

December 12, 2024

Justin Scott UIC Program Manager Wyoming Department of Environmental Quality Water Quality Division 200 West 17th Street, 2nd Floor Cheyenne, Wyoming 82002

Re: Draft UIC Permit: Evans Mobile Home Court, UIC Class V Permit #2024-0166

Dear Mr Scott:

Protect Our Water Jackson Hole (POWJH) offers the following comments in response to the Wyoming Department of Environmental Quality's (DEQ) November 13, 2024, public notice inviting comments on the draft UIC permit renewal for the Evans Mobile Home Court septic system, facility number WYS-039-072, located at 7250 South Highway 89, Teton County, Wyoming.

POWJH is a locally-based nonprofit organization dedicated to serving Teton County, Wyoming, as a powerful advocate for restoring and protecting the surface waters and groundwater in our community.

Regulatory Background

The DEQ's Underground Injection Control (UIC) program aims to protect existing and potential underground sources of drinking water by regulating the construction and operation of injection wells. The UIC program is authorized by Section 1422 of the Safe Drinking Water Act (SDWA) of 1974. The SDWA allows States to implement federal UIC regulations provided that States have regulations as stringent as the federal regulations. Wyoming's UIC Program was approved by the U.S. EPA and became effective July 15, 1983. Wyoming's UIC statutes and regulations have been incorporated into the federal regulations by reference. See 40 CFR §147.2550 Subpart ZZ. In Wyoming, the rules that provide for the administration of the UIC program are found in the DEQ's Water Quality Rules, Chapters 8, 25, 26, and 27.

The Facility

Evans Mobile Home Court has submitted a renewal application for thirty-six existing septic

systems serving seventy-two, 2-bedroom mobile homes.¹ These conventional, buried leach field systems discharge domestic wastewater into the Snake River alluvial aquifer underlying the property. This aquifer is classified as Class I by use according to Wyoming Water Quality Rules (WWQR), Chapter 8, Table I. This classification is made because the groundwater in this formation is being withdrawn for domestic use at nearby points of withdrawal.

According to the Design Report prepared by Nelson Engineering (August 2024), the "Evans Mobile Court was developed in two separate phases. The first being completed in the mid 1970's and then the second in the early 1980's. The development contains onsite wastewater facilities and a community water system."

Nelson Engineering's site investigation revealed that:

Limited drawings exist for the existing sewer facilities. There are hand drawn records for the systems which are in place. Those records indicate that each individual septic system serves two mobile home sites. Every system includes a concrete single compartment 1000-gallon septic tank. The leachfields vary slightly in layout for each phase that was constructed, in total there are 3 different layouts through the development. A site investigation was completed by Nelson Engineering starting on May 30, 2024, and ending June 6, 2024, to review the facility and verify field locations. Every septic tank was located in the field. The drawings included in the Design Report indicate the locations of the septic tanks as located. From the located septic tanks, the different types of leachfields were approximated from the limited existing information. To verify select leachfields were excavated to verify if the field conditions match. The leachfields that were excavated are indicated in the Design Report drawings. The field conditions of those leachfield excavated matched closely with the records. Note that the middle section of development, what is called Type II was permitted through Teton County under SWF191-28-81. What was located in the field matches these record drawings. A copy of this permit is located in the Appendix of this report. There is not a permitted SWF for the other 2 types of facilities.

The Fact Sheet and Statement of Basis prepared by the DEQ, provides the following Description of Injectate in Part III:

- a. What waste will be injected underground at this facility? The permittee is authorized to inject an average of 15,120 gpd and a maximum of 25,200 gpd into thirty-six (36) septic systems. The wastewater is described as primary treated domestic sewage from seventy-two (72) 2-bedroom mobile homes. The wastewater will be injected at a depth of approximately 3.5 feet below the ground surface in multiple leachfields. The permittee is prohibited from injecting any sump waste, equipment wash-down water, or any other wastewater derived from industrial processes into the septic systems. Injection of any substance defined as hazardous waste, whether hazardous by listing or by characteristic is a violation of the permit.
- b. What is the discharge zone? This injection facility is authorized to inject a maximum of 25,200 gpd and an average of 15,120 gpd of domestic wastewater through thirty-six (36)

¹ See DEQ/WQD WQRR Chapter 27, Appendix C - Domestic Subsurface Fluid Distribution Systems - Receive more than 2,000 gallons per day of domestic sewage with only primary treatment such as effluent from a septic tank. In addition, any facility injecting domestic sewage within any five (5) acres of land is a class 5E3 facility whenever multiple 5E facilities under one owner inject a cumulative maximum peak design flow of more than 2,000 gallons per day of domestic sewage.

leachfields into the Snake River Alluvial aquifer. The inputs and maximum flow volumes from the one (1) septic system are summarized in Table 3. The depth to groundwater in the vicinity of the leachfields is approximately 25 feet below ground surface. This information is based on static water levels reported from well logs on the property.

c. How will the waste disposal be monitored? The permittee is responsible for monitoring groundwater quality from two (2) monitoring wells located down-gradient from the septic system leachfield. Additionally, the permittee is responsible for monitoring the total volume, maximum daily volume, and sludge depth in septic tanks. The permittee is required to perform semi-annual sampling and analyze for the constituents listed in Table 4 of the Permit. This data will be reported to the WDEQ according to the schedules outlined in Section H of the Permit.

POWJH Comments

The advanced age of the septic systems on this property combined with the physical characteristics of the Snake River alluvium would suggest that minimum treatment takes place prior to the wastewater entering groundwater. Fortunately, the quantity and movement of shallow groundwater in this area mitigates what would otherwise suggest an obvious water quality concern; i.e., proximity of surface waters, large concentration of septic systems and public water supply wells located on the property. See attached article, *Domestic wells have high probability of pumping septic tank leachate,* J. E. Bremer, and T. Harter, Hydrol. Earth Syst. Sci., 16, 2453–2467, 2012 ("[H]igh spatial septic system density poses a high probability of pumping septic system leachate.")

The Hydrogeologic Study (August 2024) prepared by Nelson Engineering explains that: "The results of the cumulative nitrate analysis show leachfield inflitration does not increase nitrate levels appreciably. *In simple terms, the highly permeable aquifer has a large flow volume beneath the leachfield diluting nitrate concentration effectively.* Water quality testing results in the Evans Wells correlates closely with this result. Groundwater reaching the Snake River, the nearest compliance boundary, will meet drinking water quality standards." See Hydrologic Study, page 7, Cumulative Nitrate Analysis. (emphasis added).

<u>Groundwater monitoring</u>. We are pleased to see that DEQ has proposed a new monitoring well down gradient of the septic systems. The location of this well does not appear to be identified in the application materials. Nonetheless, a more cautious approach would favor monitoring at the outlet of the septic tank(s), and/or immediately down gradient of the leach fields. Doing so would provide a more accurate assessment of pollutants potentially entering the Class 1 groundwater underlying the facility. <u>See</u> Draft Permit, Table 4 Monitoring Schedule.

Source Water Assessment and Protection Plan. As outlined in the DEQ's Source Water and Wellhead Protection Program, we recommend that this facility consider preparing a Source Water Assessment and Source Water Protection Plan to protect the source of drinking water for the residents of this seventy-two unit mobile home court. For a description of the SWWHP Program, see https://www.wrds.uwyo.edu/wrds/deg/whp/whpintro.html.

<u>Connection to Sewer Line</u>. Although not disclosed in the application materials, we understand that a sewer line is proximate to the mobile home park, which currently operates 36 separate, (decades old) septic systems. We suggest that the parties (Town, County, Ownership) explore opportunities to connect the mobile home park to the Munger Mountain sewer line.

Teton County Land Development Regulations require connections to sewer lines, as follows: A. Public Sanitary Sewer System Available Where a public sanitary sewer system is located within 500 feet, and legal access is obtainable, the applicant shall connect to such sanitary sewer system and provide adequate connection lines to the property line of each lot of record.

See Teton County LDRs at 7.7.3. Sanitary Sewer Systems (1/1/15).

The Teton Conservation District Septic and Sewer Map shows a sewer line traversing a portion of the mobile home court property. <u>https://www.tetonconservation.org/septic-sewer-map</u>. See attached screen shot. The Teton County Ownership App shows the line traversing the property from north to south before heading west to the Munger Mountain school parcel. Based on the above, reliance on conventional septic systems for wastewater treatment appears to be a nonconforming use of the property. Determining whether such use is lawful will require additional investigation.

<u>Well data</u>. A lab report² submitted with the Application purportedly represents data collected from the three water wells on the property: Evans # 1, #2 and #3. It is unclear whether data from a single well were extrapolated to the other two wells, or whether water quality data from the three wells was composited, with average values reported. The concern is that compositing the water samples from the three water supply wells could mask higher concentrations of the water quality parameters detected in one or more of the other wells. Please explain how this approach is consistent with the requirements set forth in Chapter 27, Section 16 - Quality Assurance and Quality Control for Sample Collection and Analysis. Please explain the "procedures and methods for sample collection and analyses implemented by the permittee to ensure that the samples are representative of the groundwater, water, or wastes being sampled." In addition, it appears that sample collection and chain of custody protocols are not discussed or presented.

<u>Setbacks</u>. The lack of specific information in the application materials makes it difficult to determine whether setbacks required by DEQ/WQD regulations are satisfied. The large scale maps provided by Nelson Engineering do not include a scale that would enable the reader to determine the distance between the water supply wells and the nearest septic tanks. Nor is this information provided in the text of the Design Report. <u>See</u> Chapter 25, Section 19, Table 7. The draft permit requires compliance with the Table 7 setbacks, which includes a *minimum* of 100 feet of horizontal separation between a public water supply well and a septic tank, and a *minimum* of 500 feet of horizontal separation between a public water supply well and an absorption field. See Draft Permit, Part III, Specific Permit Conditions, B. 3) a) ("In addition, the UIC facility must Comply with all setback distances provided in Water Quality Rules, Chapter 25, Section 19 Table 7."). Pursuant to Note 1, "For systems larger than 10,000 gallons per day, the isolation distance shall be determined by a hydrogeological study in accordance with Section 17(b) of Chapter 3, <u>but shall not be less than those shown in Table 7</u>." (emphasis added).

Are the required minimum setbacks specified in Table 7 achieved?

<u>Site Suitability</u>. We are unable to locate any documentation in the application materials demonstrating compliance with the requirement that the site be configured to accommodate replacement soil absorption systems. Chapter 25 provides that: "The site must include area for both the proposed soil absorption system and a future replacement soil absorption system. Both the proposed and replacement soil absorption systems shall be sized to receive one-hundred (100%) percent of the wastewater flow. If a trench system is used, the replacement

² See Appendix A, Permit Application, WATER QUALITY DATA, Wyoming Department of Agriculture Analytical Services Laboratory, Laboratory Sample Report, Lab Number AA50958, sample collected 6/25/2024.

soil absorption system may be located between the trenches of the proposed soil absorption system if there is at least nine (9) feet of spacing between trench sidewalls." <u>See</u> Chapter 25, Section 7(b).

Meeting this requirement seems particularly important given the advanced age of the septic systems. Where in the application is this requirement addressed?

In addition, site suitability provisions contained in DEQ/WQD water quality rules Chapter 25 require that:

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

Drawings submitted with the 1981 Teton County small wastewater permit application show "parking spaces above leach field." See SITE PLAN, 1/28/81, unpaginated 129 of the Appendices. Please confirm that parking and vehicle storage are not authorized on the surface above the absorption fields.

We would appreciate being informed of any additional comment opportunities regarding this permit renewal, and request that we be provided copies of the DEQ's response to public comments and a copy of the final permit.

Thank you.

Sincerely,

Dan Heilig

Dan Heilig Senior Policy Advisor danh@protectourwaterjh.org

Enclosures