints in the water service pipe should be kept to a minimum, and the materials and joints of both the sewer and water service pipes shall be of strength and durability to prevent leakage under adverse conditions.
   4. If the water service pipe crosses the building sewer, it shall be at least 18 inches above the latter within 10 feet of the crossing. Joints in water service pipes should be located at least 10 feet from such crossings.
E. Building sewer placed under driveways or other areas subjected to heavy loads shall receive special design considerations to ensure against crushing or disruption of alignment.

6.7. Septic Tank.
All septic tanks shall meet the requirements of Section R317-4-14 Appendix A and be approved by the division. Septic tanks shall be constructed of sound, durable, watertight materials that are not subject to excessive corrosion, frost damage, or decay. They shall be designed to be watertight, and to withstand all expected physical forces.
A. Liquid capacity.
   1. A septic tank that serves a non-residential facility shall have a liquid capacity of at least 1-1/2 times the designed daily wastewater flow. In all cases the capacity shall be at least 1,000 gallons.
   2. The capacity of a septic tank that serves a single family dwelling shall be based on the number of bedrooms that can be anticipated in the dwelling served, including the unfinished space available for conversion as additional bedrooms. Unfinished basements shall be counted as a minimum of one additional bedroom.
a. The minimum liquid capacity of the tank shall be 1,000 gallons for up to three bedroom homes.

b. The minimum liquid capacity of the tank shall be 1,250 gallons for four bedroom homes.

c. Two hundred fifty gallons per bedroom shall be added to the liquid capacity of the tank for each additional bedroom over four bedrooms.

3. The regulatory authority may require a larger capacity than specified in this subsection as needed for unique or unusual circumstances.

B. Tanks in Series.

1. No tank in the series shall be smaller than 1,000 gallons.

2. The capacity of the first tank shall be at least two-thirds of the required total septic tank volume. If compartmented tanks are used, the compartment of the first tank shall have this two-thirds capacity.

3. The connecting pipes between each successive tank shall meet the slope requirements of the building sewer and shall be unrestricted except for the inlet to the first tank and the outlet for the last tank.

C. Maximum Number of Tanks or Compartments.

The maximum number of tanks and compartments in series may not exceed three.

D. Inlets and Outlets.

Inlet or outlet devices shall conform to the following:

1. Approved tanks with offset inlets may be used where they are warranted by constraints on septic tank location.

2. Multiple outlets from septic tanks shall be prohibited unless preauthorized by the regulatory authority.

3. A gas deflector may be added at the outlet of the tank to prevent solids from entering the outlet pipe of the tank.

E. Effluent Screens.

All septic tanks may have an effluent screen installed at the outlet of the terminal tank. The screen shall prevent the passage of solid particles larger than a nominal 1/8 inch diameter sphere.

The screen shall be easily removable for routine servicing by installing a riser to the ground surface, with an approved cover.

Effluent screens are required for non-domestic wastewater systems, unless screening is achieved by some other means acceptable to the regulatory authority.

F. Access to Tank Interior.

Adequate access to the tank shall be provided to facilitate inspection, pumping, servicing, and maintenance, and shall have no structure or other obstruction placed over it and shall conform to all of the following requirements.

1. Riser Heights.

Watertight risers are required, extending to within 6 inches of the surface of the ground when soil covering the septic tank is greater than 6 inches. Preferably, the riser should be brought up to the final grade to encourage periodic servicing and maintenance.

a. If a septic tank is located under paving or concrete, risers shall be extended up through the paving or concrete.

b. If non-domestic wastewater is generated, risers shall be extended to the final grade.
2. **Riser Diameter.**
   The inside diameter of the riser shall be a minimum of 20 inches.

3. **Riser Covers.**
   Riser covers shall be designed and constructed in such a manner that:
   a. they cannot pass through the access openings;
   b. when closed will be child-proof;
   c. will prevent entrance of surface water, dirt, or other foreign materials; and
   d. seal odorous gases in the tank.

4. **Riser Construction.**
   The risers shall be constructed of durable, structurally sound materials that are approved by the regulatory authority and designed to withstand expected physical loads and corrosive forces.

5. **Multiple Risers Required.**
   When the tank capacity exceeds 3,000 gallons, a minimum of two access risers shall be installed.

6. **Other Requirements.**
   Tank installation shall conform to all of the following requirements.
   1. **Ground Water.**
      a. Septic tanks located in high groundwater areas shall be designed with the appropriate weighted or anti-buoyancy device to prevent flotation in accordance with the manufacturer's recommendations.
      b. The building sewer inlet of the tank may not be installed at an elevation lower than the highest anticipated groundwater elevation.
         i. If the tank serves a mound or packed bed alternative system and has an electronic control panel capable of detecting water intrusion, the building sewer inlet of the tank may be installed below the maximum anticipated groundwater elevation.
            (1) Any component below the anticipated maximum ground water elevation shall be water tightness tested.
   2. **Depth of Septic Tank.**
      The minimum depth of cover over the septic tank shall be at least 6 inches and a maximum of 48 inches at final grading. For unusual situations, the regulatory authority may allow deeper burial provided the following conditions are met.
      a. The tank shall be approved by the division for the proposed depth and burial cover load.
      b. Risers shall:
         i. be installed over the access openings of the inlet and outlet baffles or sanitary tees; and
         ii. conform to Subsection R317-4-6.7.F, except risers shall be at least 24 inches in diameter.
   6.8. **Grease Interceptor Tanks.**
   A grease interceptor tank or automatic grease removal device may be required by the regulatory authority to receive the drainage from fixtures and equipment with grease-laden waste. It shall be sized according to the current Plumbing Code.
   A. **Accessibility and Installation.**
   Tanks installed in the ground shall conform to Subsection R317-4-6.7.F for accessibility and installation, except risers are
required and shall be brought to the surface of the ground. All interior compartments shall be accessible for inspecting, servicing, and pumping.

A. Tanks shall be constructed of sound, durable, watertight materials that are not subject to excessive corrosion, frost damage, or decay. They shall be designed to be watertight, and to withstand all expected physical forces.
B. Pump tank volume shall have a liquid capacity adequate for the minimum operating volume that includes the dead space, dosing volume, and surge capacity, and shall have the emergency operation capacity of:
   1. storage capacity for the system design daily wastewater flow;
   2. at least two independent power sources with appropriate wiring installed; or
   3. other design considerations approved by the regulatory authority that do not increase public health risks in the event of pump failure.
C. Accessibility and Installation.
   Tanks shall conform to Subsection R317-4-6.7.F for accessibility and installation, except risers are required and shall be brought to the surface of the ground. All interior compartments shall be accessible for inspecting, servicing, and pumping.
D. Outlets of septic tanks upstream of pump tanks shall be fitted with an effluent screen, unless a pump vault is used in a pump tank.

A. The vault shall be constructed of durable material and resistant to corrosion.
B. The vault shall have an easily accessible screen with 1/8 inch openings or smaller.
C. All components of the vault shall be accessible from the surface.
D. When a pump vault is used in a septic tank:
   1. The tank size shall be increased by the larger of the following:
      a. two hundred fifty gallons; or
      b. ten percent of the required capacity of the tank.
   2. At least two independent power sources with appropriate wiring, or other design considerations approved by the regulatory authority that do not increase public health risks, shall be installed.
   3. The maximum drawdown within the tank shall be no more than 3 inches per dose.

6.11. Pumps.
See Section R317-4-14 Appendix B for details.

When a system is required to have effluent sampling or receives non-domestic wastewater, the system shall include a sampling port at an area approved by the regulatory authority capable of sampling effluent prior to the absorption system.

A. The effluent sewer shall have a minimum inside diameter of 4 inches and shall comply with the minimum standards in Section R317-4-13 Table 4.
B. The effluent sewer shall extend at least 5 feet beyond the septic tank before entering the absorption system.

C. Effluent sewers shall be laid on a uniform minimum slope of not less than 1/4 inch per foot or 2.08% slope. When it is impractical, due to structural features or the arrangement of any building, to obtain a slope of 1/4 inch per foot, a sewer pipe of 4 inches in diameter or larger may have a slope of not less than 1/8 inch per foot or 1.04% slope when approved by the regulatory authority.

D. The effluent sewer lines shall have cleanouts at least every 100 feet.

E. Effluent sewer placed under driveways or other areas subjected to heavy loads shall receive special design considerations to ensure against crushing or disruption of alignment.

A. System Types.
1. Absorption Trenches.
   b. Chambered Trenches.
   c. Bundled Synthetic Aggregate Trenches.
2. Absorption Beds.
3. Deep Wall Trenches.
4. Seepage Pits.
B. General Requirements.
1. Replacement Area for Absorption Systems.
   Adequate and suitable land shall be reserved and kept free of permanent structures, traffic, or adverse soil modification for 100% replacement of each absorption system. If approved by the regulatory authority, the area between standard trenches or deep wall trenches may be regarded as replacement area.
   a. In lieu of a replacement area, two complete absorption systems shall be installed with a diversion valve. The valve shall be accessible from the final grade. The valve should be switched at least annually.
   The site of the initial and replacement absorption system may not be covered by asphalt, concrete, or structures, or be subject to vehicular traffic, or other activity that would adversely affect the soil, such as construction material storage, soils storage, etc. This protection applies before and after construction of the onsite wastewater system.
   Absorption systems shall be sized based on Section R317-4-13 Table 5 or 6.
   Many different designs may be used in laying out absorption systems, the choice depending on the size and shape of the available areas, the capacity required, and the topography of the dispersal area.
   a. Horizontal Setbacks.
      Absorption systems shall comply with the setbacks in Section R317-4-13 Table 2.
   b. Sloping Ground.
      Absorption systems placed in 10% or greater sloping ground shall be designed so that there is a minimum of 10 feet of undisturbed earth
measured horizontally from the bottom of the distribution line to the ground surface. This requirement does not apply to drip irrigation.

c. Undisturbed Natural Earth.
That portion of absorption systems below the top of distribution pipes shall be in undisturbed natural earth.
d. Tolerance.
All piping, chambers, and the bottoms of absorption system excavations shall be designed level.
e. Distribution Pipe.
Distribution pipe for gravity-flow absorption systems shall be 4 inches in diameter and shall comply with the minimum standards in Section R317-4-13 Table 4.
i. The pipe shall be penetrated by at least two rows of round holes, each 1/2 inch in diameter, and located at approximately 6 inch intervals. The perforations should be located at about the five o'clock and seven o'clock positions on the pipe.
ii. The open ends of the pipes shall be capped.
f. Absorption System Laterals.
Absorption system laterals should be designed to receive proportional flows of wastewater.
g. Drain Media Protection.
Drain media shall be covered with a barrier material before being covered with earth backfill.
h. Prohibitions.
i. In gravity-flow absorption systems with multiple distribution lines, the effluent sewer may not be in direct line with any one of the distribution pipes, except where drop boxes or distribution boxes are used.
ii. Any section of distribution pipe laid with non-perforated pipe may not be considered in determining the required absorption area.
iii. Perforated distribution pipe may not be placed under driveways or other areas subjected to heavy loads.
i. Exceptions.
Deep wall trenches and filled seepage pits may be allowed beneath unpaved driveways on a case-by-case basis by the regulatory authority, if the top of the distribution pipe is at least 3 feet below the final ground surface.

C. Effluent Distribution Devices.

1. Distribution Boxes.
Distribution boxes may be used on level or nearly level ground. They shall be watertight and constructed of durable, corrosion resistant material. They shall be designed to accommodate the inlet pipe and the necessary distribution lines.
a. The outlet inverts of the distribution box shall be not less than 1 inch below the inlet invert.
b. Distribution boxes shall have risers brought to final grade.

2. Drop Boxes.
Drop boxes shall be watertight and constructed of durable, corrosion resistant material and may be used to distribute effluent within the absorption system and shall meet the following requirements:
a. Drop boxes shall be designed to accommodate the inlet pipe,
an outlet pipe leading to the next drop box, except for the last drop box, and one or two distribution pipes leading to the absorption system.

b. The inlet pipe to the drop box shall be at least 1 inch higher than the outlet pipe leading to the next drop box.

c. The invert of the distribution pipes shall be 1 through 6 inches below the outlet invert. If there is more than one distribution pipe, their inverts shall be at exactly the same elevation.

d. Drop boxes shall have risers brought to final grade.

3. Effluent Pump to Absorption System.

a. If a pump is used to lift effluent to an absorption system, the pump tank or pump vault shall meet the requirements of Subsection R317-4-6.9 or R317-4-6.10 and the pump and controls shall meet the requirements of Section R317-4-14 Appendix B.

b. Pumping to an absorption system may not warrant any reductions to the absorption area.

4. Other Devices.

Tees, wyes, ells, or other distributing devices may be used as needed to permit proportional flow to the branches of the absorption system. A clean out or other means of access from the surface shall be provided for these devices.

D. Effluent Distribution Methods.

1. Closed Loop.

In locations where the slope of the ground over the absorption system area is relatively flat, the trenches should be interconnected to produce a closed loop system and the trenches shall be installed at the same elevations.

2. Non-Closed Loop.

If a non-closed loop design is used, effluent shall be proportionally distributed to each lateral.

3. Serial or Sequential.

Serial or sequential distribution may be used in absorption systems designed for sloping areas, or where absorption system elevations are not equal.

a. Serial trenches shall be connected with a drop box or watertight overflow line in such a manner that a trench will be filled before the effluent flows to the next lower trench.

b. The overflow line shall be a 4-inch solid pipe with direct connections to the distribution pipes. It should be laid in a trench excavated to the exact depth required. Care must be exercised to ensure a block of undisturbed earth remains between trenches. Backfill should be carefully tamped.

4. Pressure Distribution.

a. General Requirements.

i. Conformance to Applicable Requirements.

All requirements stated elsewhere in this rule for design, setbacks, construction and installation details, performance, repairs, and abandonment shall apply.

ii. Design Criteria.

All systems that use this method shall be designed by a person certified at Level 3 in accordance with Rule R317-11.

(1) The designer shall submit details of all system components with the necessary calculations.

(2) The designer shall provide to the local health department
and to the owner operation and maintenance instructions that include the minimum inspection levels in Section R317-4-13 Table 7 for the system.

iii. Record in the Chain of Title.
When a system utilizing pressure distribution exists on a property, notice of the existence of that system shall be recorded in the chain of title for that property.

b. Design.
i. Pressure distribution may be permitted on any site meeting the requirements for an onsite wastewater system if conditions in this rule can be met.

ii. Pressure distribution should be considered when:
(1) effluent pumps are used;
(2) the flow from the dwelling or structure exceeds 3,000 gallons per day;
(3) soils are a Type 1 or have a percolation rate faster than five minutes per inch; or
(4) soils are a Type 5 or have a percolation rate slower than 60 minutes per inch.

iii. The Utah Guidance for Performance, Application, Design, Operation and Maintenance: Pressure Distribution Systems document shall be used for design requirements, along with the following:
(1) Dosing pumps, controls and alarms shall comply with Section R317-4-14 Appendix B.
(2) Pressure distribution piping.
(a) All pressure transport, manifold, lateral piping, and fittings shall meet PVC Schedule 40 standards or equivalent.
(b) The ends of lateral piping shall be constructed with sweep elbows or an equivalent method to bring the end of the pipe to final grade. The ends of the pipe shall be provided with threaded plugs, caps, or other devices acceptable to the regulatory authority to allow for access and flushing of the lateral.

E. Design of Absorption Systems.
i. An absorption system shall be designed to approximately follow the ground surface contours so that variation in excavation depth will be minimized. The excavations could be installed at different elevations, but the bottom of each individual excavation shall be level throughout its length.

ii. Absorption systems should be constructed as shallow as is possible to promote treatment and evapotranspiration.

iii. Observation ports may be placed to observe the infiltrative surfaces of the trenches or beds.
1. Absorption Trenches.
a. Absorption trenches shall conform to the following:
i. The minimum required effective absorption area shall be calculated using Section R317-4-13 Table 5 or 6.
ii. The effective absorption area of absorption trenches shall be calculated as the total bottom area of the excavated trench system in square feet.

iii. Minimum number of absorption trenches: 2.
iv. Maximum length of absorption trenches, not including connecting trenches: 150 feet.
v. Minimum spacing of absorption trenches from wall to wall: 7 feet.
vi. Minimum width of absorption trench excavations: 24 inches.
vii. Maximum width of absorption trench excavations: 36 inches.
viii. Minimum depth of absorption trench excavations below original, natural grade: 10 inches.
x. Minimum depth of soil cover over the absorption trenches: 6 inches.
ix. Minimum separation from the bottom of the absorption trenches to:
   (1) the anticipated maximum ground water table: 24 inches; and
   (2) unsuitable soil or bedrock formations: 48 inches.
b. Standard Trenches.
   Standard trenches shall conform to the following:
i. Top of distribution pipe may not be installed above original, natural grade.
ii. The distribution pipe shall be centered in the absorption trench and placed the entire length of the trench.
iii. Drain media shall extend the full width and length of the trenches to a depth of at least: 12 inches.
iv. Minimum depth of drain media under the distribution pipe: 6 inches.
v. Minimum depth of drain media over the distribution pipe: 2 inches.
vi. Minimum depth of cover over the barrier material: 6 inches.
c. Chambered Trenches.
   Chambered trenches shall conform to the following:
i. All chambers shall meet International Association of Plumbing and Mechanical Officials (IAPMO) Standard PS 63-2005, which is hereby incorporated into this rule by reference.
ii. The minimum required effective absorption area of chambered trenches shall be calculated:
   (1) for Type A Chambers as: 36 inches; and
   (2) for Type B Chambers as: 24 inches;
   (3) using Section R317-4-13 Table 5 or 6 and may be reduced by: 30%.
iii. The chambered trenches shall be designed and installed in conformance with manufacturer recommendations, as modified by these rules.
iv. Type A Chambers.
   (1) Minimum width of chambers: 30 inches.
   (2) Maximum width of trench excavations: 36 inches.
v. Type B Chambers.
   (1) Minimum width of chambers: 22 inches.
   (2) Maximum width of trench excavations: 24 inches.
   vi. Minimum elevation of the inlet pipe invert from the bottom of the chamber: 6 inches.
vii. All chambers shall have a splash plate under the inlet pipe or another design feature to avoid unnecessary channeling into the trench bottom.
viii. Inlet and outlet effluent sewer pipes shall enter and exit the chamber endplates.
ix. Minimum depth of cover over the chambers: 12 inches.
The depth of cover may be reduced to no less than 6 inches, if
approved by the regulatory authority, considering the protection of absorption systems as required in Subsection R317-4-6.14.B.2, and other activities, as determined by the authority.

d. Bundled Synthetic Aggregate Trenches.

Bundled synthetic aggregate trenches shall conform to the following.

i. All synthetic aggregate bundles shall meet IAPMO Standards for the General, Testing and Marking and Identification of the guide criteria for Bundled Expanded Polystyrene Synthetic Aggregate Units.

ii. The effective absorption area of bundled synthetic aggregate trenches shall be calculated as the total bundle length times the total bundle width in square feet.

iii. The bundled synthetic aggregate trenches shall be designed and installed in conformance with manufacturer recommendations, as modified by these rules.

iv. Only 12-inch diameter bundles are approved in this rule.

(1) For bundles with perforated pipe the minimum depth of synthetic aggregate under pipe: 6 inches.

v. Width of trenches.

(1) When designed for a 3 foot wide trench, three bundles are laid parallel to each other with the middle bundle containing perforated pipe.

(2) When designed for a 2 foot wide trench, two bundles are placed on the bottom, with one bundle containing perforated pipe.

vi. Minimum depth of cover over the bundles: 12 inches.

The depth of cover may be reduced to no less than 6 inches, if approved by the regulatory authority, considering the protection of absorption systems as required in Subsection R317-4-6.14.B.2, and other activities, as determined by the authority.

2. Absorption Beds.

Absorption beds shall conform to the requirements applicable to absorption trenches, except for the following.

a. The minimum required effective absorption area shall be calculated using Section R317-4-13 Table 5 or 6.

b. The effective absorption area of absorption beds shall be considered as the total bottom area of the excavated bed system in square feet.

c. Absorption beds may be built over naturally existing soil types per Section R317-4-13 Table 5 or 6.

d. The bottom of the entire absorption bed shall be level.

e. The distribution pipes or chambers shall be interconnected to produce a closed loop distribution system.

f. Minimum number of laterals in an absorption bed: 2.

g. Maximum length of laterals in an absorption bed: 150 feet.

h. Maximum distance between laterals: 6 feet.

i. Minimum distance between laterals and sidewalls: 1 foot.

j. Maximum distance between laterals and sidewalls: 3 feet.

k. Minimum distance between absorption beds: 7 feet.

l. Minimum depth of an absorption bed excavation from original, natural grade: 10 inches.

m. Absorption beds with drain media:

i. Minimum depth of drain media under distribution pipe: 6 inches.

ii. Minimum depth of drain media over distribution pipe: 2
n. Absorption beds with chambers:
i. Chambers shall be installed with sides touching, no separation allowed.
ii. All chambers shall be connected in a closed loop distribution system.
iii. The outlet side of the chamber runs shall be connected through the bottom port of the end plates.
iv. No absorption area reduction factor shall be given for using chambers in absorption beds.
v. Minimum depth of cover over the chambers: 12 inches.

3. Deep Wall Trenches.
Deep wall trenches shall conform to the following:
a. The minimum required effective absorption area shall be calculated using Section R317-4-13 Table 5 or 6.
b. The effective absorption area of deep wall trenches shall be calculated using the total trench vertical sidewall area below the distribution pipe. The bottom area and any highly restrictive or impervious strata or bedrock formations may not be considered in determining the effective sidewall absorption area.
c. If percolation tests are used, they shall be conducted in accordance with Section R317-4-14 Appendix D and in the most restrictive soil horizon.
d. Maximum length of trenches: 150 feet.
i. Does not include connecting trenches.
e. Minimum spacing of trenches from wall to wall: 12 feet, or three times the depth of the media under the distribution pipe, whichever is the larger distance.
f. Vertical depth of trenches.
i. Minimum effective sidewalls: 2 feet.
ii. Maximum effective sidewalls: 10 feet.
iii. Calculate using only suitable soil formation.
g. Minimum width of trench excavations: 24 inches.
h. Minimum separation from the bottom of deep wall trench to:
i. the anticipated maximum ground water table: 48 inches;
ii. unsuitable soil or bedrock formations: 48 inches.
i. Drain media shall cover the coarse drain media to permit leveling of the distribution pipe and shall extend the full width and length of the trenches.
   i. Minimum depth of drain media: 12 inches.
   ii. Minimum depth of drain media under the distribution pipe: 6 inches.
   iii. Minimum depth of drain media over the distribution pipe: 2 inches.
   j. Minimum depth of cover over the barrier material: 6 inches.
k. The distribution pipe shall be centered in the trench and placed the entire length of the trench.
l. Setback to property lines: 10 feet.

4. Seepage Pits.
Seepage pits shall be considered as modified deep wall trenches and shall conform to the requirements applicable to deep wall trenches, except for the following:
a. The effective absorption area of seepage pits shall be calculated using the total pit vertical sidewall area below the distribution pipe. The bottom area and any highly restrictive or impervious strata or bedrock formations may not be considered in determining the effective sidewall absorption area.

b. Minimum diameter of pits: 3 feet.

c. Vertical depth of pits.
   i. Minimum effective sidewalls: 4 feet.
   ii. Maximum effective sidewalls: 10 feet.
   iii. Calculate using only suitable soil formation.

d. Filled Seepage Pits.
   i. In pits filled with coarse drain media, the perforated distribution pipe shall run across each pit. A layer of drain media shall be used for leveling the distribution pipe.
   ii. The entire pit shall be completely filled with coarse drain media to at least the top of any permeable soil formation to be calculated as effective sidewall absorption area.

e. Hollow-Lined Seepage Pits.
   i. For hollow-lined pits, the inlet pipe shall extend horizontally at least 1 foot into the pit.
   ii. The annular space between the lining and excavation wall shall be filled with crushed rock or gravel ranging from 3/4 through 6 inches in diameter and free of fines, sand, clay or organic material. The maximum fines in the gravel shall be 2% by weight passing through a US Standard #10 mesh or 2.0 millimeter sieve.
   iii. Minimum width of annular space between lining and sidewall: 12 inches.
   vi. Minimum depth of drain media in pit bottom: 6 inches.
   vii. Minimum depth of cover over seepage pit top: 6 inches.
   viii. A reinforced concrete top shall be provided.
(1) When the cover over the seepage pit top exceeds 6 inches, risers shall conform to Subsection R317-4-6.7.F for accessibility.


A. System Types.
   1. At-Grade.
      a. Intermittent Sand Filters.
      b. Recirculating Sand Filters.
      c. Recirculating Gravel Filters.
      d. Textile Filters.
      e. Peat Filters.

B. General Requirements.
   1. Conformance to Applicable Requirements.
      All requirements stated elsewhere in this rule for design, setbacks, construction and installation details, performance, repairs and abandonment shall apply unless stated differently for a given alternative system.
      Absorption area shall be sized based on Section R317-4-13 Table
5 or 6 except as specified in this section.

   All alternative systems shall be designed by a person certified at Level 3 in accordance with Rule R317-11.
   a. The designer shall submit details of all system components with the necessary calculations.
   b. The designer shall provide to the local health department and to the owner operation and maintenance instructions that include the minimum inspection levels in Section R317-4-13 Table 7 for the system.

4. Record in the Chain of Title.
   When an alternative system exists on a property, notice of the existence of that system shall be recorded in the chain of title for that property.

C. Design of Alternative Systems.
   1. At-Grade Systems.
      Absorption trenches and absorption beds may be used in at-grade systems. At-grade systems shall conform to the requirements applicable to absorption trenches and absorption beds, except for the following:
      a. Horizontal setbacks in Section R317-4-13 Table 2 are measured from edge of trench sidewall, except at property lines, where the toe of the final cover shall be 5 feet or greater in separation distance to a property line.
      b. Minimum number of observations ports provided within absorption area: 2.
         i. The ports shall be installed to the depth of the trench or bed.
      c. Depth of absorption excavations below natural grade: 0-10 inches.
      d. Minimum cover over the absorption area: 6 inches.
      e. Maximum slope of natural ground surface: 4%.
      f. The maximum side slope for above ground fill shall be four horizontal to one vertical: 25% slope.
      g. Where final contours are above the natural ground surface, the cover shall extend from the center of the wastewater system at the same general top elevation for a minimum of 10 feet in all directions beyond the limits of the absorption area perimeter, before beginning the side slope.
      Mound systems shall conform to the following:
      a. The design shall generally be based on the Wisconsin Mound Soil Absorption System: Siting, Design and Construction Manual, January 2000 published by the University of Wisconsin-Madison Small-Scale Waste Management Project, with the following exceptions.
         i. The minimum separation distance between the natural ground surface and the anticipated maximum ground water table: 12 inches.
         ii. Mound systems may be built over naturally existing soil types per Section R317-4-13 Table 5 or 6 provided the minimum depth of suitable soil is:
             (1) between the natural ground surface and bedrock formations or unsuitable soils: 36 inches; or
             (2) above soils that have a percolation rate faster than one minute per inch: 24 inches.
iii. The minimum depth of sand media over natural soil: 12 inches.
iv. The maximum slope of natural ground surface: 25 %.
v. The separation distances in Section R317-4-13 Table 2 are measured from the toe of the final cover.
vi. The effluent loading rate at the sand media to natural soil interface shall be calculated using Section R317-4-13 Table 5 or 6.
vii. The effluent entering a mound system shall be at levels at or below the defined parameters of non-domestic effluent.
viii. The minimum thickness of aggregate media around the distribution pipes of the absorption system shall be the sum of 6 inches below the distribution pipe, the diameter of the distribution pipe and 2 inches above the distribution pipe or 10 inches, whichever is larger.
ix. The cover may not be less than 6 inches in thickness, and shall provide protection against erosion, frost, storm water infiltration and support vegetative growth and aeration of distribution cell.
x. A minimum of three observation ports shall be located within the mound at each end and the center of the distribution cell.
   (1) At least one port shall be installed at the gravel-sand interface, and one port at the sand-soil interface.
   b. Mounds shall use pressure distribution.
         (1) See Section R317-4-14 Appendix B for pump and control requirements.
Packed bed media systems shall conform to the following:
   i. Wastewater Design Flows.
      (1) For single-family dwellings the design shall be based on a minimum of 300 gallons per day for two bedrooms and 100 gallons per day for each additional bedroom.
      (2) All other flow estimates shall be based on Subsection R317-4-6.4.
      (3) Special design considerations shall be given for non-domestic effluent.
   ii. Effluent Distribution.
      Effluent shall be uniformly distributed over the filter media using pressure distribution.
   b. Absorption System Requirements.
      Absorption systems shall conform to the following:
      i. Siting Conditions.
      Packed bed media absorption systems may be sited under the following conditions:
         (1) The minimum separation distance between the natural ground surface and the anticipated maximum ground water table: 12 inches.
         (2) Packed bed media absorption systems may be built over naturally existing soil types per Section R317-4-13 Table 5 or 6 provided the minimum depth of suitable soils:
            (a) above soils that have a percolation rate faster than one minute per inch: 24 inches; and
(b) between the natural ground surface and bedrock formations or unsuitable soils: 36 inches; or
(c) between the natural ground surface and bedrock formations or unsuitable soils: 18 inches based on an evaluation of infiltration rate and hydrogeology from a professional geologist or engineer that is certified at the appropriate level to perform onsite wastewater system design and having sufficient experience in geotechnical engineering based on:
   (i) type, extent of fractures, presence of bedding planes, angle of dip;
   (ii) hydrogeology of surrounding area; and
   (iii) cumulative effect of all existing and future systems within the area for any localized mounding or surfacing that may create a public health hazard or nuisance, description of methods used to determine infiltration rate and evaluations of surfacing or mounding conditions.

(3) A non-chemical disinfection unit, capable of meeting laboratory testing parameters in Table 7.3, and a maintenance schedule consistent to Section R317-4-13 Tables 7.1 and 7.3, shall be used in excessively permeable soils.

(4) Conformance with the minimum setback distances in Section R317-4-13 Table 2, except for the following that require a minimum of 50 feet of separation:
   (a) watercourses, lakes, ponds, reservoirs;
   (b) non-culinary springs or wells;
   (c) foundation drains, curtain drains; or
   (d) non-public culinary grouted wells, constructed as required by Title R309.

ii. Sizing Criteria.
The minimum required effective absorption area shall be calculated using Section R317-4-13 Table 5 or 6 and may be reduced by: 30%.

(1) The use of chambered trenches with a packed bed media system may not receive additional reductions as allowed in Subsection R317-4-6.14.E.1.c.

iii. Separation from Ground Water Table.
The bottom of the absorption system shall have a vertical separation distance of at least 12 inches from the anticipated maximum ground water table.

iv. Observation Ports.
A minimum of two observation ports shall be provided within the absorption area.

v. Drip Irrigation.
Drip irrigation absorption may be used for packed bed media absorption system effluent dispersal based on type of soil and drip irrigation manufacturer's recommendations.

(1) Materials shall be specifically designed and manufactured for onsite wastewater applications.
(2) Non-absorption components shall be installed per Section R317-4-6 and Section R317-4-13 Table 2.

i. Media.
   Either sand media or sand fill as described below may be used.
   (1) Minimum depth of sand media: 24 inches.
(2) Minimum depth of sand fill: 24 inches.
(a) Effective size: 0.35-0.5 millimeter.
(b) Uniformity coefficient: less than 4.0.
(c) Maximum fines passing through #200 sieve: 1%.
  ii. Maximum application rate per day per square foot of media surface area:
    (1) Sand media: 1.0 gallons.
    (2) Sand fill: 1.2 gallons.
    iii. Maximum dose volume through any given orifice for each dosing: 2 gallons.
    iv. Effluent entering an intermittent sand filter shall be at levels at or below the defined parameters of non-domestic effluent.

  i. Media.
    (1) Minimum depth of washed sand: 24 inches.
    (2) Effective size: 1.5-2.5 millimeter.
    (3) Uniformity coefficient: less than 3.0.
    (4) Maximum fines passing through #50 sieve: 1%.
  ii. Maximum application rate per day per square foot of media surface area: 5 gallons.

d. Recirculating Gravel Filter (RGF) Systems.
  i. Media.
    (1) Minimum depth of washed gravel: 36 inches.
    (2) Effective size: 2.5-5.0 millimeter.
    (3) Uniformity Coefficient: less than 2.0.
    (4) Maximum fines passing through #16 sieve: 1%.
  ii. Maximum application rate per day per square foot of media surface area: 15 gallons.
e. Textile Filter Systems.
  i. Media shall be geotextile, AdvanTex, or an approved equal.
  ii. Maximum application rate per day per square foot of media surface area: 30 gallons.
  i. Minimum depth of peat media: 24 inches.
  ii. Maximum application rate per day per square foot of media surface area: 5 gallons.

Sand lined trench systems shall conform to the following:

a. Siting Conditions.
   i. The minimum depth of suitable soil or saprolite between the sand media in trenches and the anticipated maximum ground water table: 12 inches.
   ii. Sand lined trench systems may be built over naturally existing:
      (1) soil types 1 through 4; or
      (2) soils or saprolite with a percolation rate between 1 and 60 minutes per inch.
   iii. The minimum depth of suitable soil or saprolite is:
      (1) between the sand media in trenches and bedrock formations or unsuitable soils: 36 inches; or
      (2) above soils or saprolite that have a percolation rate faster than one minute per inch: 24 inches.

c. Trench Requirements.
Sand lined trenches shall conform to the requirements applicable
to absorption trenches except for the following:

i. Trenches in Suitable Soil. The minimum required effective absorption area shall be calculated using Section R317-4-13 Table 5 or 6.

ii. Trenches in Saprolite. The minimum required effective absorption area shall be based on percolation rate using Section R317-4-13 Table 5.

   (1) This rate shall be determined by conducting percolation tests. The soil shall be allowed to swell not less than 24 hours or more than 30 hours.

iii. The use of chambered trenches with a sand media system may not receive additional reductions as allowed in Subsection R317-4-6.14.E.1.c.

iv. Width of absorption trench excavations: 36 inches.

v. The entire trench sidewall shall be installed in natural ground. At-Grade system designs are not allowed.

vi. Minimum depth of sand media: 24 inches.

vii. Sand lined trenches with drain media.

   (1) Minimum depth of drain media under the pressure lateral distribution pipe: 6 inches.

   (2) Minimum depth of drain media over pressure lateral distribution pipe: 2 inches.

   (3) Minimum depth of soil cover or saprolite over drain media: 6 inches.

viii. Sand lined trenches with Type A chambers.

   (1) Minimum depth of soil cover or saprolite over chambers: 12 inches.

ix. Minimum number of observation ports per trench: 1.

c. Effluent Distribution.


R317-4-7. Construction and Installation.

7.1. System Installation.

A. Approved Plans.

   The installer may not deviate from the approved plans or conditions of the construction permit without the approval of the designer and the reviewing regulatory authority.

B. Installation Restrictions.

   A regulatory authority may limit the time period or area in which a system can be installed to ensure that soil conditions, weather, groundwater, or other conditions do not adversely affect the reliability of the system.

C. General Requirements.

   1. Prior to installation, all minimum setback distances shall be field verified.

   2. All absorption areas shall be protected prior to and during site construction.

   3. The regulatory authority may require a temporary barrier around the absorption area, including the replacement area for additional protection prior to and during any site construction.
If necessary, a more permanent barrier may be required following construction.

4. All absorption excavations and piping shall be level within a tolerance of plus or minus 1 inch. The overall slope from effluent entry to terminus shall be no more than 4 inches per hundred feet.

5. Absorption system excavations shall be made such that the soil in the bottom and sides of the excavation is not compacted. Strict attention shall be given to the protection of the natural absorption properties of the soil.

6. Absorption systems may not be excavated when the soil is wet enough to smear or compact easily.

7. All smeared or compacted surfaces should be raked to a depth of 1 inch, and loose material removed before the absorption system components are placed in the excavation.

8. Open absorption system excavations shall be protected from surface runoff to prevent the entrance of silt and debris.

9. Absorption systems shall be backfilled with earth that is free from stones 10 inches or more in diameter.

10. Distribution pipes may not be crushed or misaligned during backfilling. When backfilling, the earth shall be mounded slightly above the surface of the ground to allow for settlement and prevent depressions for surface ponding of water.

11. Final grading shall prevent ponding throughout the entire system area and promote surface water runoff.

12. Heavy wheeled equipment may not be driven in or over absorption systems prior to or during construction or backfilling.

D. Building and Effluent Sewer.

1. Pipe, pipe fittings, and similar materials comprising building and effluent sewers shall conform to the applicable standards as outlined in Section R317-4-13 Table 4.

2. Each length of pipe shall be stamped or marked as required by the International Plumbing Code.

3. Where two different sizes or types of pipe are connected, a proper type of fitting or conversion adapter shall be used.

4. All sewers:
   a. shall have watertight, root-proof joints; and
   b. may not receive any ground water or surface runoff.

5. Pipes shall be installed on a foundation of undisturbed earth, or stabilized earth that is not subject to settling.

E. Tanks.

Tank installation shall conform to the following requirements.

1. All tanks shall be installed on a level, stable base that will not settle.

2. The hole to receive the tank shall be large enough to permit the proper placement of the tank and backfill.

3. Where ground water, rock or other undesirable protruding obstructions are encountered, the bottom of the hole shall be excavated an additional 6 inches, and backfilled with sand, crushed stone, or gravel to the proper grade.

4. 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.

F. Absorption Systems.

1. Cover shall be evenly graded over the entire absorption area.
2. Distribution and Drop Boxes.
   a. The inlet and outlet piping shall be sealed watertight to the sidewalls of the box.
   b. The box shall be provided with a means of access. Access shall be brought to final grade.
   c. The lid of the riser shall be adequate to prevent entrance of water, dirt or other foreign material, but made removable for observation and maintenance of the system.
   d. The top of the box shall be at least 6 inches below final grade.
   e. The box shall be installed on a level, stable base to ensure against tilting or settling, and to minimize movement from frost action.
   f. Unused knock-out holes in boxes shall be sealed watertight.
3. The solid and distribution pipes shall be bedded true to line and grade, uniformly and continuously supported by firm, stable material.
4. No cracked, weakened, modified or otherwise damaged chamber or bundled synthetic aggregate units shall be used in any installation.
G. Pressure Distribution.
1. Installation practices shall follow the approved design.
G. Alternative Systems.
1. At-Grade and Mound Systems.
   a. The site shall be cleared of surface vegetation, without removing soil, and scarified to an approximate depth of 6 inches. Any furrows resulting from the scarification shall be perpendicular to any slope on the site.
      i. Rotary tilling is prohibited for scarification.
   b. The system may not be installed in wet or moist soil conditions.
   c. No equipment shall be driven over the scarified area.
   d. The site shall be graded such that surface water drains away from the system and adjoining area.
   Installation practices shall follow the approved design.
R317-4-8. Final Inspections.
8.1. Final Inspections.
The regulatory authority shall inspect the entire installation before backfilling to determine compliance with this rule. Some components or system types require additional testing or inspection methods as outlined in the following.
A. Tank Water Tightness Testing.
   Each tank shall be tested for water tightness prior to backfill.
      1. The tanks shall be filled 24 hours before the inspection to allow stabilization of the water level. Considering water absorption by the concrete, there may not be a change in the water level nor any water moving visibly into or out of the tank. Testing shall be supervised by the regulatory authority. Tanks exhibiting obvious defects or leaks may not be approved unless such deficiencies are repaired to the satisfaction of the regulatory authority.
   a. The regulatory authority may allow two piece tanks, with the joint below the water level, to be backfilled up to 3 inches below the joint to provide adequate support to the seam of the tank.
b. Polyethylene or fiber glass tanks may be backfilled as per manufacturers' recommendations.

2. If ground water elevations inhibit the ability to visibly inspect the exterior of the tank, the tanks may be tested by their ability to exclude water.

B. Distribution and Drop Boxes.
1. Distribution and drop boxes should be installed level and the flow distribution lines shall be checked by filling the boxes with water up to the outlets.

C. Pressure Distribution, Effluent Pumps.
1. Verify the correct operation of the pump, controls, and alarm.

D. Deep Wall Trenches, Seepage Pits.
1. Verify the depth of the trench excavation.

E. At Grade and Mound Systems.
1. Verify the preparation of the original ground before the placement of fill.

2. Verify that the final cover meets requirements.

E. Alternative and Experimental Systems.
1. All additional inspections will be dictated by the complexity of the system and absorption system type as identified by the regulatory authority.

G. Final Approval.
Final approval shall be issued by the regulatory authority prior to operation of the system, and shall include an as-built drawing of the completed system.

R317-4-9. Experimental Systems.

9.1. Administrative Requirements.
A. Where unusual conditions exist, experimental methods of onsite wastewater treatment and dispersal may be employed provided they are acceptable to the division and to the local health department having jurisdiction.

B. When considering proposals for experimental onsite wastewater systems, the division or the local health departments may not be restricted by this rule provided that:
1. the experimental system proposed is attempting to resolve an existing pollution or public health hazard, or when the experimental system proposal is for new construction, it has been predetermined that an acceptable back-up wastewater system will be installed in event of failure of the experiment;

2. the proposal for an experimental onsite wastewater system shall be in the name of and bear the signature of the person who will own the system; and

3. the person proposing to utilize an experimental system has the responsibility to maintain, correct, or replace the system in event of failure of the experiment.

C. When sufficient, successful experience is established with experimental onsite wastewater systems, the division may designate them as approved alternative onsite wastewater systems.

D. Following this approval of alternative onsite wastewater systems, the division may initiate rulemaking.

9.2 General Requirements.
A. All experimental systems shall be designed, installed and
operated under the following conditions:

1. The ground water requirements shall be determined as described in Subsection R317-4-4.1.B.3.
2. The local health department shall advise the owner of the system of the experimental status of that type of system. The advisory shall contain information concerning risk of failure, level of maintenance required, financial liability for repair, modification or replacement of a failed system and periodic monitoring requirements that are all specific to the type of system to be installed.
3. The local health department and the owner shall be provided with sufficient design, installation and operating information to produce a successful, properly operating installation.
4. The local health department is responsible for provision of, or oversight of an approved installation, inspection and maintenance and monitoring program for the systems. Such programs shall include approved procedures for complete periodic maintenance and monitoring of the systems.
5. The local health department may impose more stringent design, installation, operating and monitoring conditions than those required by the division.
6. All failures, repairs or alterations shall be reported to the local health department. All repairs or alterations shall be approved by the local health department.

B. When an experimental wastewater system exists on a property, notification of the existence of that system shall be recorded in the chain of title for that property.

R317-4-10. Wastewater Holding Tanks Administrative, Design, and Installation.

10.1. Administrative Requirements.

A. Requests for the use of wastewater holding tanks shall receive the written approval of the local health department prior to the installation of the holding tank and be administered under an annual operating permit.

B. Wastewater holding tanks are only permitted:

1. where an absorption system for an existing dwelling has failed and installation of a replacement absorption system is not practicable;
2. as a temporary, not to exceed one year, wastewater system for a new dwelling until a connection is made to an approved sewage collection system;
3. as a temporary, not to exceed one year, wastewater system that may include construction sites, labor camps, temporary mass gatherings, or emergency refuge sheltering; or
4. for other essential and unusual situations where both the division and the local health department having jurisdiction concur that the proposed holding tank will be designed, installed and maintained in a manner that provides long term protection of the waters of the state.

a. Requests for the use of wastewater holding tanks in this instance shall receive the written approval of both agencies prior to the installation of such devices.

C. Except on those lots recorded and approved for wastewater holding tanks prior to May 21, 1984, wastewater holding tanks are
not permitted for use in new housing subdivisions, or commercial, institutional, and recreational developments except in those instances where these devices are part of a specific watershed protection program acceptable to the division and the local health department having jurisdiction.

10.2. General Requirements.
The design, site placement, installation, and maintenance of all wastewater holding tanks shall comply with the following:

A. No wastewater holding tank shall be installed and used unless plans and specifications covering its design and construction have been submitted to and approved by the appropriate regulatory authority.

B. A statement accompanying the application, that a contract with an approved pumper per Rule R317-550 will be obtained stating that the tank will be pumped out periodically at regular intervals or as needed, and contents will be disposed in an approved manner.

C. If authorization is necessary for disposal of wastewater at certain facilities, evidence of such authorization must be submitted for review.

10.3. Basic Plan Information Required.

Depending on the individual site and circumstances, or as determined by the regulatory authority, some or all of the following plan information may be required.

A. Applicant Information.
   1. The name, current address, and telephone number of the applicant.
   2. Complete address, legal description of the property, or both, to be served by this onsite wastewater system.

B. A plot or site plan showing:
   1. direction of North;
   2. daily wastewater flow;
   3. location and liquid capacity of wastewater holding tank;
   4. source and location of water supply;
   5. location of water service line and building sewer; and
   6. location of streams, ditches, watercourses, ponds, etc., near property.

C. Plan detail of wastewater holding tank and high wastewater level warning device.

D. Relative elevations of:
   1. building floor drain;
   2. building sewer;
   3. invert of inlet for tank;
   4. lowest plumbing fixture or drain in building served; and
   5. the maximum liquid level of the tank.

E. Statement indicating the maximum anticipated ground water table.

10.4. Construction.

A. The tank shall be constructed of sound and durable material not subject to excessive corrosion and decay and designed to withstand hydrostatic and external loads. All wastewater holding tanks shall comply with the manufacturing materials and construction requirements specified for septic tanks.

B. Construction of the tank shall be such as to assure water tightness and to prevent the entrance of rainwater, surface drainage
or ground water.

C. Tanks shall be provided with a maintenance access manhole at the ground surface or above and of at least 18 inches in diameter. Access covers shall have adequate handles and shall be designed and constructed in such a manner that they cannot pass through the access opening, and when closed will be child-proof and prevent entrance of surface water, dirt, or other foreign material, and seal the odorous gases in the tank.

D. A high water warning device shall be installed on each tank to indicate when it is within 75% of being full.
   1. This device shall be either an audible or a visual alarm.
      a. If the latter, it shall be conspicuously mounted.
   2. All wiring and mechanical parts of such devices shall be corrosion resistant.
   3. All conduit passage ways through the tank top or walls shall be water and vapor tight.

E. No overflow, vent, or other opening shall be provided in the tank other than those described above.

F. The regulatory authority may require that wastewater holding tanks be filled with water and allowed to stand overnight to check for leaks. Tanks exhibiting obvious defects or leaks may not be approved unless such deficiencies are repaired to the satisfaction of the regulatory authority.

G. The building sewer shall comply with this rule.

H. Above ground holding tanks shall be clearly labeled as "Sewage".

10.5. Capacity.

The liquid capacity of the wastewater holding tank shall be based on wastewater flows for the type of dwelling or facility being served as identified in Section R317-4-13 Table 3 and on the desired time period between each pumping.

A. The minimum capacity of underground wastewater holding tanks shall be 1,000 gallons.

10.6. Location.

Any wastewater holding tank must be located:

A. in an area readily accessible to the pump truck in any type of weather that is likely to occur during the period of use;

B. in accordance with the requirements for septic tanks as specified in Section R317-4-13 Table 2; and

C. where it will not tend to float out of the ground due to a high ground water table or a saturated soil condition, since it will be empty or only partially full most of the time. In areas where the ground water table may be high enough to float the tank out of the ground when empty or partially full, adequate ground anchoring procedures shall be provided.

10.7. Management.

A. Wastewater holding tanks shall be pumped periodically, at regular intervals or as needed, and the wastewater contents shall be disposed of in a manner and at a facility meeting the approval of the appropriate regulatory authority.

B. Wastewater holding tanks for seasonal dwellings should be pumped out before each winter season to prevent freezing and possible rupture of the tank.

C. A record of the liquid waste hauler, pumping dates, and
amounts pumped shall be maintained and made available to the appropriate regulatory authorities upon request.

D. Wastewater holding tanks shall be checked at frequent intervals by the owner or occupant and if leakage is detected it shall be immediately reported to the regulatory authority.

E. Repairs or replacements shall be conducted under the direction of the regulatory authority.

F. Improper location, construction, operation, or maintenance of a particular holding tank may result in appropriate legal action against the owner by the regulatory authority having jurisdiction.

G. Each holding tank installed under this rule, shall be inspected upon renewal of the operating permit.


11.1. Purpose.
The purpose of this section is to diminish the possibility of onsite wastewater system failures by informing the owners of required periodic maintenance, servicing, and monitoring. More complex systems will require a higher level of operation and maintenance.

All conventional systems should be assessed after the first year of operation, and thereafter at the following minimum frequency.

A. Systems with daily flows between 1 and 3,000 gallons: every three years.
B. Systems with daily flows between 3,001 and 5,000 gallons: every two years.

11.3. Pressure Distribution.
A. Each system utilizing pressure distribution shall be inspected as outlined in Section R317-4-13 Tables 7.1 and 7.2.

A. Each alternative system shall be inspected as outlined in Section R317-4-13 Tables 7.1 and 7.2.
B. Each packed bed media system shall be sampled a minimum of every six months as outlined in Section R317-4-13 Table 7.3.
1. The grab sample shall be taken before discharge to an absorption system.
2. Effluent not meeting the standards of Section R317-4-13 Table 7.3 shall be followed with two successive weekly tests of the same type within a 30-day period from the first exceedance.
3. If two successive samples exceed the minimum standards, the system shall be deemed to be malfunctioning, and shall require further evaluation and a corrective action plan, see Subsection R317-4-3.11.
a. Effluent quality testing shall continue every two weeks until three successive samples are found to be in compliance.

11.5. Tank Servicing.
For recommended tank servicing see Section R317-4-14 Appendix E.

11.6. Repair of a Malfunctioning System.
If corrective action is required see Subsection R317-4-3.11.
R317-4-12. Variance to Design Requirements.

12.1. Reasons for a Variance.
An applicant may request a variance from requirements of this rule only when a property has been deemed not feasible for the design or construction of an onsite wastewater system. A variance may not be granted for separation distances from public culinary water sources.

12.2. Conditions for a Variance.
A variance will not be approved unless the applicant demonstrates that all of the following conditions are met:
A. An onsite wastewater system consistent with this rule and local health department requirements cannot be constructed and a connection to a public or community-based sewerage system is not available or practicable. This determination will be made by the local health department.
B. Wastewater from the proposed onsite wastewater system will not:
1. contaminate ground water or surface water; and
2. surface or move off site before it is adequately treated to protect public health and the environment.
C. The proposed system will result in equal or greater protection of public health and the environment than is required by meeting the minimum standards and intent of this rule.
D. Adjacent properties, including the current and reasonably anticipated uses of adjacent properties, will not be jeopardized if the proposed system is constructed, operated, and maintained.

12.3. Procedure for Requesting a Variance.
A. A variance request shall include the information and documentation described in Subsection R317-4-12.5.
B. The local health department shall review the variance request and prepare a written determination outlining the conditions of approval or denial of the request. The review shall identify the factors considered in the process and specify the basis for the determination.

12.4. Variance Approvals.
A. A variance will not be approved unless the applicant demonstrates that all of the conditions in Subsection R317-4-12.2 are met.
B. A local health department may not issue an approval or an operating permit for an onsite wastewater system that does not comply with this rule unless a variance has been approved.
C. Notice of the conditions shall be recorded in the chain of title for the property in the office of the county recorder. The notice shall include:
1. the description of the system and variance conditions;
2. operation and maintenance requirements;
3. permission for the regulatory authority to access the property for the purpose of inspection and monitoring of the system; and
4. owner responsibilities to correct, repair, or replace the system at the direction of the regulatory agency.

12.5. Application Requirements.
The variance application shall include all information and documentation necessary to ensure that the standards in Subsection
R317-4-12.2 will be met.

A. As appropriate, the information required under this section shall be submitted in a report by a professional engineer or a professional geologist that is certified at the appropriate level to perform onsite wastewater system design. An engineer or geologist who submits a report shall be licensed to practice in Utah and shall have sufficient experience and expertise to make the determinations in the report. Any such report shall include the engineer's or geologist's name and registration number, and a summary of qualifications. The report shall be imprinted with the engineer's or geologist's registration seal and signature. Information shall include at least the following.

1. Information demonstrating that connection to a public or community-based sewerage system is not available or practicable.

2. Technical justification and appropriate engineering, geotechnical, hydrogeologic, and reliability information justifying the request for a variance and how the conditions in 12.2 will be met.

3. A detailed description of the proposed system, including a detailed explanation of wastewater treatment technologies allowed by this rule that have been considered for use, and that will provide the best available treatment.

4. A statement of alternatives considered in lieu of a variance.

5. An operation, maintenance, and troubleshooting plan to keep the installed system operating as described in the application.

6. Documentation provided by the local health department that the adjoining land owners have been notified and provided opportunity for comment on the proposed variance.

R317-4-13. Tables.

TABLE 1.1

Minimum Lot Size (a) by Soil Type and Culinary Water Source

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Public Water Supply</th>
<th>Non-public Water Supply (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12,000 sq. ft.</td>
<td>1 Acre</td>
</tr>
<tr>
<td>2</td>
<td>15,000 sq. ft.</td>
<td>1.25 Acres</td>
</tr>
<tr>
<td>3</td>
<td>18,000 sq. ft.</td>
<td>1.5 Acres</td>
</tr>
<tr>
<td>4</td>
<td>20,000 sq. ft.</td>
<td>1.75 Acres</td>
</tr>
<tr>
<td>5 (c)</td>
<td>20,000 sq. ft. (c)</td>
<td>1.75 Acres (c)</td>
</tr>
</tbody>
</table>

TABLE 1.2

Soil Type Key (d)

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Soil Texture (e)</th>
<th>Soil Structure</th>
<th>Percolation Rate (minutes per inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Coarse Sand, Sand, Loamy Coarse Sand,</td>
<td>Single Grain</td>
<td>1-10</td>
</tr>
</tbody>
</table>
Loamy Sand

2 Fine Sand, Single Grain 11-20
Very Fine Sand,
Loamy Fine Sand,
Loamy Very Fine Sand

3 Coarse Sandy Loam, Prismatic, 21-40
Sandy Loam Blocky, Granular

4 Coarse Sandy Loam, Massive, Platy 41-60
Sandy Loam
Fine Sandy Loam,
Very Fine Sandy Loam, Blocky, Granular
Loam, Silt Loam

5 Fine Sandy Loam, Massive, Platy 61-120
Very Fine Sandy Loam,
Loam, Silt Loam,
Sandy Clay Loam,
Clay Loam, Silty
Clay Loam

6 (f) Sandy Clay Loam, Platy >120
Clay Loam,
Silty Clay Loam

Sandy Clay, Clay,
Silty Clay, Silt

NOTES
(a) Excluding public streets and alleys or other public rights-of-way, lands or any portion thereof abutting on, running through or within a building lot for a single-family dwelling. These minimum lot size requirements do not apply to building lots that have received final local health department approval prior to the adoption of this rule.

Lots that are part of subdivisions that have received final local health department approval prior to the adoption of this rule are only exempt from the minimum lot size requirements if the developer has and is proceeding with reasonable diligence. Notwithstanding this grandfather provision for approved lots, the minimum lot size requirements are applicable if compelling or countervailing public health interests would necessitate application of these more stringent
requirements. The shape of the lot shall also be acceptable to the regulatory authority.
(b) See the separation requirements in Section R317-4-13 Table 2.
(c) Packed bed media systems are required for this soil type.
(d) When there is a substantial discrepancy between the percolation rate and the soil classification, it shall be resolved to the satisfaction of the regulatory authority, or the soil type requiring the largest lot shall be used.
(e) See the USDA soil classification system for a more detailed description.
(f) These soils are unsuitable for any absorption system.

TABLE 2
Minimum Separation Distances in Feet (a)

<table>
<thead>
<tr>
<th>Item Requiring Setback</th>
<th>From Building Sewers and Effluent Sewers</th>
<th>From Septic, Pump, and Other Tanks</th>
<th>From Absorption Area and Replacement Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absorption and Replacement Areas</td>
<td>5</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>Public Culinary Water Sources</td>
<td>(c)</td>
<td>100 (c)</td>
<td>100 (c)</td>
</tr>
<tr>
<td>Individual or Non-public Culinary Water Sources (d)</td>
<td>25</td>
<td>50</td>
<td>100 (e)</td>
</tr>
<tr>
<td>Culinary Water Supply Line</td>
<td>(f)</td>
<td>10 (f)</td>
<td>10 (f)</td>
</tr>
<tr>
<td>Non-culinary Well or Spring</td>
<td>10</td>
<td>25</td>
<td>100</td>
</tr>
<tr>
<td>Lake, Pond, Reservoir (a)</td>
<td>10</td>
<td>25</td>
<td>100</td>
</tr>
<tr>
<td>Watercourse (live or ephemeral stream, river, subsurface drain, canal, storm water drainage systems, etc.)</td>
<td>25</td>
<td>100 (g)</td>
<td></td>
</tr>
<tr>
<td>Building Foundation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

(a) In feet unless otherwise noted.
(b) In feet from the exterior building wall.
(c) In feet from centerline.
(d) As a general rule, the minimum lot length shall be 150 feet.
(e) The total area of the absorption and replacement areas shall not exceed 2500 square feet.
(f) One hundred feet minimum separation shall be maintained from the water source.
(g) Provided that the location is not adjacent to a public water supply.
Without foundation drain | 5 | 5 (h)
---|---|---
With foundation drain | 10 | 100 (i)
Curtain drains | 10 | 10 | 100 (i)
Dry washes, gulches, and gullies | 25 | 50
Swimming pool, below ground | 3 | 10 | 25
Dry wells, catch basins | 5 | 25
Down slopes that exceed 35%. This includes all natural slopes or escarpments and any manmade cuts, retaining walls, or embankments. | 10 | 50 (j)
Property line | 5 | 5 | 5

NOTES
(a) All distances are from edge to edge. Where surface waters are involved, the distance shall be measured from the high water line.
(b) See Subsection R317-4-6.14 for setback requirements.
(c) All distances shall be consistent with Rules R309-600 and R309-605.
(d) Compliance with separation requirements does not guarantee acceptable water quality in every instance. Where geological or other conditions warrant, greater distances may be required by the regulatory authority.
(e) For ungrouted wells and springs the distance shall be 200 feet. A private or individual well is considered to be grouted if it meets the construction standards required in Section R655-4-11, which requires a minimum 30-foot deep grout surface seal. Private or individual wells not constructed to this minimum standard are considered to be ungrouted. Although this distance shall be generally adhered to as the minimum required separation distance, exceptions maybe approved by the regulatory authority, taking into account geology, hydrology, topography, existing land use agreements, consideration of the drinking water source protection requirements, protection of public health and potential for pollution of water source. Any person proposing to locate an absorption system closer than 200 feet to an individual or nonpublic ungrouted well or
spring must submit a report to the regulatory authority that considers the above items. In no case shall the regulatory authority grant approval for an onsite wastewater system to be closer than 100 feet from an ungrouted well or a spring.

(f) If the water supply line is for a public water supply, the separation distance shall comply with the requirements of Rule R309-550. No culinary water service line shall pass through any portion of an absorption area.

(g) Lining or enclosing watercourses with an acceptable impervious material may permit a reduction in the separation requirement. In situations where the bottom of a canal or watercourse is at a higher elevation than the ground in which the absorption system is to be installed, a reduction in the distance requirement may be justified, but each case shall be decided on its own merits by the regulatory authority.

(h) Horizontal setback between a deep wall trench or seepage pit and a foundation of any building is at least 20 feet.

(i) The regulatory authority may reduce the separation distance, if it can be shown that the effluent will not enter the drain, but each case must be decided on its own merits by the regulatory authority. In no case shall the regulatory authority grant approval for an absorption area to be closer than 20 feet.

(j) This setback may be reduced if a 53 foot reference line originating at the bottom of the distribution pipe, sloped at 35% below horizontal, will not daylight or intersect the ground surface.

TABLE 3

Estimated Flow Rates of Wastewater (a)

<table>
<thead>
<tr>
<th>Type of Establishment</th>
<th>Gallons per Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airports</td>
<td></td>
</tr>
<tr>
<td>a. per passenger</td>
<td>3</td>
</tr>
<tr>
<td>b. per employee</td>
<td>15</td>
</tr>
<tr>
<td>Boarding and Rooming Houses</td>
<td></td>
</tr>
<tr>
<td>a. for each resident boarder and employee</td>
<td>50 per person</td>
</tr>
<tr>
<td>b. additional for each nonresident boarder</td>
<td>10 per person</td>
</tr>
<tr>
<td>Bowling Alleys, not including</td>
<td>85 per alley</td>
</tr>
<tr>
<td>food service</td>
<td></td>
</tr>
<tr>
<td>Camps</td>
<td></td>
</tr>
<tr>
<td>a. developed with flush toilets and showers</td>
<td>30 per person</td>
</tr>
<tr>
<td>b. developed with flush toilets</td>
<td>20 per person</td>
</tr>
<tr>
<td>c. developed with no flush toilets</td>
<td>5 per person</td>
</tr>
<tr>
<td>Service Type</td>
<td>Calculation</td>
</tr>
<tr>
<td>------------------------------------------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Churches, per person</td>
<td>5</td>
</tr>
<tr>
<td>Condominiums, Multiple Family Dwellings, or Apartments</td>
<td>150 per bedroom</td>
</tr>
<tr>
<td>Dentist's Office</td>
<td></td>
</tr>
<tr>
<td>a. per chair</td>
<td>200</td>
</tr>
<tr>
<td>b. per staff member</td>
<td>35</td>
</tr>
<tr>
<td>Doctor's Office</td>
<td></td>
</tr>
<tr>
<td>a. per patient</td>
<td>10</td>
</tr>
<tr>
<td>b. per staff member</td>
<td>35</td>
</tr>
<tr>
<td>Fairgrounds</td>
<td>1 per person</td>
</tr>
<tr>
<td>Fire Stations</td>
<td></td>
</tr>
<tr>
<td>a. with full-time employees and food preparation</td>
<td>70 per person</td>
</tr>
<tr>
<td>b. with no full-time employees and no food preparation</td>
<td>5 per person</td>
</tr>
<tr>
<td>Food Service Establishment (b)</td>
<td></td>
</tr>
<tr>
<td>a. ordinary restaurants, not 24 hour service</td>
<td>35 per seat</td>
</tr>
<tr>
<td>b. 24 hour service</td>
<td>50 per seat</td>
</tr>
<tr>
<td>c. single service customer utensils only</td>
<td>2 per customer</td>
</tr>
<tr>
<td>d. or, per customer served, includes toilet and Kitchen wastes</td>
<td>10</td>
</tr>
<tr>
<td>Gyms</td>
<td></td>
</tr>
<tr>
<td>a. participant and staff member</td>
<td>25 per person</td>
</tr>
<tr>
<td>b. spectator</td>
<td>4 per person</td>
</tr>
<tr>
<td>Hairdresser, per chair</td>
<td>65</td>
</tr>
<tr>
<td>Highway Rest Stops, improved with restroom facilities</td>
<td>5 per vehicle</td>
</tr>
<tr>
<td>Hospitals</td>
<td>250 per bed space</td>
</tr>
<tr>
<td>Hotels, Motels, and Resorts</td>
<td>125 per unit</td>
</tr>
<tr>
<td>Industrial Buildings, exclusive of industrial waste</td>
<td></td>
</tr>
<tr>
<td>a. with showers, per 8 hour shift</td>
<td>35 per person</td>
</tr>
<tr>
<td>b. with no showers, per 8 hour shift</td>
<td>15 per person</td>
</tr>
<tr>
<td>Labor or Construction Camps</td>
<td>50 per person</td>
</tr>
<tr>
<td>Launderette</td>
<td>580 per washer</td>
</tr>
<tr>
<td>Mobile Home Parks</td>
<td>400 per unit</td>
</tr>
<tr>
<td>Movie Theaters</td>
<td></td>
</tr>
<tr>
<td>a. auditorium</td>
<td>5 per seat</td>
</tr>
</tbody>
</table>
b. drive-in 10 per car space

Nursing Homes 200 per bed space

Office Buildings and Business 15 per employee
   Establishments, not including food service, per eight hour shift

Picnic Parks, toilet wastes only 5 per person

Recreational Vehicle Parks
a. temporary or transient with no sewer connections 50 per space
b. temporary or transient with sewer connections 125 per space

Recreational Vehicle Dump Station, per self-contained vehicle 50

Schools
a. boarding 75 per person
b. day, without cafeteria, gymnasiums or showers 15 per person
c. day, with cafeteria, but no gymnasiums and showers 20 per person
d. day, with cafeteria, gymnasium and showers 25 per person

Service Stations, per day, per pump 250

Skating Rink, Dance Halls, Ski Areas, etc. 10 per person

Stores, including Convenience Stores
a. per public toilet room 500
b. per employee 11

Swimming Pools and Bathhouses, Using Maximum Bather Load 10 per person

Taverns, Bars, Cocktail lounges with No Food Service 20 per seat

Visitor Centers 5 per visitor

NOTES
(a) When more than one use will occur, the multiple use shall be considered in determining total flow. Small industrial plants maintaining a cafeteria or showers and club houses or motels maintaining swimming pools or laundries are typical examples of multiple uses. Uses other than those listed above shall be considered in relation to established flows from known or similar
(b) No commercial food waste disposal unit shall be connected to an onsite wastewater system unless first approved by the regulatory authority.

### TABLE 4

**Minimum Standards for Building Sewer, Effluent Sewer, and Distribution Pipe Materials** (a)

<table>
<thead>
<tr>
<th>Acceptable Building Sewer and Effluent Sewer Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Pipe</strong></td>
</tr>
<tr>
<td>Acrylonitrile-Butadiene Styrene (ABS)</td>
</tr>
<tr>
<td>Polyvinyl Chloride (PVC)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acceptable Distribution Pipe Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Pipe</strong></td>
</tr>
<tr>
<td>ABS</td>
</tr>
<tr>
<td>Polyethylene (PE), Smooth Wall</td>
</tr>
<tr>
<td>PVC</td>
</tr>
</tbody>
</table>

**NOTES**

(a) Each length of building sewer, effluent sewer, and distribution pipe shall be stamped or marked.

(b) American Society for Testing and Materials.

(c) For domestic wastewater only, free from industrial wastes.

(d) Although perforated PVC, ASTM D-2729 is approved for absorption system application, the solid-wall version of this pipe is not approved for any application.

### TABLE 5

**Maximum Hydraulic Loading Rates for Percolation Testing**

<table>
<thead>
<tr>
<th>Percolation Rate (Minutes per Inch)</th>
<th>Absorption Systems Hydraulic Loading Rates (a) (gal/ft²/day) (c)(d)(e)</th>
<th>Absorption Beds and Mound Systems Hydraulic Loading Rates (b) (gal/ft²/day) (c)(d)(f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10 (g)</td>
<td>0.90</td>
<td>0.45</td>
</tr>
<tr>
<td>11-20</td>
<td>0.70</td>
<td>0.35</td>
</tr>
<tr>
<td>21-30</td>
<td>0.60</td>
<td>0.3</td>
</tr>
<tr>
<td>31-40</td>
<td>0.55</td>
<td>0.27</td>
</tr>
</tbody>
</table>
NOTES

(a) The following formula may be used in place of the values in this table: \( q = \frac{2.35}{\sqrt{\text{percolation rate}}} + 0.15 \) where \( q \) is the hydraulic loading rate. In no case shall the loading rate be greater than 1.0.

(b) The following formula may be used in place of the values in this table: \( q = \frac{1.2}{\sqrt{\text{percolation rate}}} + 0.08 \) where \( q \) is the hydraulic loading rate. In no case shall the loading rate be greater than 0.5.

(c) Minimum absorption area is equal to the actual or estimated wastewater flow in gallons per day shown in Section R317-4-13 Table 3, divided by the hydraulic loading rate within the applicable percolation rate category.

(d) For non-residential facilities, if a garbage grinder is not used, the absorption area may be reduced by 10% (0.9 multiplier). If any automatic sequence washer is not used, the absorption area may be reduced by 30% (0.7 multiplier). If both of these appliances are not used, the absorption area may be reduced by 40% (0.6 multiplier).

(e) For non-residential facilities, a minimum of 150 square feet of trench bottom or sidewall absorption area shall be provided.

(f) For non-residential facilities, a minimum of 300 square feet of absorption area shall be provided.

(g) Soils with a percolation rate faster than 1 minute per inch are only acceptable with the use of an alternative packed bed media system with a disinfection unit.

(h) Not suitable for absorption beds.

(i) Acceptable for alternative packed bed media systems only.

(j) Not suitable for absorption beds or mounds.

**TABLE 6**

Maximum Hydraulic Loading Rates for Soil Classification

<table>
<thead>
<tr>
<th>Texture</th>
<th>Structure</th>
<th>Absorption Systems</th>
<th>Absorption Beds and Mound Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Hydraulic Loading Rate (gal/ft²/day)</td>
<td>Hydraulic Loading Rate (gal/ft²/day)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a)(b)(c)</td>
<td>(a)(b)(d)</td>
</tr>
<tr>
<td>Coarse sand, sand, loamy</td>
<td>Single</td>
<td>0.9 (e)</td>
<td>0.45 (e)</td>
</tr>
<tr>
<td>Texture Type</td>
<td>Aggregate</td>
<td>Clay</td>
<td>Notes</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------</td>
<td>----------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Coarse sand, loamy sand</td>
<td>Single grain</td>
<td>0.7</td>
<td>0.35</td>
</tr>
<tr>
<td>Fine sand, very fine sand, loamy fine sand, loamy very fine sand</td>
<td>Massive</td>
<td>0.45</td>
<td>0.22 (f)</td>
</tr>
<tr>
<td></td>
<td>Platy</td>
<td>0.5</td>
<td>0.25 (f)</td>
</tr>
<tr>
<td></td>
<td>Prismatic, blocky, granular</td>
<td>0.65</td>
<td>0.32</td>
</tr>
<tr>
<td>Coarse sandy loam, sandy loam</td>
<td>Massive</td>
<td>0.4</td>
<td>(g)</td>
</tr>
<tr>
<td></td>
<td>Platy</td>
<td>0.35</td>
<td>(g)</td>
</tr>
<tr>
<td></td>
<td>Prismatic, blocky, granular</td>
<td>0.5</td>
<td>0.25 (f)</td>
</tr>
<tr>
<td>Fine sandy loam, very fine sandy loam</td>
<td>Massive</td>
<td>0.4</td>
<td>(g)</td>
</tr>
<tr>
<td></td>
<td>Platy</td>
<td>0.35</td>
<td>(g)</td>
</tr>
<tr>
<td></td>
<td>Prismatic, blocky, granular</td>
<td>0.5</td>
<td>0.25 (f)</td>
</tr>
<tr>
<td>Loam</td>
<td>Massive</td>
<td>0.4</td>
<td>(g)</td>
</tr>
<tr>
<td></td>
<td>Platy</td>
<td>(e)</td>
<td>(g)</td>
</tr>
<tr>
<td></td>
<td>Prismatic, blocky, granular</td>
<td>0.5</td>
<td>0.25 (f)</td>
</tr>
<tr>
<td>Silt loam</td>
<td>Massive</td>
<td>(e)</td>
<td>(g)</td>
</tr>
<tr>
<td></td>
<td>Platy</td>
<td>(e)</td>
<td>(g)</td>
</tr>
<tr>
<td></td>
<td>Prismatic, blocky, granular</td>
<td>0.45</td>
<td>0.22 (f)</td>
</tr>
<tr>
<td>Sandy clay loam, silty clay loam</td>
<td>Massive</td>
<td>(e)(h)</td>
<td>(g)</td>
</tr>
<tr>
<td></td>
<td>Platy</td>
<td>(i)</td>
<td>(i)</td>
</tr>
<tr>
<td></td>
<td>Prismatic, clay loam blocky, granular</td>
<td>0.4</td>
<td>(e)(h)</td>
</tr>
<tr>
<td>Silt, silty clay, sandy clay</td>
<td>Massive</td>
<td>(i)</td>
<td>(i)</td>
</tr>
<tr>
<td></td>
<td>Platy</td>
<td>(i)</td>
<td>(i)</td>
</tr>
<tr>
<td></td>
<td>Prismatic, blocky, granular</td>
<td>0.35</td>
<td>(e)(h)</td>
</tr>
</tbody>
</table>

NOTES
(a) Minimum absorption area is equal to the actual or estimated wastewater flow in gallons per day, using Section R317-4-13 Table 3, divided by the hydraulic loading rate within the applicable soil texture and structure category.
(b) For non-residential facilities, if a garbage grinder is not used, the absorption area may be reduced by 10% (0.9 multiplier). If any automatic sequence washer is not used,
the absorption area may be reduced by 30% (0.7 multiplier). If both of these appliances are not used, the absorption area may be reduced by 40% (0.6 multiplier).

(c) For non-residential facilities, a minimum of 150 square feet of trench bottom or sidewall absorption area shall be provided.

(d) For non-residential facilities, a minimum of 300 square feet of absorption area shall be provided.

(e) These soils are usually considered unsuitable for absorption systems, but may be suitable, depending upon the percentage and type of fines in coarse grained porous soils, and the percentage of sand and structure in fine grained soils. Percolation testing shall be used for further evaluation.

(f) Not suitable for absorption beds.

(g) Not suitable for absorption beds or mounds.

(h) These soils may be permissible for packed bed media absorption systems only.

(i) These soils are unsuitable for any absorption system.

**TABLE 7: Minimum Inspection Frequency, Components, and Effluent Sampling Parameters**

**TABLE 7.1**

Minimum Inspection Frequency (a)

<table>
<thead>
<tr>
<th>Type of System</th>
<th>Annual</th>
<th>Semi-annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure Distribution</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>At-Grade (first 5 years only)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Mound</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Packed Bed Media</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Sand Lined Trench</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Holding Tank</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Experimental System</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

NOTES (a) Or more frequently as directed by the regulatory authority.

**TABLE 7.2**

Components (a)

<table>
<thead>
<tr>
<th>Type of System</th>
<th>Septic Tank and Other Tanks (if accessible)</th>
<th>Distribution or Drop Boxes Settings, Absorption Unit (c)</th>
<th>Pumps, Float</th>
<th>Pressure Laterals, fection</th>
<th>Disinfection Control Panel</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure Distribution</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
At-Grade  X  X  X  X
Mound     X  X  X
Packed Bed X  X  X  X  X
Media
Sand Lined X  X  X
Trench
Holding  X  X
Tank (b)  X  X  X  X
Experimental X  X  X  X

NOTES
(a) Inspect other components as directed by the regulatory authority.
(b) Including pumping records.
(c) Required for absorption systems installed in excessively permeable soils, or as directed by the regulatory authority.

TABLE 7.3

Effluent Sampling Parameters
Packed Bed Media System Routine Sampling Parameters
Must sample Turbidity, or BOD5 and TSS.

Field Testing    Laboratory Testing
Turbidity       BOD5       TSS       COD (a)     E. coli
=<20 NTU        =<25 mg/l  =<25 mg/l  =<75 mg/l   <126/100 ml
(b)

NOTES
(a) Chemical oxygen demand (COD) may be used in place of BOD5.
(b) E. coli testing required when a disinfection unit is installed.

R317-4-14. Appendices.
Appendix A. Septic Tank Construction.
1.1. Plans for Tanks Required.
Plans for all septic tanks and underground holding tanks shall be submitted to the division for approval. Such plans shall show all dimensions, capacities, reinforcing, maximum depth of soil cover, and such other pertinent data as may be required. All tanks shall conform to the design drawing and shall be constructed under strict, controlled supervision by the manufacturer.
A. Precast Reinforced Concrete Tanks.
1. The walls and base of precast tanks shall be securely bonded together and the walls shall be of monolithic or keyed construction.
2. The sidewalls and bottom of such tanks shall be at least 3 inches in thickness.
3. The top shall have a minimum thickness of 4 inches.
4. Such tanks shall have reinforcing of at least 6 inch x 6 inch No. 6, welded wire fabric, or equivalent. Exceptions to this reinforcing requirement may be considered by the division based on an evaluation of acceptable structural engineering data submitted.
by the manufacturer.

5. All concrete used in precast tanks shall be Class A, at least 4,000 pounds per square inch, and shall be vibrated or well-rodded to minimize honeycombing and to assure water tightness.

6. Precast sections shall be set evenly in a full bed of sealant. If grout is used it shall consist of two parts plaster sand to one part cement with sufficient water added to make the grout flow under its own weight.

7. Excessively mortared joints should be trimmed flush.

8. The inside and outside of each mortar joint shall be sealed with a waterproof bituminous sealing compound.

9. For the purpose of early reuse of forms, the concrete may be steam cured. Other curing by means of water spraying or a membrane curing compound may be used and shall comply to best acceptable methods as outlined in Guide to Curing Concrete, ACI308R-01, by American Concrete Institute, Farmington Hills, Michigan.

B. Poured-In-Place Concrete Septic Tanks.

1. The top of poured-in-place septic tanks with a liquid capacity of 1,000 to 1,250 gallons shall be a minimum of 4 inches thick, and reinforced with 3/8 inch reinforcing rods 12 inches on center both ways, or equivalent.

2. The top of tanks with a liquid capacity of greater than 1,250 gallons shall be a minimum of 6 inches thick, and reinforced with 3/8 inch reinforcing rods 8 inches on center both ways, or equivalent.

3. The walls and floor shall be a minimum of 6 inches thick. The walls shall be reinforced with 3/8 inch reinforcing rods 8 inches on center both ways, or equivalent. Inspections by the regulatory authority may be required of the tank reinforcing steel before any concrete is poured.

4. A 6 inch water stop shall be used at the wall-floor juncture to ensure water tightness.

5. All concrete used in poured-in-place tanks shall be Class A, at least 4,000 pounds per square inch, and shall be vibrated or well-rodded to minimize honeycombing and to ensure water tightness.

6. Curing of concrete shall comply with the requirements in Subsection R317-4-14 Appendix A.1.2.

C. Fiberglass Tanks.

1. Fiberglass tanks shall comply with one of the following criteria for acceptance.


   b. Manufactured to meet the structural requirements of Underwriters Laboratories (UL) Standard 1316.

   c. Professionally engineered plans demonstrating compliance to tank configuration requirements of this rule including acceptable structural calculations or other pertinent data as may be required.

2. Inlet and outlet tees shall be attached to the tank by a rubber or synthetic rubber ring seal and compression plate, or in some other manner approved by the division.

3. The tank shall be installed in accordance with the manufacturer's recommendations.
D. Polyethylene Tanks.
1. Polyethylene tanks shall comply with the criteria for acceptance established in Prefabricated Septic Tanks and Wastewater Holding Tanks, Can3-B66-10 by the Canadian Standards Association, Ontario, Canada.
2. Inlet and outlet tees shall be attached to the tank by a rubber or synthetic rubber ring seal and compression plate, or in some other manner approved by the division.
3. The tank shall be installed in accordance with the manufacturer's recommendations.

1.2. Identifying Marks.
A. All prefabricated or precast tanks that are commercially manufactured shall be plainly, legibly, and permanently marked or stamped with:
1. the manufacturer's name and address, or nationally registered trademark;
2. the liquid capacity of the tank in gallons on the exterior at the outlet end within 6 inches of the top of the wall; and
3. the inlet and outlet of all such tanks shall be plainly marked as "IN" or "OUT" respectively.

1.3. Inlets and Outlets.
Inlets and outlets of tanks or compartments thereof shall meet the minimum diameter requirements for building sewers.
A. Only one inlet or outlet is allowed, unless preauthorized by the regulatory authority.
B. Inlets and outlets shall be located on opposite ends of the tank.
1. The invert of flow line of the inlet shall be located at least 2 inches, above the invert of the outlet to allow for momentary rise in liquid level during discharge to the tank.
2. Approved tanks with offset inlets may be used when approved by the regulatory authority.
C. All inlets and outlets shall have a baffle or sanitary tee.
1. An inlet baffle or sanitary tee of wide sweep design shall be provided to divert the incoming wastewater downward. This baffle or tee is to penetrate at least 6 inches below the liquid level, but the penetration is not to be greater than that allowed for the outlet device.
2. For tanks with vertical sides, outlet baffles or sanitary tees shall extend below the liquid surface a distance equal to approximately 40% of the liquid depth. For horizontal cylindrical tanks and tanks of other shapes, that distance shall be reduced to approximately 35% of the liquid depth.
3. All baffles shall be constructed from sidewall to sidewall or shall be designed as a conduit.
4. All sanitary tees shall be permanently fastened in a vertical, rigid position.
D. Inlet and outlet pipe connections to the septic tank shall be sealed and adhere to the tank and pipes to form watertight connections with a bonding compound or sealing rings.
E. Inlet and outlet devices may not include any design features preventing free venting of gases generated in the tank or absorption system back through the roof vent in the building plumbing system.

The top of the baffles or sanitary tees shall extend at least 6 inches
above the liquid level in order to provide scum storage, but no closer than 1 inch to the inside top of the tank.

1.4. Liquid Depth of Tanks.
Liquid depth of tanks shall be at least 30 inches. Depth in excess of 72 inches may only be considered in calculating liquid volume required in Subsection R317-4-6.6 if the tank length is at least two times the liquid depth.

1.5. Burial Depth.
The maximum burial depth shall be stated on the plans submitted.

1.6. Tank Compartments.
Septic tanks may be divided into compartments provided they meet the following:
A. The volume of the first compartment shall equal or exceed two-thirds of the total required septic tank volume;
B. No compartment shall have an inside horizontal dimension less than 24 inches;
C. Inlets and outlets shall be designed as specified for tanks, except that when a partition wall is used to form a multi-compartment tank, an opening in the partition may serve for flow between compartments provided the minimum dimension of the opening is 4 inches, the cross-sectional area is not less than that of a 6 inch diameter pipe (28.3 square inches), and the mid-point is below the liquid surface a distance approximately equal to 40% of the liquid depth of the tank.

1.7. Scum Storage.
Scum storage volume shall consist of 15% or more of the required liquid capacity of the tank and shall be provided in the space between the liquid surface and the top of inlet and outlet devices.

1.8. Access to Tank Interior.
Adequate access to the tank shall be provided to facilitate inspection, servicing and maintenance, and shall have no structure or other obstruction placed over it and shall conform to the following requirements:
A. Access to each compartment of the tank shall be provided through properly placed manhole openings not less than 18 inches in diameter, in minimum horizontal dimension or by means of an easily removable lid section.
B. All access covers shall be designed and constructed in such a manner that they cannot pass through the access openings, and when closed will be child-proof and prevent entrance of surface water, dirt, or other foreign material, and seal the odorous gases in the tank. Concrete access covers for manhole openings shall have adequate handles.
C. Access to inlet and outlet devices shall be provided through properly spaced openings not less than 12 inches in minimum horizontal dimension or by means of an easily removable lid section.

Appendix B. Pressure Distribution, Pumps, Controls, and Alarms.
1.1. Design.
The design shall generally be based on the Utah Guidance for Performance, Application, Design, Operation and Maintenance: Pressure Distribution Systems document with the following exceptions:
A. Design and equipment shall emphasize ease of maintenance, longevity, and reliability of components and shall be proven suitable by operational experience, test, or analysis, acceptable to the
regulatory authority.

B. Electrical disconnects shall be provided that are appropriate for the installation and shall have gas-tight junction boxes or splices. Electrical components used in onsite wastewater systems shall comply with applicable requirements of the State of Utah Electrical Code.

C. All components shall be constructed and installed to facilitate ease of service without having to alter any other part.

1.2. Pumps, Controls, and Alarms.

Prior to final approval for operation, all pumps, controls and related apparatus shall be field tested and found to operate as designed.

A. When duplex pump system is designed, controls shall be provided that an alarm will signal when one of the pumps malfunctions.

B. Where multiple pumps are operated in series, controls shall be installed to prevent the operation of a pump or pumps preceding a station that experiences a high level alarm event.

C. Controls shall be capable of controlling all functions incorporated or required in the design of the system.

1. The control panel for all pressure distribution systems shall include a pump run-time hour meter and a pump event counter or other acceptable flow measurement method.

2. The control panel shall be installed within sight of the access risers.

   a. Other locations may be approved by the regulatory authority.

3. Supporting hydraulic calculations and pump curve analysis shall be submitted to the regulatory authority with the design.

Appendix C. Soil Exploration Pits, Soil Logs, Soil Evaluations.

1.1. Soil Exploration Pit Construction.

Soil conditions shall be obtained from soil exploration pit(s) dug to a depth of 10 feet in the absorption area, or to the ground water table if it is shallower than 10 feet below ground surface. In the event that absorption system excavations will be deeper than 6 feet, soil exploration pits shall extend to a depth of at least 4 feet below the bottom of the proposed absorption system excavation.

A. Soil exploration pits shall be constructed in a manner to reduce potential for physical injury. One end of each pit should be sloped gently or "stair-stepped" to permit easy entry if necessary.

1.2. Soil Logs.

A. The soil log shall contain the following information.

1. A signed statement certifying that the logs were evaluated and recorded in accordance with this rule.

2. The names of all qualified individuals per Rule R317-11 conducting the tests.

3. The location of the property.

4. The location of the soil exploration pit on the property.

5. The date of the log.

6. A description and depths of the soil horizons throughout the soil exploration pit to include:

   a. soil texture and structure using the USDA system of classification;

   b. estimated volume percentage of coarse fragments defined as:

      i. "Gravel" means a rock fragment from 0.1 inches to 3 inches in diameter;
ii. "Cobble" means rock fragment from 3 inches to 10 inches in diameter;
   iii. "Stone" means a rock fragment greater than 10 inches in diameter;

c. the presence and abundance of mottling defined as:
   i. "Few" when less than 2% of the exposed surface is occupied by mottles;
   ii. "Common" when from 2% to 20% of the exposed surface is occupied by mottles; and
   iii. "Many" when more than 20% of the exposed surface is occupied by mottles;

d. depth to groundwater or bedrock, if encountered, and maximum anticipated groundwater table; and

e. other pertinent information.

1.3. Soil Evaluation.
Soils shall be evaluated using the USDA Soil Texture Classification method.
A. The soil horizon with the lowest loading rate shall be used in calculating the required absorption area.

Appendix D. Percolation Method.
1.1. Percolation Test Requirements.
Percolation tests shall be completed by an individual certified per Rule R317-11 and shall be conducted in accordance with the instructions in this appendix.
A. Typical Areas.
When percolation tests are conducted, such tests shall be conducted at points and elevations selected as typical of the area in which the absorption system will be located.
B. Percolation Test Certificate.
Percolation test results shall be submitted on a signed "Percolation Test Certificate". The test certificate shall contain the following:
1. A signed statement certifying that the tests were conducted in accordance with this rule.
2. The names of all individuals per Rule R317-11 conducting the tests.
3. The location of the property.
4. The location of the percolation tests on the property.
5. The depth to the bottom of the percolation test hole from the existing grade.
6. The final stabilized percolation rate of each test in minutes per inch.
7. The date of the tests.
8. Other pertinent information.
C. Specific Requirements.
Percolation tests shall be conducted at the owner's expense and in accordance with the following:
1. Conditions Prohibited for Test Holes.
Percolation tests may not be conducted in test holes that extend into ground water, bedrock, or frozen ground. Where shrink-swell clays, fissured soil formations, or saprolite is encountered, tests shall be made under the direction of the regulatory authority.
2. Soil Exploration Pit Prerequisite to Percolation Tests.
Since the appropriate percolation test depth depends on the soil
conditions at a specific site, the percolation test shall be conducted only after the soil exploration pit has been dug and examined for suitable and porous strata and ground water table information. Percolation test results should be related to the soil conditions found.

3. Test Holes to Commence in Specially Prepared Excavations. All percolation test holes should commence in specially prepared larger excavations, preferably made with a backhoe, of sufficient size that extend to a depth approximately 6 inches above the strata to be tested.

4. Type, Depth, and Dimensions of Test Holes. Test holes shall be dug or bored, preferably with hand tools such as shovels or augers, etc., and shall have horizontal dimensions ranging from 4 to 18 inches, preferably 8 to 12 inches. The vertical sides shall be at least 12 inches deep, terminating in the soil at an elevation 6 inches below the bottom of the proposed onsite wastewater system. In testing individual soil strata for deep wall trenches and seepage pits, the percolation test hole shall be located entirely within the strata to be tested, if possible.

5. Preparation of Percolation Test Hole. Carefully remove any smeared soil surfaces to provide an open, natural soil interface into that water may percolate. Remove all loose soil from the bottom of the hole. Add 2 to 3 inches of clean pea gravel to protect the bottom from scouring or sealing with sediment when water is added. Caving or sloughing in some test holes can be prevented by placing in the test hole a wire cylinder or perforated pipe surrounded by clean pea gravel.

6. Saturation and Swelling of the Soil. It is important to distinguish between saturation and swelling. Saturation means that the void spaces between soil particles are full of water. This can be accomplished in a relatively short period of time. Swelling is a soil volume increase caused by intrusion of water into the individual soil particles. This is a slow process, especially in clay-type soil, and is the reason for requiring a prolonged swelling period.

7. Placing Water in Test Holes. Water should be placed carefully into the test holes by means of a small diameter siphon hose or other suitable method to prevent washing down the side of the hole.

8. Percolation Rate Measurement, General. Necessary equipment should consist of a tape measure with at least 1/16 inch calibration or float gauge, and a time piece or other suitable equipment. All measurements shall be made from a fixed reference point near the top of the test hole to the surface of the water.

9. Percolation Test Procedure. The hole shall be carefully filled with clear water and a minimum depth of 12 inches shall be maintained above the gravel for at least a four hour period by refilling whenever necessary. Water remaining in the hole after four hours may not be removed. Immediately following the saturation period, the soil shall be allowed to swell not less than 16 hours or more than 30 hours. Immediately following the soil swelling period, the percolation rate measurements shall be made as follows:
a. Any soil that has sloughed into the hole shall be removed and water shall be adjusted to 6 inches over the gravel.

b. Thereupon, from the fixed reference point, the water level shall be measured and recorded at approximately 30 minute intervals for a period of four hours.

i. If 6 inches of water seeps away in less than 30 minutes, a shorter time interval of 15 minutes between measurements may be used.

ii. If 6 inches of water seeps away in less than 15 minutes, a shorter time interval of 5 minutes between measurements may be used.

iii. Eight consecutive time intervals shall be recorded unless two successive water level drops do not vary more than 1/16 of an inch and indicate that an approximate stabilized rate has been obtained.

c. The hole shall be filled with 6 inches of clear water above the gravel after each time interval.

d. In no case shall the water depth exceed 6 inches above the gravel.

e. The final water level drop shall be used to calculate the percolation rate.

i. If no stabilized rate is achieved, the smallest drop shall be used to make this calculation.

f. Precautions shall be taken to prohibit water or soil from freezing during the test procedure.

10. Test Procedure for Type 1 and Type 2 Soils.
The hole shall be carefully filled with clear water to a minimum depth of 12 inches over the gravel and the time for this amount of water to seep away shall be determined. The procedure shall be repeated and if the water from the second filling of the hole at least 12 inches above the gravel seeps away in 10 minutes or less, the test may proceed immediately as follows:

a. Water shall be added to a point not more than 6 inches above the gravel.

b. Thereupon, from the fixed reference point, water levels shall be measured at 10 minute intervals for a period of one hour.

i. If 6 inches of water seeps away in less than 10 minutes, a shorter time interval of 5 minutes between measurements may be used.

ii. Six consecutive time intervals shall be recorded unless two successive water level drops do not vary more than 1/16 of an inch and indicate that an approximate stabilized rate has been obtained.

c. The hole shall be filled with 6 inches of clear water above the gravel after each time interval.

d. In no case shall the water depth exceed 6 inches above the gravel.

e. The final water level drop shall be used to calculate the percolation rate.

i. If no stabilized rate is achieved, the smallest drop shall be used to make this calculation.

11. Calculation of Percolation Rate.
The percolation rate is equal to the time elapsed in minutes for the water column to drop, divided by the distance the water dropped in inches and fractions thereof.

12. Using Percolation Rate to Determine Absorption Area.
The minimum or slowest percolation rate shall be used in calculating the required absorption area.

Appendix E. Tank Operation and Maintenance.

1.1. Maintenance of Septic Tanks.

A. Septic tanks shall be emptied before too much sludge or scum is allowed to accumulate and seriously reduce the tank volume settling depth. If either the settled solids or floating scum layer accumulate too close to the bottom of the outlet baffle or bottom of the sanitary tee pipe in the tank, solid particles will overflow into the absorption system and eventually clog the soil and ruin its absorption capacity.

B. A septic tank that receives normal loading should be inspected as indicated in Section R317-4-11 to determine if it needs emptying. Although there are wide differences in the rate that sludge and scum accumulate in tanks, a septic tank for a private residence will generally require emptying every three to five years. Actual measurement of scum and sludge accumulation is the only sure way to determine when a tank needs to be emptied. Experience for a particular system may indicate the desirability of longer or shorter intervals between inspections.

C. The tank should be completely emptied if either the bottom of the floating scum mat is within 3 inches of the bottom of the outlet baffle or tee or the sludge level has built up to approximately 12 inches from the bottom of the outlet baffle or tee, or the scum and sludge layers together equal 40% or more of the tank volume. All scum and solids should be washed out and removed from the tank.

D. If multiple tanks or tanks with multiple compartments are provided, care should be taken to ensure that each tank or compartment is inspected and emptied.

E. Septic tank wastes contain disease causing organisms and shall be disposed of only in areas and in a manner that is acceptable to local health authorities and consistent with state rules.

F. Immediate replacement of damaged inlet or outlet fittings in the septic tank is essential for effective operation of the system.

G. Effluent screens or filters.

Remove the filter in a manner that prevents solids from passing to the absorption system. Wash the filter over the inlet side of septic tank. Replace the cleaned filter back into the outlet tee.

H. When the tank is empty, the interior surfaces of the tank should be inspected for leaks or cracks using a strong light.

I. A written record of all maintenance of the septic tank and absorption system should be kept by the owner of that system.

J. The functional operation of septic tanks is not improved by the addition of yeasts, disinfectants, additives or other chemicals; therefore, use of these materials is not recommended.

K. The advice of your regulatory authority should be sought before chemicals arising from a hobby or home industry or other unusual activities are discharged into a septic tank system.

L. Economy in the use of water helps prevent overloading of a septic tank system that could shorten its life and necessitate expensive repairs. The plumbing fixtures in the building should be checked regularly to repair any leaks that can add substantial amounts of water to the system. Industrial wastes and other liquids that may adversely affect the operation of the onsite wastewater system should not be discharged into such a system. Paper towels, facial
tissue, disinfectant wipes, newspaper, wrapping paper, disposable diapers, sanitary napkins, coffee grounds, rags, sticks, and similar materials should also be excluded from the septic tank since they do not readily decompose and can lead to clogging of both the plumbing and the absorption system.

1.2. Maintenance of Other Tanks.
   A. Other Tanks.
   Any measurable amount of sludge or scum present in other tanks should be removed.
   B. If a screen is present, it should be rinsed and cleaned over the opening of the septic tank.

KEY: waste water, onsite wastewater systems, alternative onsite wastewater systems, septic tanks

Date of Enactment or Last Substantive Amendment: January 1, 2016
Notice of Continuation: February 3, 2015
Authorizing, and Implemented or Interpreted Law: 19-5-104
R317-5-1. Authority, Purpose, Scope, Jurisdiction, Waiver Approval and Administrative Requirements.

1.1. Authority.
Construction and operating permits and approvals are issued pursuant to the provisions of Utah Water Quality Act Sections 19-5-104, 19-5-106, 19-5-107 and 19-5-108. Violation of these permits or approvals including compliance with the conditions thereof, or beginning construction, or modification without the director's approval, is subject to the penalties provided in Section 19-5-115.

1.2. Purpose.
A. The purpose of this rule is to protect the public health and the environment from potential adverse effects from large underground wastewater disposal systems within the boundaries of Utah.

B. This rule incorporates specific provisions contained in Rule R317-4 that are referenced herein, and pertinent to large underground wastewater disposal (LUWD) systems for the purpose of providing minimum design standards. Where the engineered design includes information supporting a deviation from the minimum requirements within this rule or referenced to in Rule R317-4, then the engineer may request a waiver. This rule also establishes the administrative requirements for obtaining from the division a LUWD system:
   1. approval-in-concept;
   2. construction permit;
   3. authorization to use; and
   4. operating permit

1.3. Scope.
This rule applies to large underground wastewater disposal systems designed to handle more than 5,000 gallons per day of domestic wastewater, or wastewater that originates in multiple units under separate ownership (except condominiums), or any other underground wastewater disposal system not covered under the definition of an onsite wastewater system per Rule R317-4.

A. The engineer shall use recognized practice standards for wastewater treatment to increase long term performance and lessen potential impacts to public health and the environment. Depending on site-specific characteristics, the division may require a LUWD system to pretreat effluent prior to disposal in the absorption system. In general, systems with high waste strength or flows over 15,000 gpd should consider pretreatment. Factors that should be evaluated include, but are not limited to, the following:
   1. design flow (gpd)
   2. highly variable flows, including seasonal fluctuations;
   3. wastewater strength characteristics;
   4. site characteristics;
   5. proximity to ground water table, considering various soil types and separation distance;
   6. ground water classification;
   7. proximity to nearby drinking water sources, or location within a drinking water source protection zone; and
   8. anticipated system life expectancy.

1.4. Jurisdiction. Large underground wastewater disposal systems are under the jurisdiction of the Division of Water Quality.
Local Health Departments may petition the division to require local review for compliance with local requirements prior to the division initiating its review.

1.5 Waiver.

The director may grant a waiver from the minimum requirements stated in this rule, subject to site-specific consideration and justification, but not overriding the safeguarding of public health, protection of water quality or engineering practice. The intent of the waiver is to allow the engineer to utilize site specific information, recognized practice standards, or other acceptable justification while designing an appropriate LUWD system for the property. The engineer is encouraged to discuss waivers with the division staff prior to formal application for feasibility determination review.


2.1. Definitions found in Rules R317-1 and R317-4 apply to large underground wastewater disposal systems except where specifically replaced by the following definitions:

"Alternative system" means a LUWD system that is not a conventional system.

"Building sewer" means the pipe that carries wastewater from the building to a public sewer, a LUWD system, or other point of dispersal. It sometimes is synonymous with "house sewer".

"Conventional system" means a LUWD system typically consisting of a building sewer, septic tank, and an absorption system utilizing absorption trenches, absorption beds, or deep wall trenches.

"Curtain drain" means any ground water interceptor or drainage system that is backfilled with gravel or other suitable material and is intended to interrupt or divert the course of shallow ground water or surface water away from the LUWD system.

"Malfunctioning or failing system" means a LUWD system that is not functioning in compliance with the requirements of this rule and may include:

1. absorption systems that seep or flow to the surface of the ground or into waters of the state;
2. systems that overflow from any of their components;
3. systems that cause backflow into any portion of a building drainage system;
4. systems discharging effluent that does not comply with applicable effluent discharge standards of its operating permit;
5. leaking septic tanks; or
6. noncompliance with standards stipulated in or by the construction permit, operating permit, or both.

"Maximum ground water table" means the highest elevation that the top of the "ground water table" or "ground water table, perched" is expected to reach for any reason over the full operating life of a LUWD system at that site.

"Mound system" means an alternative LUWD system where the bottom of the absorption system is placed above the elevation of the original site, and the absorption system is contained in a mounded fill body above that grade.

"Packed bed media system" means an alternative LUWD system that uses natural or synthetic media to treat wastewater. Biological
treatment is facilitated via microbial growth on the surface of the media. The system may include a pump tank, a recirculation tank, or both.

"Public health hazard" means, for the purpose of this rule, a condition whereby there are sufficient types and amounts of biological, chemical, or physical agents relating to water or sewage that are likely to cause human illness, disorders or disability. These may include pathogenic viruses and bacteria, parasites, toxic chemicals and radioactive isotopes. A malfunctioning LUWD system constitutes a public health hazard.

"Sand lined trench system" means an alternative LUWD system consisting of a series of narrow excavated trenches utilizing sand media and pressure distribution.

"Unapproved LUWD system" means any LUWD system that is deemed by the division to be any of the following:
1. installation without the required division oversight, permits, or inspections;
2. repairs to an existing system without the required division oversight, permits, or inspections; or
3. alteration to an existing system without the required division oversight, permits, or inspections.

"Waiver" means an acceptable deviation from the requirements established within this rule or referenced rules. The waiver must be acceptable to division staff based on the engineer providing adequate design justification to demonstrate that the deviation proposed will not override the safeguarding of public health, the protection of water quality, or the protection of the receiving environment. Waiver requests should be based on acceptable engineering practice and standards.


3.1. Failure to Comply With Rules.
Any person failing to comply with this rule shall be subject to enforcement action as specified in Sections 19-5-115 and 26A-1-123.

3.2. Feasibility.
LUWD systems are not feasible in some areas and situations. If property characteristics indicate conditions that may fail in any way to meet the requirements specified herein, the use of a LUWD system shall be prohibited.

3.3. Prohibited Flows.
No ground water drainage, drainage from roofs, roads, yards, or other similar sources shall discharge into any portion of a LUWD system, but shall be disposed of so they will in no way affect the system. Non-domestic wastes such as chemicals, paints, or other substances that are detrimental to the proper functioning of a LUWD system may not be disposed of in such systems.

3.4. Increased Flows Prohibited.
Wastewater flow may not exceed the design flow of a LUWD system.

3.5. Property Lines Crossed.
Privately owned LUWD systems, including replacement areas, shall be located on the same lot as the building served unless, when approved by the division, a perpetual utility easement and right-of-way is established and recorded on an adjacent or nearby lot for the
construction, operation, and continued maintenance, repair, alteration, inspection, relocation, and replacement of a LUWD system, including all rights to ingress and egress necessary or convenient for the full or complete use, occupation, and enjoyment of the granted easement. The easement shall be large enough to accommodate the proposed LUWD system and replacement area. The easement shall meet the setbacks specified in Section R317-4-13 Table 2.

3.6. Initial Absorption Area and Replacement Area.
   A. All properties that utilize LUWD systems shall be required to have a replacement area.
   B. The absorption area, including installed system and replacement area, may not be subject to activity that is likely to adversely affect the soil or the functioning of the system. This may include vehicular traffic, covering the area with asphalt, concrete, or structures, filling, cutting or other soil modifications.

3.7. Operation and Maintenance.
   Owners of a LUWD systems shall operate, maintain, and service their systems according to the standards of this rule.

3.8. No Discharge to Surface Waters or Ground Surface.
   Effluent from any LUWD system may not be discharged to surface waters or upon the surface of the ground. Wastewater may not be discharged into any abandoned or unused well, or into any crevice, sinkhole, or similar opening, either natural or artificial.

3.9. Repair of a Malfunctioning or Unapproved System.
   Upon determination by the regulatory authority that a malfunctioning or unapproved LUWD wastewater system creates or contributes to any dangerous or unsanitary condition that may involve a public health hazard, or noncompliance with this rule, the regulatory authority shall order the owner to take the necessary action to cause the condition to be corrected, eliminated or otherwise come into compliance.
   A. For malfunctioning systems, the regulatory authority shall require and order:
      1. all necessary steps, such as maintenance, servicing, repairs, and replacement of system components to correct the malfunctioning system, to meet all rule requirements to the extent possible and may not create any new risk to the environment or public health;
      2. effluent quality testing as required by Subsection R317-5-9.2.D;
      3. evaluation of the system design including non-approved changes to the system, the wastewater flow, and biological and chemical loading to the system;
      4. additional tests or samples to troubleshoot the system malfunction.

3.10. Procedure for Wastewater System Abandonment. Whenever the use of a LUWD system has been abandoned or discontinued, the owner of the real property on which such wastewater system is located shall render it safe by having the septic tank, any other tanks, hollow seepage pit, or cesspool wastes pumped out or otherwise disposed of in an approved manner. Within 30 days the tanks shall be:
   A. crushed in place and the void filled;
   B. completely filled with earth, sand, or gravel; or
   C. removed and backfilled.
3.11. Septage Management.
A person shall only dispose of septage, or sewage contaminated materials in a location or manner in accordance with the requirements of the division and any local agencies having jurisdiction.

The common components of the LUWD system, including the reserve absorption area, shall be under the sponsorship of a body politic.

A. The subsurface absorption system shall be designed and constructed to provide duplicate capacity, meaning two independent systems. Each system shall be designed to accommodate the total anticipated maximum daily flow. The duplicate system shall be designed with appropriate valving, etc., to allow for periodic alternation of the use of each system.

B. Sufficient land area with suitable characteristics shall be planned and available to provide for a third absorption system capable of handling the total maximum daily wastewater flow. This area shall be kept free of permanent structures, traffic or soil modification.

Large underground wastewater disposal (LUWD) systems with design flow rates of 5,000 gallons per day or more are co-regulated by the Utah 1422 Underground Injection Control (UIC) Program in Rule R317-7. LUWD systems are authorized-by-rule under the UIC program provided they remain in compliance with the construction and operating permits issued according to Rule R317-5. However, if any noncompliance with these permits results in the potential for or demonstration of actual exceedance of any Utah Maximum Contaminant Levels (MCLs) in a receiving ground water, the noncompliance may also be a violation of the Utah UIC administrative rules and therefore be subject to enforcement action. Owners and operators of a large underground wastewater disposal system are required to submit UIC inventory information according to Subsection R317-7-6.4(C) using the approved form for a LUWD system.

The division shall determine the feasibility of using a LUWD system. Upon favorable determination for feasibility an approval-in-concept will be granted by the division.

A. General Information. The required information shall include:
1. situs address if available;
2. name and address of the property owner and person requesting feasibility;
3. the location, type, and depth of all existing and proposed private and public drinking water wells, and other water supply sources within 1500 feet of the proposed LUWD system;
4. the location of all drinking water source protection zones delineated on the project site;
5. the location of all existing creeks, drainages, irrigation ditches, canals, and other surface and subsurface water conveyances within 1500 feet of the proposed LUWD system;
6. the location and distance to nearest sewer, owner of sewer,
whether property is located within service boundary, and size of sewer; and

7. statement of proposed use if other than a single-family dwelling.

B. If the proposed LUWD system is located in aquifer recharge areas or areas of other particular geologic concern, the division may require such additional information relative to ground water movement, or possible subsurface wastewater flow.

C. Soil and Site Evaluation.

1. Soil Exploration Pit and Percolation Test.
   a. A minimum of five soil exploration pits shall be excavated to allow the evaluation of the soils. The soil exploration pits shall be constructed and soil logs recorded as detailed in Section R317-4-14 Appendix C.
   b. The division may require percolation tests in addition to the soil exploration pits.
   c. The division may require additional pits, tests, or both where:
      i. soil structure varies;
      ii. limiting geologic conditions are encountered; or
      iii. the division deems it necessary.
   d. The percolation test shall be conducted as detailed in Section R317-4-14 Appendix D.
   e. Soil exploration pits and percolation tests shall be conducted as closely as possible to the proposed absorption system site. The division shall have the option of inspecting the open soil exploration pits and monitoring the percolation test procedure. All soil logs and percolation test results shall be submitted to the division.
   f. When there is a substantial discrepancy between the percolation rate and the soil classification, it shall be resolved through additional soil exploration pits, percolation tests, or both.
   g. Absorption system feasibility and sizing shall be based on Section R317-4-13 Table 5 or 6.

2. Wind-Blown Sand.
   The extremely fine grained wind-blown sand found in some parts of Utah shall be deemed not feasible for LUWD systems unless pretreatment is provided, as percolation test results in wind-blown sand will generally be rapid, but experience has shown that this soil has a tendency to become sealed with minute organic particles within a short period of time.

3. Suitable Soil Depth.
   For conventional systems, effective suitable soil depth shall extend at least 48 inches or more below the bottom of the dispersal system to bedrock formations, impervious strata, or excessively permeable soil. Some alternative LUWD systems may have other requirements.

   The elevation of the anticipated maximum ground water table shall meet the separation requirements of the anticipated absorption systems.
   Maximum ground water table shall be determined where the anticipated maximum ground water table, including irrigation induced
water table, might be expected to rise closer than 48 inches to the elevation of the bottom of a LUWD system. Maximum ground water table shall be determined where alternative LUWD wastewater systems may be considered based on groundwater elevations. The maximum ground water table shall be determined by the following.

i. Regular monitoring of the ground water table, or ground water table, perched, in an observation well for a period of one year, or for the period of the maximum groundwater table.

(1) Previous ground water records and climatological or other information may be consulted for each site proposed for a LUWDS system and may be used to adjust the observed maximum ground water table elevation.

ii. Direct visual observation of the maximum ground water table in a soil exploration pit for:

(1) evidence of crystals of salt left by the maximum ground water table; or

(2) chemically reduced iron in the soil, reflected by reoximorphoric features i.e., a mottled coloring.

(3) Previous ground water records and climatological or other information may be consulted for each site proposed for a LUWD system and may be used to adjust the observed maximum ground water table elevation in determining the anticipated maximum ground water table elevation.

iii. In cases where the anticipated maximum ground water table is expected to rise to closer than 34 inches from the original ground surface and an alternative LUWD system would be considered, previous ground water records and climatological or other information shall be used to adjust the observed maximum ground water table in determining the anticipated maximum ground water table.

b. Curtain Drains.

A curtain drain or other effective ground water interceptor may be allowed as an attempt to lower the groundwater table to meet the requirements of this rule. The division shall require that the effectiveness of such devices in lowering the ground water table be demonstrated during the season of maximum ground water table.

5. Ground Slope.

Absorption systems may not be placed on slopes where the addition of fluids is judged to create an unstable slope.

a. Absorption systems may be placed on slopes between 0% and 25%, inclusive.

b. Absorption systems may be placed on slopes greater than 25% but not exceeding 35% if:

i. all other requirements of this rule can be met;

ii. effluent from the proposed system will not contaminate ground water or surface water, and will not surface or move off site before it is adequately treated to protect public health and the environment;

iii. no slope will fail, and there will be no other landslide or structural failure if the system is constructed and operated adequately, even if all properties in the vicinity are developed with a LUWD system; and

iv. a report is submitted by a professional engineer or professional geologist that is licensed to practice in Utah. The report shall be imprinted with the engineer's or geologist's
registration seal and signature and shall include the following.

1. Predictions and supporting information of ground water transport from the proposed system and of expected areas of ground water mounding.

2. A slope stability analysis that shall include information about the geology of the site and surrounding area, soil exploration and testing, and the effects of adding effluent.

3. The cumulative effect on slope stability of added effluent if all properties in the vicinity were developed with LUWD systems.

   c. Absorption systems may not be placed on slopes greater than 35%.

6. Other Factors Affecting a LUWD System Feasibility.

   a. The locations of all rivers, streams, creeks, dry or ephemeral washes, lakes, canals, marshes, subsurface drains, natural storm water drains, lagoons, artificial impoundments, either existing or proposed, that will affect building sites, shall be provided.

   b. Areas proposed for LUWD wastewater systems shall comply with the setbacks in Section R317-4-13 Table 2.

   c. If any part of a property lies within or abuts a flood plain area, the flood plain shall be shown within a contour line and shall be clearly labeled on the plan with the words "flood plain area".

7. Unsuitable.

Where soil and other site conditions are clearly unsuitable for the placement of a LUWD system, there is no need for conducting soil exploration pits or percolation tests.


All engineering reports, plans and specifications shall be prepared by a registered professional engineer licensed to practice in the State of Utah and certified Level 3 in accordance with Rule R317-11.

5.1 Engineering Report.

An engineering report shall be submitted which shall contain design criteria along with all other information necessary to clearly describe the proposed project and demonstrate project feasibility as described in feasibility determination and approval-in-concept of Section R317-5-4.

5.2. Plan Review.

Submission of plans for review. Plans for new, alterations, repairs and replacements of large underground wastewater disposal systems shall be submitted to the division for review as required by Rule R317-1 and include the following:

A. Local Health Departments Requirements.

   It is the applicant's responsibility to ensure that a LUWD System application to the division is in compliance with local health department requirements regarding the location, design, construction and maintenance of a LUWD system prior to the applicant submitting a request for a construction permit to the division. Where the petition has been approved by the director, the applicant is required to submit documentation that the local health department has approved the proposed LUWD system before a construction permit may be issued.

B. Information Required.

   Plans submitted for review shall be drawn to scale, 1" = 10', 20' or 30', or other scale as approved by the division. Plans shall
be prepared in such a manner that the contractor can read and follow them in order to install the system properly. Depending on the individual site and circumstances, or as determined by the division, some or all of the following information may be required.

1. Applicant Information.
   a. The name, current address, and telephone number of the applicant.
   b. Complete address, legal description of the property, or both to be served by this LUWD system.

2. LUWD System Site Plan.
   a. Submittal date of plan.
   b. North arrow.
   c. Lot size and dimensions.
   d. Legal description of property.
   e. Ground surface contours, preferably at 2 foot intervals, of both the original and proposed final grades of the property, or relative elevations using an established bench mark.
   f. Location and explanation of type of dwelling(s) or structure(s) to be served by a LUWD system.
   g. Location and dimensions of paved and unpaved driveways, roadways and parking areas.
   h. Location and dimensions of the essential components of the wastewater system including the replacement area for the absorption system.
   i. Location of all soil exploration pits and all percolation test holes.
   j. Location of building sewer and water service line to serve the building.
   k. Location of sewer mains, manholes, clean-outs, and other appurtenances.
   l. Location of easements or drainage right-of-ways affecting the property.
   m. Location of all intermittent or year-round streams, ditches, watercourses, ponds, subsurface drains, etc. within 100 feet of proposed LUWD system.
   n. The location, type, and depth of all existing and proposed water supply sources
   o. Delineation of all drinking water source protection zones located on the project site.
   p. Distance to nearest public water main and size of main.
   q. Distance to nearest public sewer, size of sewer, and whether accessible by gravity.

3. Statement with Site Plan.
   Statement indicating the source of culinary water supply, whether a well, spring, non-public or public system, its location and distances from all LUWD systems.

   a. Soil Logs, Percolation Test Certificates, or both.
   b. Statement with supporting evidence indicating the maximum anticipated ground water table and the flooding potential for LUWD system sites.

5. Relative Elevations.
   Show relative elevations of the following, using an established bench mark.
Details for said site, plans, and specifications are listed in Design in Section R317-4-6.

a. Schedule or grade, material, diameter, and minimum slope of building sewer and effluent sewer.

b. Septic tank and pump tank capacity, design, cross sections, etc., materials, and dimensions. If tank is commercially manufactured, state the name and address of manufacturer.

c. Absorption system details, including the following:
   i. details of drop boxes or distribution boxes, if provided;
   ii. schedule or grade, material, and diameter of distribution pipes;
   iii. length, slope, and spacing of each absorption system component;
   iv. maximum slope across ground surface of absorption system area;
   v. distance of absorption system from trees, cut banks, fills, or subsurface drains; and cross section of absorption system showing the:
      (1) depth and width of absorption system excavation;
      (2) depth of distribution pipe;
      (3) depth of filter material;
      (4) barrier material, i.e., synthetic filter fabric, straw, etc., used to separate filter material from cover; and
      (5) depth of cover.

d. Pump, if provided, details as referenced in Section R317-4-14 Appendix B.

e. If an alternative LUWD system is designed, include all pertinent information to allow plan review and permitting for compliance with this rule.

C. Plans Submitted.
1. All applicants requesting plan approval for a LUWD shall submit two copies of the above required information to enable the division to retain one copy as a permanent record.
2. Applications may be rejected if proper information is not submitted.

5.3. Construction Permit Required.
No person shall make or construct any device for treatment or discharge of wastewater without first receiving a permit to do so from the director.

R317-5-6. Design Requirements.
6.1. Shall meet the requirements of Section R317-4-6, with these exceptions:
A. When a LUWD serves multiple single family dwellings the wastewater flow shall be estimated at 400 gpd per dwelling.

B. Minimum separation distance from the bottom of the absorption trenches to the anticipated maximum ground water table is 48 inches. If a mound, sand lined trench, or packed bed pretreatment unit is designed and installed on the LUWD system, the horizontal separation distance may be reduced to 24 inches.

6.2. Components Required in a LUWD System:
A. A septic tank;
B. An effluent filter;
C. A pressurized subsurface disposal system.
   1. This may be an absorption field, deep wall trenches, absorption beds, or, for packed bed media applications, drip irrigation dispersal, depending on location, topography, soil conditions and maximum ground water level.
   2. Pressurized systems require cleanouts at the end of pressurized laterals and typically require a dosing chamber or dosing tank.
   3. The Utah Guidance for Performance, Application, Design, Operation and Maintenance: Pressure Distribution Systems document shall be used for design requirements, along with the following:
      a. Dosing pumps, controls and alarms shall comply with Section R317-4-14 Appendix B.
      b. Pressure distribution piping.
         i. All pressure transport, manifold, lateral piping, and fittings shall meet PVC Schedule 40 standards or equivalent.
         ii. The ends of lateral piping shall be constructed with sweep elbows or an equivalent method to bring the end of the pipe to the final grade. The ends of the pipe shall be provided with threaded plugs, caps, or other devices acceptable to the division to allow for access and flushing of the lateral.
D. Accessibility components to insure proper maintenance and servicing. These include that all tanks shall have access risers to the surface of the ground; and absorption field inspection ports.
E. Additional components may also be required depending on the waste stream characteristics and the need to provide adequate protection to groundwater. These components may include pretreatment devices such as grease traps, or may involve secondary treatment using packed bed media systems.

Shall meet the requirements of Section R317-4-7.

8.1. Final inspection.
Upon completion of construction, but before backfilling, the system designer must notify the division of completion and schedule a final inspection with the division. Where the local health department has the authority to issue operating permits they shall be included in the final inspection. The final inspection shall meet the requirements of Section R317-4-8. No wastewater may be introduced into a LUWD system until an authorization to use has been issued by the division.
8.2. Authorization to Use
The following documents, sealed by the engineer, must be provided to the division in order to receive authorization to use:

A. Written certification that the system was installed in accordance with the construction permit and any approved change orders.
B. Two record drawings of the completed system.
C. Two Operation and Maintenance Manuals. Manuals must include details of:
   1. individuals of contact for the installed system;
   2. list of all key components of the system;
   3. maintenance and service instructions of each component;
   4. schedule of maintenance inspections and servicing.
D. Written recommendation to the owner to place the facilities into service, pending issuance of the authorization to use by the division.


9.1. Operation and maintenance shall be provided by the owner to ensure the disposal system is functioning properly at all times.

9.2. The owner is responsible for maintaining a LUWD system and for performing periodic inspections, servicing and monitoring of its system as detailed in the issued operating permit, including the following:

A. Any new system installed after April 2009 must have a written operation and maintenance manual document describing the treatment and disposal system and outlining routine maintenance procedures, including checklists and maintenance logs needed for proper operation of the system.

B. Each LUWD Conventional System shall be assessed after the first year of operation and annually thereafter.

C. Each LUWD Pressure Distribution System shall be inspected as outlined in Section R317-4-23 Tables 7.1 and 7.2.

D. LUWD Alternative Systems.
   1. Each alternative system shall be inspected as outlined in Section R317-4-13 Tables 7.1 and 7.2.
   2. Each packed bed media system shall be sampled a minimum of every six months as outlined in Section R317-4-13 Table 7.3.
      a. The grab sample shall be taken before discharge to an absorption system.
      b. Effluent not meeting the standards of Section R317-4-13 Table 7.3, shall be followed with two successive weekly tests of the same type within a 30 day period from the first exceedance.
   3. If two successive samples exceed the minimum standards, the system shall be deemed to be malfunctioning, and shall require further evaluation and a corrective action plan, see Subsection R317-5-3.9.

R317-5-10. Operating Permits and Annual Inspection Reports.

10.1. Operating Permit required.

An operating permit is required for all LUWD systems to monitor that proper operation and maintenance is occurring for the protection of the environment and public health. The operating permit shall be issued by the director or, by delegated authority, the local health department having jurisdiction, and shall be effective for a period not to exceed 5 years from the date of issuance.
10.2. Local Health Department Authority to Issue Operating Permits.
Local health departments may request delegated authority to administer the operating permit program. The request must include an agreement to implement and enforce inspection, servicing, monitoring, and reporting requirements of this rule. The local health department must submit an annual report on or before September 1 of each calendar year, to the division containing:
A. A list of LUWD systems under delegation.
B. A summary listing the compliance status of each system, showing those systems that are currently failing, and those systems that have been repaired.
C. A summary of any enforcement actions taken, identifying those actions that are still pending, and those that been resolved.

10.3. Annual Inspection Report.
The owner of a LUWD system shall submit an annual inspection report covering the period of July 1 to June 30, the "reporting year", to the permitting agency no later than August 1 of each year. In this report, the owner shall report on all requirements listed in the operating permit. As a minimum, the report shall include the following items:
A. Facility name and address; owner name, address, and phone number;
B. List of facility components, e.g., septic tank, pump tank, gravel drainfield trench, gravelless chambers, pressure drainfield, etc.;
C. Design flow in gallons per day and number and type of connections;
D. Type of waste treated and disposed, i.e., residential, restaurant, other commercial establishment, etc.;
E. Checklist of inspections performed including the date of the inspection and a list of findings. The report must include, where pertinent:
1. measured sludge and scum levels;
2. date tanks were last pumped;
3. verify pumps, floats; and control panel are operating as designed;
4. date pump filter last cleaned;
5. date pressure laterals last cleaned and flushed and squirt height recorded;
6. any surfacing in absorption field; and
7. any observed or suspected system malfunction;
F. Packed Bed media system sampling results, where pertinent;
G. Name of the certified individual per Rule R317-11 conducting the inspection;
H. Signature of owner or certified operator, and date.

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