State of Utah
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Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF WATER QUALITY
Erica Brown Gaddis, PhD
Director

July 15, 2021

VIA EMIAL
READ RECEIPT REQUESTED

ATTN: GAGE FROERER
Pineview West Sewer Improvement District
c/o Weber County Commission
2380 Washington BLVD, STE 360
Ogden, Utah 84401

Subject: **Construction Permit –**
Reserve at Crimson Ridge / Harbor View Estates - Large Underground Wastewater Disposal System (LUWDS)

Dear Commissioner Froerer:

The Division of Water Quality (Division) has reviewed the plans and specifications submitted by Wes Stewart, P.E. of Gardner Engineering, for an addition to the large onsite wastewater disposal system (LUWDS) to treat and dispose of wastewater from the proposed Reserve at Crimson Ridge Phase 2 (1250 North 5200 East) and Harbor View Estates (1250 North Highway 158) subdivisions in Eden, Utah. The proposed LUWDS is designed to accommodate peak wastewater flows of 30,400 gallons per day, requiring an operating permit under Utah Administrative Code R317-5. The plans and specifications submitted on March 23, 2021 comply with the *Utah Water Quality Rules, Utah Administrative Code R317-5.* A Construction Permit, as constituted by this letter, is hereby issued subject to the following conditions:

1. Any revisions or modifications to the approved plans and specifications must be submitted to the Division for review and approval, before construction or implementation thereof.

2. The LUWDS will have a maximum design capacity of 30,400 gallons per day (average flow of 15,200 gallons per day) based on estimated wastewater flow, as listed below:

Residential Subdivision	
Peak Flow (76 residences @ 400 gpd each)	30,400 gpd
Average flow (76 residences @ 400 gpd each)	15,200 gpd
Project Area	263 acres
Septic Density Standard	6 acres/system

3. The LUWDS will include multiple septic tanks, Orenco AdvanTex recirculating media filter treatment system, an effluent flow meter, and a pressurized drainfield as listed below (see Attachment 1):

Septic Tanks (76 - 1,500 gallon tanks total at build-out) Each home will have its own individual 1,500 gallon septic tank	114,000 gallons
Equalization Tank (Existing) 1 - 20,000 gallon Xerxes tank	20,000 gallons
Recirculating Media Filters (3 Existing, 4 New) Orenco AdvanTex AX-100	7 units
Recirculation Tank (Existing) 1 - 20,000 gallon Xerxes tank	20,000 gallons
Recirculating Tank Pumps (New)	2 - Orenco PF5007 (duplex)
Effluent Flow Meter (Existing)	4 inch
Dosing Tank (Existing) 1 - 6,000 gallon Xerxes tank	6,000 gallons
Dosing Tank Pumps:	4 - Orenco PF301012 (quad)
Distribution Flow Splitter Assembly	Orenco FSB2448

Drainfields: 1 shallow chambered trench drainfield consisting of 4 zones, with 14,933' total lateral length (7,177' existing), providing 44,799 square feet of absorption area; and 1 pressurized drip-irrigation drainfield consisting of 8 zones, totaling 67,564 square feet (system is to be used during the warmest 6 months of the year only).

4. The approved facilities may not be placed in service prior to the following inspections conducted by the Division or designated representative:

a. Inspecting and verifying the water tightness of all septic tanks.
b. Conducting representative inspection(s) of the components of the drainfield prior to backfilling, as necessary.
c. Completing a final inspection, and authorizing use of the facilities in writing through the issuance of an Operating Permit.

Please make the necessary arrangements for any inspection by calling Robert Beers at (801) 536-4380. The project engineer or designated representative must be present during key construction events, to verify that construction and installation was performed as per design. Documentation of these inspection visits must be provided when the completion letter is submitted to the Division following final inspection.

5. This construction permit does not address biosolids treatment, monitoring, record keeping, reporting and disposal/reuse.

6. The facility owner shall be responsible for proper construction, operation, maintenance, inspection, and reporting to the Division as required under Utah Administrative Code R317-5 for the proposed LUWDS. Weber-Morgan Health Department (WMHD) has specific requirements regarding onsite system installer certification. WMHD Onsite Wastewater Treatment System Regulation requires that the installation of a Packed Bed Media, Pressurized Distribution Absorption System or Subsurface Drip Irrigation System shall be done by a Certified Installer. Installer certification is administered by WMHD. Installer certification requirements include:

a. A copy of the Utah State Contractors License issued by the Utah State Department of Professional Licensing that qualifies the individual to install Onsite Wastewater Treatment Systems;
b. Certification to a Level 2, Design, Inspection and Maintenance of Conventional Underground Wastewater Disposal Systems, as required by Utah Administrative Code R317-11, Certification Required to Design, Inspect and Maintain Underground Wastewater Disposal Systems, or Conduct Percolation and Soil Tests for Underground Wastewater Disposal Systems, as amended; and
c. Documentation demonstrating experience installing Onsite Wastewater Treatment Systems. This documentation must demonstrate installations that comply with State and WMHD Rules and Regulations.

The Division recommends that the owner contact the WMHD Environmental Health Division at (801) 399-7160 for additional information regarding these requirements.

7. No modifications or additional connections of any type may be made to this LUWDS without the review and approval of the Division.

8. Construction activities that disturb one acre or more are required to obtain coverage under the Utah Pollutant Discharge Elimination System (UPDES) Storm Water General Permit for Construction Activities. For more information, please contact Lisa Stevens at (801) 536-4386. To obtain permit coverage on-line, please go to:

https://deq.utah.gov/water-quality/general-construction-storm-water-updes-permits

The issuance of this permit does not relieve the owner or owner's agent, in any way, of obligations to comply with other applicable regulatory requirements, or obtaining other necessary applicable permits from local or other agencies. You may contact Summer Day, Weber-Morgan Health Department (801) 399-7174, for information regarding local requirements.

The construction permit will expire one year after the date of this permit, unless substantial progress is made in the construction of approved facilities or the plans and specifications have been resubmitted and the construction permit is reissued.

According to the Administrative Rules for the Underground Injection Control (UIC) Program (UAC R317-7), the proposed onsite domestic wastewater disposal system, which has a cumulative design flow rate greater than 5,000 gallons per day, is classified as a Class V injection well. Owners and operators of all Class V injection wells are required to submit inventory information for compliance with this program. Please submit a completed Utah UIC Inventory Information Form for UIC-Regulated Domestic Wastewater Disposal Systems, which is available online from the Division UIC homepage at the following link: https://deq.utah.gov/legacy/programs/water-quality/utah-underground-injection-control/index.htm or contact Brianna Ariotti by telephone at (801) 536-4351.

The Utah UIC Program Rules prohibit authorization of underground injections "which would allow movement of fluid containing any contaminant into underground sources of drinking water (USDW) if the presence of that contaminant may cause a violation of any primary drinking water regulation (40 C.F.R. Part 141 and Utah Primary Drinking Water Standards R309-200-5), or which may adversely affect the health of persons" or which "may cause a violation of any ground water quality rules that may be promulgated by the Utah Water Quality Board" (R317-7-5.3).

If after reviewing the information submitted with the UIC Inventory Information Form, the Division determines operation of the Class V injection well does not present a potential for contaminating a USDW as described above, the Class V well may be allowed to operate under authorization-by-rule status under the UIC Rules. If, however, it is determined that operation of the Class V injection well could potentially contaminate a USDW, additional conditions will be made on the operating permit for this system.

A copy of the Operation & Maintenance manual, detailing service and maintenance of the entire system (including drainfield dispersal area) will be required to be submitted to the Division prior to final inspection and approval to operate. The person identified for maintenance must be listed in this manual and must have a Level 3 Onsite Certification per R317-11. Additionally, the engineer must provide 'as-built' plans of the installed system.

An Authorization-to-Use letter will be issued for this system by the Division, upon completion of the engineer's final report per R317-5-8, and will detail annual inspection and reporting requirements for this system.

Once the LUWDS is approved and Weber-Morgan Health Department (WMHD) issues an operating permit, additional monitoring, sampling, testing, and reporting beyond the annual inspection(s) and reporting requirements listed in R317-5-10.3 may be required, due to the characterization of groundwater in the vicinity of this LUWDS (see Attachment 2 for Division recommended effluent limitations). Monitoring, sampling, testing, and reporting requirements specific to this LUWDS shall be determined by WMHD.

An electronic copy of approved plans and specifications is returned bearing our construction permit stamp. These plans must be kept available for examination and inspection to be conducted by a representative of the Division or for resolution of any conflicts or discrepancies that may arise during construction or installation.

Please advise us of the beginning of construction. This will enable us to schedule periodic inspections. We request that a copy of as-built drawings be provided after the final inspection has been conducted by the Division, and completed works have been placed into service. This will enable us to keep our information accurate.

The Division of Water Quality values your feedback to help us improve the permitting process to better meet your needs. Please go to http://www.waterquality.utah.gov/ (click on the "Feedback" link on the lower right side of the page) to complete a short customer survey.

If we can be of further assistance, please contact Robert Beers of my staff at (801) 536-4380.

Sincerely,

Erica B. Gaddis, PhD
Director

EG/RB/cjh

Enclosures: Design Report & Plans

Cc: Via Email
Chad Meyerhoffer, Weber Co. Engineering
Summer Day, Weber-Morgan Health Department
Wes Stewart, Gardner Engineering
Richard Jex, Jex Environmental Solutions

File: P:\WQ\DWQDatabases\LargeUndergroundSystemDatabase\Project Documents\Crimson Ridge DWQ-2021-012962

Attachment 1
Reserve at Crimson Ridge / Harbor View Estates LUWDS Design Criteria

Parameter	Quantity	Units	Notes
Estimated Daily Wastewater Quantity Single-Family Residences (76 @ 400 gallons per day)	30,400	Gal/day	15,200 gallons per day (estimated average flow, based on historical flows)
Total Septic Tank Capacity Septic Tanks	114,000 76	Gallons Each	 76 - 1,500 gallon tanks on each lot
Equalization Tank	1	Each	1 - 20,000 gallon Xerxes fiberglass tank (Existing)
Effluent Treatment Units	7	Each	Orenco AdvanTex AX-100 recirculating media filters (3 Existing)
Recirculating Tank	1	Each	1 - 20,000 gallon Xerxes fiberglass tank (Existing)
Recirculating Tank Pumps	2	Each	Orenco PF5007 (duplex)
Effluent Flow meter	1	Each	Orenco 4 inch flow meter
Dosing Tank	1	Each	1 - 6,000 gallon Xerxes fiberglass tank
Dosing Tank Pumps	4	Each	Orenco PF301012 (quad)
Drainfields Shallow Trench (Infiltrator Chambers) Drainfield Pressurized Drip-Irrigation Drainfield	2 1 1	Each Each Each	 4 zones, with 14,933' total lateral length (7,177' existing), providing 44,799 square feet of absorption area 8 zones, totaling 67,564 square feet of absorption area (system is to be used during the warmest 6 months of the year only)

Attachment 2

Effluent Limitations

Prior to release the treated effluent is recommended to meet the following effluent limitations (effluent limitations are recommended by the Division. The Weber-Morgan Health Department will issue specific effluent limitations when issuing an operating permit once construction, as listed in this construction permit, is completed and approved by the Division):

	Maximum Daily Discharge Limitation	Average Monthly Discharge Limit	Maximum Annual Discharge Limit
Wastewater Flow	30,400 gal/day	15,200 gal/day	5,551,648 gal/year
BOD_5		25 mg/L	
TSS		25 mg/L	
Total Inorganic Nitrogen (TIN)[1]		32.5 mg/L	1,500 lbs/year

1. This limitation is based on the project site of 263.37 acres of land with the only development being a maximum 76 residential dwellings and an area septic density standard of 6 acres/system. If any of the 263.37 acres are further developed this limitation will be reduced in accordance with the current septic density standard at that time.

Monitoring and Reporting Requirements

Monitoring, sampling, testing, and reporting requirement recommendations are listed below (monitoring and reporting requirements are recommended by the Division. The Weber-Morgan Health Department will issue specific monitoring and reporting requirements when issuing an operating permit once construction, as listed in this construction permit, is completed and approved by the Division):

1) Annual inspection(s) and reporting as required in R317-5-10.3;
2) Additional monitoring and reporting include:
    A. Quarterly sampling and reporting shall be required upon written authorization for LUWDS operation;
    B. Analytical analyses shall be performed by an approved laboratory using an acceptable analytical method as determined by the Weber-Morgan Health Department (WMHD);
    C. Reports of analytical results shall be submitted to the WMHD within 5 workdays following owner or operator receipt of results;
    D. A quarterly report shall be submitted to the WMHD for each quarter in which the LUWDS is operated. A quarterly report shall be submitted on or before the 10th day of the following month (i.e. January 10th, April 10th, July 10th, and October 10th of each calendar year);
    E. Reports of analytical sample results shall include:
        i. daily wastewater flow;

ii. analytical results of any laboratory test performed for TIN (may be reported as TIN = ammonium ($NH_4^{+)}$ + nitrite (NO_2^-) + nitrate (NO_3^-)), Total Suspended Solids (TSS), and 5-day Biological Oxygen Demand (BOD_5);
iii. report of any chemical added to the LUWDS including name of chemical, amount added (e.g. quantitative measurement such as weight, volume, mass, concentration, etc.), date chemical added, and intended purpose for chemical addition;
iv. list of any adjustment, modification, or repair made to LUWDS equipment; and
v. any other information regarding LUWDS and its operation.

F. Any analytical sample result that fails to meet required performance criteria shall be reported to the WMHD within 3 workdays of owner or operator receipt of analytical sample results;
G. An additional sample shall be collected and analyzed following an analytical sample result that fails to meet required performance criteria. Additional samples shall be collected and analyzed at least weekly until the monthly average of analytical sample results meets required performance criteria;
H. The WMHD may revise monitoring and reporting requirements when reviewing a LUWDS operating permit renewal application; and

Owners of LUWDS that fail to meet monitoring and reporting requirements may incur penalties including revocation of LUWDS operating permit.