U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 8

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STATEMENT OF BASIS

PERMITTEE:	City of Hardin
FACILITY NAME AND ADDRESS:	City of Hardin Wastewater Treatment Plant 406 N. Cheyenne Hardin, MT 59034 (406) 655-9292
PERMIT NUMBER:	MT-0030759
RESPONSIBLE OFFICIAL:	Mike Hurff, Jr. Public Works Director 406-665-9292 publicworks@hardinmt.com
FACILITY CONTACT:	Dean Baker, Lead Operator 406-665-1080 wwtp@hardinmt.com
PERMIT TYPE:	Major permit, renewal, POTW
FACILITY LOCATION:	377 Woodley Lane, Hardin, Montana 59034; 45.734722° N, 107.580278° W

1 INTRODUCTION

This statement of basis (SoB) is for the issuance of a National Pollutant Discharge Elimination System (NPDES) permit (the Permit) to the City of Hardin for the City of Hardin Wastewater Treatment Plant (WWTP or Facility). The Permit establishes discharge limitations for any discharge of wastewater from the Facility through Outfall 001 to the Bighorn River. The SoB explains the nature of the discharges, EPA's decisions for limiting the pollutants in the wastewater, and the regulatory and technical basis for these decisions.

The Facility is located on the Crow Reservation. EPA Region 8 is the permitting authority for facilities located in Indian country, as defined in 18 U.S.C. § 1151, located within Region 8 states and implements federal environmental laws in Indian country consistent with the EPA Policy for the Administration of Environmental Programs on Indian Reservations and the federal government's general trust responsibility to federally recognized Indian tribes.

2 MAJOR CHANGES FROM PREVIOUS PERMIT

Major changes from the previous permit include the following:

- Annual acute whole effluent toxicity (WET) monitoring is added to the permit to support the permit renewal application requirement.
- Semi-volatile organic compounds, acid and semi-volatile organic compounds, base-neutral shall both be collected as grab samples rather than composite samples to reduce any volatility during sample collection.
- The previous permit required the Facility to monitor the effluent for nutrients (including nitrate/nitrite, total kjeldahl nitrogen, total nitrogen [calculated], and total phosphorus) annually. The sample frequency and type is retained in the Permit; however, EPA is adding a requirement that the annual sampling event should occur during the 'summer' months of July, August, and September. The summer season is the most likely to exhibit algal growth in the receiving stream due to warm temperatures, abundant sunlight, clear water, and shallow, slow flowing conditions. While the definition of 'summer' or times of year that characterize these conditions can vary, it is common throughout Region 8 to consider these three months as some portion of the baseline summer season.
- Per- and polyfluoroalkyl substances (PFAS) monitoring is required quarterly per the December 5, 2022, EPA memorandum, "Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs."
- Tetrachloroethene monitoring was removed due to no reasonable potential to cause or contribute to a violation of a water quality standard for this parameter.
- Ambient dissolved oxygen and temperature monitoring is required in the Bighorn River to provide data to determine if there is reasonable potential to cause or contribute to a violation of a water quality standard for these parameters.
- An asset management plan is required no later than one year after the effective date of the Permit to address assets within the Facility and the collection system.
- Once daily inspections are required to ensure proper operation and maintenance of the Facility. Inspections are required to be documented.
- An Industrial Waste Survey (IWS) is required to document that there are no industries in the service areas (as described in the permit application).

3 BACKGROUND INFORMATION

The Facility is the City of Hardin's publicly owned treatment works (POTW) is located at 377 Woodley Lane in Hardin, Montana (coordinates 45.734722° N, 107.580278° W). The Facility treats sewage from the City of Hardin. It is located within the external boundaries of the Crow Indian Reservation. The City of Hardin is the owner and operator of the Facility. The Facility has one outfall that discharges treated wastewater effluent through Outfall 001.

3.1 Service Area Description

This Permit is for the discharge from the City of Hardin WWTP that serves approximately 3,505 residents of the City of Hardin. The City of Hardin has a few retail shops consisting of grocery stores, hardware shops and clothing apparel. There are automobile repair stores, a few hotels/motels, and several food establishments. Additionally, there are three dental offices and medical facilities including one hospital.

The permittee indicated in the permit renewal application that no industrial facilities are discharging to the Facility.

3.2 Treatment Process

Domestic sewage is conveyed to the Facility, which has a design flow of 1.1 million gallons per day (MGD), through a gravity sewer system. Treatment consists of influent screening, an oxidation ditch, two secondary clarifiers, an aerobic digester and ultraviolet (UV) disinfection prior to discharge via pipeline to a point in the Bighorn River. Prior to installation of the UV disinfection system, the Facility disinfected effluent using chlorine.

As depicted on the Google Earth image included with the permit application (Figure 1), raw influent undergoes screening upon entering the Facility, then is conveyed to the oxidation ditch. Sewage from the oxidation ditch flows through two secondary clarifiers prior to aerobic digestion and is finally disinfected by UV disinfection before being discharged to the Bighorn River at a point due east of the Facility. The discharge pipe terminates in the River approximately one foot below the surface of the river and extends approximately one foot from the shoreline.

A second image of the Facility included with the permit application (Figure 2) shows two lagoons that are no longer in use for sewage treatment. The first (labeled "Emergency Bypass") lagoon can be used, in emergency situations, to hold influent that has bypassed the Facility. It can also be used to hold hauled septage. Figure 2 also shows the second (labeled "Drying beds") lagoon, now used for sludge (from the aerobic digester) drying prior to landfill disposal.

Figure 1. City of Hardin WWTP Flow Diagram

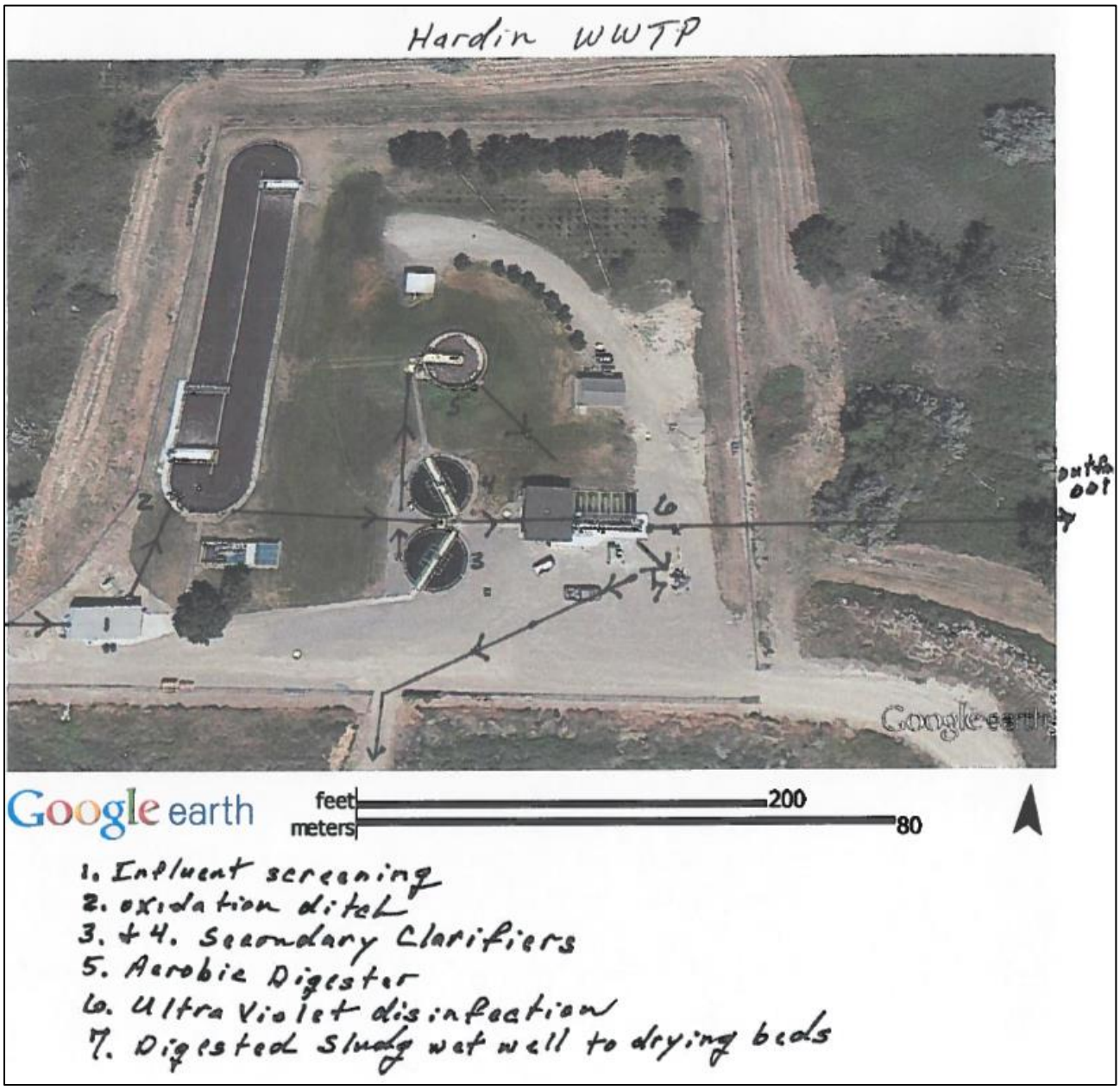
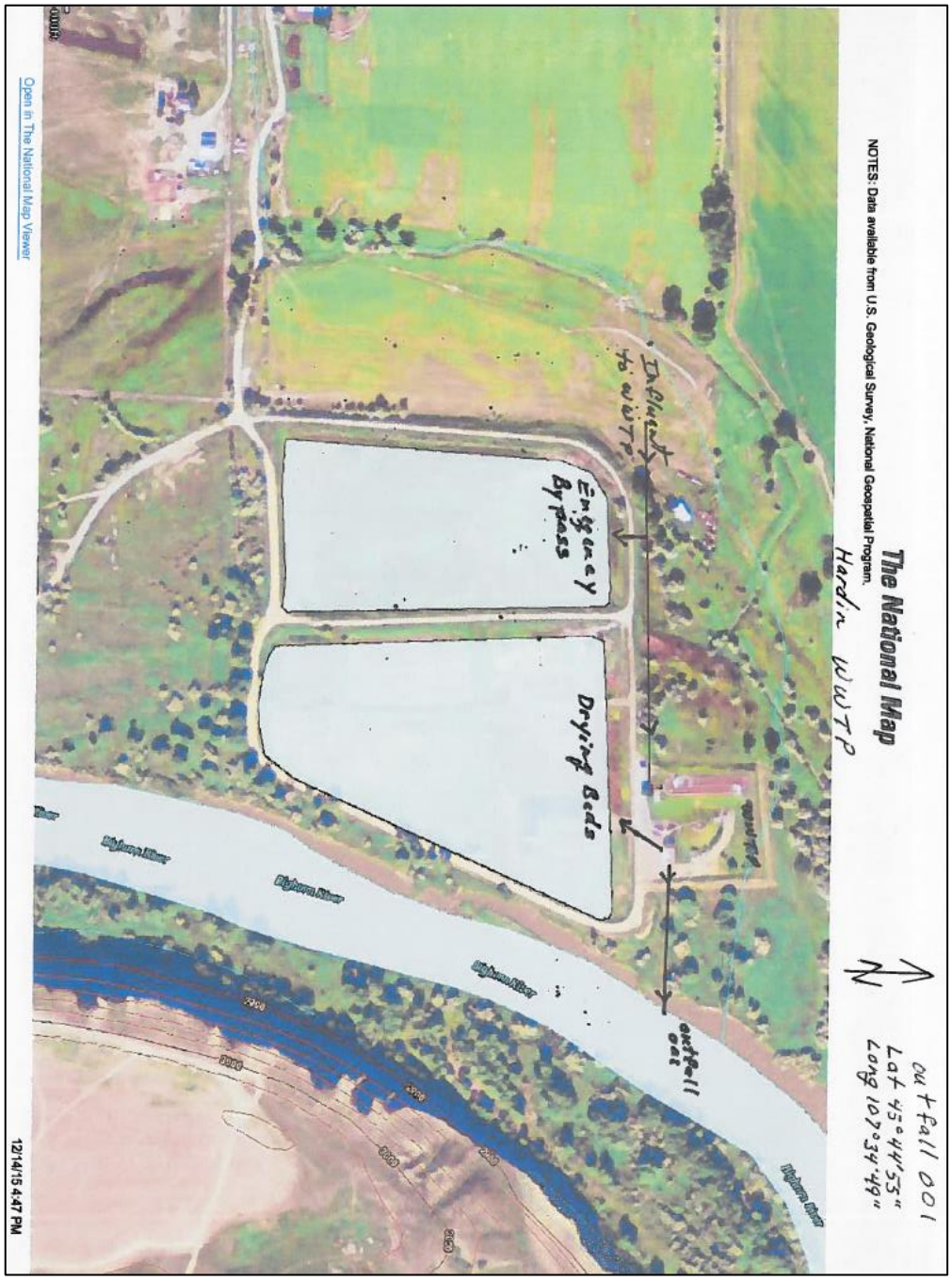


Figure 2. City of Hardin WWTP, Including Lagoons



3.3 Chemicals Used

UV is used for disinfection. Chlorine is no longer used for disinfection; however, chlorine is used for filamentous algae control in the aerobic digester. No other chemicals are used in the treatment process.

4 PERMIT HISTORY

According to EPA records maintained for the Facility, this renewal is at least the 4th issuance of this NPDES permit. The previous permit for the Facility became effective on July 1, 2018 and was set to expire on June 30, 2023. The Facility submitted a permit renewal application prior to the permit's expiration, and thus the previous permit was administratively continued.

4.1 Discharge Monitoring Report (DMR) Data

Table 1. Summary of the DMR Data for Outfall 001 from EPA Integrated Compliance Information System (ICIS) database July 1, 2018-February 28, 2023

Parameter	Value Reported: Minimum	Value Reported: Maximum	Value Reported: Average	Value Reported: No. of Values Reported	Value Reported: No. of Exceed-ances
BOD_5, mg/L, effluent, 30-day average	1	12	3.23	55	0
BOD_5, mg/L, effluent, 7-day average	2	43	5.29	55	0
BOD_5, mg/L, influent, 30-day average	101	260	156.31	55	N/A
BOD_5, mg/L, influent, 7-day average	109	550	188.35	55	N/A
BOD_5, % removal	74	99	97.09	55	2

Total Suspended Solids, mg/L, effluent, 30-day average	0	8	3.39	55	0
Total Suspended Solids, mg/L, effluent, 7-day average	1	12	4.5	55	0
Total Suspended Solids, mg/L, influent, 30-day average	91	182	125.87	55	0
Total Suspended Solids, mg/L, influent, 7-day average	91	393	152.3	55	0
TSS, % removal	88	99	95.76	55	0
pH, s.u.	6.97	7.53	7.30	55	0
E. coli, Apr-Oct, #/100 mL, 30-day average	1	264	18.91	31	1
E. coli, Apr-Oct, #/100 mL, daily maximum	1	800	65.74	31	3
E. coli, Nov-Mar, #/100 mL, 30-day average	1	594	29.13	23	0
E. coli, Nov-Mar, #/100 mL, daily maximum	1	4500	209	23	1
Total Residual Chlorine, mg/L c/	0	0	0	55	0
Total Flow, mgd	0.41	1.95	1.18	55	N/A
Dissolved Oxygen, mg/L	1.5	5	3.18	53	N/A
Oil & Grease, visual	0	0	0	55	0
Oil & Grease, mg/L c/	0	0	0	55	0
Total Antimony, mg/L	0	0	0	2	N/A
Total Arsenic, mg/L	0	0.001	0	3	N/A

Total Beryllium, mg/L	0	0	0	2	N/A
Total Cadmium, mg/L	0	0	0	2	N/A
Total Chromium, mg/L	0	0	0	2	N/A
Total Copper, mg/L	0.008	0.016	0.118	4	N/A
Total Lead, mg/L	0	0	0	2	N/A
Total Mercury, mg/L	0	0	0	2	N/A
Total Molybdenum, mg/L	0.005	0.009	0.006	4	N/A
Total Nickel, mg/L	0	0	0	2	N/A
Total Selenium, mg/L	0.001	0.002	0.017	3	N/A
Total Silver, mg/L	0	0	0	2	N/A
Total Zinc, mg/L	0.03	0.03	0.03	4	N/A
Total Cyanide, mg/L	0	0	0	2	N/A
Total Phenols, mg/L	0	0.01	0.033	3	N/A
Volatile Organic Pollutants, µg/L	0	0	0	4	N/A
Tetrachloroethene, µg/L	0	0	0	4	N/A
Semi-Volatile Organic Compounds, Base-Neutral, µg/L	0	0	0	3	N/A
Total Dissolved Solids, mg/L	0	0	0	2	N/A
Ammonia Nitrogen, mg/L	0	0.08	0.043	3	N/A
Nitrate-Nitrogen, mg/L	6.3	18.1	11.93	4	N/A
Nitrite-Nitrogen, mg/L	0.1	0.6	0.273	4	N/A

Total Kjeldahl Nitrogen, mg/L	0.8	1.4	1.03	4	N/A
Total Nitrogen, mg/L	7.3	18.2	12.48	4	N/A
Total Phosphorus, mg/L	1.6	2.32	2.01	4	N/A

4.2 Other Facility History

The Facility has not been inspected since prior to 2018.

The Facility had a few exceedances for *E. coli* and biochemical oxygen demand (BOD_5) percent (%) removal during the last permit term during 2018-2020 (see Table 1). The Facility has been in compliance with all effluent limits since 2020.

5 DESCRIPTION OF RECEIVING WATER

The discharge from the Facility enters the Bighorn River via pipeline at a point due east of the UV disinfection system. The pipe extends approximately one foot past the shoreline and is positioned approximately one foot below the surface of the water.

6 PERMIT LIMITATIONS

6.1 Technology Based Effluent Limitations (TBELs)

Treated effluent from the City of Hardin WWTP is subject to the Secondary Treatment Regulations found at 40 CFR Part 133. The secondary treatment standards (40 CFR Part 133) have been developed by EPA and represent the level of effluent quality attainable through the application of secondary or equivalent treatment. The regulation applies to all publicly owned treatment works (POTWs). The TBELs for the Facility are listed in Table 2.

Regulations at 40 CFR § 133.102 require that the minimum level of effluent quality for secondary treatment is 30-day average concentrations of BOD_5 and TSS that do not exceed 30 mg/L, 7-day average concentrations of these parameters that do not exceed 45 mg/L and a minimum 30-day removal of 85 percent for each parameter. These standards are expressed as average monthly and average weekly limitations based on requirements found at 40 CFR § 122.45(d).

The secondary treatment regulations also provide a limit for pH to be maintained between 6.0 and 9.0 standard units. The limit for pH contained in this Permit is more stringent than required by the secondary treatment regulations in order to protect downstream water quality, as discussed below.

Table 2. Technology-Based Effluent Limitations

Effluent Characteristic	Effluent Limitation Average Monthly a/	Effluent Limitation Average Weekly a/	Effluent Limitation Daily Maximum a/
BOD_5, mg/L b/	30	45	N/A
Total Suspended Solids, mg/L b/	30	45	N/A
The pH of the discharge shall not be less than 6.5 or greater than 9.0 at any time.			

a/ See Definitions, Part 1.1 of the Permit, for definition of terms.

b/ Percentage Removal Requirements (TSS and BOD_5 Limitation): In addition to the concentration limits for Total Suspended Solids (TSS) and BOD_5 indicated above, the arithmetic mean of the concentration for effluent samples collected in a calendar month shall not exceed 15 percent of the arithmetic mean of the concentration for influent samples collected at approximately the same times during the same period (85 percent removal).

6.2 Water Quality Based Effluent Limitations (WQBELs)

The Facility discharges to the Bighorn River. The receiving water is within the Crow Indian Reservation., The Crow Tribe does not have EPA-approved water quality standards under Section 303(c) of the Clean Water Act (CWA). Section 101(a)(2) of the CWA states, "[I]t is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water to be achieved by July 1, 1983." To achieve this Congressional goal in the absence of federally-approval Tribal water quality standards (WQS) on the Reservation, EPA considers the beneficial uses of the receiving waters to include aquatic life, human health, agriculture, industrial water supply, and recreation. EPA relied on CWA § 301(b)(1)(C) and principles of Tribal sovereignty in establishing WQBELs based on EPA's Section 304(a) recommended water quality criteria (WQC). Based on the proximity of the discharge to the state of Montana, EPA has also reviewed the State's water quality standards to determine if the discharge has the reasonable potential to cause or contribute to a violation of those downstream standards. The Crow Tribe has not established WQS for the Reservation. However, the Bighorn River from the downstream border of the Crow Reservation to the Yellowstone River has been classified as a B-2 water by the State of Montana.

Waters classified B-2 are to be maintained suitable for drinking, culinary and food processing purposes after conventional treatment; bathing, swimming and recreation; growth and marginal propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply. For the purpose of this Permit renewal, Montana State WQS are applied to the discharge in order to protect water quality and designated uses downstream of the Reservation.

Pollutants typically present in treated effluent from domestic wastewater treatment facilities that may cause or contribute to exceedances of water quality standards include conventional

pollutants such as biological material (measured by BOD_5), TSS, oil and grease and pH; and non-conventional pollutants such as *E. coli*, total residual chlorine, ammonia, total nitrogen, total phosphorous, dissolved oxygen and total dissolved solids.

Available DMR data for the City of Hardin discharge includes sample results for organic and inorganic pollutants collected from July 2018 to February 2023.

6.2.1 Metals and Phenols

For most of the pollutants, the maximum detected concentration is less than the State WQS, which results in a conclusion of no reasonable potential before any available dilution is considered. The maximum detected concentration of arsenic (0.001 mg/L) and selenium (0.002 mg/L) are significantly less than any applicable State WQS. For copper (0.160 mg/L maximum detected concentration) and zinc (0.03 mg/L maximum detected concentration) the State WQS is hardness dependent. The State does not have WQS for molybdenum (0.009 mg/L) or phenols (0.033 mg/L).

There is no hardness data at the United States Geological Survey (USGS) gaging station 06288400 (Bighorn River at Two Leggins Bridge, near Hardin (located approximately 10 miles upstream from the Facility discharge). There is hardness data from the USGS gaging station #06287000 (near Xavier, MT); however, it is historic (1966 to 1980s). Data from this time period indicated the hardness was approximately 300 mg/L. Using a hardness concentration of 300 mg/L, the maximum detected concentration of copper and zinc concentrations are significantly less than the applicable State WQS. However, as part of this permit renewal, the Facility will be required to collect hardness samples downstream from the discharge which will provide more accurate and up-to-date hardness concentrations for the next permit iteration.

The receiving water for the discharge is the Bighorn River. Streamflow data from United States Geological Survey (USGS) gaging station 06288400 (Bighorn River at Two Leggins Bridge, near Hardin, indicates that the minimum reported mean daily flow based on 10 years of data (2013-2023) was 1880 cfs. The maximum Facility design flow is 1.10 MGD (2.04 cfs) per the permit application. Therefore, based on the lowest daily mean streamflow (1880 cfs), the available minimum dilution at the point where the Facility discharge enters the receiving water is approximately 900 to 1.

Additionally, the dilution of this magnitude allows for a determination of no reasonable potential would exist for arsenic, copper, selenium and zinc.

The 2018 issuance of this Permit required annual monitoring of the following parameters under the requirements of 40 CFR Part 403: arsenic; cadmium; chromium; copper; cyanide; lead; molybdenum; nickel; selenium; silver; zinc; phenols; volatile organic pollutants; semi-volatile organic compounds, acid; and semi-volatile organic compounds, base neutral. The Permittee indicated in the permit renewal application that no industrial facilities are discharging to the Facility and therefore they believe there is no requirement to develop and administer a pretreatment program. The sampling results from 2018 to 2023 are non-detects (except for low levels of arsenic, copper, molybdenum, selenium, zinc and phenols) for these industrial-type parameters listed above. See Table 1 for analytical results. This Permit will continue to require annual sampling as a means of detecting new industrial discharges.

Sampling will be required annually for: arsenic; cadmium; chromium; copper; cyanide; lead; molybdenum; nickel; selenium; silver; zinc; phenols; volatile organic pollutants; semi-volatile organic compounds, acid; and semi-volatile organic compounds, base neutral. The monitoring of these parameters will continue on an annual basis to provide a means of detecting new industrial discharges.

Permit application requirements at 40 CFR § 122.21(j)(4)(iii) require monitoring of antimony, beryllium and mercury. Therefore, annual monitoring for antimony, beryllium and mercury will continue to meet the permit application requirements.

6.2.2 Conventional Pollutants

BOD_5, TSS, and pH – The Montana State WQS do not include numeric criteria for BOD_5 or TSS, so no WQBELs will be applied for these pollutants. The downstream water quality criterion established by Montana for pH is 6.5 to 9.0 standard units, which is more stringent than the TBEL, and will apply as the WQBEL.

Oil and Grease – The 2018 Permit has an effluent limitation for oil and grease of 10 mg/L. Due to the domestic nature of the discharge, this limit is continued to the current Permit term to protect water quality in Bighorn River downstream of the Reservation. The effluent limits are included in the reissued Permit as both the numeric limit of 10 mg/L and narrative limitation stating that "[there shall be no] visible sheen in the receiving water." Sampling for compliance with the numeric limit is required only when visual monitoring results in the detection of a visible sheen in the receiving water.

Dissolved Oxygen – Numeric criteria for dissolved oxygen are established by the State of Montana WQS for the Bighorn River downstream of the Reservation. These criteria are based on the presence or absence of early life stages of freshwater aquatic life. The results of monitoring reported from 2018 to 2023 indicate the Facility had a minimum dissolved oxygen of 1.5 mg/L and an average dissolved oxygen of 3.18 mg/L. The least stringent standard for downstream B-2 waters, as established in the State WQS, is 4.0 mg/L. Due to the high dilution ratio (900:1) it is unknown what effect (if any) a low dissolved oxygen discharge could pose to the receiving waters as there is no ambient water quality data. Therefore, EPA will be adding ambient dissolved oxygen to this Permit and require monthly sampling May through October annually. EPA will continue to require quarterly effluent sampling for dissolved oxygen.

E. coli – The Montana State WQS establish numeric criteria for *E. coli* that vary according to season. From April 1 through October 31, the geometric mean number of *E. coli* may not exceed 126 colony-forming units per 100 mL and 10% of total samples may not exceed 252 cfu per 100 mL during any 30-day period for waters designated B-2 by the State. From November 1 through March 31, the geometric mean number of *E. coli* may not exceed 630 cfu per 100 mL and 10% of the samples may not exceed 1,260 cfu per 100 mL during any 30-day period. The numeric criteria for *E. coli* established by the WQS will be established as numeric effluent limitations applied at end-of-pipe for the duration of this Permit to protect downstream uses.

6.2.3 Non-conventional Pollutants

Temperature – The Montana State WQS for waters designated B-2 include numeric criteria for temperature that allow a 1ºF maximum increase above naturally occurring water temperature within the range of 32ºF to 66ºF; within the naturally occurring range of 66ºF to 66.5ºF, no discharge is allowed which will cause the water temperature to exceed 67ºF; and where the naturally occurring water temperature is 66.5ºF or greater, the maximum allowable increase in water temperature is 0.5ºF.

Effluent temperatures from the Facility reported in the permit application were 57.7ºF and 66.2ºF winter and summer averages, and 60.4ºF and 66.6ºF winter and summer maximum. The Facility reported 260 temperature samples.

The range of temperatures reported for the Bighorn River at the Yellowtail Dam from 2018 to 2023 was 34.7ºF to 65.1ºF at USGS gaging station #06287000 (near Xavier, MT). There is no temperature data at USGS station #06288400 (Bighorn River at Two Leggins Bridge, near Hardin). Due to the high dilution ratio (900:1) it is unknown what effect (if any) the Facility's discharge could pose to the receiving waters as there is no temperature data for the receiving water near the Facility. Therefore, EPA added ambient temperature monitoring to this permit and required monthly sampling May through October annually.

Total Residual Chlorine (TRC) – The Facility uses ultraviolet (UV) disinfection; however chlorine is used for filamentous algae control in the aerobic digester so monitoring for total residual chlorine is included as a requirement in this Permit. The numeric limit included in the previous Permit of 0.5 mg/L TRC will be retained in this Permit. Enter the appropriate No Discharge (NODI) code on the electronic DMR if chlorine is not used as part of the disinfection process.

Ammonia and Nutrient-Related Pollutants Neither the Crow Tribe nor the state of Montana has adopted numeric nutrient criteria for the Bighorn River; however, the state of Montana's WQS do include a narrative criterion which says *State surface waters must be free from substances attributable to municipal, industrial, agricultural practices or other discharges that will…create conditions which produce undesirable aquatic life* (Administrative Rules of Montana 17.30.637(1)(e)). The state of Montana has not developed a numeric translator for implementing their narrative criterion at this time.

While nutrients such as nitrogen and phosphorus are essential for the growth of aquatic plants, excess nutrients can cause algal growth (i.e., undesirable aquatic life) in surface waters. A primary driver of undesirable aquatic life is anthropogenic nutrient enrichment of streams, and discharges from wastewater treatment facilities are typically high in both nitrogen and phosphorus. For this reason, EPA considers both nitrogen and phosphorus to be pollutants of concern at the facility.

In April 2022, EPA issued a memo reiterating EPA's commitment to nutrient pollution reductions throughout the country[1]. Some of the topics discussed in the memo include

[1] EPA, Assistant Administrator Radhika Fox to States and Tribes, April 5, 2022. Accelerating Nutrient Pollution Reductions in the Nation's Waters, EPA Office of Water, https://www.epa.gov/nutrient-policy-data/2022-epa-nutrient-reduction-memorandum

"strongly encouraging states to rely on numeric targets for…NPDES permitting" and an expectation that states will "commit to use numeric targets to implement applicable narrative criteria statements." EPA is committed to partnering with Tribes to collect more comprehensive nutrient data and better define the relationship between nutrient levels and narrative criteria in Tribal waters.

As part of this effort, EPA Region 8 created a simple mixing/mass balance model using nitrogen and phosphorus data to calculate an in-stream (mixed) value, and compare that value to historical nutrient concentration ranges (EPA, 2000, Appendix B)[2]. However, when analyzing large rivers, the historical nutrient concentration ranges published by EPA may not apply, as many large rivers originate in one ecoregion and flow through several more. This makes it difficult to attribute ecoregional characteristics to the river. Several states in Region 8 – including Montana – have implemented some type of exclusion for large rivers.

The Bighorn River is a large, non-wadeable river that begins in Wyoming in ecoregion 17, and flows through ecoregions 18 and 43 before meeting up with the Yellowstone River. It is 461 miles long with a drainage basin size of 23,000 square miles. In this case, the approach described above is not appropriate. Instead, EPA is using a coarser approach based on dilution. Within Region 8, most municipal and industrial nutrient effluent discharges are roughly one to two orders of magnitude higher than ecoregional values. Therefore, when a receiving stream provides less than one order of magnitude dilution (i.e., 10x), it is likely that nutrients may be a concern. Conversely, when a receiving stream provides more than two orders of magnitude dilution (i.e., 100x), it is likely that nutrients are not a concern.

The 'critical conditions' used in the dilution calculation are *seasonal* median percentiles of both upstream and effluent flows. As a general practice, more conservative approaches to calculating low flow critical conditions (i.e. the 900:1 dilution ratio discussed above) are used for pollutants like toxics (metals, WET, etc.). For nutrient-related pollutants, a slightly different approach to calculating low flow critical conditions is generally used.

This approach focuses on "summer" data for the analysis, because the summer season is the most likely to exhibit algal growth in the receiving stream due to warm temperatures, abundant sunlight, clear water, and shallow, slow flowing conditions. While the definition of "summer" or times of year that characterize these conditions can vary, it is common throughout Region 8 to consider July through September as some portion of the baseline summer season.

Results of this coarse dilution analysis show that the median flow during the summer months of July through September in the Bighorn River over the period of record was 2,430 cfs (USGS Gage 06288400, Bighorn River at Two Leggins Bridge, near Hardin). The median facility discharge was 1.18 mgd (1.83 cfs). Thus, the dilution ratio provided by the Bighorn River is approximately 1300x (2430/1.83 = 1,329). This amount of dilution is extremely high and suggests that nutrients in the effluent are not a concern. At these critical conditions, the concentrations and volume discharged by the facility result in an increase to the in-stream concentration of nitrogen and phosphorus in the Bighorn River of

[2] EPA, Ambient Water Quality Criteria Recommendations – Information Supporting the Development of State and Tribal Nutrient Criteria – Rivers and Streams in Nutrient Ecoregion II. EPA-822-B-00-013, December 2000.

approximately 1.3% and 3.5%, respectively. EPA will not require any nutrient effluent limitations, and will continue requiring a minimal amount of nutrient monitoring.

Ammonia – Montana WQS established for ammonia are dependent on the presence or absence of fish early life stages as well as the temperature and pH of the receiving water. The highest concentration of ammonia monitored during the previous permit term was 0.08 mg/L, which is significantly less than the most stringent temperature- and pH-dependent ammonia limitation provided by the State WQS of 0.179 mg/L. Based on the results of monitoring during the previous permit term, there is no limitation included in this Permit for ammonia. Monitoring for ammonia will be continued, on an annual basis to ensure continued protection of water quality downstream of the Facility.

Nitrate & Nitrite – The State designated uses of the Bighorn River downstream of the Reservation include drinking water. The human health standard for nitrate established in State standards is 10 mg/L, and the drinking water human health standard for nitrite is 1 mg/L. The average result (15.2 mg/L) of the four nitrate samples tested during the previous permit term were above the criteria of 10 mg/L. However, the dilution provided by the Bighorn River is approximately 1300 to 1, allowing for a determination that there is no reasonable potential for nitrate discharges from the Facility to cause or contribute to an exceedance of downstream water quality standards. Annual monitoring for nitrate and nitrite will continue during this Permit to ensure continued protection of downstream water quality.

Total Kjeldahl Nitrogen, Total Nitrogen, Total Phosphorus and Total Dissolved Solids – Permit application requirements at 40 CFR § 122.21(j)(4)(iii) require monitoring of these pollutants. Total Kjeldahl nitrogen, total nitrogen and total phosphorus monitoring requirements were included in the previous Permit and these parameters will continue to be monitored as part of this Permit. Monitoring for total dissolved solids, also required for the permit renewal application, will be continued in this Permit. Monitoring for these permit application parameters will occur annually.

Tetrachloroethene – The WQS for the State of Montana that apply downstream of the Reservation include numeric human health criteria for tetrachloroethene of 5 micrograms per liter (µg/L). In the 2011 permit application, the Permittee reported a maximum daily result of 5.4 µg/L tetrachloroethene as part of the testing required for permit renewal and annually monitoring for tetrachloroethene was required under the previous permit. However, the 2023 permit application (with samples results collected from 2018 to 2023) had no detectable tetrachloroethene. The Facility collected four (4) samples during the last permit cycle with a minimum detection level of 0.5 µg/L. Therefore, tetrachloroethene monitoring was removed from this permit as the Permittee has shown the discharge is protective of downstream water quality and no reasonable potential exists to cause or contribute to an exceedance of downstream water quality standards for tetrachloroethene.

6.2.4 Whole Effluent Toxicity (WET)

Many toxic pollutants have cumulative effects on aquatic organisms that cannot be detected by individual chemical testing. However, laboratory tests can measure toxicity directly by exposing living organisms to the wastewater and measuring their responses. Because these tests measure the aggregate toxicity of the whole effluent, this approach is called whole

effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

WET monitoring was ceased several permit iterations ago due to consistent lack of toxicity. Based on the extreme amount of dilution available in the receiving stream (approximately 900:1), the Facility does not have reasonable potential to cause or contribute to an exceedance of the state of Montana's general prohibition on toxicity (ARM 17.30.637(1)(d). However, due to new permit application requirements for EPA Form 2A, WET test monitoring is required either 1) a minimum of four quarterly WET tests for one year preceding this permit application or 2) at least four annual WET tests in the past 4.5 years (Section 3.19 of EPA Form 2A).

To fulfill this new permit application requirement, annual acute WET testing is being added to the Permit. WET testing shall be performed using two species, *Ceriodaphnia dubia* and *Pimephales promelas*. If WET testing confirms reasonable potential to cause or contribute to an exceedance of the narrative standards, the Permit may be reopened to include a WET limitation. Specific WET requirements are outlined in the Special Conditions section of the Permit (see section 5 of the Permit).

6.3 Final Effluent Limitations

Applicable TBELs and WQBELs were compared, and the most stringent of the two was selected for the following effluent limits (Table 3).

Table 3. Final Effluent Limitations for Outfall 001

Effluent Characteristic	**30-Day Average Effluent Limitations a/**	**7-Day Average Effluent Limitations a/**	**Daily Maximum Effluent Limitations a/**	**Limit Basis g/**
Biochemical Oxygen Demand (BOD5), b/	30	45	N/A	TBEL, PP
Total Suspended Solids (TSS), mg/L, b/	30	45	N/A	TBEL, PP
E. coli, cfu/100 mL, April 1 – October 31	126 c/	N/A	252 d/	WQBEL, PP
E. coli, cfu/100 mL, November 1 – March 31	630 e/	N/A	1,260 f/	WQBEL, PP
pH	Must remain in the range of 6.5 for aquatic WQC to 9.0 *at all times*			WQBEL, PP
There shall be no visible sheen in the receiving water. If visible sheen is detected, a grab sample shall be taken immediately and analyzed in accordance with 40 CFR Part 136. The concentration of oil and grease shall not exceed 10 mg/L in any sample taken.				TBEL, PP
Total Residual Chlorine, mg/L, h/	N/A	N/A	0.5	WQBEL, PP
Flow, mgd	report only	N/A	report only	N/A
Ammonia Nitrogen, mg/L	report only	N/A	report only	N/A

Effluent Characteristic	**30-Day Average Effluent Limitations a/**	**7-Day Average Effluent Limitations a/**	**Daily Maximum Effluent Limitations a/**	**Limit Basis g/**
Nitrate-Nitrogen, mg/L	report only	N/A	report only	N/A
Nitrite-Nitrogen, mg/L	report only	N/A	report only	N/A
Total Kjeldahl Nitrogen, mg/L	report only	N/A	report only	N/A
Total Nitrogen, mg/L	report only	N/A	report only	N/A
Total Phosphorus, mg/L	report only	N/A	report only	N/A
Total Dissolved Solids, mg/L	N/A	N/A	report only	N/A
Dissolved Oxygen, mg/L	N/A	N/A	report only	N/A
Total Antimony, µg/L	N/A	N/A	report only	N/A
Total Arsenic, µg/L	N/A	N/A	report only	N/A
Total Beryllium, µg/L	N/A	N/A	report only	N/A
Total Cadmium, µg/L	N/A	N/A	report only	N/A
Total Chromium, µg/L	N/A	N/A	report only	N/A
Total Copper, µg/L	N/A	N/A	report only	N/A
Total Cyanide, µg/L	N/A	N/A	report only	N/A
Total Lead, µg/L	N/A	N/A	report only	N/A
Total Mercury, µg/L	N/A	N/A	report only	N/A
Total Molybdenum, µg/L	N/A	N/A	report only	N/A
Total Nickel, µg/L	N/A	N/A	report only	N/A
Total Selenium, µg/L	N/A	N/A	report only	N/A
Total Silver, µg/L	N/A	N/A	report only	N/A
Total Zinc, µg/L	N/A	N/A	report only	N/A
Total Phenols, µg/L	N/A	N/A	report only	N/A
Volatile Organic Pollutants, µg/L	N/A	N/A	report only	N/A
Semi-Volatile Organic Compounds, Acid, µg/L	N/A	N/A	report only	N/A
Semi-Volatile Organic Compounds, Base-Neutral, µg/L	N/A	N/A	report only	N/A
Per- and Polyfluoroalkyl Substances (PFAS), ng/L i/	N/A	N/A	report only	N/A
Temperature, °C	report only	N/A	report only	N/A
WET at 25 C, Acute	report only – Pass/Fail			N/A

a/ See Definitions, Part 1.1 of the Permit, for definition of terms.

b/ Percentage Removal Requirements (TSS and BOD_5 Limitation): In addition to the concentration limits for Total Suspended Solids (TSS) and BOD_5 indicated above, the arithmetic mean of the concentration for effluent samples collected in a calendar month shall not exceed 15 percent of the arithmetic mean of the concentration for influent samples collected at approximately the same times during the same period (85 percent removal).

c/ From April 1 through October 31, the geometric mean number of *E. coli* may not exceed 126 colony-forming units (cfu) per 100 mL during any calendar month.

d/ From April 1 through October 31, no more than 10% of *E. coli* samples taken during any calendar month may exceed 252 cfu per 100 mL.

e/ From November 1 through March 31, the geometric mean number of *E. coli* may not exceed 630 cfu per 100 mL during any calendar month.

f/ From November 1 through March 31, no more than10% of *E. coli* samples taken during any calendar month may exceed 1,260 cfu per 100 mL.

g/ WQBEL = Limitation based on water quality-based effluent limit; TBEL = Limitation based on technology based effluent limit; PP = Limitation based on previous permit

h/ Monitoring is only required if chlorine is used in the treatment process. The minimum limit of analytical reliability for TRC is considered to be 0.05 mg/L. For purposes of this permit and calculating averages and reporting in the DMR form, analytical values less than 0.05 mg/L shall be considered in compliance with this permit.

i/ Use EPA Draft Method 1633 until EPA approves a 40 CFR Part 136 method. Analysis shall be for the 40 PFAS parameters included in the method. If the results of the initial eight (8) quarterly PFAS monitoring samples using Method 1633 show non-detectable levels of PFAS, the Permittee may submit a request for a waiver from further testing for approval of the appropriate EPA delegated representative. Submit waiver requests to: U.S. EPA, Region 8 (8WD-CWW), Attention: Wastewater Section Supervisor, 1595 Wynkoop Street, Denver, Colorado 80202-1129.

6.4 Antidegradation

The Administrative Rules of Montana (ARM) include a Nondegradation Policy (Title 17, Chapter 30, Subchapter 7). The policy applies to activities resulting in new or increased sources which may cause degradation. This does not allow any new or increased concentrations of pollutants from the Facility to the Bighorn River; therefore this Permit would not result in significant degradation and no further analysis is necessary.

6.5 Anti-Backsliding

Federal regulations at 40 CFR Part 122.44(l)(1) require that when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit unless the circumstances on which the previous permit were based have materially and substantially changed since the time the Permit was issued and would constitute cause for permit modification or revocation and reissuance under 40 CFR Part 122.62.

This permit renewal complies with anti-backsliding regulatory requirements. All effluent limitations, standards, and conditions in the Permit are either equal to or more stringent than those in the previous permit.

7 MONITORING REQUIREMENTS

7.1 Self-Monitoring Requirements

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, as required in 40 CFR Part 122.41(j), unless another method is required under 40 CFR subchapters N or O.

The self-monitoring requirements in Table 4 apply to influent entering the Facility. Influent monitoring is required to determine compliance with percent removal standards established at 40 CFR §§ 133.102(a)(3) and 133.102(b)(3). Data Value Reported on DMR b/

Table 4. Monitoring Requirements – Influent (Outfall 001-I)

Influent Characteristic	**Frequency**	**Sample Type a/**	**Data Value Reported on DMR b/**
Influent Flow, mgd	Continuous	Recorder	Daily Max 30-Day Avg.
Influent BOD_5, mg/L	Weekly	Composite	Daily Max 30-Day Avg.
Influent Total Suspended Solids (TSS), mg/L	Weekly	Composite	Daily Max 30-Day Avg.

a/ See Definitions, Part 1.1 of the Permit, for definition of terms.

b/ Refer to the Permit for requirements regarding how to report date on the DMR.

Table 5. Monitoring Requirements – Bighorn River (Outfall 001-RW)

Stream Characteristic	**Frequency**	**Sample Type a/**
Hardness, mg/L	Annually	Grab
Temperature, °C	Monthly b/	Recorder
Dissolved Oxygen, mg/L	Monthly b/	Grab

a/ See Definitions, Part 1.1 of the Permit, for definition of terms.

b/ Monthly monitoring is required June – October.

7.1.1 Per- and Polyfluoroalkyl Substances (PFAS)

EPA's PFAS Strategic Roadmap directs the Office of Water to leverage NPDES permits to reduce PFAS discharges to waterways "at the source and obtain more comprehensive information through monitoring on the sources of PFAS and quantity of PFAS discharged by these sources."

As a major POTW, the City of Hardin will have PFAS monitoring added to this permit. This is in alignment with the December 5, 2022 EPA memorandum, "Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs." Major POTWs have been identified as a potential source of PFAS. This is consistent with the agency's commitments in the October 2021 "PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024 (PFAS Strategic Roadmap)" to restrict the discharge of PFAS at their sources. In addition to reducing PFAS discharges, this program will enable EPA and the states to obtain comprehensive information on the sources and quantities of PFAS discharges, which can be used to inform appropriate next steps to limit the discharges of PFAS.

Based on recommendations in the December 5, 2022 EPA memorandum, "Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs," in the absence of a final 40 CFR § 136 method, the Permit requires that EPA Draft Method 1633 (in accordance with 40 CFR 122.21(e)(3)(ii) and 40 CFR 122.44(i)(1)(iv)(B)) shall be used. Monitoring will include each of the 40 PFAS parameters detectable by Method 1633 and the monitoring frequency will be at least quarterly to ensure that there are adequate data to assess the presence and concentration of PFAS in discharges. Method 1633 may become approved under 40 CFR § 136 during the life of the Permit. All PFAS monitoring data, including individual PFAS pollutants, must be reported on DMRs, in accordance with 122.41(l)(4)(i).

If the results of the initial eight (8) quarterly PFAS monitoring samples using method 1633 show there are non-detectable levels of PFAS, the Permittee may submit a request to EPA for a waiver from further testing.

Should PFAS positive results occur in effluent samples for any of the 40 PFAS parameters detectable by Method 1633, the Permittee must perform the steps indicated in Section 8.10 of the Permit, which include notification to EPA, additional monitoring, development and implementation of a PFAS source identification and reduction plan (PFAS Plan).

7.1.2 Pollutants to be Monitored

Monitoring frequencies for parameters required in the previous permit remained the same in this permit. In general,

Grab samples are appropriate when the flow and characteristics of the wastestream being sampled are relatively constant. The sample volume depends on the type and number of analyses to be performed. A grab sample is appropriate when a sample is needed to monitor an effluent that does not discharge on a continuous basis, provide information about instantaneous concentrations of pollutants at a specific time, allow collection of a variable sample volume, corroborate composite samples, and monitor parameters not amenable to compositing (e.g., pH, temperature, purgeable organics. *E. coli*, oil and grease unless lab composited; volatile organic compounds, sulfides, phenols, and phosphorus can be composited but require special handling procedures such as being lab composited).

Composite samples might provide a more representative measure of the discharge of pollutants over a given period than grab samples, and are used when a measure of the average pollutant concentration during the compositing period is needed, a measure of mass loadings per unit of time is needed, or wastewater characteristics are highly variable.

Pollutants amendable to compositing because it allows for a more representative measure of the discharge of pollutants over a given period include, but are not limited to BOD_5, TSS, and most metals (including Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc). All other pollutants shall be taken as a grab because they are not amendable to composting because of their nature (volatility, changes over time/duration, degradation, etc.). This includes but is not limited to, *Escherichia coli* (*E. coli*), pH, oil and grease, Total Residual Chlorine, Total Ammonia Nitrogen, Total Kjeldahl Nitrogen, Nitrate-Nitrogen, Nitrite-Nitrogen, Total Nitrogen, Total Phosphorus, Total Dissolved Solids, Dissolved Oxygen, Total Cyanide, Total Phenols, Semi-Volatile Organic Compounds, Acid and Base-Neutral, Per- and Polyfluoroalkyl Substances, Temperature and WET.

Table 6. Monitoring requirements for Outfall 001

Effluent Characteristic	**Monitoring Frequency**	**Sample Type a/**	**Data Value Reported on DMR b/**
BOD_5, mg/L d/	Monthly	Composite	Daily Max. 30-Day Avg. 30-Day Avg. % removal
TSS, mg/L d/	Monthly	Composite	Daily Max. 30-Day Avg. 30-Day Avg. % removal
Escherichia coli (*E. coli*), number/100 mL	Monthly	Grab	Daily Max. 30-Day Avg.
pH, units	Weekly	Grab	Instantaneous Min. Instantaneous Max.
O&G, visual	Daily	Visual	Narrative
O&G, mg/L	Immediately if visual sheen detected	Grab	Daily Max.
Total Residual Chlorine, mg/L	Daily if effluent is chlorinated	Grab	Daily Max.
Flow, mgd c/	Continuous	Recorder	Daily Max. 30-Day Avg.
Total Ammonia Nitrogen (as N), mg/L e/	Annually	Grab	Daily Max. 30-Day Avg.
Total Kjeldahl Nitrogen (TKN) (as N), mg/L f/	Annually	Grab	Daily Max. 30-Day Avg.
Nitrate-Nitrogen, mg/L f/	Annually	Grab	Daily Max. 30-Day Avg.
Nitrite-Nitrogen, mg/L f/	Annually	Grab	Daily Max.

Effluent Characteristic	**Monitoring Frequency**	**Sample Type a/**	**Data Value Reported on DMR b/**
			30-Day Avg.
Total Nitrogen, mg/L f/	Annually	Grab	Daily Max. 30-Day Avg.
Total Phosphorus, mg/L f/	Annually	Grab	Daily Max. 30-Day Avg.
Total Dissolved Solids, mg/L	Annually	Grab	Daily Max.
Dissolved Oxygen, mg/L	Quarterly	Grab	Daily Max.
Total Antimony, µg/L	Annually	Composite	Daily Max.
Total Arsenic, µg/L	Annually	Composite	Daily Max.
Total Beryllium, µg/L	Annually	Composite	Daily Max.
Total Cadmium, µg/L	Annually	Composite	Daily Max.
Total Chromium, µg/L	Annually	Composite	Daily Max.
Total Copper, µg/L	Annually	Composite	Daily Max.
Total Cyanide, µg/L	Annually	Grab	Daily Max.
Total Lead, µg/L	Annually	Composite	Daily Max.
Total Mercury, µg/L	Annually	Composite	Daily Max.
Total Molybdenum, µg/L	Annually	Composite	Daily Max.
Total Nickel, µg/L	Annually	Composite	Daily Max.
Total Selenium, µg/L	Annually	Composite	Daily Max.
Total Silver, µg/L	Annually	Composite	Daily Max.
Total Zinc, µg/L	Annually	Composite	Daily Max.
Total Phenols, µg/L	Annually	Grab	Daily Max.
Volatile Organic Pollutants, µg/L	Annually	Grab	Daily Max.
Semi-Volatile Organic Compounds, Acid, µg/L	Annually	Grab	Daily Max.
Semi-Volatile Organic Compounds, Base-Neutral, µg/L	Annually	Grab	Daily Max.
Per- and Polyfluoroalkyl Substances (PFAS), ng/L e/	Quarterly	Grab	Daily Max.
Temperature, °C	Daily	Grab	Daily Max. 30-Day Avg.
WET at 25 C, Acute	See section 5.1	Grab	Pass/Fail

a/ See section 1 of the Permit for definition of terms.

b/ Refer to the Permit for requirements regarding how to report date on the DMR.

c/ Flow measurements of effluent volume shall be made in such a manner that the Permittee can affirmatively demonstrate that representative values are being obtained. The average flow rate in million gallons per day (mgd) during the reporting period and the maximum flow rate observed, in mgd, shall be reported.

d/ In addition to monitoring the final discharge, influent samples shall be taken and analyzed for these characteristics on the same day at Outfall 001-I.

e/ Use EPA Draft Method 1633 until EPA approves a 40 CFR Part 136 method. Analysis shall be for the 40 PFAS parameters included in the method. If the results of the initial eight (8) quarterly PFAS monitoring samples using Method 1633 show non-detectable levels of PFAS, the Permittee may submit a request for a waiver from further testing for approval of the appropriate EPA delegated representative. Submit waiver requests to: U.S. EPA, Region 8 (8WD-CWW), Attention: Wastewater Section Supervisor, 1595 Wynkoop Street, Denver, Colorado 80202-1129.

f/ Annual sampling event should occur during the 'summer' months of July, August, and September.

8 SPECIAL CONDITIONS

N/A

9 REPORTING REQUIREMENTS

Reporting requirements are based on requirements in 40 CFR §§ 122.44, 122.48, and Parts 3 and 127. A discharge monitoring report (DMR) frequency of monthly was chosen, because the Facility discharges continuously and is a Major Facility.

10 COMPLIANCE RESPONSIBILITIES AND GENERAL REQUIREMENTS

10.1 Inspection Requirements

The Facility has two operators on-site, seven (7) days a week for ten (10) hours a day. The Facility also has a supervisory control and data acquisition (SCADA) system; however, it is limited to influent and effluent readings only.

Facility operators do walk arounds or "rounds" per company policy every fifteen (15) minutes during working hours.

On a once daily basis, unless otherwise modified in writing by EPA, the Permittee shall inspect its treatment facility. The permittee shall document the inspection, as required by the Permit. Inspections are required to ensure proper operation and maintenance of the Facility in accordance with 40 CFR 122.41(e). Since the operators are doing daily inspections every fifteen (15) minutes during working hours, complying with a once daily inspection per the Permit should not require any additional resources other than providing documentation.

10.2 Operation and Maintenance

40 CFR § 122.41(e) requires permittees to properly operate and maintain at all times, all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. In addition to an operation and maintenance plan, regular facility inspections, an asset

management plan (AMP), and consideration of staff and funding resources are important aspects of proper operation and maintenance. Asset management planning provides a framework for setting and operating quality assurance procedures and helps to ensure the permittee has sufficient financial and technical resources to continually maintain a targeted level of service. Consideration of staff and funding provide the permittee with the necessary resources to operate and maintain a well-functioning facility.

An AMP can be used to forecast relevant needs and costs associated with long-term compliance concerns, particularly in communities that could be impacted by emerging or increased flooding risk, risk of wildfires, or drought risk. While flooding and wildfires can lead to damage to critical infrastructure, droughts could reduce flows in receiving waters resulting in more stringent permit limits in the future. Long-term construction, additional operation and maintenance, and funding plans for upgrading or relocating critical infrastructure may be necessary to mitigate these concerns. Facilities may also consider optimizing their energy efficiency, which can yield substantial economic benefits and help cut down on associated emissions.

Operation and maintenance requirements have been established in sections 6.3.3 and 6.3.4 of the Permit to help ensure compliance with the provisions of 40 CFR 122.41(e).

10.3 Industrial Waste Survey

The Facility is a Publicly Owned Treatment Works (POTW) as defined in 40 CFR § 403.3(q). The Permit contains requirements for the Permittee to protect the POTW from pollutants which would inhibit, interfere with, or otherwise be incompatible with operation of the treatment works including interference with the use or disposal of municipal sludge. Pass through and interference are defined in 40 CFR §§ 403.3(p), (k), respectively.

The Facility is required to conduct an Industrial Waste Survey (IWS), as described in the Permit, within one year of the Permit effective date. An IWS is required to ensure the POTW is protected and will provide documentation to support that there are no industrial or medical facilities that could impact the POTW (i.e., mercury or silver, oily wastes, etc.).

10.4 Per- and Polyfluoroalkyl Substances (PFAS) Notification and Plan

As discussed in section 7.1.1 of the SoB, PFAS monitoring is included in the Permit based on the December 5, 2022 EPA memorandum, "Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs." In accordance with 40 CFR Part 122.44(k), the Permit includes best management practices (BMPs) to control or abate the discharge of PFAS when it is found to be present. The Permittee is required to provide notification the first time PFAS is detected in the effluent. Additionally, the Permittee is required to develop and implement a PFAS Plan, as described in section 8.10 of the Permit. PFAS is known to cause risks to human health. The purpose of these BMPs is to identify sources of PFAS and keep PFAS out of the environment.

11 ENDANGERED SPECIES CONSIDERATIONS

The Endangered Species Act of 1973 requires all Federal Agencies to ensure, in consultation with the U.S. Fish and Wildlife Service (FWS), that any Federal action carried out by the

Agency is not likely to jeopardize the continued existence of any endangered species or threatened species (together, "listed" species), or result in the adverse modification or destruction of habitat of such species that is designated by the FWS as critical ("critical habitat"). See 16 U.S.C. § 1536(a)(2), 50 CFR Part 402. When a Federal agency's action "may affect" a protected species, that agency is required to consult with the FWS (formal or informal) (50 CFR § 402.14(a)).

The U.S. Fish and Wildlife Information for Planning and Conservation (IPaC) website (https://ecos.fws.gov/ipac/) was accessed on March 17, 2023 to determine federally-listed Endangered, Threatened, Proposed and Candidate Species for the area near the Facility. The IPaC Trust Resource Report findings are provided below. The designated area utilized was identified in the IPaC search and covers the Facility and the immediate outfall area of the receiving water.

Table 7. IPaC Federally listed Threatened and Endangered Species

Species	Scientific Name	Species Status	Designated Critical Habitat
Northern Long-eared Bat	*Myotis septentrionalis*	Threatened	No critical habitat has been designated for this species.
Indiana Bat	*Myotis sodalis*	Endangered	There is final critical habitat for this species (published in the Federal Register on September 22, 1977).The Facility and surrounding area does not overlap the critical habitat.
Gray Bat	*Myotis grisescens*	Endangered	No critical habitat has been designated for this species.
Tricolored Bat	*Perimyotis subflavus*	Endangered	No critical habitat has been designated for this species.
Monarch Butterfly	*Danaus plexippus*	Candidate	No critical habitat has been designated for this species.

11.1 Biological Evaluation

The justification to support the determination for the species is as follows. The Facility was previously covered under an EPA Region 8 wastewater individual permit and no changes were proposed in this permit except additional water quality monitoring.

Based on the IPaC information generated, the Facility location is outside of the critical habitat for the Indiana Bat. This is a terrestrial species. EPA's determination for these species is "may affect, but is not likely to adversely affect."

There is no critical habitat listed for the Northern Long-eared Bat, Gray Bat and Tricolored Bat and Monarch Butterfly, which are all terrestrial species. The Facility's treated water discharges into Bighorn River. If these species are present, they may use the Bighorn River for a short period of time during the year. However, the pollutants in the discharge are not expected to impact the species. Based on the IPaC information, EPA's determination for these species is "may affect, but is not likely to adversely affect."

Although outside the action area, EPA considered the downstream effects that this discharge may have on the endangered pallid sturgeon inhabiting the Yellowstone River. This discharge is located 32 miles upstream of the Yellowstone River and is therefore well mixed and attenuated by the time it reaches the river. According to the USGS, the Yellowstone River at Forsyth, Montana (USGS gage 06295000) has a critical 7Q10 low flow of 2,580 cfs, or 1,667 mgd. Even at these low flows, there is approximately 1,290 times dilution provided in the Yellowstone River. Due to the large dilution factor and the distance between the discharge and the Yellowstone River, EPA believes this discharge is not likely to adversely affect pallid sturgeon at this downstream location.

Therefore, EPA determined this permitting action "may affect, but is not likely to adversely affect" the species listed above.

Before going to public notice, a copy of the draft Permit and this Statement of Basis was sent to the FWS requesting concurrence with EPA's finding that reissuance of this NPDES Permit "may affect, but is not likely to adversely affect" on the species listed as threatened or endangered in the action area by the FWS under the Endangered Species Act nor their critical habitat. On August 24, 2023, FWS issued a concurrence letter to EPA agreeing with its "may affect, but is not likely to adversely affect" findings.

12 NATIONAL HISTORIC PRESERVATION ACT REQUIREMENTS

Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470(f) requires that federal agencies consider the effects of federal undertakings on historic properties. The first step in this analysis is to consider whether the undertaking has the potential to affect historic properties, if any are present. See 36 CFR 800.3(a)(1). Permit renewals where there is no new construction are generally not the type of action with the potential to cause effects on historic properties.

13 401 CERTIFICATION CONDITIONS

At the time of the Permit proposal, EPA was the Clean Water Act (CWA) Section 401 certifying authority for the Permit, because the Crow Tribe had not received authorization to implement Section 303(c) of the CWA. EPA has determined § 401 conditions are unnecessary, because EPA has determined the Permit protects Tribal water quality requirements.

14 MISCELLANEOUS

The effective date of the Permit is December 1, 2023, and the Permit expiration date is November 30, 2028.

Permit written by Amy Maybach, U.S. EPA, 303-312-7014

ADDENDIUM

The draft permit and Statement of Basis were public noticed in the Big Horn County Newspaper on September 7, 2023. No public comments were received during the 30-day public comment period.