On December 9, 2024, the Montana Department of Environmental Quality (DEQ) issued Public Notice MT-24-14, stating DEQ's intent to issue a Montana Ground Water Pollution Control System (MGWPCS) wastewater discharge permit to Lakeside County Water and Sewer District for the LCWSD Rapid Infiltration System. The public notice stated DEQ had prepared a draft permit, a Fact Sheet, and a draft environmental assessment.

MGWPCS permit MTX000307 is a new permit for an existing facility. The current wastewater treatment system includes lagoon treatment and disposal via land application and is not subject to MGWPCS permit coverage. The proposed treatment system will replace the lagoons with a mechanical treatment plant and add disposal to ground water in addition to land-applying during the summer months.

Public Notice MT-24-14 required all substantive comments must be received or postmarked by January 10, 2025, in order to be considered in formulation of the final determination and issuance of the permit. This deadline was subsequently extended until February 27, 2025. DEQ received and considered the following comments submitted during the public comment period in preparation of the final permit and decision.

This Response to Comments document is an addendum to and supersedes relevant parts of the Fact Sheet, to the extent specific changes or clarification are discussed herein. Written public comments were received during the public comment period, December 9, 2024 to February 27, 2025, and oral comments were received during the public hearing held on February 27, 2025. All comments have been organized into unique themes. Within each theme a synopsis characterizes the public input received and DEQ has prepared a response to the input. All written and oral comments received during the public notice period were considered by the department in its final determination.

Table 1 shows the comment themes and synopses. Responses to each theme are provided below.

Table 1: Themes of Public Comments on MGWPCS Permit MTX000307.

Theme Code	Comment Theme
Theme 1	Aquifer Characterization
Theme 2	Site Location
Theme 3	Impacts to Ground Water and Surface Water
Theme 4	Ground Water Mounding
Theme 5	Aging Infrastructure
Theme 6	Environmental Assessment
Theme 7	Total Daily Maximum Load
Theme 8	Tribal Concerns
Theme 9	PFAS / PFOS / Pharmaceuticals
Theme 10	Functional Equivalence
Theme 11	Engineering
Theme 12	Data Availability
Theme 13	Lakeside County Water and Sewer District Capacity
Theme 14	Lakeside County Water and Sewer District Operations
Theme 15	Monitoring and Well Testing
Theme 16	Deficiencies in DEQ Review or Authority
Theme 17	Land Use
Theme 18	Existing Discharges to Ashley Creek
Theme 19	Request for Extension
Theme 20	Request for Public Hearing
Theme 21	General Opposition / Recommend Denial of the Project

Theme 1 – Aquifer Characterization

Synopsis:

Commenters expressed concern that the methodology and data used by the applicant to characterize the receiving aquifer does not accurately represent site specific hydrogeologic conditions. Commenters stated the applicant oversimplified the hydrogeologic conditions of the receiving aquifer when evaluating hydraulic conductivity, contaminant travel times, fate and transport modeling, and pathogen movement. Commenters noted that common evaluation approaches for complex ground water systems often include installation of monitoring wells in a grid pattern and completion of shallow geophysical surveys to identify preferential pathways. Commenters recommended additional site-specific hydrogeologic studies be conducted prior to finalization of the permit. Commenters stated the proposed permit's effluent limits are based wholly on LCWSD's characterization of the receiving aquifer, its flow, and nutrient fate and transport to proximate surface waters, including assumed phosphorus retention and nitrogen denitrification processes. Commenters stated that key findings from Citizens for a Better Flathead's Expert Reports demonstrate a flawed scientific basis for the permit due to lacking hydrogeologic characteristics of the project area. One commenter expressed concern that the calculated hydraulic conductivity varies over two orders of magnitude, and that five monitoring wells are insufficient to characterize the aquifer. Some commenters recommend development of a conceptual model and numerical ground water model. Errors with monitoring wells don't all have the same screen length. One commenter noted three typos on page 18 of the Fact Sheet. Commenters expressed concern about the amount of dilution available in the receiving aquifer.

Response:

DEQ acknowledges the complex hydrogeologic environment of the project site and the hydraulic connectivity of ground water and surface water in the area, as discussed in sections 2.4, 2.6, and 3.4 of the permit Fact Sheet. Three slug tests were completed in each well and an average hydraulic conductivity of 122 ft/day was calculated. This corresponds to an average transmissivity of 1,224 ft2/d, calculated using an estimated aquifer thickness of 10 feet (from the wells' screen length). This transmissivity value is consistent with Noble and Sanford (1986), which found the Delta aquifer's transmissivity to range from 1 - 3,700 ft2/d. Homogeneity is a common assumption in analytical ground water modeling where comprehensive local hydrogeological data is not available. To address known limitations in modeling and robust hydrogeological data, DEQ uses multiple conservative assumptions in its analyses. DEQ's nonsignificance analyses show that the proposed project will have no significant cumulative or direct impacts on the downgradient surface waters. See Section 3.3 of the Fact Sheet at pages 36-37. DEQ has determined that the proposed discharge will comply with the nonsignificance criteria and preserve the existing quality of state ground water and downgradient surface waters. To provide the basis for its conservative approach in development of this permit, DEQ assumed all effluent will flow to the nearest surface water.

Conservative Assumptions Used During DEQ's Nonsignificance Determination for Nitrogen:

Dilution	The applicant calculated the total volume of the receiving water available to provide

	dilution for the proposed discharge. To maintain a conservative approach, only a portion of the source specific mixing zone volume was used to calculate concentration of nitrogen at the point of contact with surface water.
Site-Specific Ground Water Characteristics	The ambient ground water data collected from MW-5 shows a specific conductance of 595 µS/cm in the receiving water, categorizing it as Class I ground water. Effluent limits in the permit were calculated to protect the most restrictive water quality standards and to protect the most sensitive beneficial use. For Class I ground water, the most restrictive beneficial use is drinking water, which is protected by the ground water human health standards, including 10.0 mg/L for nitrogen.
Attenuation	Projected nitrate calculations in this permit do not credit potential losses due to attenuation.

Conservative Assumptions Used During DEQ's Nonsignificance Determination for Phosphorus:

Breakthrough Analysis	The applicant calculated surface water breakthrough times for phosphorus using half of the total discharge from the RIBs due to the radial flow anticipated from effluent mounding. The shortest distances from each RIB to the nearest surface waters were used to simulate a worst-case scenario. The applicant calculated breakthrough times for RIB #1, RIB #2, and RIB #3 of 78 years, 92 years, and 300 years, respectively. DEQ used a more conservative calculation by using the full discharge from the RIBs, which yielded breakthrough times for RIB #1, RIB #2, and RIB #3 of 30 years, 46 years, and 150 years, respectively. Per ARM 17.30.715(1)(e), a surface water breakthrough time of greater than 50 years is a nonsignificant change in concentration

	of total inorganic phosphorus in ground water quality. For this reason, effluent limits were developed for RIB #1 and RIB #2. As a conservative measure, a value of 4.0 feet was utilized for the unsaturated thickness in calculations addressing phosphorus breakthrough and pathogen reduction.

DEQ corrected the error on page 18, paragraph 3 of the Fact Sheet in response to this comment.

Theme 2 – Site Location

Synopsis:

Commenters requested that DEQ require selection of a site farther away from Flathead Lake and nearby surface waters and expressed concern that the site location presents a high risk of nutrients entering nearby surface waters. Some commenters stated that other states have restrictions on RIB placement. One commenter expressed concern about the layout of the proposed improvements allowing for future treatment system upgrades to meet increased flow or water quality requirements.

Response:

DEQ reviewed the application submitted by the applicant according to criteria set forth in ARM 17.30.1023, and determined the application meets all requirements of ARM 17.30 and Title 75, Chapter 5, MCA. Alternative site selection was evaluated as part of the district's and Flathead County's planning documents for the treatment plant and the septage receiving facility. DEQ's role is to evaluate the information and materials included in discharge permit applications for compliance with applicable laws and regulations. The Department has determined the application for the currently proposed site meets applicable laws and regulations.

The proposed facilities for Phase 1 of the project will include pretreatment facilities that will discharge to the LCWSD facility. Principal wastewater treatment upgrades are anticipated with Phase 2 of the project. The planning, alternative analysis, and selection of the treatment system will be included in a preliminary engineering report (PER). It is DEQ's understanding that the district's consultant is currently working on this PER. The final treatment system will be selected to meet the effluent water quality requirements of this permit, and the district's existing irrigation site. Design of the treatment facility will need to meet Circular DEQ-2 – Design Standards for Public Sewage Systems. Those standards include requirements for treatment system design to consider future needs.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 3 – Impacts to Ground Water and Surface Water

Synopsis:

Commenters expressed concern that the shallow and deep aquifers may not be capable of accepting increased discharges of treated wastewater and the discharge will contaminate ground water that will eventually discharge to surface water. Commenters expressed concern about how long contaminants may last in the subsurface, and how DEQ will ensure conditions of the permit are met. Commenters stated that the phosphorus breakthrough and nitrogen fate and transport analyses lack scientific support due to limited site-specific data. Commenters noted that preferential flow pathways in the receiving aquifer will enable pollutants to reach surface water faster than proposed in the permit, possibly in a matter of days or weeks and likely with higher concentrations than proposed in the permit. Commenters expressed concern that soils do not provide sufficient treatment prior to the wastewater reaching surface water due to grain size and shallow depth to ground water. Commenters expressed concern that any dilution, attenuation, or chemical change to nitrate nitrogen or phosphorus as the discharge moves through the substrate will be minimal due to preferential pathways in the receiving aquifer. Commenters expressed concern that nutrients in the discharged wastewater may cause exceedance of numeric nutrient standards for wadeable streams in Montana Ecoregion 15. Commenters stated that the application lacks scientific basis for the permit conclusion of nonsignificance, and that the proposed discharge is likely to cause or contribute to violations of water quality standards in downgradient surface waters.

Response:

DEQ performed a nondegradation analysis of the proposed discharge according to the rules in ARM 17.30.715 which implement the state's nondegradation policy stated in 75-5-301, MCA. DEQ evaluated the fate of nitrogen (in the form of nitrate) and phosphorus associated with the discharge of wastewater from the proposed RIBs as part of its nonsignificance determination. DEQ's analyses show that the proposed project will have no significant cumulative or direct impacts on the downgradient surface waters. DEQ has determined that the proposed discharge will comply with the nonsignificance criteria and preserve the existing quality of state ground water and downgradient surface waters.

Ground water depth meets DEQ requirements to maintain an unsaturated zone between the bottom of each infiltration basin and receiving ground water. This includes periods where ground water mounding may occur as a result of discharges from the facility. The depth to ground water with mounded conditions was derived from modeling performed by Water & Environmental Technologies (WET) in furtherance of the permit application.

Discharge limitations specified in the permit are based on the assimilative capacity of the receiving ground water and are not dependent on additional treatment that may be provided by percolation through soil. Information used for characterization & modeling was based on a combination of field data collected and several previous studies of the area. On site testing included monthly static water level measurements, rising head slug tests, and quarterly water quality monitoring from five monitoring wells installed in the area proposed for the infiltration basins.

Site specific calculations and modeling by WET indicate that nitrate levels would be below the non-significance threshold of 7.5mg/L within 110 feet of each infiltration basin. First order attenuation

calculations show that nitrate levels would reach background levels (0.11mg/L) between 640 to 1,200 feet of the basins. These calculations were based on the site-specific data collected, and assumed a facility discharge of 200,000 gpd with a nitrate concentration of 8mg/L, a concentration commonly achieved by the advanced treatment system proposed by the District. These calculations demonstrate that nitrate levels will reach background concentration of nitrate prior to reaching any of the nearby receiving surface waters.

Montana Ground Water Pollution Control System permits are issued under the Water Quality Act. These permits include effluent limits to control the amount of nutrients or other contaminants discharged. This permit requires monitoring, sampling, and reporting to DEQ. The permit also requires periodic inspections and operations audits. Noncompliance is subject to enforcement and penalties as provided by 75-5-611, MCA. This enables DEQ to ensure that downgradient water quality is not degraded and beneficial uses continue to be supported.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 4 – Ground Water Mounding

Synopsis:

Several commenters voiced worries that ground water mounding from the proposed discharge could negatively affect nearby surface waters and private wells. A specific concern was raised about a factual error in the Fact Sheet, which incorrectly described the mounding analysis as using a steady-state model when the model was run in transient mode. Multiple commenters also questioned the assumptions of the mounding model, highlighting the contrast between the aquifer's actual variability and the model's assumption of uniformity. These commenters urged the DEQ to mandate a reevaluation of the mounding using a calibrated numerical ground water model that better reflects the aquifer's heterogeneity. One commenter expressed reservations regarding the chosen ground water boundaries and the five-year duration of the model simulation. Some commenters expressed concern about how the Flathead River and the periodic height changes of Flathead Lake will be affected by or influence the LCWSD’s proposed projects.

Response:

DEQ acknowledges the assumptions of analytical ground water models, which include homogeneity and isotropy to simplify the complexity of ground water flow. Lack of local and regional hydrogeological data is a common issue in water resource management, and for this reason analytical models are often utilized for decision-making where a comprehensive dataset is not available. The model used to simulate mounding for the proposed discharge utilized site specific data from 15 slug tests taken from five monitoring wells across the site, with a run time of five years using the Flathead Lake and Flathead River as ground water boundaries. The selection of lakes and rivers as boundaries (areas with constant hydraulic head) is common practice in ground water modeling, as their water levels remain relatively stable compared to the variations within an aquifer.

Seasonal variation in ground water flow direction is expected to be influenced by the effluent mound. Interaction between Flathead Lake and the Flathead River and the receiving aquifer are discussed in sections 2.4, 2.5, and 2.8.2 of the permit Fact Sheet.

DEQ acknowledges the mistake on page 25 of the Fact Sheet and hereby corrects the error to state that the model was run in transient mode, which accurately reflects the results of the applicant's report.

Theme 5 – Aging Infrastructure

Synopsis:

Commenters expressed concern about the age of the pipe and lift stations. Some commenters expressed opposition to the approval of the permit as long as the applicant operates a 40-year-old system and request an assessment of potential impacts to surface and ground water from aging infrastructure.

Response:

This comment is outside the scope of the proposed issuance of MGWPCS Permit MTX000307 for the LCWSD Rapid Infiltration System.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 6 – Environmental Assessment

Synopsis:

The EA didn't consider impacts to nearby wells and inadequately examined cumulative impacts of the proposed project. The proposed permit does not provide the public with any analysis of what other related pollution sources are being contemplated in the same region, so the public is unable to comment meaningfully. Several commenters expressed concern about flooding. Commenters expressed concern about the method of treatment lagoon abandonment. Several commenters expressed concern that the EA doesn't include Phase 2 of the LCWSD upgrades. The EA failed to consider accepting Wee Casa's non-residential wastes. Commenters expressed concern about this proposed project meeting requirements of Circulars DEQ 2 and 4.

Response:

The proposed action is issuance of a MGWPCS permit to authorize the discharge of treated wastewater to ground water from a proposed rapid infiltration system. Phase 2 of the LCWSD improvements including design, construction, and approval of an Operations and Maintenance plan for the wastewater treatment plant and rapid infiltration basins is regulated by DEQ's Engineering Bureau and is not

included in this action. Lagoon abandonment is not within the scope of this proposed action and would be conducted during Phase 2 of the upgrades and subject to approval from DEQ's Engineering Bureau during that time. Final evaluation of the flooding potential from other sources will be required when plans for construction of the RIBs is submitted to the department. If the proposed design plans do not adequately meet the standard, approval for construction will not be given. The standards in Circular DEQ-4 do not apply to RIBs, though similar requirements for flood protection exist in Circular DEQ-2. The actions included in this environmental assessment fulfill the requirements under DEQ Circular-2.

Nearby wells – No drinking water wells are within 500 feet of the proposed RIBs. See Appendix A to the Fact Sheet at page 4 and Figure 3. See Part 2.2 of the EA. DEQ analyzed potential impacts the proposed project may have on the receiving aquifer. Nitrate levels downgradient of the drainfield are expected to meet water quality standards and beneficial uses will be maintained. Drinking water wells are located in a deeper aquifer than the receiving ground water and should not be affected by the permitted discharge.

Cumulative impacts – DEQ's cumulative impacts analysis included analysis of impacts from past, present, and future actions. Future actions are considered when under concurrent review by a state agency through preimpact studies, separate statement evaluation, or permit processing procedures. See ARM 17.4.603(7). The ambient nitrate concentration in the shallow receiving aquifer is 0.11 mg/L and this concentration is used to assess the assimilative capacity of the receiving aquifer and account for past actions. The current permit regulates discharge to the receiving water and incorporates permit effluent limitations and conditions to regulate the present action. There is no other ground water discharge application under concurrent consideration by a state agency in the area.

Wee Casa – The permit is for the disposal of domestic strength wastewater to ground water. The permittee is responsible for ensuring that all influent is domestic in nature and will be required to meet all effluent limitations and conditions of the permit and submit an operations manual for receiving and handling septage from any new sources.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 7 – Total Maximum Daily Load (TMDL)

Synopsis:

DEQ does not discuss current TMDLs that may be impacted by the proposed project. Some commenters expressed concern about the Use Attainability Analysis being conducted on Ashley Creek, and assimilative capacity in the nearby surface waters. Commenters expressed concerns that pollutants will reach Wiley Slough and Lower Ashley Creek and allow violations of the Flathead-Stillwater Nutrient TMDL documents. The draft permit fails to consider whether the discharge would cause degradation of surface water, did not consider potential cumulative impacts, and did not explain how any addition of pollutants is allowable under the TMDL.

Response:

MGWPCS Permit No. MTX000307 authorizes discharge of wastewater to Class I Groundwater. DEQ acknowledges the hydrological connection of the receiving, unconfined Delta aquifer to surface waters, but does not expect surface waters to be impacted by the discharges to ground water authorized by MTX000307. The Flathead-Stillwater Planning Area Nutrient, Sediment, and Temperature Total Maximum Daily Load (TMDL) and Water Quality Improvement Plan (DEQ 2014) is considered and discussed in sections 2.4, 2.6, and 3.4 of the permit Fact Sheet. DEQ performed a nondegradation analysis of the proposed discharge according to the rules in ARM 17.30.715 which implement the states' nondegradation policy stated in 75-5-301, MCA. DEQ evaluated the fate of nitrogen (in the form of nitrate) and phosphorus associated with the discharge of wastewater from the proposed RIBs as part of its nonsignificance determination. DEQ's analyses show that the proposed project will have no significant cumulative or direct impacts on the downgradient surface waters. DEQ has determined that the proposed discharge will comply with the nonsignificance criteria and preserve the existing quality of state ground water and downgradient surface waters. In fact, nitrate may decay to the 0.275 mg/L target value for the Flathead – Stillwater TMDL Planning Area at an average distance of 469 feet away from the RIBs and within several hundred feet of the nearest downgradient surface water. See page 38 of the Permit Fact Sheet.

DEQ is considering a request from the City of Kalispell to assess the attainment of the designated uses in Ashley Creek including the growth and propagation of salmonid fishes. DEQ is currently reviewing and evaluating Kalispell's request to alter current designated uses and associated water quality standards in Ashley Creek, which can only be implemented after rulemaking including public comment and EPA review and approval. The Ashley Creek UAA is expected to be in development over the next two years.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 8 – Tribal Concerns

Synopsis:

Commenters stated that the permit must preserve downgradient surface water quality to meet tribal water quality standards and to protect historic fishing rights within CSKT's ancestral territory, including Flathead Lake. DEQ hasn't considered CSKT floodplain easements. Commenters expressed concern that the CSKT were not consulted, and no analysis was done regarding the impact to a flood easement that they own near the proposed discharge site. Commenters expressed concern that the proposed discharge will negatively impact treaty rights to fishing and healthy fish populations. The CSKT argues its WQS (particularly in Flathead Lake) must be considered. The tribe is asking DEQ to "stay any decision-making on the LCWSD permit until it has adequately analyzed, in partnership with CSKT, how the proposed discharge would, or would not, affect attainment and maintenance of downstream CSKT water quality standards.

Response:

Ensure Compliance with Tribal Water Quality Standards – The existing and proposed facility is north of and outside the Flathead reservation boundary. The CSKT water quality standards apply to "[t]hat

portion of Flathead Lake within the Flathead Indian Reservation and all streams within the Reservation that are tributary to Flathead Lake . . .” *See* Surface Water Quality Standards and Antidegradation Policy, Confederated Salish and Kootenai Tribes of the Flathead Reservation (July 2023) at page 12. The CSKT water quality standard for nitrate is 10 mg/L according to the CSKT Tribal Numeric Chart. *Id*. at page 69 (CSKT, 2023). Nitrate may decay to the 0.275 mg/L target value for the Flathead – Stillwater TMDL Planning Area at an average distance of 469 feet away from the RIBs, which is several hundred feet of the nearest downgradient surface water. See page 38 of the Permit Fact Sheet. Federal and state regulations require the state to consider and ensure the attainment and maintenance of downstream water quality standards. MGWPCS Permit MTX000307 contains effluent limits and conditions that will protect tribal water quality standards and designated uses in surface waters within the reservation boundary including the protection of fish species that are culturally important to the CSKT and those listed under the Endangered Species Act.

Functional Equivalent of a Connection to Surface Water **–** See Responses to Themes 7 and 10. DEQ acknowledges the hydraulic connectivity of ground water and surface water in the area, as discussed in sections 2.4, 2.6, and 3.4 of the permit Fact Sheet. DEQ performed a nondegradation analysis of the proposed discharge according to the rules in ARM 17.30.715 which implement the state’s nondegradation policy stated in 75-5-301, MCA. DEQ also evaluated the fate of nitrogen (in the form of nitrate) and phosphorus associated with the discharge of wastewater from the proposed RIBs as part of its nonsignificance determination. DEQ’s analyses show that the proposed project will have no significant cumulative or direct impacts on downgradient surface waters and is not the equivalent of a discharge to state surface water that would require an MPDES Permit.

Floodplain Easements – Discharges authorized by MTX000307 are not expected to impact the CSKT’s floodplain easement. Construction of the force main may temporarily disturb the floodplain. Construction of the force main will be performed using horizontal directional drilling and no long-term surface disturbance of wetlands is expected. See the EA at page 13. The existing treatment facility, the proposed septage receiving facility, the proposed headworks, and the lift station are located outside the 100-year floodplain. The project does not require a Section 404 permit issued by the U.S. Army Corps of Engineers. A floodplain permit will be submitted to Flathead County for any construction related disturbance within mapped floodplain. See Section 4 of the EA.

Tribal Consultation – DEQ consulted with and considered the concerns of the Confederated Salish and Kootenai Tribes (CSKT) related to draft MGWPCS Permit No. MTX000307 on March 20, 2025, and believes those concerns are addressed in this response to comments.

DEQ did not make changes to the permit or Fact Sheet in response to these comments. DEQ included additional information in section 2.6 of the Environmental Assessment regarding potential impacts to history, culture, and archaeological uniqueness.

Theme 9 – PFAS / PFOS / Pharmaceuticals

Synopsis:

Commenters expressed concern about the impacts of PFAS, PFOS, heavy metals, microplastics, pathogens, and pharmaceuticals in ground water and surface water, and state that DEQ did not consider these during permit development. Commenters requested that testing for PFAS and of biosolids used in land application be required.

Response:

The permit action addresses discharge of treated wastewater to Class I ground water. The pollutants associated with the proposed discharge are nitrate + nitrite, total nitrogen, and total phosphorus. The permittee is proposing land application of effluent from the existing facility and the proposed project, not land application of biosolids. A biosolids disposal plan for the proposed project may be reviewed as part of the second phase of facility improvements. Regulation of biosolid disposal is outside the scope of the current action, which is consideration of a proposed ground water discharge permit. There are no special conditions or discharge limits in the permit that address biosolids. Disposal of biosolids is regulated by USEPA under 40 CFR 503.

DEQ's Pathogen Transport Model was used to calculate pathogen removal using a conservative four-foot unsaturated zone beneath the RI basin areas. Based on the model, removal of 99.99% of virus is achieved within 305 feet of each RI basin. Results of the transport model are discussed in section 2.8.3 and Appendix A – Attachment H of the Fact Sheet.

While pharmaceuticals and personal care products (PPCPs) are known to be present in domestic wastewater, they are categorized as emerging contaminants of concern. Montana does not currently have water quality standards for PPCPs, and there are no federal regulatory standards for PPCPs in wastewater, biosolids, surface water and ground water, treated drinking water or bottled water.

PPCPs include drugs of all kinds, hormones, soaps, cleaners, deodorants, perfumes, etc. They are frequently metabolized or otherwise disposed of, resulting in their presence in domestic wastewater.

To date, DEQ has not conducted routine monitoring of state surface waters for the presence of PPCPs. Monitoring conducted by others, such as the EPA, in other parts of the country, has shown that PPCPs are often present in surface water, frequently attributed to discharges of treated domestic wastewater.

DEQ finds that PPCP effluent limits or monitoring are not necessary for MTX000307 based on the following:

• Montana does not have water quality standards for specific PPCPs. What constitutes harmful levels of these compounds has not been fully studied or adopted into law in Montana.

• The proposed groundwater discharge is to the shallow aquifer and any PPCPs are unlikely to affect aquatic life or reach the deeper aquifer.

• DEQ is unaware of adverse effects to aquatic life attributable to PPCPs from domestic wastewater plants that discharge to surface waters under an MPDES permit, as evaluated by Whole Effluent Toxicity (WET) testing. DEQ requires Whole Effluent Toxicity (WET) testing at all major publicly owned treatment works (POTWs) in the state. WET testing evaluates the effluent for toxicity caused by synergistic effects and for toxicity that may be attributable to compounds that are present but not regulated by the numeric effluent limits of the permit. WET test failures attributable to PPCPs have not occurred at any of the major POTWs in the state in at least the last 20 years.

The possibility that any PPCPs discharged by the proposed facility will cause adverse aquatic life impacts is low and DEQ finds no need for an effluent limitation or special permit condition to address any of these compounds.

PFAS

Per and polyfluoroalkyl substances or PFAS, are a family of thousands of synthetic chemicals. Similar to PPCPs, they are used in many consumer products and as such find their way into the environment via various routes. PFAS presence in wastewater treatment systems is well known. Montana DEQ has adopted human health water quality standards for ground water for two PFAS: perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). EPA has developed aquatic life criteria for PFOA and PFOS, but Montana has not yet adopted aquatic life criteria. None of these criteria apply to surface waters in Montana at this time and the aquatic life criteria do not apply to ground water.

PFOA and PFOS are in a class of synthetic fluorinated chemicals used in industrial and consumer products, including defense-related applications. In 1970, the U.S. Air Force (USAF) began using aqueous film forming foam (AFFF)—firefighting agents containing PFOA and PFOS—to extinguish petroleum fires. Releases of AFFF to the environment routinely occur during fire training, equipment maintenance, storage, and use. Although manufacturers have reformulated AFFF to eliminate PFOS, the U.S. EPA continues to permit the use of PFOS-based AFFF, and the USAF maintains a significant inventory of PFOS-based AFFF. As of 2018, the USAF is actively removing PFOS-based AFFF from its inventory and replacing it with formulations based on shorter carbon chains, which may be less persistent and bioaccumulative in the environment (USACE, 2018).

In 2021, DEQ conducted monitoring for PFAS at multiple locations around the state. Monitoring focused near four at-risk areas - Helena, Great Falls, Bozeman, and Billings - where PFAS were considered likely to be found in surface waters (DEQ, 2022). The Monitoring and Assessment Program used the ground water standard of 0.07 µg/L as a screening level for surface water samples. At most sites selected, sampling results were non-detect for all 28 PFAS selected for analysis. For the most part, the highest PFOA and PFOS concentrations near these sources were 0.017 µg/L for PFOS and 0.016 µg/L for PFOA, except for Whitmore Ravine in Great Falls where PFOS was detected at 0.932 µg/L and PFOA at 0.256 µg/L. These were the only samples that exceeded the ground water human health standard. It does not appear that the City of Great Falls POTW is the source for these results. Malmstom Air Force Base is a potential source for these PFAS and is investigating possible PFAS contamination at the Base.

In the Helena area, sampling was conducted on Prickly Pear Creek at a location downstream of the City of East Helena. East Helena's POTW discharges continuously into Prickly Pear Creek at an average rate of

approximately 250,000 gallons per day. PFAS were not detected in Little Prickly Pear Creek downstream of East Helena.

DEQ finds that PFAS effluent limits or monitoring are not necessary for MTX000307 based on the following:

• The facility will discharge to shallow ground water and is unlikely to impact aquatic life or reach the deeper aquifer.

• Despite the probable presence of PFAS in wastewater treatment plant effluents, DEQ has not yet detected PFAS in surface water above Montana human health criteria or EPA aquatic life criteria at any location attributable to a domestic POTW.

Every permit renewal cycle, DEQ reevaluates and recalculates effluent limits and conditions using updated water quality data. DEQ protects the receiving aquifer and downgradient surface water by continually reassessing potential impacts to water quality.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 10 – Functional Equivalence

Synopsis:

Commenters stated that the proposed ground water permit is the functional equivalent of a point source discharge to waters of the United States and therefore requires an MPDES permit. The MGWPCS permit "is an attempt to circumvent the plain requirements of the federal Clean Water Act by treating a new, municipal scale wastewater discharge that is the functional equivalent of a point source discharge to Ashley Creek, as a state ground water discharge and therefore subject to far less stringent standards for waterway protection."

Response:

See Response to Theme 7. DEQ based its decision to issue this permit on review of the application submitted according to ARM 17.30.1023. DEQ determined that the application met all the requirements of ARM Title 30, Chapter 30 and Title 75, Chapter 5, MCA. This determination included review of current receiving water quality and analysis of cumulative impacts.

The US Supreme Court ruled in *County of Maui v. Hawaii Wildlife Fund*, 140 S. Ct. 1462 (2020) (Maui), that a ground water discharge is subject to surface water permitting if it is the 'functional equivalent of a direct discharge.' A fundamental holding in that case is that the Federal Clean Water Act must not be interpreted in a manner that undermines the Act's basic regulatory objectives or a state's authority to regulate groundwater. *Id.* at 1477. The court goes on to provide several criteria that may be relevant to evaluating functional equivalence: (1) transit time, (2) distance traveled, (3) the nature of the material through which the pollutant travels, (4) the extent to which the pollutant is diluted or chemically

changed as it travels, (5) the amount of pollutant entering the navigable waters relative to the amount of the pollutant that leaves the point source, (6) the manner by or area in which the pollutant enters the navigable waters, and (7) the degree to which the pollution (at that point) has maintained its specific identity. The Court further stated that time and distance will be the most important factors in most cases. *Id*. at 1477.

First, it is important to note that the district is issued a MGWPCS discharge permit that requires them to meet effluent limitations, monitoring requirements, and other conditions. These permit requirements protect the receiving aquifer and downgradient surface water. In *Maui* the U.S. Supreme Court concluded an NPDES permit is required "if the addition of the pollutants through groundwater is the *functional equivalent of a direct discharge* from the point source into navigable waters." *Id.* At 1468. This case is distinguishable because the discharge to groundwater is controlled under MTX000307. This is not a case where uncontrolled pollutants are not being conveyed to surface water through ground water.

Ground water velocity at the facility site ranges from 0.32 - 1.49 feet per day, with an average of 0.9 feet per day. It will take approximately 337 days for the permitted discharge to reach the end of a 305-foot mixing zone. It will take an average of four years for ground water to flow from RIB 1 to Wiley Slough, 3.5 years for ground water from RIB 2 to reach Pond 4, and 7.7 years for ground water from RIB 3 to reach Pond 7. During that travel time nitrate decays as a result of biochemical processes in the aquifer. See the Fact Sheet at page 38 and Table 5 on page 32.

DEQ acknowledges the complex hydrogeologic environment of the project site and the hydraulic connectivity of the shallow ground water and surface water in the area, as discussed in sections 2.4, 2.6, and 3.4 of the permit Fact Sheet. DEQ performed a nondegradation analysis of the proposed discharge according to the rules in ARM 17.30.715 which implement the state's nondegradation policy stated in 75-5-303, MCA. DEQ evaluated the fate of nitrogen (in the form of nitrate) and phosphorus associated with the discharge of wastewater from the proposed RIBs as part of its nonsignificance determination. DEQ's analyses show that the proposed project will have no significant cumulative or direct impacts on downgradient surface waters. DEQ has determined that the proposed discharge will comply with the nonsignificance criteria and preserve the existing quality of state ground water and downgradient surface waters. To provide the basis for its conservative approach in development of this permit, DEQ assumed all effluent will flow to the nearest surface water.

DEQ's analyses show that the proposed project will have no significant cumulative or direct impacts on the downgradient surface waters and the discharge permitted under MTX000307 is not the functional equivalent of a direct discharge to surface water.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 11 – Engineering

Synopsis:

Commenters expressed concern about the applicant issuing will-serve letters, and facility capacity to serve the proposed developments. Commenters expressed concern about when the facility plan for Phase 2 of the project will be available for review. Commenters stated that DEQ should require a Development Plan for the system that sets deadlines for bidding. Commenters stated that the applicant has declined to publicly release the proposed agreement with Discovery Land. Commenters expressed concern that the RIBs do not meet standards set forth in Circular DEQ-2, seismic standards and do not include information for flooding as required in Circular-4. One commenter expressed concern that new improvements will need to be designed for pumped peak flow as opposed to peak hourly flow.

Response:

DEQ has no authority over the issuance of will-serve letters. Developers and system owners are required to demonstrate capacity at the time a subdivision application is submitted.

DEQ has no authority over when bids are let. Construction cannot commence until a permit and plans and specifications have been approved. Bidding prior to approval is at the owner's risk and expense. Development plans are not mandatory and at this time, a county water and sewer district cannot qualify for one as only municipalities can use Development Plans. A capital improvement plan is not a required element of a MGWPCS permit.

Public information requests submitted to the applicant are outside DEQ's scope of authority.

Construction of the RIBs is not proposed with this phase of construction and DEQ has not yet received or reviewed plans for them. Once these are submitted to DEQ for review, they will be reviewed under Circular DEQ-2: Design Standards for Public Sewage Systems. Circular DEQ-2 does not include seismic standards. Circular DEQ-4 applies to subsurface wastewater treatment systems and is not relevant to this project.

The final mechanical treatment technology has not been finalized. Regardless of the treatment technology selected, design review by the department will be performed to ensure that the selected technology can acceptably treat the current and future influent flow and loading to the required effluent water quality necessary to meet the permit limits. The required design capacity for each facility component will be evaluated in accordance with DEQ-2 Chapter 10 as well as other pertinent chapters in the circulars related to the particular treatment component.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 12 – Data Availability

Synopsis:

One commenter stated that monitoring results should be made publicly available. Commenters stated that DEQ failed to provide the public access to septic receiving or headworks plans during the public comment period.

Response:

Monitoring results for influent, effluent, and six monitoring wells are required as part of the permit conditions. This data is submitted via discharge monitoring reports (DMRs) and is publicly available via the USEPA ECHO and ICIS websites. As noted in the Public Notice, the complete administrative record is available upon request from the Water Protection Bureau or on the Department's website https://deq.mt.gov/public/index.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 13 – Lakeside County Water and Sewer District Capacity

Synopsis:

Commenters expressed concern that LCWSD does not have the capacity to take on more sewage. Commenters stated that current flows from the system are not disclosed, and that LCWSD lacks jurisdiction to certify that its own facility has the capacity to connect to properties in a development plan as it has not been permitted by DEQ under 75-6-130, MCA.

Some commenters expressed concern about the difference between the 200,000 gpd discharge under review in this action and the maximum design capacity of the project upgrade, which is 900,000 gpd. Some commenters expressed concern about holding pond capacity.

Response:

Phase 2 of the facility upgrades, which includes construction of the RIBs, is not part of this proposed action. The future facility plan, and ultimate build out capacity of the Lakeside wastewater plant, is outside the scope of this permit, Fact Sheet, and environmental assessment.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 14 – Lakeside County Water and Sewer District Operations

Synopsis:

Commenters expressed concern that the applicant has not released a capital improvement plan. Commenters noted that no analysis of the pros and cons of a sequencing batch reactor has been conducted. Commenters expressed concern that LCWSD lacks authority to accept septic wastes, how the septage will be handled and treated, and if/how pretreatment and testing will be conducted. It is unclear how septage will be mixed with the municipal wastewater in a way that ensures protection of water quality. Commenters stated that LCWSD entered into a contract with Flathead County to accept septage and portable restroom waste without documented DEQ approval or analysis. One commenter stated the collection system is not 100% sanitary sewer because of the agreement to accept septage and portable restroom waste. One commenter expressed concern about freezing and seismic protection provided for the force main. Some commenters expressed concern about decommissioning of the existing lagoons. The gallons per day allotted to each EDU is critical to the functionality of the ground water injection permit. One commenter expressed concern that Lakeside's proposed treatment different than Bigfork's treatment facility. One commenter expressed concern about the relationship between the LCWSD and the Somers County Water and Sewer District being considered in the permitting process.

Response:

A capital improvement plan is not a required element of a Montana Ground Water Pollution Control Permit. In the application, the applicant stated the potential to use a series of sequencing batch reactors in the proposed facility upgrade. This information allows DEQ to evaluate the anticipated effluent characteristics. The applicant must choose a treatment system that complies with all relevant engineering standards and achieves the effluent limitation conditions in the discharge permit. The site is not located within either the 100-year or 500-year floodplains according to flood hazard maps.

The proposed septic receiving station will perform pretreatment at the receiving facility with a screen and grit chamber. The facility will include multiple sample points prior to mixing with plant influent. The ability for the mechanical treatment facility to treat the additional organic load will be reviewed at the time that is submitted as part of the future Phase 2 project. Any proposed treatment facility will be required to show through modeling and conformance with DEQ-2 standards that it can effectively treat the influent wastewater to meet the required discharge permit limits.

Septage source is not within the scope of the ground water discharge permit, though septage and portable toilet wastes can be considered domestic in nature and similar to wastes from a dedicated sanitary sewer system. The permit contains effluent limits with sampling and reporting requirements. LCWSD is responsible and liable for the quality of the effluent discharged. If the effluent does not meet the permit requirements, the district is subject to enforcement action.

All proposed piping will be installed per Circular DEQ-2 standards regarding cover depth to protect against freezing. Circular DEQ-2 does not include seismic design standards.

Discharge allotment to each equivalent dwelling unit is not within the scope of this permitting action. DEQ evaluated the potential discharge to state ground water of 200,000 gallons per day of treated wastewater.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 15 – Nearby Monitoring and Well Testing

Synopsis:

Commenters stated that DEQ should require installation of more borings and monitoring wells, and that the applicant should pay for nearby well testing to include sampling for PFAS and pharmaceuticals. Commenters stated the initial collection of water data was done during a low water year. Commenters expressed concern about potential impacts to nearby wells and how the applicant will mitigate these impacts. One commenter expressed concern about how the mixing zone will be monitored. Commenters expressed concern about the efficacy of monitoring.

Response:

Ongoing onsite sampling and reporting is a requirement of the discharge permit and is discussed in detail throughout the permit and permit Fact Sheet. Sampling results must be submitted to DEQ to ensure compliance with conditions of the permit, and to monitor current and future characteristics of the receiving water. See response to Theme 11 – PFAS / PFOS / Pharmaceuticals above regarding PFAS and pharmaceuticals.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 16 – Deficiencies in DEQ Review or Authority

Synopsis:

Commenters stated that DEQ did not provide adequate responses to previous complaints and has not addressed any of the letters sent for public comment prior to the release of the participation period. Commenters expressed concern that DEQ does not disclose the limitations of the agency under current state law, and cannot regulate, investigate, or enforce health and safety issues unless a complaint is filed with the Department. Some commenters stated the permit should include provisions for enforcement if permit limits are exceeded. One commenter expressed concern about special condition waivers. Some commenters stated that DEQ failed to provide the public with treatment and operation manuals. One commenter expressed concern that the wastewater sampling, analysis, and reporting plan is not required for review prior to issuing the permit. DEQ failed to provide the public access to septic receiving or headworks plans in the public comment period.

Response:

A discharge permit issued under the Water Quality Act contains general and special conditions that subject the permittee to regular compliance inspections and audits in addition to the required sampling and reporting. The proposed permit includes no waivers. MGWPCS permits include two types of conditions: general conditions that apply to every permit (established under ARM 17.30.1030), and special conditions that are permit-specific (established under ARM 17.30.1031). DEQ commonly requires permittees to develop and submit operations and sampling manuals within a reasonable period after issuance. The manual must be specific to the treatment system and the monitoring well network, therefore it is impracticable for the permittee to write a manual for a system that has yet to be constructed.

In addition to setting individualized permit limits based on the project site and proposed facility, each permit includes an individual compliance schedule which sets forth specific deadlines for various activities related to the permit, and clear requirements regarding sample collection and reporting. Discharge permits include specific language providing a pathway to ensure compliance with the discharge limits and other conditions of the permit, including the ability to conduct inspections, assess penalties, and modify the permit conditions if necessary to bring a facility into compliance. The ultimate goal is to ensure all permitted facilities are operating according to their permit requirements, and to work collaboratively with permittees to bring the facility back into compliance if permit requirements are not being met.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 17 – Land Use

Synopsis:

Commenters stated that DEQ failed to consider possible impacts to the conservation easement around Wiley Slough. One commenter stated opposition to the permit until management of home development, zoning, proper land use, and population density is addressed and approved by the Lakeside community and county commissioners.

Response:

DEQ determined no significant impacts to private property would result from this permitting action, as discussed in section 2.10 of the environmental assessment.

DEQ has no authority over zoning or development.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 18 – Existing Discharges to Ashley Creek

Synopsis:

One commenter expressed concern about how the discharge might affect Kalispell's "current rights to the use of Ashley Creek as a surface water discharge site" for its MPDES discharge.

Response:

DEQ performed a nondegradation analysis of the proposed discharge according to the rules in ARM 17.30.715 which implement the state's nondegradation policy stated in 75-5-301, MCA. DEQ evaluated the fate of nitrogen (in the form of nitrate) and phosphorus associated with the discharge of wastewater from the proposed RIBs as part of its nonsignificance determination. DEQ's analyses show that the proposed project will have no significant cumulative or direct impacts on the downgradient surface waters. DEQ has determined that the proposed discharge will comply with the nonsignificance criteria and preserve the existing quality of state ground water and downgradient surface waters. This analysis demonstrates sufficient assimilative capacity for the City of Kalispell Wastewater Treatment Plant discharge to Ashley Creek.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 19 – Request for Extension

Synopsis:

Many commenters requested a 30-day extension of the public comment period.

Response:

DEQ extended the public comment period from January 10, 2025 to February 27, 2025.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 20 – Request for Public Hearing

Synopsis:

Several commenters requested DEQ hold a public hearing for this permit.

Response:

DEQ held a public hearing in Lakeside, Montana, on February 27, 2025 from 3:00 to 5:00 pm to receive oral and written public comment on this project. All written and oral comments submitted between January 10, 2025 and February 27, 2025 have been considered in the final determination of this permit application.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

Theme 21 – General Opposition / Recommend Denial of the Project

Synopsis:

Some commenters recommended that DEQ deny this permit application, and expressed general opposition to the location site, the wastewater treatment facility upgrade project, and the permit.

Response:

DEQ acknowledges the comment. As the applicant has demonstrated compliance with applicable state laws and rules, DEQ is issuing the permit.

DEQ issues MGWPCS permits for a period of five years. During this time, the permittee has a duty to comply with the legal requirements of the permit, which include effluent limitations, general prohibitions, effluent and influent monitoring, and ground water monitoring. During the permit cycle, the facility is subject to compliance inspections and proper operation and maintenance. The renewal process re-evaluates all application materials, including ground water data, effluent data, and operation and maintenance history. Each permit renewal is subject to a public comment period.

All major discharge permitting actions, including the current action and any future actions, will include evaluation of any substantive information derived from public input relating to potential impacts on the human environment and on water quality. All future actions related to this current action will be addressed by DEQ through additional discharge permitting process procedures.

A ground water monitoring network has been established that will provide for long-term monitoring of the aquifer. The ground water data collected will provide continual monitoring of the health of the aquifer including the impacts of any upgradient dischargers. This data is made available to the public and will be used by DEQ to update future permit limitations. In addition, any update to limitations, including cumulative effect analyses, will be noticed to the public and will undergo public comment.

Long-term monitoring and reporting, continual analysis and updates of permit conditions, and public notice and comment procedures is a benefit to having a system that is covered under a discharge permit.

DEQ did not make any changes to the permit, Fact Sheet, or environmental assessment in response to this comment.

References:

Confederated Salish and Kootenai Tribes of the Flathead Reservation Natural Resources Department, Environmental Protection Division, Water Quality Program (2023). Surface Water Quality Standards and Antidegradation Policy.

Department of Environmental Quality (2018). Circular DEQ 2: Design Standards for Public Sewage Systems.

Department of Environmental Quality (2023). Circular DEQ 4: Montana Standards for Subsurface Wastewater Treatment Systems.

Department of Environmental Quality (2014). Flathead – Stillwater Planning Area Nutrient, Sediment, and Temperature TMDLs and Water Quality Improvement Plan.

Department of Environmental Quality (2022). Per- and Polyfluoroalkyl Substances Surface Water Monitoring Project, 2021 Monitoring Report.

US Army Corps of Engineers (2018). Final Site Inspection Report of Aqueous Film Forming Foam Areas at Malmstrom Air Force Base Great Falls, Montana