



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

Permittee:	Town of Stevensville
Permit No.:	MT0022713
Receiving Water:	Bitterroot River
Facility Information	
Name:	Stevensville Wastewater Treatment Plant
Location:	157 Sewer Works Rd Stevensville, MT 59870
Contact:	George Thomas, Wastewater Superintendent PO Box 30 Stevensville, MT 59870
Fee Information	
Type of Facility:	Minor Publicly Owned Treatment Works
Number of Outfalls:	1 (For Fee Determination Only)
Type of Outfall:	001 – Facility Discharge
Fact Sheet Date:	December 2018

I. Summary

Department of Environmental Quality (DEQ) proposes to renew the Montana Pollutant Discharge Elimination System (MPDES) permit for Stevensville Wastewater Treatment Plant (WWTP), MT0022713. 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 which are specific to Stevensville.

A. Permit Status

The previous permit became effective on July 1, 2012 and expired on June 30, 2017. DEQ received the MPDES renewal permit application (Forms 1 and 2A) for Stevensville on October 31, 2016 and applicable fees on December 12, 2016. DEQ considered the application complete and administratively extended the permit on February 22, 2017.

B. Proposed Changes to Effluent Limits

For this permit renewal, DEQ proposes the following:

- Monitoring requirements for oil and grease (O&G) are changed to semiannual with daily visual observations during discharge. Additional monitoring is required when a visual sheen is observed.
- Effluent limits for nutrients (total nitrogen and phosphorus) are recalculated to fit the 2014 DEQ adopted numeric nutrient criteria and a Pollutant Minimization Plan (PMP) is required to fulfill the necessities of a general nutrient variance (Circular DEQ-12A/12B)
- Dissolved Oxygen (DO) monitoring requirements are removed
- Monitoring requirements for toxics and metals are removed
- Instream monitoring for pH and temperature is required

I. Facility Information

A. Facility Description and Design Criteria

The Stevensville WWTP serves the town with a current population of approximately 1,900 people. The oxidation ditch activated sludge mechanical treatment plant is a minor publicly owned treatment works (POTWs) with a separate storm water collection system. Primary separation is incorporated, followed by secondary treatment and ultraviolet (UV) disinfection. The average daily design flow for the facility is 0.30 million gallons per day (mgd) with actual average daily flows of 0.23 mgd of continuous discharge.

Since construction from a facultative lagoon to a mechanical plant in 1978, the facility has undergone several upgrades. The most recent in 2016 included removal of old equipment and the addition of a fine screen screw auger bar screen, cyclone grit classifier, equalization basin, sludge screw press, and chemical scans for ammonia, phosphorus, and nitrates. Aerobic sludge digestion and drying beds are utilized by the facility, which is currently covered under 40 CFR 503 to dispose of dried sludge through Garden City Compost.

B. Effluent Quality and Existing Permit Requirements

Due to the significant upgrades to the plant in 2016, only data from Discharge Monitoring Reports (DMRs) after the upgrades and optimization period are included for analysis in this permit. The 2006 and 2012-permit required monitoring for metals, but all required monitoring was before the POR and is therefore extraneous as discussed further in section IV(F). Table 1 lists the 2012-permit limits and effluent characteristics for Stevensville for the period of record (POR), August 2016 through July 2018. This recent data is more indicative of the capabilities and treatment of the plant moving forward.

Table 1: Effluent Characteristics for the POR August 2016 through July 2018

Parameter	Units	Permit Limit			Max Value	Average Value	Sample Size
		Average Monthly ⁽¹⁾	Average Weekly ⁽¹⁾	Max Daily ⁽¹⁾			
5-Day Biochemical Oxygen Demand (BOD ₅)	mg/L	30	45	--	10.7	3.8	23
	lbs/day	75.1	112.6	--	14.0	7.0	23
	% removal	85%	--	--	96% ⁽⁶⁾	99%	23
Total Suspended Solids (TSS)	mg/L	30	45	--	21.4	3.5	23
	lbs/day	75.1	112.6	--	16.0	6.3	23
	% removal	85%	--	--	94% ⁽⁶⁾	98%	23
<i>E. coli</i> , April - October	cfu/100 mL	126	252	--	234	6	13
<i>E. coli</i> , November - March	cfu/100 mL	630	1,260	--	308	4	10
pH	s.u.	6.0 – 9.0			6.0-6.9 ⁽²⁾	6.4	23
Total Ammonia	mg/L	2.2	--	3.2	2.8	0.3	22
Nitrate + Nitrite ⁽³⁾	mg/L	--	--	10	12.0	7.8	16 ⁽³⁾
Oil and Grease	mg/L	--	--	10	1.0	0.7	23
Total Kjeldahl Nitrogen	mg/L	monthly monitoring required			4.6	1.9	23
Total Nitrogen ^(4,5)	mg/L	monthly monitoring required			14.1	10.2	7
	lbs/day	41.2	60.3	--	25.2	16.6	7
Total Phosphorus ⁽⁵⁾	mg/L	monthly monitoring required			2.9	0.9	7
	lbs/day	9.1	12.3	--	5.6	1.5	7
Dissolved Oxygen (DO)	mg/L	monthly monitoring required			0.7 ⁽⁶⁾	1.6	23
Temperature	°C	daily monitoring required			20.3	13.9	22
Flow Rate	mgd	monitoring required			0.47	0.23	23
⁽¹⁾ See Definition section at the end of the MPDES permit for explanation of terms ⁽²⁾ Reported as minimum to maximum value ⁽³⁾ Monitoring values only include data since March 2017 when Nitrate + Nitrite limits became effective ⁽⁴⁾ Calculated as the sum of Nitrate + Nitrite (as N) and Total Kjeldahl Nitrogen (as N) concentrations ⁽⁵⁾ Limits apply June 1 through September 30, annually ⁽⁶⁾ Value reported is the minimum for the POR							

C. Compliance History

Stevensville had one exceedance for nitrate+ nitrite and ammonia in the POR. Exceedances were addressed by the facility through optimization. The facility also had one compliance evaluation inspection for the POR in March of 2018. During the 2018 inspection, violations were noted for improper/incorrect reporting and failure to submit a required report (late or incomplete discharge monitoring reports).

III. Proposed Technology-Based Effluent Limits (TBELs)

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, BOD₅, TSS, and percent removal of BOD₅ and TSS. Stevensville is currently being held to National Secondary Standards for all three parameters.

B. Mass-Based Limit Calculations

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 BOD₅ and TSS mass-based load allocations using the TBEL concentrations associated with national secondary treatment standards, the design flow of 0.30 mgd, and a conversion factor:

BOD₅: 30-day Load = 0.30 mgd x 30 mg/L x 8.34 = 75.1 lbs/day
 7-day Load = 0.30 mgd x 45 mg/L x 8.34 = 112.6 lbs/day

TSS: 30-day Load = 0.30 mgd x 30 mg/L x 8.34 = 75.1 lbs/day
 7-day Load = 0.30 mgd x 45 mg/L x 8.34 = 112.6 lbs/day

Load limits for BOD₅ 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

Stevensville is an existing source and is not authorized for a new or increased discharge. Long-term nondegradation threshold values of 75.1 lbs/day for BOD₅ and TSS were established in the 2006-issued permit using National Secondary Standards.

Stevensville did not exceed the allocated load limits during the POR. The mass-based loading limits and nondegradation limits are the same. Stevensville will continue to be held to the average monthly load limit of 75.1 lbs/day for BOD₅ and TSS.

D. Final Technology-Based Effluent Limits

This permit will retain TBELs based on National Secondary Standards for BOD₅ and TSS as shown in Table 2. Technology-based limits for pH require levels between 6.0-9.0 standard units.

Table 2. Technology-Based Effluent Limits for Outfall 001			
Parameter	Units	Effluent Limits	
		Average Monthly	Average Weekly
5-Day Biochemical Oxygen Demand (BOD ₅)	mg/L	30	45
	% removal	85%	-
	lb/day	75.1	112.6
Total Suspended Solids (TSS)	mg/L	30	45
	% removal	85%	-
	lb/day	75.1	112.6
pH	s.u.	6.0 – 9.0 (instantaneous)	

IV. Water Quality-Based Effluent Limitations

A. Applicable Guidelines

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 must include limits on all pollutants which will cause, or have reasonable potential to cause, an excursion of any water quality standard including narrative standards. Water quality-based effluent limits (WQBELs) are designed to protect water quality 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 water use classifications.

B. Receiving Water

The Stevensville WWTP discharges to the Bitterroot River. The Bitterroot River and its tributaries are classified as B-1 according to Montana Water Use Classifications. Waters classified B-1 are to be maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agriculture and industrial water supply.

The Bitterroot River segment near Stevensville is listed as impaired on the 2016 303(d) list citing partial support for aquatic life. Probable causes are temperature and flow regime modifications with sources most likely being crop production/irrigation, wet weather discharges (non-point source), and agriculture. A total maximum daily load (TMDL) for the Bitterroot River segment has been completed for temperature which will apply to Stevensville as discussed in section IV(F).

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. For Stevensville WWTP, no mixing zones were allowed in previous permits, nor has one been requested by the facility. Therefore, no instream dilution is available for mixing and compliance must be met at end of pipe.

D. Applicable Water Quality Standards & Pollutants of Concern

The discharge from Stevensville must comply with general prohibitions (narrative standards) of ARM 17.30.637(1) 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 a reasonable potential (RP) analysis for pollutants to determine if numeric or narrative water quality standards may be exceeded. Pollutants present in

treated effluent from municipal wastewater treatment facilities, and those that are specific to Stevensville, are summarized in Table 3.

Table 3. Identification of Pollutants of Concern	
Parameter	Basis for Pollutant of Concern
5-day Biochemical Oxygen Demand (BOD ₅)	TBEL, previous permit
Total Suspended Solids (TSS)	TBEL, previous permit
pH	TBEL, previous permit
<i>Escherichia coli</i> (<i>E. coli</i>) Bacteria	Known present, previous permit
Oil and Grease	Known present, previous permit
Total Ammonia, as N	Known present, previous permit
Nitrate + Nitrite (N+N) as N	Known present, previous permit
Total Nitrogen (TN), as N	Known present, previous permit
Total Phosphorus (TP), as P	Known present, previous permit

E. Reasonable Potential Analysis

The RP analysis predicts the impact of the discharge on the receiving water under design conditions. QBELs are developed for each parameter that demonstrates RP to cause an exceedance of a water quality standard. DEQ uses 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. Because there is no dilution available, the most stringent of the human health and aquatic water quality standards were used for the RP analysis. This process is summarized in Table 4. Ammonia analysis has been excluded due to lack of current ambient data. For that reason, 2012-permit limits for ammonia are retained as explained below.

Table 4. Reasonable Potential Analysis for Stevensville WWTP								
1. The critical effluent concentration is determined.					2. The critical effluent concentration is compared the water quality standard.			
	CV	Sample Size	TSD Multiplier	Maximum Effluent Concentration	=	Critical Effluent Concentration	Water Quality Standard	RP?
Total Nitrogen	0.6	7	2.01	14.1 mg/L		28.3 mg/L	> 0.30 mg/L	yes
Total Phosphorus	0.6	7	2.01	5.56 mg/L		11.2 mg/L	> 0.03 mg/L	yes
Nitrate + Nitrite	0.2	16	1.15	12.0 mg/L		13.8 mg/L	> 10.0 mg/L	yes
Oil and Grease	0.8	23	1.40	1.00 mg/L		1.40 mg/L	< 10.0 mg/L	no

F. Proposed QBEL Limits

QBELs are expressed as 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. This approach involves three major steps for establishing standards based on acute and chronic criteria as summarized in Table 5.

Table 5. WQBEL Development for Pollutants Demonstrating Reasonable Potential										
		1. The TSD 5-1 WLA multiplier is determined.		2. The long-term average (LTA) is established.		3. MDL for acute criteria and AML for chronic criteria are determined.				
	CV	WLA Multiplier	×	WLA	=	Protective LTA	×	TSD 5-2 Multiplier	=	WQBEL
Total Nitrogen	0.6	0.64		0.30 mg/L		0.19 mg/L		1.55		AML = 0.3 mg/L
Total Phosphorus	0.6	0.64		0.03 mg/L		0.02 mg/L		1.55		AML = 0.03 mg/L
Nitrate + Nitrite	AML and MDL are set equal to the human health standard for N+N									AML, MDL = 10 mg/L

The waste load allocation (WLA) 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. Because dilution is not available for Stevensville, each parameter’s WLA is set equal to the water quality standard. The long-term average (LTA) accounts for effluent variability. The most protective LTA is used to determine the maximum daily limit (MDL) and average monthly limit (AML) as final WQBELs. Below is a summary of each parameter’s reasonable potential analysis and WQBEL development:

Conventional Pollutants:

BOD₅, TSS, and pH – The facility provides a significant reduction in biological material and solids through BOD₅, TSS, and pH TBELs (section III). No additional WQBELs will be required for these parameters.

Temperature –A TMDL has been developed for the Bitterroot River for impairments associated with temperature. The prepared TMDL document states that no WWTP on the middle section of the Bitterroot River may increase temperatures more than 0.25°F. This may be achieved by not discharging more than double the facilities current peak hourly discharge or peak hourly design capacity, whichever is greater. Alternatively, the plant may discharge up to their design capacity as long as existing thermal conditions of the effluent are not increased. The recent upgrades to the Stevensville WWTP will most likely ensure that the assumptions and requirements of the TMDL are met. Daily effluent temperature monitoring was required in the 2012-permit and will be retained in this permit in addition to ambient monitoring of the Bitterroot River.

Oil and Grease (O&G) – The 2012-permit required monthly monitoring for this parameter. In this permit, O&G analysis must be conducted semiannually with additional visual monitoring during periods of discharge. 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 greater than the standard of 10 mg/L

Escherichia coli (E. coli) Bacteria Limits – The applicable standards for *E. coli* are:

- 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 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

To comply with the narrative requirements of ARM 17.30.637(1)(d), prohibiting conditions which are harmful to humans, the permit will contain effluent limits based on the state water quality standard for *Escherichia coli*.

Non-conventional Pollutants:

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. Ambient Bitterroot River water quality data for pH and temperature were used to calculate ammonia effluent limits according to the equations set forth in Circular DEQ-7 during an August 2009 permit modification. More recent ambient data is lacking and insufficient for calculating new limits.

Previous total ammonia-N effluent limits for Stevensville became effective in August of 2010 and were set at 2.2 mg/L (AML) and 3.2 mg/L (MDL). These limits are sufficient to protect water quality and will be retained in the renewed permit. Monitoring for pH and temperature in the Bitterroot River upstream of the point of discharge will also be required for this permit cycle to take into consideration more recent ambient data in future assessment of ammonia limits.

Nitrate plus Nitrite, as N (NO₃/NO₂) – The human health water quality standard for NO₃/NO₂ is 10 mg/L. Footnote 16 of DEQ-7 states that surface or groundwater concentrations may not exceed these values. The effluent limit established in the 2012-permit will remain at the human health water quality standard of 10 mg/L (MDL and AML) and monthly monitoring will be retained.

Nutrients: Total Nitrogen (as N) and Total Phosphorus (as P) – Average monthly effluent limits for total nitrogen (TN) and total phosphorus (TP) were established in the 2006-permit at 41.2 lbs/day TN and 9.1 lbs/day TP. DEQ has since adopted Base Numeric Nutrient Standards found in Circular DEQ-12A. The Bitterroot River and its side channel are wadable streams belonging to the Middle Rockies ecoregion, which has the following seasonal numeric nutrient standards:

TN: 0.30 mg/L

TP: 0.03 mg/L

Nutrient Variance – As can be seen from the WWTF's TN and TP effluent concentrations shown in Table 1, Stevensville is unable to comply with the limits above. Montana state law allows for variances from the base numeric nutrient standards founded on a determination that the standards cannot be achieved due to economic impact, limits of technology, or both. Through the permitting process and the specific details of each facility, the time required for a general variance must be as short as possible to meet the highest attainable condition treatment requirements (HACs). Stevensville applied for a general variance for TN and TP, which will be authorized for this permit cycle. The associated seasonal variance limits from DEQ 12-B for mechanical treatment plants with a design flow less than 1.0 mgd are shown below:

TN: 10 mg/L

TP: 1.0 mg/L

To determine the appropriate permit conditions, the above HAC concentrations must be compared to the 95th percentile of the facility's representative effluent data prior to July 1, 2017 (as required in DEQ 12-B). Because seasonal data for TN and TP after the plant's upgrades in 2016 is limited (only two data points), all seasonal nutrient data taken during the 2012-permit

cycle (starting in July 2012) was used to calculate the 95th percentile. This data produced the following concentrations:

TN: 20.8 mg/L

TP: 4.6 mg/L

The 95th percentile concentration for both TN and TP are above the HAC concentrations. Therefore, average monthly load limits are calculated using the HAC limits associated with mechanical treatment plants (10 mg/L TN and 1.0 mg/L TP). Calculated average monthly load limits for TN and TP are shown below using the associated nutrient variance standards, an AML multiplier from TSD Table 5-2, the facility's design flow, and a conversion factor:

TN: Load = 10 mg/L x 1.55 x 0.30 mgd x 8.34 = 38.8 lbs/day

TP: Load = 1.0 mg/L x 1.55 x 0.30 mgd x 8.34 = 3.9 lbs/day

The HAC load limits calculated above are more stringent than the existing permit limits. Data from the POR demonstrates that Stevensville is able to consistently meet these new limits. With the general nutrient variance applied, the new seasonal average monthly load limits for TN and TP are established at the above calculated loads. These limits apply from July 1st to September 30th. Monthly summer monitoring for Kjeldahl nitrogen will also be required, as it is a component of total nitrogen.

Stevensville is currently achieving the HAC load limits for both TN and TP. DEQ 12-B requires facilities achieving HAC-based limits, but not achieving WQBELs, to develop a Pollutant Minimization Plan (PMP), which must be incorporated into the permit. PMP requirements are discussed in section VII of this fact sheet.

Dissolved Oxygen (DO) – Freshwater aquatic life standards are characterized by the fishery (cold or warm water) and by the presence or absence of fish in early life stages. B-1 waterbody classification states receiving waters are to be maintained for growth and propagation of salmonid fishes and associated aquatic life. The TBELs and monitoring associated with BOD₅ are protective of aquatic life regarding oxygen demand. Since no background DO data exists in the receiving water and no basis exists for imposition of effluent DO limits, DO monitoring will be removed in this permit.

Toxic Pollutants:

Concentrations of carcinogenic, bio-concentrating, toxic, or harmful parameters which would remain in the water after conventional treatment must not exceed the applicable standards specified in DEQ-7. Monitoring for metals, cyanide, phenolics, and volatile/semi-volatile organics was required in the 2006 and 2012 permit cycles. All required analysis performed by Stevensville was before the POR and before significant upgrades were made to the plant. Therefore, this data is not indicative of the facility's current performance.

Expanded effluent testing assessed in the 2012-permit cycle did not indicate previous RP existed. No industrial dischargers to the plant have been reported. Taking into consideration the most recent upgrades, along with the maximum daily flow of the facility (less than 1.0 mgd), it is reasonable to believe that there will be little to no impact of the discharge on the receiving water for these parameters under design conditions of the plant. Therefore, monitoring of toxic parameters will no longer be required.

V. Final Effluent Limits

The final effluent limits in Table 6 will be applied to the discharge at Outfall 001 beginning on the permit effective date and lasting through the term of the permit.

Table 6. Outfall 001 Final Effluent Limits ⁽¹⁾				
Parameter	Units	Maximum Daily Limit	Average Weekly Limit	Average Monthly Limit
5-Day Biochemical Oxygen Demand (BOD ₅)	mg/L	--	45	30
	lbs/day	--	112.6	75.1
	% removal	--	--	85%
Total Suspended Solids (TSS)	mg/L	--	45	30
	lbs/day	--	112.6	75.1
	% removal	--	--	85%
pH	s.u.	6.0 – 9.0		
Oil and Grease	mg/L	10	--	--
<i>E. coli</i> Bacteria – summer ⁽²⁾	org/100 mL	--	252	126
<i>E. coli</i> Bacteria – winter ⁽²⁾	org/100 mL	--	1,260	630
Total Ammonia, as N	mg/L	3.2	--	2.2
Nitrate + Nitrite, as N	mg/L	10	--	10
Total Nitrogen, as N ^(3,4)	lbs/day	--	--	38.8
Total Phosphorus, as P ⁽⁴⁾	lbs/day	--	--	3.9
⁽¹⁾ See Definitions section at the end of the MPDES permit for explanation of terms ⁽²⁾ <i>Escherichia coli</i> bacteria - summer is April 1 through October 31, winter is November 1 through March 31 ⁽³⁾ Calculated as the sum of Nitrate + Nitrite and Total Kjeldahl Nitrogen concentrations ⁽⁴⁾ Seasonal Limit Applies July 1 – September 30				

There shall also be no discharge of floating solids 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.

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. The Required Reporting Value (RRV) is DEQ’s best determination of a level of analysis that can be achieved using EPA-approved methods or methods approved by DEQ.

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. Stevensville must submit NetDMR results for each month by the 28th of the following month. Stevensville will monitor the effluent quality at the effluent Parshall flume after disinfection.

Influent monitoring is needed to calculate percent removal for BOD₅ and TSS and must be collected from the raw sewage influent Parshall flume and composited in proportion with flow.

The monitored parameters, their respective monitoring locations, and frequency requirements are presented in Table 7. Monitoring is required during periods of discharge. If no discharge occurs during the reported period, “no discharge” shall be reported on the NetDMR.

Table 7. Monitoring Requirements for Outfall 001					
Parameter	Units	Sample Location	Type ⁽¹⁾	Minimum Frequency ⁽²⁾	RRV ⁽³⁾
Discharge Flow Rate	mgd	Effluent	Continuous	Continuous	--
5-Day Biochemical Oxygen Demand (BOD ₅) ⁽⁴⁾	mg/L	Influent	Composite	1/Week	2
	mg/L	Effluent	Composite	1/Week	2
	lbs/day	Effluent	Calculated	1/Month	--
	% Removal	Effluent	Calculated	1/Month	--
Total Suspended Solids (TSS) ⁽⁴⁾	mg/L	Influent	Composite	1/Week	10
	mg/L	Effluent	Composite	1/Week	10
	lbs/day	Effluent	Calculated	1/Month	--
	% Removal	Effluent	Calculated	1/Month	--
pH	s.u.	Effluent	Instantaneous	1/Day	0.1
Temperature	°C	Effluent	Instantaneous	1/Day	0.1
Oil and Grease	Yes / No	Effluent	Visual ⁽⁵⁾	1/Day	--
	mg/L	Effluent	Grab	2/Year ⁽⁵⁾	1.0
<i>E. coli</i>	org/100 mL	Effluent	Grab	1/Week	1/100mL
Total Ammonia, as N	mg/L	Effluent	Composite	1/Month	0.07
Nitrate + Nitrite, as N	mg/L	Effluent	Composite	1/Month	0.02
Total Kjeldahl Nitrogen ⁽⁶⁾	mg/L	Effluent	Composite	1/Month	0.225
Total Nitrogen, as N ^(4,6)	mg/L	Effluent	Composite	1/Month	0.245
	lbs/day	Effluent	Calculated	1/Month	--
Total Phosphorus, as P ^(4,6)	mg/L	Effluent	Composite	1/Month	.003
	lbs/day	Effluent	Calculated	1/Month	--
<p>⁽¹⁾ See Definition section at end of permit for explanation of terms</p> <p>⁽²⁾ Monitoring is required only for any calendar period where there is discharge</p> <p>⁽³⁾ Required reporting value. If reporting non-detect, analysis must achieve these, or lower, RRVs</p> <p>⁽⁴⁾ Methods for calculating mass load (lbs/day) and % removal are provided in the permit.</p> <p>⁽⁵⁾ O&G analysis must be conducted semiannually 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 > 10 mg/L</p> <p>⁽⁶⁾ Monitoring only required from July 1 – September 30</p>					

B. Ambient Monitoring

Ambient monitoring of the Bitterroot River for pH and temperature will be required in this permit. Monitoring must take place at a consistent location upstream and outside the influence of Outfall 001 with the sample type, frequency, and RRVs as identified in Table 8 below. Values shall be reported on the facility's DMRs.

Table 8. Ambient Monitoring and Reporting Requirements				
Parameter	Units	Type ⁽¹⁾	Minimum Frequency	RRV ⁽²⁾
pH	s.u.	Instantaneous	2/Year ⁽³⁾	0.1
Temperature	°C	Instantaneous	2/Year ⁽³⁾	0.1
⁽¹⁾ See Definition section at end of permit for explanation of terms ⁽²⁾ Required reporting value. Analysis must achieve these, or lower, RRVs ⁽³⁾ Samples must be taken in the first half and second half of the year, at least 6 months apart.				

VII. Special Conditions

A. Stevensville's Pollutant Minimization Program (PMP)

A pollutant minimization program (PMP) is a structured set of activities designed to improve processes and pollutant controls that will prevent and reduce pollutant loadings. The PMP is required because Stevensville needs and is eligible for a general variance from the Montana Base Numeric Nutrient Standards found in DEQ-12A. Stevensville effluent limits have been set to highest attainable condition load limits calculated from Table 12B-1 of DEQ-12B for total nitrogen and total phosphorus. Stevensville is required to adopt and implement a PMP reflecting the greatest pollutant reduction achievable.

The following PMP action items will be required of Stevensville:

Action Item 1: Facility Evaluation

DEQ contractors will complete an onsite evaluation of the facility and recommend operational improvements for consideration by December 31, 2022.

Action Item 2: Selection of Feasible Nutrient Reduction Strategies

Stevensville will schedule a meeting with DEQ within 3 months of receiving the final report from DEQ's contractor to review findings from the evaluation and select feasible nutrient reduction activities to implement.

Action Item 3: Implementation of Nutrient Reduction Strategies

Stevensville will implement the subset of nutrient reduction strategies deemed feasible and submit a brief (no more than one page) annual report addressing the following:

- Identify nutrient reduction measures implemented that year and evaluate their effectiveness
- Propose nutrient reduction measures for the upcoming year

The annual reports will be due January 28th of each year following the meeting with DEQ in Action Item 2.

B. 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 Town of Stevensville and that a draft permit, fact sheet, and environmental assessment (EA) have been prepared. Details are below:

- Public Notice No. MT-19-02 dated January 28, 2019
- Public comments are invited any time prior to the close of business February 27, 2019
- 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.

Stevensville 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*

Bitterroot Temperature and Tributary Sediment TMDL, August 2011

CWAIC: Clean Water Act Information Center, Department of Environmental Quality. 2018. Accessed September 2018.

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 (2016).

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

Montana DEQ. 2014. *Department Circular DEQ-12A, Montana Base Numeric Nutrient Standards.*

Montana DEQ. 2018. *Compliance Evaluation Inspection Report, Town of Stevensville WWTP.*

Montana DEQ. 2017. *Department Circular DEQ-7, Montana Numeric Water Quality Standards.*

Montana DEQ. 2017. *Department Circular DEQ-12B, Nutrient Standards Variances.*

Montana DEQ. Montana Pollutant Discharge Elimination System (MPDES) Permit Number MT0022713

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

National Water Quality Monitoring Council: Water Quality Data for Bitterroot River

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