



**Water Quality Division**  
**Montana Pollutant Discharge Elimination System (MPDES) - Fact Sheet**

Permittee:	City of Helena
Permit No.:	MT0022641
Receiving Water:	Prickly Pear Creek via City of Helena Effluent Ditch
Facility Information	
Name:	City of Helena Wastewater Treatment Plant
Location:	2108 Custer Avenue East Helena, MT 59602
Contact:	Mark Fitzwater, Wastewater Superintendent 2108 Custer Avenue East Helena, MT 59601

Fee Information

Type of Facility:	Major Publicly Owned Treatment Works
Number of Outfalls:	1 (For Fee Determination Only)
Type of Outfall:	001 – Facility Discharge
Fact Sheet Date:	May 2021

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**I. Summary**

The Department of Environmental Quality (DEQ) proposes to renew the Montana Pollutant Discharge Elimination System (MPDES) permit for City of Helena Wastewater Treatment Plant (WWTP), MT0022641. This fact sheet documents the legal requirements and technical rationale that serve the decision-making process involved with developing effluent limits, monitoring and reporting requirements, and special conditions specific to the City of Helena.

**A. Permit Status**

The previous permit became effective on October 1, 2012 and expired on September 30, 2017. DEQ received the MPDES renewal permit application (Forms 1 and 2A) on June 14, 2017 and applicable fees on July 12, 2017. Deficiencies were noted, and additional information was requested by DEQ. The City of Helena submitted the requested information on September 13, 2017. DEQ considered the application complete and administratively extended the permit on September 26, 2017.

**B. Proposed Changes to Effluent Limits**

For this permit renewal, DEQ proposes the following:

- Effluent monitoring requirements for temperature, dissolved oxygen, and total dissolved solids are removed.
- Ammonia limits are recalculated to account for recent ambient data and an alternative mixing zone.

- Nutrient monitoring and previously calculated average monthly load limits are retained. Monitoring for nitrate + nitrite and Kjeldahl nitrogen is reduced to monthly as a component of total nitrogen.
- Oil and grease sample frequency is set to quarterly with additional visual monitoring.
- Copper and zinc limits are retained. A mixing zone evaluation and source investigation are required.
- The analytical methods used for both cyanide and mercury do not meet the current required reporting values (RRVs). Additional monitoring will be required to reassess reasonable potential (RP) and the possible need for limits in the future.
- Ambient monitoring is added.

## II. Facility Information

### A. Facility Description and Design Criteria

The Helena WWTP serves the City of Helena and annexed areas of Lewis and Clark County with a current population of about 30,000 people. The WWTP is an activated sludge, modified biological nutrient removal treatment plant with UV disinfection and two-stage anaerobic sludge digestion. Solids are filter pressed and either composted at the landfill (winter) or land applied (summer). Discharge is continuous to the City of Helena ditch, which is constructed solely for the transport of treated effluent to Prickly Pear Creek via Outfall 001. The average daily design flow is 5.4 million gallons per day (mgd) with a minimum detention time of approximately 32 hours.

The Helena WWTP currently has one permitted Industrial User, Montana Rail Link, and one permitted Categorical Industrial User, Decorative Industrial Plating, contributing to the facility. Effluent limitations for these facilities are covered under the WWTP's Industrial Pretreatment Program, which was approved by the US Environmental Protection Agency (EPA) in 1986. EPA continues to have regulatory authority for the pretreatment program.

The City of Helena has an approved nutrient trading plan. Its purpose is to allow the city to extend its service area beyond city limits, connecting wastewater treatment services to homes in the surrounding area that are, or would normally be, served by individual or community septic systems. Connecting these systems to city services provides improved treatment and reduces the loading of nutrients, specifically nitrogen, to surface waters within the Helena Wastewater Planning Area.

### B. Effluent Quality and Existing Permit Requirements

Table 1 lists the 2012-permit limits and effluent characteristics for the City of Helena for the period of record (POR), March 2014 through November 2020. This is the period occurring after plant evaluation and optimization using DEQ recommendations. The only exceptions are for zinc and copper, where the POR reflects when limits were implemented in September 2017. The NetDMR data reported during the POR had two unrepresentative data points, which have been excluded. In April 2018, the plant experienced issues with their UV disinfection system leading to an abnormally high *E. coli* value, and in September 2019, the plant was cleaning clarifiers leading to an abnormally high value for total suspended solids. Data shown below are summarized from actual sample results and incorporate all required monitoring that resulted in parameters above detection levels.

**Table 1: Effluent Characteristics for the POR March 2014 through November 2020**

Parameter	Units	Permit Limit			Max Value	Average Value	Sample Size
		Average Monthly <sup>(1)</sup>	Average Weekly <sup>(1)</sup>	Max Daily <sup>(1)</sup>			
Flow	mgd	monitoring required			7.96	2.95	81
Temperature	°C	monitoring required			28.8	14.0	81
<b>Conventional Pollutants</b>							
5-Day Biochemical Oxygen Demand (BOD <sub>5</sub> )	mg/L	30	45	--	7.2	3.2	81
	lbs/day	1,351	2,027	--	199	80	81
	% removal	85%	--	--	97 <sup>(2)</sup>	99	81
Total Suspended Solids (TSS)	mg/L	30	45	--	14.2	3.5	80
	lbs/day	1,351	2,027	--	383	84	80
	% removal	85%	--	--	97 <sup>(2)</sup>	98	80
<i>E. coli</i> , April - October	cfu/100 mL	126	252	--	25.8	2.7	48
<i>E. coli</i> , November - March	cfu/100 mL	630	1,260	--	33.8	2.5	32
pH	s.u.	6.5 – 9.0			6.6 <sup>(2)</sup> – 7.9	7.2	81
Oil and Grease	mg/L	--	--	10	1	<1	81
<b>Nonconventional Pollutants</b>							
Total Ammonia	mg/L	1.67	3.83	--	4.65	0.35	81
Nitrate + Nitrite, as N	mg/L	monitoring required			8.34	3.34	81
Total Kjeldahl Nitrogen	mg/L	monitoring required			5.65	1.51	81
Total Nitrogen <sup>(3)</sup>	mg/L	monitoring required			10.4	4.83	81
	lbs/day	241	308	--	256	119	81
	tons/yr	monitoring required			259.5	146.8	6
Total Phosphorus	mg/L	monitoring required			6.11	1.99	81
	lbs/day	108	166	--	142	49	81
	tons/yr	monitoring required			99.7	55.9	6
Total Dissolved Solids	mg/L	monitoring required			518	377	27
<b>Metals, Hardness, Organics, and Cyanide</b>							
Copper, Total Recoverable <sup>(4)</sup>	µg/L	9	--	13	21	6	39
Zinc, Total Recoverable <sup>(4)</sup>	µg/L	110	--	110	110	83	39
Aluminum, Dissolved	µg/L	monitoring required			30	19	27
Antimony, Total Recoverable	µg/L				3	2	27
Arsenic, Total Recoverable	µg/L				6	4	27
Beryllium, Total Recoverable	µg/L				1.0	0.9	6
Cadmium, Total Recoverable	µg/L				0.5	0.1	27
Lead, Total Recoverable	µg/L				2.0	0.9	27
Mercury, Total Recoverable	µg/L				< 0.05 <sup>(5)</sup>	< 0.05 <sup>(5)</sup>	6
Nickel, Total Recoverable	µg/L				10	5	6
Selenium, Total Recoverable	µg/L				2	1	6
Silver, Total Recoverable	µg/L				0.5	0.3	6

Thallium, Total Recoverable	µg/L		0.2	< 0.2	6
Total Hardness, as CaCO <sub>3</sub>	mg/L		268	174	27
Phenol, Total	µg/L		70	25	6
Chloroform	µg/L		0.96	0.67	5
Cyanide, Total	µg/L		< 5 <sup>(5)</sup>	< 5 <sup>(5)</sup>	4
<b>Chronic Whole Effluent Toxicity Tests</b>					
7-day Chronic <i>Ceriodaphnia</i>	Pass/Fail	monitoring required	Failed one test in June 2015		25
7-day Chronic <i>P. promelas</i>	Pass/Fail				
<sup>(1)</sup> See Definition section at the end of the MPDES permit for explanation of terms. <sup>(2)</sup> Value reported is the minimum for the POR. <sup>(3)</sup> Calculated as the sum of Nitrate + Nitrite (as N) and Total Kjeldahl Nitrogen (as N) concentrations. Current limits became effective January 2017. <sup>(4)</sup> Limits became effective September 2017. <sup>(5)</sup> The analytical methods used did not meet the current Required Reporting Values (RRVs) set forth by DEQ. The number shown is the reporting limit.					

### C. Compliance History

The facility's last compliance evaluation inspection was January 7<sup>th</sup>, 2020. During the inspection, one exceedance was found for total recoverable copper. Additionally, the facility had not been sending in compliance schedule annual reports since 2017 when the permit was administratively continued. Those reports were sent in after the inspection. No other findings were identified during the facility site evaluation. Most recently, the facility is under enforcement with EPA for pretreatment issues.

## III. Proposed Technology-Based Effluent Limits

### A. Applicable Guidelines

Technology-based effluent limits (TBELs) represent the minimum treatment requirements implemented in MPDES permits. 40 CFR 133 defines minimum treatment requirements for secondary treatment or equivalent for POTWs as measured by pH, BOD<sub>5</sub>, TSS, and percent removal of BOD<sub>5</sub> and TSS. The City of Helena is held to National Secondary Standards for all three parameters.

### B. Mass-Based Limits

Effluent limits must be expressed in terms of mass and are identified as load (lbs/day) when suitable. Exceptions include parameters that cannot be appropriately expressed in mass, such as pH and temperature. The following equations were used to calculate the BOD<sub>5</sub> and TSS mass-based load allocations using the TBEL concentrations associated with national secondary treatment standards, the design flow of 5.4 mgd, and a conversion factor:

**BOD<sub>5</sub>:**    30-day            Load = 5.4 mgd x 30 mg/L x 8.34 = 1,351 lbs/day  
                   7-day                Load = 5.4 mgd x 45 mg/L x 8.34 = 2,027 lbs/day

**TSS:**        30-day            Load = 5.4 mgd x 30 mg/L x 8.34 = 1,351 lbs/day  
                   7-day                Load = 5.4 mgd x 45 mg/L x 8.34 = 2,027 lbs/day

Load limits for BOD<sub>5</sub> and TSS will apply to the effluent and the monthly average load limit will be maintained at the more stringent of the nondegradation load allocations or mass-based loading limits, as discussed next.

### C. Nondegradation Load Allocations

The 2012-issued permit established the current BOD<sub>5</sub> and TSS average monthly load limit of 1,351 lbs/day as the nondegradation load allocation. The Helena WWTP did not exceed this allocated load limit during

the POR and is therefore not a new or increased source. The City of Helena will continue to be held to this average monthly load limit for BOD<sub>5</sub> and TSS.

**D. Final Technology-Based Effluent Limitations**

This permit will retain TBELs based on National Secondary Standards for BOD<sub>5</sub> and TSS as shown in Table 2. Technology-based limits for pH require levels between 6.0-9.0 standard units.

<b>Table 2. Technology-Based Effluent Limits for Outfall 001</b>			
Parameter	Units	Effluent Limits	
		Average Monthly	Average Weekly
5-Day Biochemical Oxygen Demand (BOD <sub>5</sub> )	mg/L	30	45
	lbs/day	1,351	2,027
	% removal	85%	-
Total Suspended Solids (TSS)	mg/L	30	45
	lbs/day	1,351	2,027
	% removal	85%	-
pH	s.u.	6.0 – 9.0 (instantaneous)	

**IV. Water Quality-Based Effluent Limitations**

**A. Applicable Guidelines, Standards, & Pollutants of Concern**

The Montana Water Quality Act states that a permit may only be issued if DEQ finds that it will not result in pollution of state waters. MPDES permits shall include limitations on all pollutants which will cause, or have reasonable potential to cause, an excursion of any numeric or narrative water quality standard. Water quality-based effluent limits (WQBELs) are designed to protect these standards and are required when TBELs are not adequately protective. The purpose of this section is to provide a basis and rationale for establishing effluent limits that will protect designated uses of the receiving water based on Montana water quality standards and use classifications.

The discharge from the WWTP must comply with general prohibitions (narrative standards) which require that state waters, including mixing zones, must be free from substances which will:

- (a) settle to form objectionable sludge deposits or emulsions beneath the surface of the water or upon adjoining shorelines;
- (b) create floating debris, scum, a visible oil film (or be present in concentrations at or in excess of 10 milligrams per liter), or globules of grease or other floating materials;
- (c) produce odors, colors or other conditions as to which create a nuisance or render undesirable tastes to fish flesh or make fish inedible;
- (d) create concentrations or combinations of materials which are toxic or harmful to human, animal, plant or aquatic life; and
- (e) create conditions which produce undesirable aquatic life.

The need for additional WQBELs is based on reasonable potential for pollutants to exceed numeric or narrative water quality standards. Identification of a pollutant of concern (POC) is not an indication that WQBELs are necessary, but an indication that further evaluation is required. Pollutants typically present in treated municipal wastewater and those specific to the City of Helena WWTP are summarized in Table 3.

<b>Table 3. Identification of Pollutants of Concern</b>	
<b>Parameter</b>	<b>Basis for Pollutant of Concern</b>
<b>Conventional Pollutants:</b>	
BOD <sub>5</sub> , TSS, pH	TBELs, Previous permit
<i>E. coli</i> , Oil & Grease	Known Present, Previous Permit
<b>Nonconventional Pollutants:</b>	
Total Ammonia, Nitrate + Nitrite, Total Nitrogen, Total Phosphorus	Known Present, Previous Permit, Impairment
<b>Metals (Total Recoverable):</b>	
Copper, Zinc	Known Present, Previous Permit, Impairment
Arsenic, Cadmium, Lead	Known Present, Impairment
Aluminum, Antimony, Beryllium, Mercury, Nickel, Selenium, Silver, Thallium	Known Present
<b>Organic Compounds</b>	
Total Phenol, Chloroform	Known Present
<b>Inorganics</b>	
Total Cyanide	Known Present

**B. Receiving Water: Prickly Pear Creek**

The Helena WWTP discharges via a constructed ditch to Prickly Pear Creek at a point approximately six miles upstream of the mouth at Lake Helena (outfall located at approximately 46°38'36" N, 111°59'4" W).

**Low Flow (7Q10):** Flow data was compiled from the City of Helena, Lewis and Clark County Water Quality District, and Asarco Inc. from various sites upstream of where the effluent ditch reaches Prickly Pear Creek. The dataset consisted of 195 samples over the past ten years. To establish a 7Q10, the 10<sup>th</sup> percentile of this data was calculated, establishing a value of 3.74 mgd.

**Classification:** This segment of Prickly Pear Creek is classified as “I” according to Montana Water Use Classifications. The goal of the State of Montana is to have waters classified as “I” fully supporting the following uses: drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming and recreation; growth and propagation of fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

**Impairments:** This segment of Prickly Pear Creek near Helena WWTP is listed as impaired on the 2020 303(d) list citing partial support for aquatic life and drinking water. Probable causes are ammonia, arsenic, metals, nutrients, sedimentation, temperature, and physical alterations regarding flow, vegetative covers, and substrate habitat. Sources vary from grazing and crop production, to acid mine drainage and municipal point source discharges.

**Total Maximum Daily Load (TMDL):** The segment falls within the Lake Helena Planning Area and a TMDL has been developed for impairments of Prickly Pear Creek. The waste load allocations (WLAs), or the loading concentrations the WWTP can discharge while assuring water quality, are explained in the TMDL document for the Lake Helena Watershed Planning Area (full title can be found in section XI. *Information Sources*). The nutrient WLAs focus on a phased approach for nutrient loading from the treatment plant and recommend that pollutant trading should be considered to meet the associated load

limits. Further nutrient evaluations are discussed below. WLAs for Helena WWTP are not set for other causes of impairment.

**Ambient Data:** Table 4 shows ambient (instream/upstream) water quality data for Prickly Pear Creek. The following is a combination of monitoring data compiled by Helena, Lewis and Clark County Water Quality District, and Asarco Inc. at sample sites directly upstream of the WWTP between 2012 and 2019. The instream critical condition of the receiving water is the 75<sup>th</sup> percentile, except for hardness where the 25<sup>th</sup> percentile is used (\*).

<b>Table 4. Prickly Pear Creek Ambient Water Quality Data and Comparison to Water Quality Standards</b>					
<b>Parameter</b>	<b>Receiving Water Quality</b>		<b>Water Quality Standards</b>		
	Sample Size	75 <sup>th</sup> Percentile	Aquatic Life Acute	Chronic	Human Health
pH (s.u.)	145	8.20	6.5 – 9.5		
Temperature (°C)	131	18.2	No increase in natural temp		
Total Ammonia (mg/L)	3	0.13	3.83	1.41	-
Nitrate + Nitrite (mg/L)	22	0.34	-	-	10
Total Nitrogen (mg/L)	21	0.49	Free from substances which will create conditions which will produce undesirable aquatic life		
Total Phosphorus (mg/L)	22	0.04			
Copper (µg/L)	37	6	13.1	8.8	1,300
Zinc (µg/L)	35	73.5	113	113	7,400
Aluminum (µg/L)	data unavailable		750	87	-
Antimony (µg/L)	18	0.5	-	-	5.6
Arsenic (µg/L)	56	7.25	340	150	10
Beryllium (µg/L)	16	0.85	-	-	4
Cadmium (µg/L)	35	0.37	1.77	0.75	5
Lead (µg/L)	35	8.7	74	2.9	15
Mercury (µg/L)	18	0.01	1.7	0.91	0.05
Nickel (µg/L)	16	4	441	49	100
Selenium (µg/L)	36	1	20	5	50
Silver (µg/L)	data unavailable		3.58	-	100
Thallium (µg/L)	18	0.2	-	-	0.24
Hardness, as CaCO <sub>3</sub> (mg/L)	21	93*	No Standard		
Phenol (mg/L)	data unavailable		-	-	4
Chloroform (µg/L)	data unavailable		-	-	60
Cyanide (µg/L)	data unavailable		22	5.2	4

### C. Mixing Zone

A mixing zone is an area where the effluent mixes with the receiving water and certain water quality standards may be exceeded. A mixing zone is granted on a case-by-case basis, must be the smallest practicable size with definable boundaries, and have a minimum effect on water uses. Mixing zones are not granted for technology-based standards. Acute aquatic life standards for any parameter may not be exceeded in any portion of the mixing zone unless DEQ specifically finds that allowing minimal initial dilution will not threaten or impair existing beneficial uses.

A standard mixing zone may be granted for facilities discharging less than 1 mgd or when mixing is nearly instantaneous. Nearly instantaneous mixing is assumed if the discharge is through an effluent diffuser, when the actual mean daily flow exceeds the 7Q10 (dilution <1), or when the permittee demonstrates the discharge is nearly instantaneous through a DEQ approved study. Helena's discharge is greater than 1 mgd, the mean daily flow (2.95 mgd) does not exceed the 7Q10 of the receiving water (3.74 mgd), and an effluent diffuser is not installed. Dischargers that do not qualify for a standard mixing zone must apply for a source specific mixing zone by submitting a mixing zone study. No study was submitted and therefore, only an alternative mixing zone for ammonia will be allowed for this permit renewal.

**Alternative Mixing Zone** - DEQ determined that allowing an alternative mixing zone for ammonia will not threaten or impair existing beneficial uses. DEQ will provide 10% dilution for ammonia based on chronic aquatic life standards and 1% based on acute aquatic life standards. Beginning at the point of discharge into Prickly Pear Creek, alternative ammonia mixing zone dimensions extend 100 feet downstream for chronic standards and 10 feet downstream for acute standards.

#### **D. Reasonable Potential Analysis**

The Reasonable Potential (RP) analysis predicts the impact of the discharge on the receiving water under design conditions. WQBELs are developed for each parameter that demonstrates RP to cause an exceedance of a water quality standard (WQS). DEQ uses a mass-balance equation (shown below) and a statistical approach outlined in Chapter 3 of EPA's *Technical Support Document for Water Quality-based Toxics Control* (EPA's TSD Manual) to determine RP for individual pollutants.

$$Q_r C_r = Q_s C_s + Q_d C_d \text{ (Equation 1)}$$

$Q_r$  = resulting downstream flow after discharge ( $Q_s + Q_d$ ; mgd)

$C_r$  = resulting downstream pollutant concentration (after available dilution; mg/L or  $\mu$ g/L)

$Q_s$  = critical upstream receiving water flow rate (mgd)

$C_s$  = critical upstream receiving water pollutant concentration (mg/L or  $\mu$ g/L)

$Q_d$  = critical effluent flow rate (facility average daily design flow rate; mgd)

$C_d$  = critical effluent pollutant concentration (mg/L or  $\mu$ g/L)

To determine if RP exists and begin solving for the variables listed in Equation 1, the facility's maximum reported effluent concentration ( $C_{max}$ ) is converted into the projected critical effluent concentration ( $C_d$ ) for parameters with a numeric standard. This process accounts for variation in effluent and is summarized in Table 5. Cyanide and mercury have been excluded from this analysis because the methods used for sampling of both parameters do not meet the current RRVs. Therefore, DEQ was unable to conduct an accurate assessment.



<b>Table 5. Critical Effluent Concentrations</b>							
	CV	Sample Size	→ TSD Multiplier	x	$C_{max}$	=	$C_d$
Ammonia (mg/L)	1.53	81	1.00		4.65		<b>4.65</b>
Nitrate + Nitrite (mg/L)	0.29	81	1.00		8.34		<b>8.34</b>
Aluminum (µg/L)	0.53	27	1.22		30.0		<b>36.5</b>
Antimony (µg/L)	0.59	27	1.24		3.0		<b>3.7</b>
Arsenic (µg/L)	0.21	27	1.09		6.0		<b>6.5</b>
Beryllium (µg/L)	0.12	6	1.18		1.0		<b>1.18</b>
Cadmium (µg/L)	1.18	27	1.44		0.50		<b>0.72</b>
Copper (µg/L)	0.78	39	1.15		21.0		<b>24.1</b>
Lead (µg/L)	0.37	27	1.15		2.0		<b>2.3</b>
Nickel (µg/L)	0.81	6	2.65		10		<b>27</b>
Selenium (µg/L)	0.39	6	1.67		2.0		<b>3.3</b>
Silver (µg/L)	0.52	6	1.95		0.5		<b>1.0</b>
Thallium (µg/L)	0.00	6	1.00		0.2		<b>0.2</b>
Zinc (µg/L)	0.20	39	1.04		110		<b>114</b>
Phenol (mg/L)	1.00	6	3.15		0.07		<b>0.22</b>
Chloroform (µg/L)	0.32	5	1.62		0.96		<b>1.55</b>

(1) The analytical methods used did not meet the current Required Reporting Values (RRVs) set forth by DEQ. The number shown is the reporting limit.

Next, the critical upstream flow ( $Q_s$ ) is determined from the 7Q10 of Prickly Pear Creek and the available dilution granted by the alternative mixing zone for ammonia discussed in section IV.C.

<b>Table 6. Critical Upstream Flow</b>			
	7Q10	x Dilution	= $Q_s$
Ammonia, acute	3.74 mgd	1%	<b>0.037 mgd</b>
Ammonia, chronic		10%	<b>0.374 mgd</b>

Equation 1 is then rearranged to solve for the receiving water pollutant concentration ( $C_r$ ) with the variables specific to Helena and Prickly Pear Creek. According to the calculations below, if the receiving water concentration exceeds the WQS, RP exists and a WQBEL must be established for those parameters.

**Table 7. Receiving Water Pollutant Concentration and RP Analysis**

	$((C_s$	$Q_s$	$+$	$(C_d$	$Q_d))$	$/$	$(Q_s + Q_d)$	$=$	$C_r$	$< \text{or} >$	WQS	RP?
	(mgd)	(mgd)		(mgd)	(mgd)		(mgd)					
Ammonia, acute (mg/L)	0.13	0.037		4.7	5.4		5.44		4.62	>	3.83	yes
Ammonia, chronic (mg/L)	0.13	0.374		4.7	5.4		5.77		4.36	>	1.41	yes
Nitrate + Nitrite (mg/L)									8	<	10	no
Aluminum, acute (µg/L)									36	<	750	no
Aluminum, chronic (µg/L)									36	<	87	no
Antimony, HH (µg/L)									3.7	<	5.6	no
Arsenic, acute (µg/L)									7	<	340	no
Arsenic, chronic (µg/L)									7	<	150	no
Arsenic, HH (µg/L)									7	<	10	no
Beryllium, HH (µg/L)									1	<	4	no
Cadmium, acute (µg/L)									0.72	<	1.77	no
Cadmium, chronic (µg/L)									0.72	<	0.75	no
Cadmium, HH (µg/L)									0.72	<	5	no
Copper, acute (µg/L)									24.1	>	13.1	yes
Copper, chronic (µg/L)									24.1	>	8.8	yes
Copper, HH (µg/L)									24.1	<	1300	no
Lead, acute (µg/L)									2.3	<	74	no
Lead, chronic (µg/L)									2.3	<	2.9	no
Lead, HH (µg/L)									2.3	<	15	no
Nickel, acute (µg/L)									27	<	441	no
Nickel, chronic (µg/L)									27	<	49	no
Nickel, HH (µg/L)									27	<	100	no
Selenium, acute (µg/L)									3	<	20	no
Selenium, chronic (µg/L)									3	<	5	no
Selenium, HH (µg/L)									3	<	50	no
Silver, acute (µg/L)									0.98	<	3.58	no
Silver, chronic (µg/L)									0.98	<	100	no
Thallium, HH (µg/L)									0.20	<	0.24	no
Zinc, acute (µg/L)									114	>	113	yes
Zinc, chronic (µg/L)									114	>	113	yes
Zinc, HH (µg/L)									114	<	7400	no
Total Phenol (mg/L)									0.2	<	4	no
Chloroform (µg/L)									2	<	60	no

No dilution allowed.  $C_r = C_d$

**E. Proposed WQBEL Limits**

WQBELs are expressed as a maximum daily limit and average monthly limit. DEQ uses a statistical approach outlined in Chapter 5 of EPA’s TSD Manual to develop these limits for each pollutant with RP. This approach involves three major steps for establishing limits based on acute and chronic criteria as summarized below.

**Step 1 – determine the wasteload allocation (WLA):** The WLA ( $C_d$ ) is the loading concentration of a pollutant that the point source can discharge while still assuring applicable water quality standards are attained in the receiving water. To implement available dilution and calculate the WLA, Equation 1 is rearranged to solve for  $C_d$  as shown in Table 8.

<b>Table 8. WLA Development</b>										
	$((Q_r$	$C_r)$	-	$(Q_s$	$C_s))$	/	$(Q_d)$	=	$C_{d-WLA}$	
	(mgd)			(mgd)			(mgd)			
Ammonia, acute (mg/L)	5.44	3.83		0.037	0.13		5.4		<b>3.86</b>	
Ammonia, chronic (mg/L)	5.77	1.41		0.374	0.13		5.4		<b>1.50</b>	
Copper, acute ( $\mu$ g/L)	No dilution allowed. WLA = WQS									<b>13.1</b>
Copper, chronic ( $\mu$ g/L)										<b>8.8</b>
Copper, HH ( $\mu$ g/L)										<b>1300</b>
Zinc, acute ( $\mu$ g/L)										<b>113</b>
Zinc, chronic ( $\mu$ g/L)										<b>113</b>
Zinc, HH ( $\mu$ g/L)										<b>7400</b>

**Step 2 – calculate the long-term average (LTA):** The TSD Table 5-1 multiplier is determined from the coefficient of variation (CV) and then multiplied by the WLA to account for effluent variability, as shown below. Human health parameters have been excluded from this table, as no multipliers are applied.

<b>Table 9. LTA Calculations</b>						
	CV	TSD 5-1 Multiplier	x	$C_{d-WLA}$	=	<b>LTA</b>
Ammonia, acute (mg/L)	1.53	0.14		3.86		<b>0.55</b>
Ammonia, chronic (mg/L)		0.26		1.50		<b>0.39</b>
Copper, acute ( $\mu$ g/L)	0.78	0.25		13.1		<b>3.3</b>
Copper, chronic ( $\mu$ g/L)		0.45		8.8		<b>3.9</b>
Zinc, acute ( $\mu$ g/L)	0.20	0.64		113		<b>72.3</b>
Zinc, chronic ( $\mu$ g/L)		0.79		113		<b>89.8</b>

**Step 3 – calculate the maximum daily limit (MDL) and average monthly limit (AML):** The TSD Table 5-2 multiplier is determined from the CV and multiplied by the most protective LTA. Final limits are set at the more stringent of the calculated aquatic life and human health MDL/AML.

<b>Table 10. Final WQBEL Development</b>							
	TSD 5-2 Multiplier	x	Minimum LTA	=	Aquatic Life MDL/AML	Human Health MDL & AML	Final WQBEL
Ammonia, acute (mg/L)	7.03		0.39		2.7 = MDL	--	<b>2.7 mg/L = MDL</b>
Ammonia, chronic (mg/L)	2.42				0.9 = AML		<b>0.9 mg/L = AML</b>
Copper, acute (µg/L)	3.94		3.3		13.1 = MDL	1300	<b>13.1 µg/L = MDL</b>
Copper, chronic (µg/L)	1.73				5.8 = AML		<b>5.8 µg/L = AML</b>
Zinc, acute (µg/L)	1.56		72.3		113 = MDL	7400	<b>113 µg/L = MDL</b>
Zinc, chronic (µg/L)	1.17				85 = AML		<b>85 µg/L = AML</b>

Below is a summary of each parameter’s reasonable potential analysis and WQBEL development:

**Conventional Pollutants:**

**BOD<sub>5</sub>, TSS, and pH** – The facility provides a significant reduction in biological material and solids through BOD<sub>5</sub> and TSS TBELs (section III). No additional WQBELs will be required for these parameters. Limits for pH will be retained at the previously established values of 6.5 to 9.0 s.u.

**Escherichia coli (E. coli) Bacteria Limits** – The permit will retain required monitoring and effluent limits based on the state water quality standard for *Escherichia coli*:

- 1) April 1 through October 31, of each year, the geometric mean number of the microbial species *E. coli* must not exceed 126 organisms per 100 milliliters (org/100 mL), nor are 10% of the total samples during any 30-day period to exceed 252 org/100 mL; and
- 2) November 1 through March 31, of each year, the geometric mean number of *E. coli* organisms should not exceed 630 org/100 mL and 10% of the samples during any 30-day period may not exceed 1,260 org/100 mL.

**Oil and Grease (O&G)** – Montana regulations require state waters be free from substances that will result in concentrations of oil and grease at, or in excess of, 10 mg/L. This permit will require regular visual monitoring with quarterly sampling. If visual monitoring indicates the presence of oil and grease, additional samples must be submitted for analysis and discharge must cease if the concentration is found to be greater than the standard of 10 mg/L.

**Non-conventional Pollutants:**

**Temperature and Dissolved Oxygen (DO)** – The temperature standard for “I” class streams is no increase in naturally occurring temperature that is likely to create a nuisance or render waters harmful, detrimental, or injurious to public health or wildlife. Daily effluent monitoring shows an average discharge temperature of 13.9°C. This value is below the 75<sup>th</sup> percentile of Prickly Pear Creek (18.8°C).

Previous instream monitoring during the low-flow, high-temperature months has shown the DO minima met in-stream standards. Due to the length of the effluent ditch (over one mile), it is likely that the effluent approaches ambient temperatures and DO levels by the time it reaches Prickly Pear Creek. It is determined there is no RP for these parameters and monitoring requirements will be removed.

**Total Ammonia, as N** – Total ammonia-N limits are developed based on standards that account for a combination of pH and temperature of the receiving stream, the presence or absence of salmonid fishes, and the presence or absence of fish in early life stages. Using the ambient data presented in Table 4 above, as well as the assumption that salmonids and fish in early life stages are present year-round,

ammonia water quality standards for Prickly Pear Creek are calculated at 3.83 mg/L (acute) and 1.41 mg/L (chronic).

As shown in Tables 7 and 10, there is RP to exceed the ammonia standards and WQBELs were developed. Considering the most recent ambient data and available mixing, the final maximum daily limit will be set at 2.7 mg/L and the average monthly limit will be set at 0.9 mg/L for this permit cycle. Weekly monitoring will be continued.

**Nitrate plus Nitrite, as N (N+N)** – Nitrate and nitrite are components of total nitrogen, which is a common constituent of domestic wastewater. As shown in Table 7, there is no RP to exceed the human health N+N standard of 10 mg/L. However, monitoring will be continued and reduced to monthly as N+N is a component of total nitrogen.

**Nutrients: Total Nitrogen (as N) and Total Phosphorus (as P)** – Previous effluent load limits for total nitrogen (TN) and total phosphorus (TP) were developed in the 2012-issued permit using a phased approach from the EPA-developed and approved TMDL as “interim adaptive management waste load allocations.”

**Nutrient Trading** – The city had an approved nutrient trading plan allowing the Helena to extend its service area by connecting wastewater treatment services to homes that are, or would normally be, served by individual or community septic systems. The trading plan established there was no available offset of phosphorus from septic system discharges. However, a trading credit ratio for nitrogen was calculated and for every 100 documented active connections to the WWTF, 2 lbs/day were added to the established limits for total nitrogen. The most current 2012-permit limits for nutrients calculated using the established nutrient trading plan are set at the following values:

<b>Table 11. 2012-Permit limits for Nutrients</b>			
<b>Parameter</b>	<b>Units</b>	<b>Effluent Limits</b>	
		Average Monthly	Average Weekly
Total Nitrogen	lbs/day	241	308
Total Phosphorus	lbs/day	108	166

To comply with general prohibitions and narrative standards requiring state waters to be free from substances which will create conditions that produce undesirable aquatic life, such as algae, the average monthly limits will be continued in this permit renewal. Monthly monitoring for N+N and total Kjeldahl nitrogen will be continued as components of total nitrogen.

**Total Dissolved Solids (TDS)** – There are no standards for dissolved solids in Prickly Pear Creek, nor is it a parameter of concern for Helena WWTF. Monitoring for TDS will be removed in this permit.

**Metals, Organics, and Cyanide:**

**Copper and Zinc** – As shown in Table 7, there is RP for copper and zinc to exceed both acute and chronic water quality standards. Previous limits for copper and zinc were set at the standards, as shown below.

<b>Table 12. 2012-Permit limits for Copper and Zinc</b>			
<b>Parameter</b>	<b>Units</b>	<b>Effluent Limits</b>	
		Average Monthly	Maximum Daily
Copper, Total Recoverable	µg/L	9	13
Zinc, Total Recoverable	µg/L	110	110

Taking into consideration available ambient data, new limits were calculated, shown in Table 10. Helena is capable of meeting both MDLs, but their current average discharge value is above or near the newly calculated AML. Since Helena cannot currently meet the average monthly limits for copper and zinc, previous limits will be retained and a mixing zone study will be required to consider the potential for a standard mixing zone, as described in section IV.C.. Mixing zone evaluation requirements, as well as potential source investigations, will be implemented via special conditions of the permit.

**Cyanide and Mercury** – The methods used for sampling of both parameters do not meet the current RRVs. Therefore, these calculations are not an accurate representation of the facility’s treatment capabilities. Additional quarterly monitoring capable of attaining the RRV will be required for both cyanide and mercury to establish an accurate dataset and reassess RP for these parameters in the future.

**All other Metals, Phenol, and Chloroform** – There was no reasonable potential for other parameters to exceed water quality standards. No additional monitoring will be needed, other than what is required for major dischargers, as shown in the *Expanded Effluent Testing* section of Table 14 below.

***Whole Effluent Toxicity:***

Water quality standards require state waters be free from substances that create conditions which are harmful or toxic to human, animal, plant, or aquatic life. This provides the basis for whole effluent toxicity (WET) requirements. DEQ’s procedures for determining the type of WET testing required (acute or chronic) are based on EPA’s recommendations in the *Technical Support Document for Water Quality-based Toxics Control*. The following endpoints define acute and chronic toxicity as measured in a WET test:

- During an acute WET test, acute toxicity occurs when 50 percent mortality is observed for any tested species at any effluent concentration (i.e., LC<sub>50</sub> < 100% effluent)
- During a chronic WET test, chronic toxicity occurs when the 25% inhibition concentration (IC<sub>25</sub>) for any tested species is less than or equal to the percent effluent represented by the effluent concentration in the receiving water after accounting for any allowable dilution.

The previous permit required chronic WET testing on two species. Helena failed one test for the POR indicating reasonable potential for chronic toxicity. Quarterly chronic WET testing using two species will continue to be required starting the first full quarter after the permit effective date. Confirmation of chronic toxicity in the effluent will trigger standard toxicity identification/toxicity reduction (TIE/TRE) requirements, explained in section VII.E. If the results of four consecutive quarters of testing indicate no chronic toxicity, Helena may request reduced monitoring to semi-annual (twice yearly). DEQ may approve or deny the request based on the results or other available information without additional public notice.

***The 25% Inhibition Concentration (IC<sub>25</sub>) is 83%:*** The IC<sub>25</sub> is the concentration of pollutant that would cause a 25% reduction in reproduction. For the Helena WWTP, chronic toxicity occurs when the 25% inhibition concentration (IC<sub>25</sub>) for any test species is less than or equal to 83% effluent after 25% dilution is granted, as calculated below:

- Dilution ratio after 25% dilution = 25% 7Q10:design flow = 0.2:1
- Effluent concentration in the receiving water after dilution = 0.2 + 1 = 1.2

- Percent effluent concentration in receiving water = RWC =  $(1 / 1.2) \times 100 = 83\%$

**The Two-species Chronic Tests Concentrations:** With an IC<sub>25</sub> of 83%, the two-species chronic tests must consist of the following concentrations: control, 21, 42, 83, 92, and 100% effluent.

- The test concentrations were determined by 1) RWC/4, (2) RWC/2, (3) RWC, (4) (RWC + 100)/2, (5) 100% effluent.

## V. Final Effluent Limits

The final effluent limits in Table 13 will be applied to the discharge at Outfall 001 beginning on the permit effective date and lasting through the term of the permit.

<b>Table 13. Outfall 001 Final Effluent Limits <sup>(1)</sup></b>				
Parameter	Units	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit
5-Day Biochemical Oxygen Demand (BOD <sub>5</sub> )	mg/L	30	45	--
	lbs/day	1,351	2,027	--
	% Removal	85%	--	--
Total Suspended Solids (TSS)	mg/L	30	45	--
	lbs/day	1,351	2,027	--
	% Removal	85%	--	--
pH	s.u.	6.5 - 9.0		
<i>E. coli</i> Bacteria – summer <sup>(2)</sup>	org/100 mL	126	252	--
<i>E. coli</i> Bacteria – winter <sup>(2)</sup>	org/100 mL	630	1,260	--
Oil and Grease	mg/L	--	--	10
Total Ammonia, as N	mg/L	0.9	--	2.7
Total Nitrogen, as N <sup>(3)</sup>	lbs/day	241	--	--
Total Phosphorus, as P	lbs/day	108	--	--
Copper, Total Recoverable	µg/L	9	--	13
Zinc, Total Recoverable	µg/L	110	--	110
<sup>(1)</sup> See Definitions section at the end of the MPDES permit for explanation of terms. <sup>(2)</sup> <i>Escherichia coli</i> bacteria - summer is April 1 through October 31, winter is November 1 through March 31. <sup>(3)</sup> Calculated as the sum of Nitrate + Nitrite and Total Kjeldahl Nitrogen concentrations.				

There shall also be no discharge of floating solid or visible foam other than in trace amounts.

There shall be no discharge which causes visible oil sheen in the receiving water.

There shall be no discharge that settles to form objectionable sludge deposits or emulsions beneath the surface of the water or upon adjoining shorelines.

There shall be no chronic toxicity for any test species in less than or equal to 83% effluent.

## VI. Monitoring and Reporting Requirements

### A. Outfall 001 and Influent

Monitoring requirements are based on the type of treatment facility and the method of discharge. The samples collected and analyzed must be representative of the volume and nature of the facility's discharge. Analysis must obtain a 'detect' or be capable of meeting the RRV, which is DEQ's best determination of a

level of analysis that can be achieved using EPA- or DEQ-approved methods. The monitored parameters, their respective monitoring locations, and frequency requirements are presented in Table 14.

Monitoring will start with the effective date of the permit and last for the duration of the permit cycle. All analytical procedures must comply with the specifications of 40 CFR Part 136. The City of Helena must submit NetDMR results for each month by the 28<sup>th</sup> of the following month. Influent monitoring is needed to calculate percent removal for BOD<sub>5</sub> and TSS and must be collected prior to equalization or recycled flow returns. Effluent monitoring shall occur at the last point of control after UV disinfection, before discharge to the effluent ditch.

<b>Table 14. Monitoring Requirements for Outfall 001</b>					
Parameter	Units <sup>(1)</sup>	Minimum Frequency	Type <sup>(2)</sup>	Minimum Frequency	RRV <sup>(3)</sup>
Effluent Flow Rate	mgd	Continuous	Continuous	Monthly Average Daily Maximum	--
5-Day Biochemical Oxygen Demand (BOD <sub>5</sub> ) <sup>(3)</sup>	mg/L	5/Week	Composite	Monthly Average Weekly Average	2
	lbs/day	1/Month	Calculated	Monthly Average Weekly Average	--
	% Removal	1/Month	Calculated	Monthly Average	--
Influent BOD <sub>5</sub>	mg/L	5/Week	Composite	Monthly Average	2
Total Suspended Solids (TSS) <sup>(3)</sup>	mg/L	5/Week	Composite	Monthly Average Weekly Average	10
	lbs/day	1/Month	Calculated	Monthly Average Weekly Average	--
	% Removal	1/Month	Calculated	Monthly Average	--
Influent TSS	mg/L	5/Week	Composite	Monthly Average	10
pH	s.u.	1/Day	Instantaneous	Daily Minimum Daily Maximum	0.1
<i>E. coli</i> Bacteria	org/100 mL	5/Week	Grab	Monthly Average Weekly Average	1/100mL
Oil and Grease	Yes / No	5/Week	Visual <sup>(4)</sup>	Present/Absent	--
	mg/L	1/Quarter	Grab	Monthly	1
Total Ammonia, as N	mg/L	1/Week	Composite	Monthly Average Daily Maximum	0.07
Nitrate + Nitrite, as N	mg/L	1/Month	Composite	Monthly Average	0.02
Total Kjeldahl Nitrogen	mg/L	1/Month	Composite	Monthly Average	0.225
Total Nitrogen, as N <sup>(5)</sup>	mg/L	1/Week	Composite	Monthly Average	0.245
	lbs/day	1/Month	Calculated	Monthly Average	--
Total Phosphorus, as P	mg/L	1/Week	Composite	Monthly Average	0.003
	lbs/day	1/Month	Calculated	Monthly Average	--
Copper, Total Recoverable	µg/L	1/Month	Composite	Monthly Average Daily Maximum	2
Zinc, Total Recoverable	µg/L	1/Month	Composite	Monthly Average Daily Maximum	8
Mercury, Total Recoverable	µg/L	1/Quarter	Composite	Monthly Average	0.005



Cyanide, total	µg/L	1/Quarter	Composite	Monthly Average	3
WET Chronic	% Effluent	1/Quarter	Composite	Pass/Fail	--
<b>Expanded Effluent Testing – Required for EPA Application 2A Part D</b>					
Metals, Total Recoverable	µg/L	2/year <sup>(6)</sup>	Composite	Single Sample	<sup>(3)</sup>
Hardness, Total (as CaCO <sub>3</sub> )	mg/L	2/year <sup>(6)</sup>	Grab	Single Sample	10
Volatile Organic Compounds	µg/L	2/year <sup>(6)</sup>	Composite	Single Sample	<sup>(3)</sup>
Acid-Extractable Compounds	µg/L	2/year <sup>(6)</sup>	Composite	Single Sample	<sup>(3)</sup>
Base Neutral Compounds	µg/L	2/year <sup>(6)</sup>	Composite	Single Sample	<sup>(3)</sup>
<p><sup>(1)</sup> See the <i>Reporting Requirements</i> section of the permit for additional details on calculating load and percent removal.</p> <p><sup>(2)</sup> See Definition section at end of permit for explanation of terms.</p> <p><sup>(3)</sup> See circular DEQ-7 for minimum required reporting values (RRVs). If reporting non-detect, analysis must achieve these, or lower, RRVs.</p> <p><sup>(4)</sup> O&amp;G analysis must be conducted quarterly at a minimum. If visual monitoring indicates the presence of oil and grease, an additional grab sample must be submitted for analysis and discharge must cease if the concentration is found to be &gt; 10 mg/L</p> <p><sup>(5)</sup> Calculated as the sum of nitrate + nitrite (as N) and total Kjeldahl nitrogen concentrations.</p> <p><sup>(6)</sup> Samples must be analyzed two times per year during the years of 2024 and 2025, at least four months apart. Helena must submit a copy of the analytic laboratory report (results will not be entered into NetDMR).</p>					

**B. Ambient Monitoring**

Ambient monitoring for the following parameters will be required in this permit. Monitoring must take place at a consistent location on Prickly Pear Creek, upstream and outside the influence of Outfall 001 but downstream of any tributaries or other discharges. Ambient monitoring must occur with the sample type, frequency, and RRVs as identified in Table 15 below. Values shall be reported on the facility’s DMRs.

<b>Table 15. Ambient Monitoring and Reporting Requirements</b>				
Parameter	Units	Type <sup>(1)</sup>	Minimum Frequency	RRV <sup>(2)</sup>
pH	s.u.	Instantaneous	1/Quarter	0.1
Temperature	°C	Instantaneous	1/Quarter	0.1
Hardness, Total (as CaCO <sub>3</sub> )	mg/L	Grab	1/Quarter	10
Total Ammonia, as N	mg/L	Grab	1/Quarter	0.07
Nitrate + Nitrite, as N	mg/L	Grab	1/Quarter	0.02
Total Kjeldahl Nitrogen <sup>(3)</sup>	mg/L	Grab	1/Quarter	0.225
Total Nitrogen, as N <sup>(3)</sup>	mg/L	Calculated	1/Quarter	0.245
Total Phosphorus, as P	mg/L	Grab	1/Quarter	0.003
Copper, Total Recoverable	µg/L	Grab	1/Quarter	2
Zinc, Total Recoverable	µg/L	Grab	1/Quarter	8
<p><sup>(1)</sup> See Definition section at end of permit for explanation of terms</p> <p><sup>(2)</sup> Required reporting value. If reporting non-detect, analysis must achieve these, or lower, RRVs</p> <p><sup>(3)</sup> May be determined by persulfate digestion (grab sampling) or calculated as the sum of nitrate + nitrite (as N) and total Kjeldahl nitrogen concentrations. If persulfate digestion is used, then it is not required to sample total Kjeldahl nitrogen.</p>				

## VII. Special Conditions

### A. Pollutant Source Evaluation and Reduction

Helena will be required to identify and report on potential copper and zinc sources and achievable reductions. Helena must submit a report for each of the following requirements:

- Within 18 months of the effective date of the permit, investigate source(s) of total recoverable copper and zinc and evaluate the feasibility of controls for these sources.
- Within 36 months of the effective date of this permit, implement feasible control(s) for identified pollutant source(s).

### B. Mixing Zone Investigation

Within 3 years of the effective date of the permit, Helena will be required to implement either one or both of the following options and include details sufficient for DEQ to grant appropriate acute and chronic dilution in the next permit cycle:

1. Conduct a Source Specific Mixing Zone Study and submit a mixing zone report adhering to the requirements in ARM 17.30.518; or
2. Design a diffuser and provide engineering drawings and a schedule for installation, no later than the permit expiration date.

### C. Sewage Sludge Requirements

The use or disposal of sewage sludge must be in conformance with 40 CFR Part 503.

## VIII. Public Participation

### A. Public Notice

DEQ issued a public notice stating that a tentative decision has been made to issue an MPDES permit to the City of Helena and that a draft permit, fact sheet, and environmental assessment (EA) have been prepared. Details are below:

- Public Notice No. MT-21-16 dated July 12, 2021
- Public comments are invited any time prior to the close of business August 11, 2021
- Comments may be directed to:  
Department of Environmental Quality  
Water Protection Bureau  
PO Box 200901  
Helena, MT 59620  
DEQWPBPublicComments@mt.gov  
or
- All comments received or postmarked prior to the close of the public comment period will be considered in the formulation of the final permit.
- DEQ will respond to all substantive comments and issue a final decision within sixty days of the close of the public comment period or as soon as possible thereafter.

All persons, including the applicant, who believe any condition of the draft permit is inappropriate shall raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period.

### B. Notification of Interested Parties

Copies of the public notice were mailed to the discharger, state and federal agencies, and persons who have expressed an interest in being notified of permit actions. A copy of the distribution list is available in the administrative record for this permit.

In addition to mailing the public notice, a copy of the notice and applicable draft permit, fact sheet and EA were posted on DEQ's website for 30 days. Any person interested in being placed on the mailing list

for information regarding the MPDES permit should contact DEQ, reference this facility, and provide a name, address, and email address.

### **C. Public Hearing**

During the public comment period provided by the notice, DEQ will accept requests for a public hearing. A request for a public hearing must be in writing and must state the nature of the issue proposed to be raised in the hearing.

### **D. Permit Appeal**

After the close of the public comment period DEQ will issue a final permit decision, which is a final decision to issue, deny, modify, revoke and reissue, or terminate a permit. A permit decision is effective 30 days after the date of issuance unless a later date is specified in the decision, a stay is granted, or the applicant files an appeal.

Helena may file an appeal within 30 days of DEQ's action to the following address:

Secretary, Board of Environmental Review  
Department of Environmental Quality  
1520 East Sixth Avenue  
PO Box 200901  
Helena, Montana 59620-0901

### **E. Additional Information**

Requests for additional information or questions regarding this permit should be directed to the Water Protection Bureau at 406-444-5546

## **XI. Information Sources**

Administrative Rules of Montana Title 17 Chapter 30 – Water Quality

- Subchapter 2 – *Water Quality Permit and Application Fees*
- Subchapter 5 – *Mixing Zones in Surface and Ground Water*
- Subchapter 6 – *Montana Surface Water Quality Standards and Procedures*
- Subchapter 7 – *Nondegradation of Water Quality*
- Subchapter 12 – *Montana Pollutant Discharge Elimination (MPDES) Standards*
- Subchapter 13 – *Montana Pollutant Discharge Elimination (MPDES) Permits*

CWAIC: Clean Water Act Information Center, Department of Environmental Quality. Accessed June 2021.

Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. §§ 1251-1387, October 18, 1972, as amended 1973-1983, 1987, 1988, 1990-1992, 1994, 1995 and 1996.

Integrated 303(d) Water Quality Report for Montana (2018).

Montana Code Annotated (MCA), Title 75-5-101, *et seq.*, “Montana Water Quality Act.”

Montana DEQ. 2006. *Framework Water Quality Restoration Plan and Total Maximum Daily Loads (TMDLs) for the Lake Helena Watershed Planning Area: Volume II – Final Report.*

Montana DEQ. 2019. *Department Circular DEQ-7, Montana Numeric Water Quality Standards.*

Montana DEQ. 2020. *Compliance Evaluation Inspection Report, City of Helena WWTP.*

Montana DEQ. Montana Pollutant Discharge Elimination System (MPDES) Permit Number MT0022641

- Administrative Record
- Renewal Application Forms DEQ-1 and EPA Form 2A, September 2017

US Code of Federal Regulations, 40 CFR Parts 122-125, 130-133, & 136.

US EPA *Technical Support Document for Water Quality-Based Toxics Control*, EPA/505/2-30-001, March 1991