PROTECT OUR WATER
JACKSON HOLE

July 1, 2024

Jason Thomas
Department of Environmental Quality
Water Quality Division
200 West 17th Street, 4th Floor
Cheyenne, WY 82002

Re: Town of Jackson Wastewater Lagoon, Permit No. WY0021458

Dear Mr. Thomas:

Protect Our Water Jackson Hole (POWJH) submits this letter in response to the WDEQ's May 17, 2024, public notice inviting comments on the above-referenced pollution discharge permit renewal. The original public comment deadline of June 17, 2024, was extended two weeks, to July 1, 2024, in response to a request from the U.S. Environmental Protection Agency.

POWJH is a locally-based nonprofit organization dedicated to serving Teton County, Wyoming, as a powerful advocate for restoring and protecting the quality of ground and surface waters in the Upper Snake River Watershed.

Treated wastewater discharged from this facility eventually reaches the Snake River, via surface and likely underground pathways. The Snake River a few miles downstream of the facility has been designated a National Wild and Scenic River due in part to its exceptional water quality, scenic beauty, and extraordinary recreation opportunities. The Snake River is beloved by our community, and deserves the highest level of protection.

Although not acknowledged anywhere in the permit, the segment of the Snake River immediately south of the Jackson sewage plant is considered "high quality" water under both federal and state water quality regulations. 40 C.F.R. 131.12(a)(2); WDEQ Chapter 1, Section 8(a) ("Those surface waters not designated as Class 1, but whose quality is better than the standards contained in these regulations, shall be maintained at that higher quality.") With regard to such waters, the Clean Water Act requires that "[t]he State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control." The DEQ's antidegradation implementation policies for high quality waters describe the steps that must be taken to ensure protection of those waters, none of which were followed here.

POWJH previously submitted comments on an earlier version of this draft permit in a letter dated October 17, 2022. Those comments are fully incorporated by reference herein as if fully set forth below.

We appreciate the DEQ's willingness to address in the revised draft permit some of the concerns raised in our previous letter, including new instream water quality monitoring locations on Flat Creek and other surface waters located in the vicinity of the wastewater treatment facility. This additional monitoring will aid in the evaluation of nutrient conditions in surface waters immediately downstream from the Jackson wastewater treatment lagoons.

BACKGROUND

The Town of Jackson wastewater treatment facility (hereinafter the "Jackson WWTF" or "facility") was constructed in the late 1970s and expanded in the 1990s. For a detailed history and description of the facility, please refer to the U.S. Environmental Protection Agency's Draft Environmental Impact Statement, Final Environmental Impact Statement, and Record of Decision, dated May 27, 1977, February 12, 1979, and April 20, 1979, respectively, and WDEQ's Permit to Construct, Permit No. 94-545, dated 7/14/95, available on the DEQ's public records webpage, request #24-485.

The EPA's environmental documents, which can be accessed on the EPA's *National Service Center for Environmental Publications (NSCEP)*, indicate that the facility was designed and constructed to function as a "rapid infiltration system" to dispose of a significant volume of partially treated wastewater into the aquifer underlying the facility. This was accomplished by not lining the two primary lagoons in order to facilitate infiltration of wastewater into the shallow aquifer This approach, of course, raises questions about the potential impacts to ground and surface water in the area, and suggests that this facility should be permitted under the Underground Injection Control provisions of the Safe Drinking Water Act, and controlled to avoid violations of WDEQ/WQD Chapter 8 quality standards for Class I groundwater. We discuss this topic in more detail in the comments section, below.

FACILITY DESCRIPTION

According to the description provided in the DEQ's STATEMENT OF BASIS (SoB), the Jackson WWTF "includes a preliminary treatment building, an intermediate pumping facility, an ultraviolet disinfection facility, three backup power sources, ten (10) lagoons, and three photovoltaic solar systems." SoB at 1.

Influent (i.e., raw sewage) that enters the facility is mechanically screened and pumped to lagoon cells 1 and 2. It is important to note here that those two primary cells were constructed in the late 1970s as part of the initial build, and all available evidence suggests that they were deliberately left unlined in order to achieve groundwater infiltration objectives desired at the time. After circulating through the two (unlined) primary cells, the wastewater flows through several cells operated in series in the following order: 3A, 3B1, 3B2, 4A, 4B, 4C, 4D, and 5.

Wastewater leaving cell 5 is pumped through the IPS facility[1] to the UV disinfection facility, where UV light disinfection occurs.

Aeration takes place using floating aerators in cells 1–3B2 and subsurface course aeration in cells 4A - 5.

After passing through the UV disinfection facility, partially treated effluent[2] flows to the Borrow Pond (class 3B), followed by three constructed wetland ponds[3] operated in series and managed by the Wyoming Game and Fish Department (WGFD). The SoB notes on page 2 that although the wetland ponds "are utilized year-round" they "can be bypassed in the event maintenance is needed."

The facility description continues with brief discussion of redundancies, design flows, and population demands on the facility. We suggest that the SoB be revised to acknowledge that the WWTF serves many areas located outside the Town of Jackson proper, and additional sewer connections throughout the county are planned and underway. The recently approved Teton County Water Quality Management Plan provides details about those efforts.

RECEIVING WATERS

The SoB (at 2) indicates that partially treated wastewater flows from the "barrow pond"[4] into a "series of constructed wetlands located between the facility and the Snake River. The wetlands lie immediately south of the facility, on property managed by the Wyoming Game and Fish Department as waterfoul [sic] habitat and elk feed grounds. The wetlands complex within the Game and Fish property is bounded by Flat Creek to the east and the Snake River floodplain to the south."

The description continues: "From the constructed wetlands, water flows toward the Snake River (2AB) near the mouth of "Goose Creek" – a short spring which begins approximately 3⁄4 of a mile northwest of the facility, near Runway Road in South Park. The general hydrology of the immediate receiving water area is low-gradient alluvium with shallow groundwater present, and dispersed sloughs."

Finally, the SoB indicates that "[t]he permit establishes effluent limits for the end of pipe that are intended to be protective of all class 2AB designated uses defined in Wyoming Water Quality Rules and Regulations, Chapter 1. Class 2AB designated uses may include drinking water, game and non-game fish, fish consumption, aquatic life other than fish, recreation, agriculture, wildlife, industry and scenic value." SoB at 2.

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[1] Please explain what IPS means.
[2] The term, "partially treated effluent" is used herein because the facility does not remove ammonia or other nutrients.
[3] The Teton Conservation District's water resources maps refers to these water features as "reservoirs" and names each of them (from west to east): Blue Heron, Sandhill Crane and Snowy Egret.
[4] The proper spelling of "barrow pond" appears to be unsettled, as the term also appears as "borrow" pond.

As discussed in the comments section below, the description of flows through this area provided in the SoB is an improvement over what has been presented in previous permits, but still lacks important details about the volume, quality and location of receiving waters, specific location(s) of the outfall(s) into the Snake River, as well as the role of infiltration in the process of wastewater disposal. The most serious deficiencies in the permit are its failure to acknowledge that the receiving waters north of the Snake River contain fish, and its failure to establish end-of-pipe effluent limits for ammonia as required by narrative standards prescribed in DEQ Chapter 1.

EFFLUENT LIMITS

The SoB at page 3 explains that: "In developing effluent limits, all federal and state regulations and standards are considered and the most stringent requirements incorporated into the permit. Permit limits are either technology-based or water-quality-based, as described below."

The proposed permit establishes both technology based and water quality-based limits on pollutant concentrations in the effluent. *Technology based limits* derived from the National Secondary Treatment Standards address carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), and pH.

Water quality-based effluent limits, or WQBELs, are required to ensure that water quality and ecosystem function in the receiving waters are protected. See DEQ WQRR Chapter 2, Section 5(c)(iii)(C). A number of WQBEL are written into this permit, including limits on pH, E.coli, total residual chlorine, which are set at instream standards. The SoB notes that a "wasteland allocation was used to calculate ammonia and total residual chlorine (TRC) effluent limits protective of the eventual class 2AB receiving water, the Snake River."

Finally, and most concerning, the SoB notes that water quality based effluent limits are not established for ammonia because "Class 3B waters have no numeric ammonia standards." The permit also contains limits on temperature, total suspended solids (TSS) and oil and grease. SoB Table 1A summarizes end-of-pipe limits, sampling and reporting schedules, and required sample types established in the permit.

MIXING ZONE

The SoB (at 5) states that:

> This permit establishes water-quality-based effluent limits for ammonia so that mixing zone requirements, per Wyoming Water Quality Rules and Regulations, Chapter 1, Section 9, are not exceeded. Mixing zone requirements ensure minimal receiving waterbody zones are impacted by the discharge during effluent-receiving waterbody mixing. Water-quality-based effluent limits for this permit have been calculated in previous permit versions using a mass balance equation and assuming 100% dilution (rapid and complete mixing). In this case, receiving water dilution to discharge volume ratios exceed a 50:1 proportion. Based upon guidance provided by the U.S. Environmental Protection Agency, Region 8, receiving water to effluent ratios

exceeding 50:1 constitute 'rapid and complete mixing'. Therefore, a mixing zone is not needed in this permit.

The SoB then describes the waste load allocation process justifying, in its view, the absence of specific effluent limits for ammonia: "Note that end-of-pipe ammonia effluent limits are not being established in this permit because the calculated ammonia limits exceed ammonia concentrations typically found in raw (untreated) domestic waste."

SPECIFIC COMMENTS

The entire permit, and in particular the calculations used to establish water quality based effluent limits for ammonia, are fundamentally flawed. The deficiencies are a consequence of the DEQ's failure to perform a proper antidegradation review in accordance with federal and state regulations, as well as its failure to follow other mandatory requirements contained in Chapter 1 and Chapter 2 of its rules. As a result, the draft permit ignores the fact that the receiving waters are actually north/upgradient of the Snake River, which -due to their small size and limited flows- do not provide the same dilution factors as the Snake River. And it also overlooks the fact that fish are present in surface waters throughout this area. The problem is compounded further by the DEQ's failure to properly classify the receiving waters. Despite the widely known presence of fish in this area, the DEQ's surface water classification for these surface waters is Class 3B - aquatic life <u>other than fish</u>. This incorrect stream classification has led to decades of inadequate point source controls on pollution discharged from the facility, including the absence of effluent limits on ammonia. Fortunately, the failure of the DEQ to properly classify the receiving waters does not excuse it from establishing appropriate safeguards and effluent limits in this permit to protect that existing use.

To better understand the problems and complexities associated with this permit, it is helpful to review the legal/regulatory standards that apply, and more fully consider the flows of wastewater through this area.

Legal standards

At its most basic level, the Clean Water Act provides that water quality based effluent limits are required to maintain water quality to a level that will "assure protection of public health, public water supplies, agriculture and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water." Clean Water Act, §302(a), 33 U.S.C.1312(a).

Water quality based effluent limits (i.e., WQBELs) are required by the DEQ's rules governing point source discharge permits. Chapter 2, Section 5, states that WQBELs "shall be determined when requirements in addition to, or more stringent, than technology based effluent limitations are necessary to ensure that violations of water quality standards do not occur. Such effluent limitations shall be determined based on standards adopted pursuant to Wyoming Water Quality Rules and Regulations, Chapter 1…" <u>See</u> Chapter 2, Section 5(c)(iii)(C). Importantly, the rules specify that:

> "(I) Water quality based effluent limitations shall be established for constituents in discharges determined to have a reasonable potential of adversely impacting uses of surface waters of the state or of causing violations of water quality standards." Id.

The DEQ's antidegradation regulations contained in Chapter 1, which mirror the EPA's regulations,[5] require that "[w]ater uses in existence on or after November 28, 1975 and the level of water quality necessary to protect those uses shall be maintained and protected." See WDEQ WQRR Chapter 1, Section 8. In order to achieve this standard, the DEQ is required to follow procedures outlined in its Antidegradation Implementation Policy. Chapter 1, Section 8(c). Here, the DEQ failed to follow its own procedures, which unfortunately led to the issuance of a fatally-flawed and legally deficient discharge permit. This issue is discussed in detail, below.

Receiving waters

While we commend DEQ for providing in this version of the draft permit a more detailed description of the receiving waters, we suggest that further elucidation is required in order to better understand how and where partially treated wastewater flows through this area, beginning with the Borrow Pond.

Previous permits and permit modifications for the Jackson WWTF have noted that a natural stream enters the Borrow Pond on the west side which is used to dilute ("blend") the partially treated effluent before being released into the three WGFD constructed wetland ponds, or "reservoirs." According to water resource maps prepared by Teton Conservation District, it appears that the flow from Imeson Creek can be controlled with a gate and diverted north and then east around the north side of the Borrow Pond. The Borrow Pond appears to be unlined, and its storage capacity is believed to be substantial given its surface area and depth. Given the hydrology, stream alluvium, and shallow water table in this area, it likely that partially treated effluent contained in the Borrow Pond is seeping into groundwater in this area and potentially mixing with surface water nearby. This potential source of ground and surface water contamination should be investigated by DEQ.

Effluent contained in the Borrow Pond is apparently transported via underground pipes to the WGFD-managed reservoirs (Blue Heron, Sandhill Crane and Snowy Egret) located immediately south of the lagoon system. The fate of effluent that enters these wetland ponds is unclear and has not been adequately described in the draft permit. Give the unlined nature of these ponds, we suspect that a substantial amount of the partially treated effluent contained in these ponds infiltrates into the underlying aquifer. This should be investigated further by DEQ.

Multiple site visits performed by POWJH and others have revealed that wastewater exits Blue Heron Reservoir on the west side, and then flows south into Goose Creek, a natural stream that enters the South Park WHMA on the west side. Based on recent observations, Goose Creek contains fish, which should be acknowledged in the permit. This topic is discussed in detail below.

[5] The EPA's CWA antidegradation regulations require that "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." 40 C.F.R §131.12(a).

The stream that enters the Borrow Pond (a.k.a., "West Borrow Area Lake Reservoir" according to TCD's water resources map) from the west wraps around the north end of the pond and then flows a short distance south (on the east side of the borrow pond) where it joins Goose Creek, a short distance upstream of the confluence of the Blue Heron outlet channel and Goose Creek.

Despite numerous site visits and conversations with multiple stakeholders, the flow of wastewater through this area remains somewhat of a mystery. The SoB (at 2) states that "[f]rom the constructed wetlands, water flows toward the Snake River (2AB) near the mouth of "Goose Creek" – a short spring which begins approximately 3⁄4 of a mile northwest of the facility, near Runway Road in South Park." This description may -or may not be- accurate with respect to some portion of the total volume of wastewater existing the WWTF, and it doesn't account for groundwater infiltration nor explain the flows that are visible in the series of "reservoirs" located immediately south of the WGFD "constructed wetlands" namely, South Park No. 1 Reservoir, South Park No. 2 Reservoir, and South Park No. 3 Reservoir (collectively, Spring Branch Creek) which appears to enter Flat Creek under a road berm south of the parking area and hay barns. A press release published by the WYLDLIFE Fund discussing the WGFD South Park WHMA wetlands enhancement project notes that, "Additionally, the project will install new infrastructure in the wetland ponds, which filter water from the Jackson Wastewater Treatment Plant *before the water reaches Flat Creek*." (Emphasis added.) See https://thewyldlifefund.org/south-park-wetlands-enhancement/ Since Flat Creek is E.coli impaired, this should be a focus of DEQ's investigation.

In summary, the description of the receiving waters provided by DEQ in the SoB and the flow of wastewater through them does not appear to be entirely accurate; we recommend that the permit be revised to provide as compete and accurate description as possible. Since it manages this area south of the lagoons, including controlling the flow of water through this area, the WGFD may need to be part of the discussion. It is important to keep in mind that the Jackson sewage treatment facility is the largest permitted point source of water pollution in Teton County and as such it requires the highest level of scrutiny and attention.

The Clean Water Act Requires Protection of Fish

As an "existing use" under the Clean Water Act, the presence of fish in the receiving waters in the South Park Wildlife Habitat Management Area must be addressed by the DEQ.

As noted above, the current DEQ/WQD classification of the surface waters in the South Park WHMA noted in the SoB, i.e., Class 3B, is incorrect. Multiple lines of evidence indicate the likely presence of fish in the receiving waters.[6] See attached emails from Carlin Girard, Executive Director, Teton Conservation District, and Darren Rhea, WGFD Regional Fisheries Supervisor, Jackson.

In addition, a WGFD Jackson region news release (posted 4/28/2022) describing the Game & Fish's efforts to enhance South Park wetlands states: "The project design includes

[6] Even without this evidence, the DEQ must set effluent limits in this permit that are protective of fish because it has not prepared a Use Attainability Analysis justifying a stream classification that does not protect this use.

construction of small levees in key locations along with up-to-date water control structures that will allow more efficient water management and fish passage." (emphasis added). See https://wgfd.wyo.gov/Regional-Offices/Jackson-Region/Jackson-Region-News/Game-Fish-to-Improve-South-Park-Wetlands

Accordingly, the Jackson WWTF discharge permit must be revised to include water quality based effluent limits that protect fish. "Water quality based effluent limitations shall be established for constituents in discharges determined to have a reasonable potential of adversely impacting uses of surface waters of the state or of causing violations of water quality standards." See Chapter 2, Section 5(c)(iii)(C)(I).

To reiterate: the DEQ's antidegradation requirements, which are set forth in Chapter 1, require that: "Water uses in existence on or after November 28, 1975 and the level of water quality necessary to protect those uses shall be maintained and protected." See Chapter 1, Section 8(a). To ensure the "necessary" level of protection is attained, the rule requires the DEQ to follow certain procedures which it failed to do here. The procedures used to implement this section are described in the *Antidegradation Implementation Policy.* See Chapter 1, Section 8(c).

The antidegradation policy is significant enough to warrant quoting in its entirety, as follows:

> Section 6. Existing Use Protection (All Wyoming Surface Waters). Except for the special considerations provided in Chapter 1 and regulations regarding Class 2D, 3D and 4C waters, **existing in-stream water uses shall be maintained and protected in all Wyoming surface waters.** For Class 1 waters, existing uses will be protected by implementing the requirements described in Section 3 of this implementation policy. For high quality and use protected waters, this implementation policy assumes that attainment of the criteria assigned to protect the current water body classification will serve to maintain and protect all existing uses. In some cases, however, water quality may have improved in the segment since the classifications were assigned, resulting in an existing use that is higher than the current classification. **In other cases, the classifications may have been assigned based on inadequate information, resulting in classifications that do not fully encompass the existing uses of the segment. Where the antidegradation review results in the identification of an existing use that has protection requirements that are clearly defined, but are not addressed in the current classification and criteria, the division will ensure that such existing uses are fully protected based on implementation of appropriate numeric or narrative water quality criteria or criteria guidance.** For example, where a proposed activity will result in the discharge of a substance for which sufficient data to derive appropriate criteria are available (e.g. Clean Water Act Section 304(a) criteria), but numeric criteria have not been adopted in the Chapter 1, the division will develop effluent limitations that will protect the existing use. In cases where there is a proposed discharge where federally-listed threatened or endangered species are present (i.e. aquatic species), the division will work with the U.S. Fish and Wildlife Service and EPA to gather available information and evaluate whether special existing use protection requirements are necessary to protect the listed species. Where there is a

question regarding the appropriate classification of a segment, the applicant may be required to provide information regarding existing uses.

(emphasis added).

In the context of this permit renewal, and in accordance with the policy above, the antidegradation review that DEQ is required by its own policy to prepare must: 1) acknowledge the presence of fish in the surface waters immediately downstream of the outfall, including but not limited to, the Borrow Pond immediately west of the lagoons, the three constructed reservoirs south of the lagoon complex, Goose Creek, Davis Ditch, natural wetlands dubbed South Park Reservoirs #1, #2, and #3, and small braided stream channels tributary to the Snake River; and 2) establish sufficient end-of-pipe effluent limits and controls on the discharge to protect fish. The current draft permit does neither.

The DEQ's responsibility to protect this fishery is clear: "Where the antidegradation review results in the identification of an existing use that has protection requirements that are clearly defined, but are not addressed in the current classification and criteria, the division will ensure that such existing uses are fully protected based on implementation of appropriate numeric or narrative water quality criteria or criteria guidance."[7]

Accordingly, the "antidegradation, impairment review" summarized on page 10 of the Statement of Basis should be revised and updated to: 1) acknowledge the presence of fish in receiving waters, such as Goose Creek, that are improperly classified as class 3(B); 2) acknowledge that the receiving waters include Flat Creek (class 2AB), which is listed on the states combined 305(b)/303(d) list of impaired waters; 3) correct inaccurate and/or misleading statements concerning antidegradation requirements and conclusions made from that analysis.

For example, the first sentence in the SoB's antidegradation review fails to acknowledge that, under the DEQ's antidegradation policies (and the federal Clean Water Act), ***existing uses*** must be protected, and that the effluent limits and requirements in the permit must —but currently do not—ensure adequate protection of the receiving stream's water quality necessary to maintain and protect existing uses, even where those uses have not been designated.

In addition, the second sentence in the SoB's antidegradation review stating it "verifies that the permit conditions and effluent limits established in this permit provide a level of receiving water protection consistent with the state of Wyoming's antidegradation provisions and surface water quality standards" is incorrect and should be deleted.

As noted above, a proper antidegration review will acknowledge the presence of fish in the receiving waters. The DEQ is then required to develop water-quality based effluent limits for ammonia in accordance with DEQ WQRR Chapter 1, Section 9 to "ensure minimal receiving waterbody zones are impacted by the discharge during effluent-receiving waterbody mixing" and Section 21, Protection of Aquatic Life. SoB at 5. The small receiving waters below the lagoons

[7] "The numerical and narrative standards contained within these regulations shall be used to establish effluent limitations for those discharges requiring control via permits to discharge in the case of point sources and best management practices in the case of nonpoint sources." See Chapter 1, Section 5. Standards Enforcement.

containing fish do not provide the same dilution factor as the Snake River, so a revised waste load allocation (WLA) calculation will be needed to calculate site-specific ammonia effluent limits. A revised mixing zone analysis will also be required, taking into account the much smaller flows of the receiving waters.

> DEQ WQRR Chapter 1, Section 21, provides in part that, for ammonia,
> "(i) The toxicity of ammonia varies with pH and temperature and the applicable limitations are included in the tables in Appendix C of these regulations. The numeric ammonia criteria in Appendix C apply to all Class 1, 2AB, 2A, 2B and 2C waters.
> (ii) In all Class 2D and 3 waters, concentrations of ammonia attributable to or influenced by human activities shall not be present in concentrations which could result in harmful acute or chronic effects to aquatic life, or which would not fully support existing and designated uses."

The conservative approach —and the only one that would fully meet Clean Water Act requirements— would be to set end-of-pipe effluent limits for ammonia that achieve the Chapter 1, Appendix C in-stream numeric standards.

GROUNDWATER IMPACTS

It appears from our site visits that a large and perhaps significant quantity of the wastewater discharged from this facility enters the shallow aquifer beneath it. Impacts to groundwater quality and potential violations of DEQ WQRR Chapter 8 groundwater quality standards must be addressed. The DEQ's 1995 Permit to Construct, Permit No. 94-545, dated 7/14/95 (authorizing the modification of this facility) contains a number of Special Conditions, including conditions 11-15 requiring groundwater monitoring. Condition 11 required that: "The discharge of wastes from the sewage treatment lagoons to the subsurface by natural seepage, infiltration or percolation shall not cause a groundwater quality concentration of any constituent in the aquifer immediately below the facility to exceed the class of use standard for class I groundwater as contained in Chapter VIII, Wyoming Water Quality Rules and Regulations. The points of compliance shall be monitor wells identified as #1, #2, #3, #4, #5, #6, #7 and #8." [8]

We have reviewed the results of groundwater monitoring provided to POWJH in response to public records request # 24-540.[9] Our review has revealed what appears to have been a large number of exceedances of Chapter 8 groundwater quality standards for ammonia over a period of many years. See attached graph. Based on that, we recommend that DEQ undertake an investigation pursuant to W.S. 35-11-701 (Complaint and Request for Investigation) to determine whether groundwater quality standards are being met. The DEQ should also consider adding groundwater monitoring to this permit.

[8] As noted in Condition 14, the Class 1 standard for ammonia is 0.5mg/l. The Chapter 8 standard hasn't been changed in the intervening years and remains 0.5 mg/l.
[9] It appears that groundwater monitoring at this facility ceased in 2012 without any obvious explanation.

EXPERT COMMENTS

To assist the DEQ's review of this permit, POWJH retained the services of Lorenzo Guidolin, Founder and Principal in Charge of CLEANTECH Consulting, LLC. A highly experienced wastewater engineer with 19 years of operational experience in water and wastewater treatment processes, Mr. Guidolin reviewed the draft permit for the Jackson WWTF and prepared two letters: the first providing specific comments and recommendations for DEQ's consideration regarding details of the SoB and draft permit; the second presenting general comments addressing a number of issues regarding the age, condition and technological limitations of the lagoon system.

With regard to specific comments on the permit, Mr. Guidolin noted that ground and surface water could be at risk due to high ammonia levels in the wastewater, particularly during winter months, and suggested further action "to make sure the high ammonia is not posing risks to the aquatic species and surface and ground water sources." A toxicity study of the WGFD-managed wetland ponds is also recommended "to understand how high ammonia and other nutrients (i.e., phosphorous) in the discharged water might alter and affect that ecosystem."

Mr. Guidolin also expressed concern that the cBOD5 influent concentration has exceeded the design limit (211 mg/L) many times in 2022, and recommends establishing in the permit "a limit in 'lbs/day' for cBOD processed through the WWTF."

Mr. Guidolin's letter also notes that the apparent absence of liners in primary cells 1 and 2 "constitutes a major concern, as waste water entering the plant might seep through the ground and contaminate the soil and ground water" and he "recommends implementing a sampling protocol around the unlined cells to monitor any potential ground contamination through seepage or percolation."

With regard to general comments, Mr. Guidolin reiterates concerns about high levels of ammonia entering the environment; the possibility of untreated wastewater from primary cells 1 and 2 contaminating the aquifer; inadequate controls for cBOD, and TSS; and issues/costs associated with sludge accumulation in cells 1 and 2.

POWJH shares these concerns and hereby adopts and incorporates by reference herein, in their entirety as if fully set forth below, the two letters provided by Mr. Guidolin, and has attached them hereto for DEQ's convenience and consideration.

CONCLUSION

We believe the Town of Jackson has done the best it can do with a nearly 45-year-old antiquated lagoon system, but it is time to move on. In the not-to-distant future, we would like to see this antiquated lagoon system replaced or augmented by a modern state-of-the-art mechanical wastewater treatment plant that achieves much higher levels of pollution reduction, especially ammonia and other nutrients, to better protect the quality of our precious ground and surface water resources.

Our community has expressed a collective desire to meet the "gold standard" with respect to wastewater treatment which, in all honesty, this particular facility is incapable of achieving. In the meantime, immediate action must be taken in the form of new, water quality based effluent limits on ammonia to protect fish in the receiving waters.

In closing, we appreciate the opportunity to provide comments on the Jackson Wastewater Treatment Facility, WYPDES permit number WY0021458, and we look forward to DEQ's response to our specific questions and comments. We would appreciate being informed of any future meetings or comment opportunities that may be provided in connection with this draft permit.

Sincerely,

Dan Heilig
Interim Executive Director
Protect Our Water Jackson Hole

CC: EPA Region 8, Office of Water

Enclosures:
Email from Darren Rhea, Regional Fisheries Supervisor, WGFD, March 13, 2023.
Email from Carlin Girard, Executive Director, Teton Conservation District, June 13, 2024
GRAPH: Jackson WWTF and South Park WHMA Groundwater Monitoring Well Data, 2008
Letter from Lorenzo Guidolin, CLEANTECH Consulting, General Comments on Jackson Wastewater Treatment Facility
Letter from Lorenzo Guidolin, CLEANTECH Consulting, Comments on Jackson Wastewater Treatment Facility, Permit No. WY0021458
Resume of Lorenzo Guidolin