

## Fact Sheet

**Permittee:** City of Hibbing

**Facility:** Hibbing WWTP South Plant, 11669 Town Line Rd, Hibbing, Minnesota 55746, St. Louis County

**Permit Number:** MN0030643

**Date:** April 2020

**Current Expiration Date:** July 31, 2017

**Public Comment Start Date:** TBD

**Public Comment End Date:** TBD

**Receiving Water:** East Swan Creek (Class 2B, 3C, 4A, 4B, 5, 6 water)

### Applicable statutes

This fact sheet has been prepared according to the 40 CFR § 124.8 and 124.56 and Minn R. 7001.0100, subp. 3 in regards to a draft National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) permit to construct and/or operate wastewater treatment facilities and to discharge into waters of the State of Minnesota.

### Purpose

This document serves as a resource of information and briefly describes the derived permit conditions and reasons the conditions are necessary for the permit.

### Public Participation

You may submit written comments on the terms of the draft permit or on the Commissioner's preliminary determination. Your written comments must include the following:

1. A statement of your interest in the permit application or the draft permit.
2. A statement of the action you wish the Minnesota Pollution Control Agency (MPCA) to take, including specific references to sections of the draft permit that you believe should be changed.
3. The reasons supporting your position, stated with sufficient specificity as to allow the Commissioner to investigate the merits of your position.

You may also request that the MPCA Commissioner hold a public informational meeting. A public informational meeting is an informal meeting which the MPCA may hold to help clarify and resolve issues.

In accordance with Minn. R. 7000.0650 and Minn. R. 7001.0110, your petition requesting a public informational meeting must identify the matter of concern and must include the following: items one through three identified above; a statement of the reasons the MPCA should hold the meeting; and the issues you would like the MPCA to address at the meeting.

In addition, you may submit a petition for a contested case hearing. A contested case hearing is a formal hearing before an administrative law judge. Your petition requesting a contested case hearing must include a statement of reasons or proposed findings supporting the MPCA decision to hold a contested case hearing pursuant to the criteria identified in Minn. R. 7000.1900, subp. 1 and a statement of the issues proposed to be addressed by a

contested case hearing and the specific relief requested. To the extent known, your petition should include a proposed list of witnesses to be presented at the hearing, a proposed list of publications, references or studies to be introduced at the hearing, and an estimate of time required for you to present the matter at hearing.

You must submit all comments, requests, and petitions during the public comment period identified on page one of this notice. All written comments, requests, and petitions received during the public comment period will be considered in the final decisions regarding the permit. If the MPCA does not receive any written comments, requests, or petitions during the public comment period, the Commissioner or other MPCA staff as authorized by the Commissioner will make the final decision concerning the draft permit.

Comments, petitions, and/or requests must be submitted by the last day of the public comment period to:

Stephanie Lyons  
Minnesota Pollution Control Agency  
525 Lake Ave S. Duluth, MN 55802

The permit will be reissued if the MPCA determines that the proposed Permittee or Permittees will, with respect to the facility or activity to be permitted, comply or undertake a schedule to achieve compliance with all applicable state and federal pollution control statutes and rules administered by the MPCA and the conditions of the permit and that all applicable requirements of Minn. Stat. ch. 116D and the rules promulgated thereunder have been fulfilled.

More detail on all requirements placed on the facility may be found in the Permit document.

## **Description of permitted facility**

### **Facility Location**

The Hibbing WWTF South Plant is located at 11669 Town Line Rd, Hibbing, MN. The outfall is located at the SW Quarter of the SW Quarter of T57N, R20W, S32.

### **Facility Description and Components**

The facility is a Class A.

The facility is designed to treat:

An average wet weather (AWW) flow of 4.5 million gallons per day (MGD)

An average dry weather (ADW) flow of 3.6 million gallons per day (MGD)

5-day carbonaceous biochemical oxygen demand (CBOD<sub>5</sub>) of 150 milligrams per liter (mg/L)

The facility consists of primary, secondary and advanced treatment of wastewater.

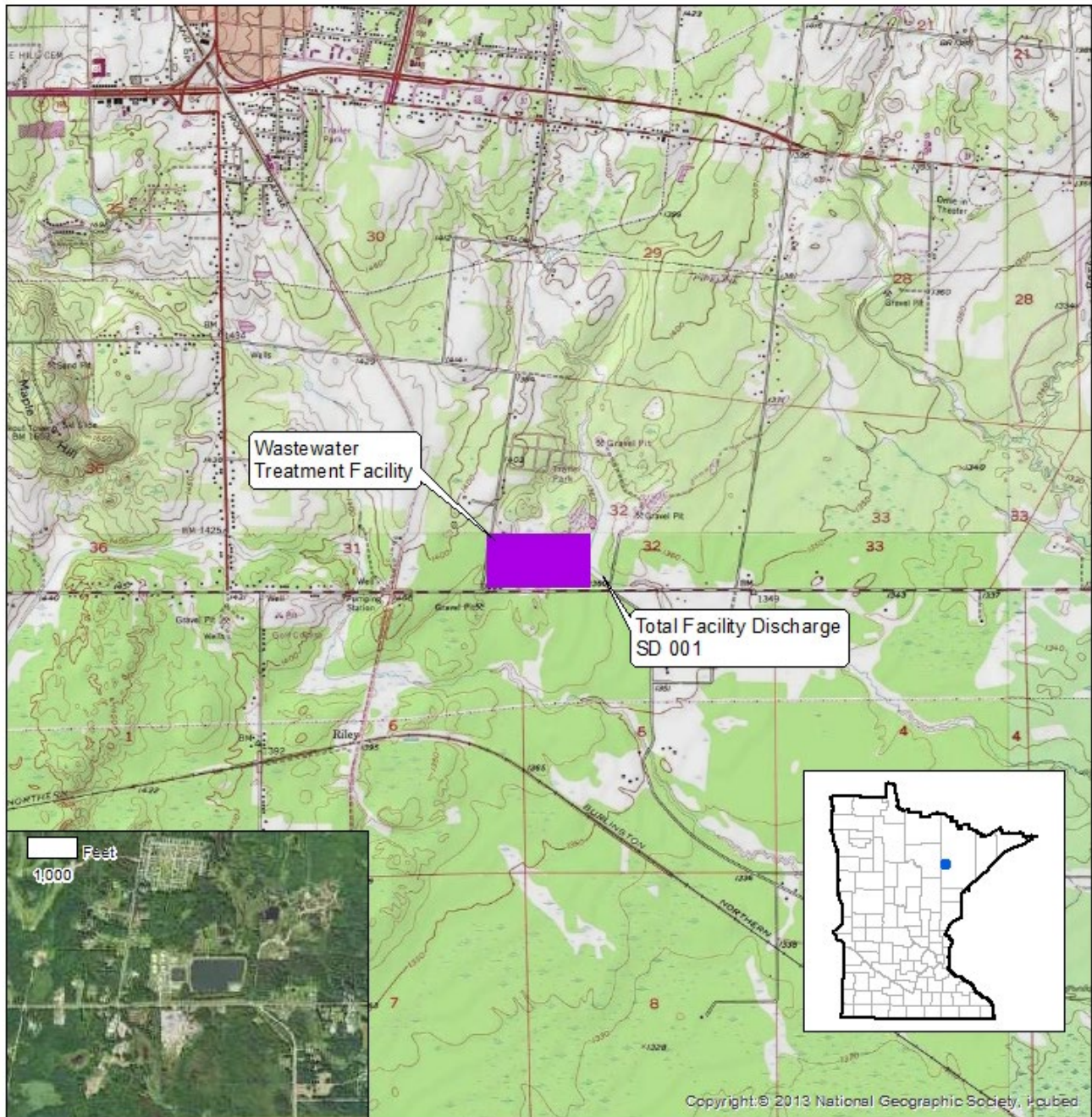
Primary treatment consists of a splitter and diversion structure for bypass to equalization basins as needed, two mechanical bar screens, three aerated grit chambers, and 2 primary clarifiers.

Secondary treatment consists of a pump station, four trickling filters (first two parallel, last two in series), four secondary clarifiers, five dual media sand filters (sand and anthracite), chlorination, dechlorination, and effluent aeration.

Solids treatment consists of gravity thickening, two-stage anaerobic digestion, and a 1-acre storage pond, followed by land application.

The facility includes a bypass diversion structure that can divert flow during periods of high flow to an equalization (EQ) basin system consisting of one 2.0 acre aerated EQ basin, and one 15.0 acre aerated EQ basin, and a 1.0 acre polishing pond. Flow from the EQ basins and the polishing pond can be re-diverted back to the pump house for recirculation through the facility's primary and secondary treatment. The facility also has an emergency discharge from the EQ basins that have the capability of discharging partially treated wastewater when the basins are full and the plant is at maximum capacity.

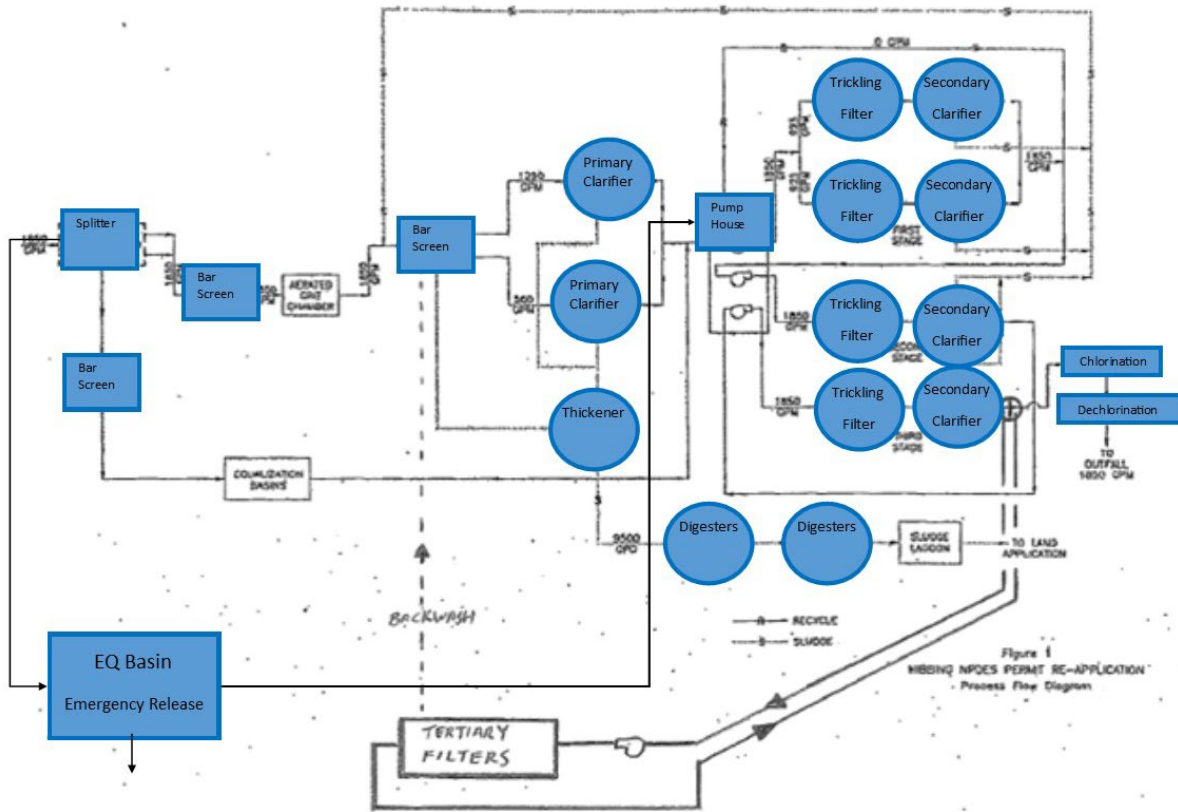
### Map of the Permitted Facility



Map produced by: MPCA Staff, 3/30/2020  
Scale: 1:34,793

0 0.375 0.75 1.5 Miles

## Flow Schematic



## Significant Industrial Users

The Facility serves the following SIUs;

- L&M Radiator
- Ameripride Services
- Hibbing Public Utilities

## General information

The permit is based on a NPDES/SDS permit application and additional documents found in the Administrative record.

The primary reason for reissuing the permit is due to permit expiration. The facility is not proposing changes at this time.

## Special conditions

- Mass and concentration limits for Ammonia, Total Nitrogen are assigned to protect water quality.
- Seasonal limitations for Dissolved Oxygen are assigned to protect water quality.
- This permit requires the permittee to further explore and document Inflow and Infiltration (I/I) activities.

## Significant changes from the previous permit

The draft permit contains the following changes from the last issued permit:

- Monitoring frequencies for Nitrite Plus Nitrate, total and Total Kjeldahl Nitrogen are updated to reflect the June 2018 Nitrogen Permit Writer’s Guidance for EPA Major mechanical facilities with flows between 1.0 and 9.99 MGD.
- There is a correction for the chronic whole effluent toxicity (WET) water quality based effluent limit (WQBEL). The current chronic WET WQBEL is 1.1 TUc (Toxic Unit chronic). The 2011 toxics evaluation forgot to apply 25% of the 7Q10 flow as required in Minn. R. Ch. 7052.0210. The reviewer used the full 7Q10 flow in the determination. The correct chronic WET WQBEL is 1.02 TUc or 1.0 TUc.
- This facility will continue to monitor for chloride, hardness, specific conductivity and total dissolved salts measured as total dissolved solids (TDS). Monitoring for bicarbonates, sulfate, sodium, magnesium, calcium, and potassium is discontinued.
- Mercury monitoring with a frequency of twice per month and an effective period of Jan, Mar, May, Jul, Sept, Nov is assigned based on the August 2018 Mercury Permit Writer’s Guidance to EPA major facilities with a flow greater than 1.0 MGD.

## Waste stream stations

Limit and monitoring requirements for waste streams are assigned in order to ascertain their impact on wastewater treatment processes, contributions to other treatment facilities, and/or land treatment/discharge sites. Requirements are based on Minnesota Pollution Control Agency (MPCA) sampling policies and/or state health requirements.

This permit contains one waste stream which has been assigned a waste stream station for monitoring and reporting purposes. The influent wastewater will be monitored as WS 001. The proposed limit and monitoring requirements for the waste stream station(s) are found in the limits and monitoring table in the accompanying draft permit document.

## Surface water discharge stations

Limit and monitoring requirements for surface water discharges are set in consideration of Minnesota state water discharge criteria also known as SDRs based on Minn. R. Ch. 7053, Minnesota state WQBEL for the receiving water use classification, federal technology-based effluent limits applicable to specific discharge types, or a combination of these limits to regulate the discharge of wastewater. When limits overlap for a particular pollutant, the most restrictive limit is the one applied in the permit. In addition, MPCA may derive limits that are specific to a particular receiving water. These limits may be based on toxicity studies, professional judgment analysis, technology-based standards, and in some instances standards developed by other U.S. states or regulatory agencies.

The receiving water lowest average seven-day flow with a once in ten-year recurrence interval (7Q<sub>10</sub>) at outfall SD 001 is 0.46 cubic feet per second (cfs) in the periods of April-March.

## Technology Based Effluent Limits (TBELs)

Limits are applied pursuant to Minn. R. 7053.0215, subp. 1 for CBOD<sub>5</sub> percent removal, total suspended solids (TSS), TSS percent removal, and potential of hydrogen (pH).

**Table 1: TBELs**

| Pollutant | Calendar month average | Calendar week maximum | Calendar month max/<br>Calendar month min | Minimum calendar month average |
|-----------|------------------------|-----------------------|---|--------------------------------|
|-----------|------------------------|-----------------------|---|--------------------------------|

|                             |         |         |                  |     |
|-----------------------------|---------|---------|------------------|-----|
| pH                          |         |         | 9.0 SU<br>6.0 SU |     |
| TSS                         | 30 mg/L | 45 mg/L |                  |     |
| TSS % Removal               |         |         |                  | 85% |
| CBOD <sub>5</sub> % Removal |         |         |                  | 85% |

### Water Quality Based Effluent Limits (WQBELs)

Minn. R. 7053.0205, subp. 8 authorizes the MPCA to develop WQBELs for point source discharges to waters of the state of Minnesota to protect receiving waters for the applicable use classifications.

WQBELs for total residual chlorine are based on Class 2B waters (Minn. R. 7050.0222) and phosphorus (Minn. R. 7053.0255). For total phosphorus, WQBELs are derived from numeric lake and river eutrophication standards (Minn. R. 7050.0222). See the 'Explanation of Total Phosphorus Review' section below for additional information regarding the development of the total phosphorus limit(s).

The quality of class 2Bd surface waters shall be such as to permit the propagation and maintenance of a healthy community of cool or warm water aquatic biota and their habitats. These waters shall be suitable for aquatic recreation of all kinds, including bathing, for which the waters may be usable. This class of surface waters is also protected as a source of drinking water (Minn. R. 7050.0222, subp. 3).

The quality of class 2B surface waters shall be such as to permit the propagation and maintenance of a healthy community of cool or warm water aquatic biota, and their habitats. These waters shall be suitable for aquatic recreation of all kinds, including bathing, for which the waters may be usable. This class of surface water is not protected as a source of drinking water (Minn. R. 7050.0222, subp. 4).

The beneficial use subclass designators "e," "g," and "m" are added to the class 2 designator as specific additional designators. The additional subclass designators do not replace the class 2 designator. All requirements for class 2 stream and river habitats in Minn. R. 7050.0222 and 7052.0100 continue to apply in addition to requirements for class 2Be, class 2Bg, or class 2Bm stream and river habitats in Minn. R. 7050.0222. These subclass designators are applied to lotic waters only.

**Table 2: WQBELs**

| Pollutant                       | Calendar month average                             | Calendar week maximum                               | Daily maximum                                     |
|---------------------------------|--|---|---|
| CBOD <sub>5</sub> <sup>1</sup>  | 7.7 mg/L <sup>1</sup><br>131.0 kg/day <sup>1</sup> | 12.0 mg/L <sup>1</sup><br>204.0 kg/day <sup>1</sup> |   |
| CBOD <sub>5</sub> <sup>7</sup>  | 9.4 mg/L <sup>7</sup><br>160.0 kg/day <sup>7</sup> | 15.0 mg/L <sup>7</sup><br>255.0 kg/day <sup>7</sup> |   |
| Chlorine, Total Residual        |  |   | 0.038 mg/L  |
| Mercury, Total (as Hg)          | 1.8 ng/L <sup>6</sup><br>30.6 mg/day <sup>6</sup>  |   | 3.2 ng/L <sup>6</sup><br>54.4 mg/day <sup>6</sup> |
| Nitrogen, Ammonia, Total (as N) | 6.7 mg/L <sup>1</sup><br>114.0 kg/day <sup>1</sup> |   |   |
| Nitrogen, Ammonia, Total (as N) | 8.8 mg/L <sup>2</sup><br>150.0 kg/day <sup>2</sup> |   |   |
| Nitrogen, Ammonia, Total (as N) | 1.3 mg/L <sup>3</sup>                              |   |   |

|                                 |   |  |  |
|---------------------------------|---|--|--|
|                                 | 22.0 kg/day <sup>3</sup>                          |  |  |
| Nitrogen, Ammonia, Total (as N) | 4.9 mg/L <sup>4</sup><br>83.0 kg/day <sup>4</sup> |  |  |

<sup>1</sup>Limit applies Dec-Mar

<sup>2</sup>Limit applies Apr-May

<sup>3</sup>Limit applies Jun-Sept

<sup>4</sup>Limit applies Oct-Nov

<sup>5</sup>Limit applies January-December

<sup>6</sup>Limit applies Jan, Mar, May, Jul, Sep, Nov

<sup>7</sup>Limit applies Apr-Nov

### State Discharge Restrictions (SDRs)

SDRs are not considered WQBELs. These restrictions were designed to protect water quality and maintain in-stream water quality standards (WQS). Therefore, the restrictions are strict enough to protect WQS.

The 200 orgs/100mL calendar month geometric mean limit for fecal coliform is based on Minn. R. 7053.0215, subp. 1. The 1.0 mg/L limit for total phosphorus is based on Minn. R. 7053.0255, subp. 3.

**Table 3: SDRs**

| Pollutant                                     | Calendar month average | Calendar month geometric mean |
|---|------------------------|-------------------------------|
| Fecal Coliform, MPN or Membrane Filter 44.5 C |                        | 200 orgs/100ml <sup>1</sup>   |
| Phosphorus, Total (as P)                      | 1.0 mg/L <sup>2</sup>  |                               |

<sup>1</sup> Limit applies April-October

<sup>2</sup> Limit applies January-December

### Explanation of total phosphorus limit review

#### Total phosphorus:

Federal law [40 CFR §122.44(d)] restricts mass increases of pollutants upstream of an impaired water and requires WQBEL(s) to be established for pollutant parameters where it is found that a NPDES/SDS discharger has the reasonable potential (RP) to cause or contribute to an excursion above a state WQS. An effluent limits analysis was completed on the Hibbing Wastewater Treatment Facility South Plant (facility) to determine if the facility’s discharge has RP to cause or contribute to an exceedance of a state WQS or contribute to any downstream impairment. As a result of the analysis, it was determined that discharge from the facility does not have RP; and therefore, a WQBEL for total phosphorus is not required at this time. A summary of the effluent limits analysis and the assigned total phosphorus limits are included below. For additional details regarding the effluent limits analysis, please see the *“Total phosphorus effluent limit review: St. Louis River Watershed”*. A copy of the MPCA memorandum is available upon request.

#### River Eutrophication Standards (RES)

The St. Louis River Watershed analysis demonstrated that the facility does not have RP to cause or contribute to a river eutrophication impairment in the watershed, under permitted effluent conditions. As such, existing limits in the permit are sufficient to protect the immediate receiving waters (SDR of 1.0 mg/L)

#### State Discharge Restrictions (SDR)

The permit includes a SDR limit of 1.0 mg/L, January-December, Calendar Month Average limit. This limit was assigned pursuant to Minn. R. 7053.0255.

The monitoring frequencies for outfall SD 001 are based on MPCA guidelines for Class A municipal discharges that are less than one million gallons per day. The monitoring frequencies are set to achieve sufficient data to determine the compliance with established limits. The proposed limit and monitoring requirements for the surface discharge stations are found in the limits and monitoring table in the accompanying draft permit document.

## Pollutants of concern

### Whole Effluent Testing – Chronic

This Permittee currently has a limit of 1.1 TU<sub>c</sub> that is associated with the SD001 monitoring station in the permit.



Minn. R. 7052.0240, Subp. 5 requires effluent monitoring data be evaluated against a potential WET effluent limitation to determine if an effluent limitation is needed (“reasonable potential”).

This facility performed six chronic WET tests from 2012 thru 2017. All tests illustrated <1.0 Toxics Unit chronic (TUc) for all animals tested. This facility has a current WET monthly ave. WET limit of 1.1 TUc. However, the 2011 toxics evaluation forgot to apply 25% of the 7Q10 flow as required in Minn. R. Ch. 7052.0210. The actual chronic WET monthly ave. limit is 1.02 TUc or in reality 1.0 TUc.

The permittee has a chronic Whole Effluent Toxicity (WET) limit established in a previous permit cycle. The Hibbing South Wastewater Treatment Facility has chronic WET testing because the ratio of the 7Q10 low flow of the receiving water compared to the facility’s ADW flow is less than or equal to 20:1.

Because reasonable potential has been shown in a past permit cycle, a chronic WET limit of 1.0 TUc has been established. This is a monthly Ave. WQBEL.

## **Mercury**

This permit contains requirements for mercury monitoring (and limits, *if applicable*). These requirements were added in response to the U.S. Environmental Protection Agency’s (EPA’s) approval of the Minnesota statewide Mercury Total Maximum Daily Load (TMDL) plan. More information on the TMDL can be found on the MPCA internet site at <http://www.pca.state.mn.us/water/statewide-mercury-reduction-plan>. Specific mercury monitoring requirements are found in the Waste Stream Stations and/or Surface Discharge Stations chapters of this permit. Those requirements include sampling for TSS via a grab sample taken at the same time as the total and dissolved mercury grab samples are taken.

The mercury monitoring at outfall SD 001 is consistent with the MPCA “Permitting Strategy for Addressing Mercury in Municipal and Industrial Wastewater Permits” (2018).

## **Mercury Minimization Plan (MMP)**

The Permittee is required to submit a MMP or updated MMP or a MMP with annual updates. This requirement complies with the EPA’s approval of the Minnesota statewide Mercury TMDL plan. Guidance for completing the MMP is available on the MPCA’s website at <http://www.pca.state.mn.us/water/wastewater-permits>.

## **Nitrogen**

Nitrogen is a pollutant that can negatively impact the quality of Minnesota’s water resources, including water used for drinking. Studies have shown that nitrogen in lakes and streams has a toxic effect on aquatic life such as fish. Like phosphorus, nitrogen is a nutrient that promotes algae and aquatic plant growth often resulting in decreased water clarity and oxygen levels. In September 2014, the MPCA completed the final draft of the *Statewide Nutrient Reduction Strategy* (found on the MPCA’s Nutrient reduction strategy website at <http://www.pca.state.mn.us/water/nutrient-reduction-strategy>) which identifies goals and milestones for nitrogen reductions for both point and non-point nitrogen sources within Minnesota. To gain a better understanding of the current nitrogen concentrations and loadings received by and discharged from the facility additional effluent nitrogen monitoring has been added to the permit. This monitoring has been added in accordance with Minn. Stat. ch. 115.03.

The permit includes effluent monitoring for total nitrogen, total nitrite plus nitrate-nitrogen, and total Kjeldahl nitrogen at a frequency of Once per Month, Jan-Dec. The permit includes seasonal effluent limits for ammonia as outlined in the limits and monitoring section of this permit. It also contains influent monitoring for nitrogen and monitoring for nitrite plus nitrate-nitrogen, total Kjeldahl nitrogen, and total nitrogen at a frequency of once per month, Jan- Dec, for the five-year term of the permit.

This additional monitoring will provide the data necessary to develop a better understanding of the total nitrogen concentrations and loadings that is currently being received and discharged from municipal and industrial wastewater treatment plants. Once a more extensive total nitrogen data set is established nitrogen reduction work can begin to achieve the necessary reductions to meet the goal of a 20% reduction in total nitrogen loads from point source dischargers by 2025. The changes and/or increases in total nitrogen monitoring in wastewater permits as a result of the *Statewide Nutrient Reduction Strategy* is outlined in the *Minnesota NPDES Wastewater Permit Nitrogen Monitoring Implementation Plan* document located on the MPCA wastewater permits webpage at: <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/wastewater/wastewater-permits/index.html>.

## Dissolved Oxygen (DO)

The 7.8 and 12.5 DO monthly minimum limits were included to ensure the de-chlorination unit operation would not consume excess DO levels in the effluent. The DO limit is expected to be protective of the Class 2B DO aquatic life WQS in the immediate receiving water.

## Phosphorus

Phosphorus is a common constituent in many wastewater discharges and a pollutant that has the potential to negatively impact the quality of Minnesota's lakes, wetlands, rivers, and streams. Phosphorus promotes algae and aquatic plant growth often resulting in decreased water clarity and oxygen levels. In addition to creating general aesthetic problems, these conditions can also impact a water body's ability to support healthy fish and other aquatic species. Therefore, phosphorus discharges are being carefully evaluated throughout the state.

The Permittee is required to meet a phosphorus limit as specified in the limits and monitoring section of this permit. Although the Permittee is not required to prepare a Phosphorus Management Plan, elimination or reduction of phosphorus at the source will decrease the influent load to the wastewater treatment facility and has the potential to improve treatment efficiency and reduce treatment costs. The MPCA strongly encourages the Permittee to identify and eliminate/reduce sources of phosphorus to, and optimize phosphorus management within, the facility.

All phosphorus samples must be analyzed by a certified laboratory and the data submitted to the MPCA. If the laboratory would like more information about becoming certified, please call the Environmental Laboratory Certification Unit at 612-676-5200. Samples must be collected in a clean bottle (preferably cleaned by a certified laboratory) that was not washed with phosphate detergent. Also, a sulfuric acid preservative must be added immediately after the sample is collected, and it must be stored at four degrees Celsius until analysis. If a contract laboratory is used, the bottle and preservative would typically be provided by the laboratory analyzing the sample.

## Salty discharge monitoring

In recent years, MPCA staff became aware of issues associated with "salty discharges" from industrial and municipal facilities. As a result, MPCA staff began to request additional monitoring for these facilities and began assigning effluent limits to facilities that already have data that show RP to exceed a WQS for classes 2, 3 and 4 water bodies.

Because of increased concern regarding salty discharges, MPCA staff determined that there is a need to obtain more information from dischargers. Facilities with continuous, periodic/seasonal, or intermittent waste flows where the receiving water stream flow to effluent design flow dilution ratio under low flow conditions is less than 5:1 (annual climatic 7Q<sub>10</sub>: Maximum Daily Design Flow) will be required to monitor effluent for the following parameters: bicarbonates, calcium, chloride, hardness, magnesium, total dissolved solids, specific conductance, sodium, potassium, and sulfate.

Reasonable potential to cause or contribute to the excursion above a water quality standard has been indicated for specific conductivity (as umhos/cm). The effluent limits were derived from water quality standards pursuant to 40 CFR 122.44 (d)(1)(vii)(A). The calculation of WQBELs follows.

- Daily Max = 1379 umhos/cm
- Monthly Ave. = 1150 umhos/cm (based on sampling 2X/month)

This limit is based on one exceedance out of 63 data points. Total Dissolved Salts (Solids) are correlated to conductivity. This data point is therefore an outlier. The EAO is not recommending the WQBEL for specific conductivity. Instead, the MPCA staff is working with the Hibbing WWTP staff to track down the potential SIU sources, which are causing the specific conductivity issue.

This facility will need to continue to monitor for chloride, hardness, specific conductivity and Total Dissolved Salts (measured as Total Dissolved Solids) and can discontinue monitoring for bicarbonates, sulfate, sodium, magnesium, calcium, and potassium.

Samples will be collected from one location at surface discharge station SD 001. Sample frequency is Once per Month, Jan-Dec.

## Impairments

The following table lists the current impairments for the immediate receiving water and the status of TMDL studies;

### Impaired Waters & TMDL Status:

| Downstream Impairments                   | Number of Impairments | TMDL Status   |
|--|-----------------------|---|
| <b>Unnamed Creek (East Swan Creek)</b>   | <b>2</b>              |   |
| E. coli                                  | 1                     | These impairments are located in the <a href="#">St. Louis River Watershed</a> . A TMDL has not been developed to address the impairments; however, the <a href="#">St. Louis River Watershed Monitoring and Assessment Report and the Stressor ID Report</a> are complete. |
| Aquatic Macroinvertebrate Bioassessments | 1                     |   |
| <b>East Swan River</b>                   | <b>1</b>              |   |
| Turbidity                                | 1                     | These impairments are located in the <a href="#">St. Louis River Watershed</a> . A TMDL has not been developed to address the impairments; however, the <a href="#">St. Louis River Watershed Monitoring and Assessment Report and the Stressor ID Report</a> are complete. |
| <b>Swan River</b>                        | <b>1</b>              |   |
| Mercury in Water Column                  | 1                     | See the WLA section below.  |
| <b>St Louis River</b>                    | <b>17</b>             |   |
| Mercury in Fish Tissue                   | 11                    |   |
| Mercury in Water Column                  | 2                     | See the WLA section below.  |
| Aquatic Macroinvertebrate Bioassessments | 1                     | This impairment is located in the <a href="#">St. Louis River Watershed</a> . A TMDL has not been developed to address the impairment;  |

|                                      |           |   |
|--------------------------------------|-----------|---|
|                                      |           | however, the <a href="#">St. Louis River Watershed Monitoring and Assessment Report and the Stressor ID Report</a> are complete.  |
| PCBF                                 | 3         | See the Additional Information section below.   |
| <b>Thomson Reservoir</b>             | <b>2</b>  |   |
| Mercury in Fish Tissue               | 2         | See the WLA section below.  |
| <b>St Louis River</b>                | <b>16</b> |   |
| Mercury in Fish Tissue               | 4         |   |
| Mercury in Water Column              | 2         | See the WLA section below.  |
| DDT                                  | 2         |   |
| Dieldrin                             | 2         |   |
| PCBF                                 | 4         |   |
| PCBW                                 | 2         | See the Additional Information section below.   |
| <b>St Louis River (St Louis Bay)</b> | <b>25</b> |   |
| Mercury in Fish Tissue               | 3         |   |
| Mercury in Water Column              | 3         | See the WLA section below.  |
|                                      |           | This impairment is located in the <a href="#">St. Louis River Watershed</a> . A TMDL has not been developed to address the impairment; however, the <a href="#">St. Louis River Watershed Monitoring and Assessment Report and the Stressor ID Report</a> are complete. |
| Fecal Coliform                       | 1         |   |
| PCBW                                 | 3         |   |
| PCBF                                 | 3         |   |
| DDT                                  | 3         |   |
| Dieldrin                             | 3         |   |
| Dioxin (including 2,3,7,8-TCDD)      | 3         |   |
| Toxaphene                            | 3         | See the Additional Information section below.   |
| <b>Lake Superior</b>                 | <b>4</b>  |   |
| Mercury in Fish Tissue               | 2         | See the WLA section below.  |
| PCB in Fish Tissue                   | 2         | See the Additional Information section below.   |
| <b>Grand Total</b>                   | <b>68</b> |   |

**Wasteload Allocations:**

[Statewide Mercury TMDL](#) - Mercury in Fish Tissue and Mercury in Water Column Impairments

- Mercury limits, monitoring, and MMP requirements in the permit should be in accordance with the [Mercury Permit Writers Guidance](#).

There are no draft or final WLAs assigned to this facility's discharge at this time.

**Additional Information:**

Efforts are ongoing to address the Beneficial Use Impairments for the downstream St. Louis River Area of Concern. See the [July 15<sup>th</sup>, 2013 Implementation Framework: Roadmap to Delisting](#) and the [St. Louis River Area of Concern 2013 Progress Report](#).

There are a number of PCB, DDT, Dieldrin, Dioxin and Toxaphene impairments that were not specifically outlined in this review. TMDLs are not underway for these impairments at this time.

## **Total Maximum Daily Load (TMDL) Study**

To address water quality impairments, a TMDL study of the St. Louis River watershed may be conducted. The study will determine the capacity to assimilate pollutant loads as the basis for recommendations of WLA for point sources and load allocation for nonpoint sources within the watershed. An appropriate balance of point and nonpoint source controls that attain water quality objectives will be selected with full stakeholder involvement. Based on the results of the TMDL study, the permit may be reopened and effluent limitations for this facility may be re-examined. This permit will be modified or reissued as needed to incorporate effluent loading recommendations from the TMDL study.

## **Biosolids and septage**

### **Biosolids land application**

This permit chapter requires biosolids to be treated to meet specific standards, and specifies monitoring, recordkeeping, reporting, and general requirements for biosolids that are applied to the land. Unless they are exceptional quality biosolids, sites to which biosolids are applied are approved by the MPCA by the procedures found in Minn. R. 7041.0800.

## **Pretreatment**

This permit include the undelegated pretreatment requirements.

## **Total facility requirements**

### **Certified laboratory**

Effective January 1, 2013, all Minnesota municipal, county or industrial laboratories that analyze wastewater per Clean Water Act requirements must be certified by the MPCA or the Minnesota Department of Health. Information regarding MPCA laboratory certification is located on the MPCA's website at <http://www.pca.state.mn.us/4p44whk>. If there are any questions concerning MPCA laboratory certification, please contact the MPCA at 1-800-657-3864 or by email at [ga.questions.mPCA@state.mn.us](mailto:ga.questions.mPCA@state.mn.us). Commercial laboratories doing these analyses must maintain Minnesota Department of Health certification.

### **Electronic Discharge Monitoring Reports (eDMRs)**

The eDMRs, Sample Values/Operational Spreadsheets, and related attachments shall be electronically submitted via the MPCA e-Services ([https://rsp.pca.state.mn.us/TEMPO\\_RSP/Orchestrate.do?initiate=true](https://rsp.pca.state.mn.us/TEMPO_RSP/Orchestrate.do?initiate=true)). Paper copies of DMRs will no longer be accepted. The eDMR and Sample Value/Operational Spreadsheets are generated directly from the limits and monitoring requirements in the reissued permit for the facility. They are generated by the Pollution Control Data Specialist assigned to manage the data for the facility and will be available online within 30 days of the permit action, please make sure to download the most recent version of the eDMR and Sample Value/Operational Spreadsheet prior to submitting the next monthly eDMRs.

## **Antidegradation and anti-backsliding**

**Antidegradation:** Changes to the facility may result in an increase in pollutant loading to surface waters or other causes of degradation to surface waters. If a change to the facility will result in a net increase in pollutant loading or other causes of degradation that exceed the maximum loading authorized through conditions specified in the existing permit, the changes to the facility are subject to antidegradation requirements found in Minn. R. 7050.0250 to 7050.0335. The permit does not propose to allow a new or increased discharge and does not trigger antidegradation.

**Anti-backsliding:** Any point source discharger of sewage, industrial, or other wastes for which a NPDES Permit has been issued by the MPCA that contains effluent limits more stringent than those that would be established by Minn. R. 7053.0215 to 7053.0265 shall continue to meet the effluent limits established by the permit, unless the permittee establishes that less stringent effluent limits are allowable pursuant to federal law, under section 402(o) of the Clean Water Act, United States Code, title 33, section 1342. The permit complies with Minn. R. 7053.0275 regarding anti-backsliding.

### **Term of permit**

The effective date of the permit and the permit expiration date will be determined at the time of issuance.

The Agency has made a preliminary determination to reissue this NPDES/SDS permit for a term of approximately five years.

## Recent Monitoring History – 2019

### Existing Limits and Monitoring

| Parameter                | Limit Type   | Limit | Unit    | 19-Jan | 19-Feb | 19-Mar | 19-Apr | 19-May           | 19-Jun | 19-Jul | 19-Aug | 19-Sep | 19-Oct | 19-Nov | 19-Dec |
|--------------------------|--------------|-------|---------|--------|--------|--------|--------|------------------|--------|--------|--------|--------|--------|--------|--------|
|                          |              |       |         |        |        |        |        | Effective Period |        |        |        |        |        |        |        |
| Bicarb. (HCO3)           | CalMoMax     |       | mg/L    | 182    | 183    | 194    | 118    | 148              | 176    | 180    | 170    | 164    | 140    | 163    | 167    |
|                          | CalMoAvg     |       |         |        |        |        |        |                  |        |        |        |        |        |        |        |
| CBOD 05                  | Dec–Mar      | 7.7   | mg/L    | 1.7    | 0      | 0.5    |        |                  |        |        |        |        |        |        | 0      |
|                          | CalMoAvg     |       |         |        |        |        |        |                  |        |        |        |        |        |        |        |
| CBOD 05                  | Apr–Nov      | 9.4   | mg/L    |        |        |        | 0      | 0                | 0      | 0      | 0      | 0.3    | 0.2    | 0.9    |        |
|                          | CalMoAvg     |       |         |        |        |        |        |                  |        |        |        |        |        |        |        |
| CBOD 05                  | Dec–Mar      | 131   | kg/d    | 14     | 0      | 8.2    |        |                  |        |        |        |        |        |        |        |
|                          | CalMoAvg     |       |         |        |        |        |        |                  |        |        |        |        |        |        |        |
| CBOD 05                  | Apr–Nov      | 160   | kg/d    |        |        |        | 0      | 0                | 0      | 0      | 0      | 2.8    | 2.2    | 8.5    |        |
|                          | MaxCal WkAvg |       |         |        |        |        |        |                  |        |        |        |        |        |        |        |
| CBOD 05                  | Dec–Mar      | 12    | mg/L    | 0      | 8.7    | 2.4    |        |                  |        |        |        |        |        |        | 0      |
|                          | MaxCal WkAvg |       |         |        |        |        |        |                  |        |        |        |        |        |        |        |
| CBOD 05                  | Apr–Nov      | 15    | mg/L    |        |        |        | 0      | 0                | 0      | 0      | 0      | 2.4    | 2.4    | 2.4    |        |
|                          | MaxCal WkAvg |       |         |        |        |        |        |                  |        |        |        |        |        |        |        |
| CBOD 05                  | Apr–Nov      | 204   | kg/d    | 0      | 68     | 45     |        |                  |        |        |        |        |        |        |        |
|                          | MaxCal WkAvg |       |         |        |        |        |        |                  |        |        |        |        |        |        |        |
| CBOD 05                  | Apr–Nov      | 255   | kg/d    |        |        |        | 0      | 0                | 0      | 0      | 0      | 28     | 34     | 32     |        |
| CBOD 05 Percent Removal  | MnCal MoAvg  | 85    | %       | 97     | 98     | 97     | 95     | 97               | 97     | 97     | 96     | 97     | 95     | 98     | 98     |
| Calcium, Total (as Ca)   | CalMoMax     |       | mg/L    | 72     | 76     | 86     | 45     | 52               | 70     | 67     | 68     | 59     | 52     | 66     | 67     |
| Chloride, Total          | CalMoMax     |       | mg/L    | 153    | 175    | 177    | 84     | 96               | 152    | 155    | 137    | 119    | 76     | 119    | 153    |
| Chlorine, Total Residual | DailyMax     | 0.038 | mg/L    | 0      | 0      | 0      | 0      | 0                | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Copper, Total (as Cu)    | CalQtrMax    |       | ug/L    |        |        | 15     |        |                  | 11     |        |        | 13     |        |        | 0      |
| Fecal Coliform           | CalMo GeoMn  | 200   | #/100ml |        |        |        | 48     | 9.5              | 34     | 8      | 45     | 66     | 114    |        |        |

|   |            |             |      |       |        |        |        |        |        |        |        |        |        |        |       |
|---|------------|-------------|------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| Flow  | CalMoAvg   |             | mgd  | 1.95  | 1.938  | 3.487  | 4.65   | 3.154  | 1.9    | 1.784  | 1.692  | 2.475  | 3.559  | 2.516  | 1.786 |
| Flow  | CalMoMax   |             | mgd  | 2.09  | 2.08   | 5.091  | 5.042  | 3.899  | 2.732  | 2.169  | 2.358  | 3.45   | 4.159  | 3.451  | 2.121 |
| Flow  | CalMoTot   |             | Mgal | 60.74 | 54.264 | 108.09 | 139.49 | 97.786 | 56.994 | 55.303 | 52.441 | 74.246 | 110.34 | 75.473 | 55.36 |
| Hardness, Calcium & Magnesium Calculated (as CaCO3) | CalMoMax   |             | mg/L | 307   | 320    | 343    | 183    | 223    | 306    | 287    | 289    | 259    | 218    | 281    | 288   |
| Magnesium (as Mg)                                   | CalMoMax   |             | mg/L | 31    | 32     | 37     | 17     | 23     | 32     | 29     | 29     | 27     | 22     | 28     | 29    |
| Mercury, Dissolved (as Hg)                          | CalQtrMax  |             | ng/L |       |        | 0.56   |        |        | 0.77   |        |        | 0.72   |        |        | 0     |
| Mercury, Total (as Hg)                              | CalMoAvg   | <b>1.8</b>  | ng/L | 0.3   | 0.7    | 4.5    | 1.6    | 0.8    | 1.4    | 1.2    | 1.2    | 0.8    | 0.5    | 0.8    | 0.3   |
| Mercury, Total (as Hg)                              | CalMoAvg   | <b>30.6</b> | mg/d | 2     | 5.6    | 85.2   | 28.3   | 11     | 10.5   | 7.9    | 7.4    | 6.9    | 6.4    | 8.9    |       |
| Mercury, Total (as Hg)                              | DailyMax   | <b>3.2</b>  | ng/L | 0.6   | 0.8    | 6.6    | 2.7    | 0.9    | 1.7    | 1.2    | 1.2    | 0.8    | 1      | 1      | 0.5   |
| Mercury, Total (as Hg)                              | DailyMax   | <b>54.4</b> | mg/d | 4     | 6.2    | 126.4  | 46.9   | 12.5   | 12.6   | 8.5    | 7.8    | 7.2    | 12.7   | 12.1   |       |
| Nitrite Plus Nitrate, Total (as N)                  | CalMoAvg   |             | mg/L |       |        |        | 9.3    |        |        |        |        | 18     |        |        |       |
| Nitrogen, Ammonia, Total (as N)                     | CalMoAvg   |             | mg/L |       |        |        |        |        |        |        |        |        |        |        |       |
| Nitrogen, Ammonia, Total (as N)                     | Jun-Sep    | <b>1.3</b>  | mg/L |       |        |        |        |        | 0.1    | 0.02   | 0      | 0      |        |        |       |
| Nitrogen, Ammonia, Total (as N)                     | CalMoAvg   |             | mg/L |       |        |        |        |        |        |        |        |        |        |        |       |
| Nitrogen, Ammonia, Total (as N)                     | Oct-Nov    | <b>4.9</b>  | mg/L |       |        |        |        |        |        |        |        |        | 0      | 0      |       |
| Nitrogen, Ammonia, Total (as N)                     | CalMoAvg   |             | mg/L |       |        |        |        |        |        |        |        |        |        |        |       |
| Nitrogen, Ammonia, Total (as N)                     | Dec-Mar    | <b>6.7</b>  | mg/L | 0.2   | 0.1    | 0.2    |        |        |        |        |        |        |        |        | 0     |
| Nitrogen, Ammonia, Total (as N)                     | CalMoAvg   |             | mg/L |       |        |        |        |        |        |        |        |        |        |        |       |
| Nitrogen, Ammonia, Total (as N)                     | Apr-May    | <b>8.8</b>  | mg/L |       |        |        | 0.2    | 0.1    |        |        |        |        |        |        |       |
| Nitrogen, Ammonia, Total (as N)                     | CalMoAvg   |             | kg/d |       |        |        |        |        |        |        |        |        |        |        |       |
| Nitrogen, Ammonia, Total (as N)                     | Jun-Sep    | <b>22</b>   | kg/d |       |        |        |        |        | 0.54   | 0.14   | 0.06   | 0.25   |        |        |       |
| Nitrogen, Ammonia, Total (as N)                     | CalMoAvg   |             | kg/d |       |        |        |        |        |        |        |        |        |        |        |       |
| Nitrogen, Ammonia, Total (as N)                     | Oct- Nov   | <b>83</b>   | kg/d |       |        |        |        |        |        |        |        |        | 0.44   | 0.1    |       |
| Nitrogen, Ammonia, Total (as N)                     | CalMoAvg   |             | kg/d |       |        |        |        |        |        |        |        |        |        |        |       |
| Nitrogen, Ammonia, Total (as N)                     | Dec-Mar    | <b>114</b>  | kg/d | 1.8   | 1      | 2.5    |        |        |        |        |        |        |        |        | 0     |
| Nitrogen, Ammonia, Total (as N)                     | CalMoAvg   |             | kg/d |       |        |        |        |        |        |        |        |        |        |        |       |
| Nitrogen, Ammonia, Total (as N)                     | April- May | <b>150</b>  | kg/d |       |        |        | 3.7    | 0.96   |        |        |        |        |        |        |       |



|                               |              |             |          |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------------------------|--------------|-------------|----------|------|------|------|------|------|------|------|------|------|------|------|------|
| Nitrogen, Kjeldahl, Total     | CalMoAvg     |             | mg/L     |      |      |      | 0.68 |      |      |      |      | 0.72 |      |      |      |
| Oxygen, Dissolved             | CalMoMin     | <b>7.8</b>  | mg/L     |      |      |      | 11.3 | 11.1 | 10.7 | 10   | 10.1 | 10.2 | 10.4 | 11.9 |      |
| Oxygen, Dissolved             | CalMoMin     | <b>12.5</b> | mg/L     | 12.6 | 12.6 | 12.7 |      |      |      |      |      |      |      |      | 12.6 |
| pH                            | CalMoMax     | <b>9</b>    | SU       | 7.5  | 7.5  | 7.4  | 7.4  | 7.5  | 7.5  | 7.5  | 7.5  | 7.6  | 7.5  | 7.5  | 7.5  |
| pH                            | CalMoMin     | <b>6</b>    | SU       | 6.9  | 6.9  | 6.8  | 6.7  | 6.9  | 6.9  | 7    | 7    | 6.9  | 7    | 7    | 6.9  |
| Phosphorus, Total (as P)      | CalMoAvg     | <b>1</b>    | mg/L     | 0    | 0    | 0.1  | 0.1  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Phosphorus, Total (as P)      | CalMoAvg     | <b>17</b>   | kg/d     | 0    | 0    | 1.9  | 1.9  | 0    | 0    | 0    | 0    | 0.1  | 0    | 0    |      |
| Potassium, Total (as K)       | CalMoMax     |             | mg/L     | 10   | 9.6  | 11   | 4.5  | 5.9  | 9.2  | 9.2  | 10   | 9.2  | 6.2  | 7.8  | 8.4  |
| Sodium, Total (as Na)         | CalMoMax     |             | mg/L     | 102  | 119  | 114  | 44   | 56   | 87   | 94   | 93   | 81   | 54   | 66   | 87   |
| Solids, Total Dissolved (TDS) | CalMoMax     |             | mg/L     | 624  | 612  | 668  | 322  | 446  | 594  | 592  | 572  | 544  | 406  | 544  | 598  |
| Solids, Total Suspended (TSS) | CalMoAvg     | <b>30</b>   | mg/L     | 0    | 0.2  | 3.6  | 3.7  | 1.1  | 0.33 | 0.29 | 0.74 | 0.9  | 0.99 | 0.13 | 0.18 |
| Solids, Total Suspended (TSS) | CalMoAvg     | <b>510</b>  | kg/d     | 0    | 1.5  | 64   | 66   | 16   | 2.4  | 2.3  | 5.2  | 9.5  | 13   | 1.2  |      |
| Solids, Total Suspended (TSS) | MaxCal WkAvg | <b>45</b>   | mg/L     | 0    | 0    | 8.7  | 6    | 3.9  | 1.3  | 1.3  | 1.2  | 1.5  | 1.5  | 1    | 1    |
| Solids, Total Suspended (TSS) | MaxCal WkAvg | <b>766</b>  | kg/d     | 0    | 0    | 162  | 111  | 57   | 9.5  | 11   | 9    | 13   | 20   | 11   |      |
| TSS % Removal                 | MnCalMoAvg   | <b>85</b>   | %        | 98   | 99   | 96   | 91   | 98   | 99   | 99   | 99   | 99   | 98   | 99   | 99   |
| TSS, grab (Mercury)           | CalQtrMax    |             | mg/L     |      |      | 10   |      |      | 0    |      |      | 0    |      |      | 1.6  |
| Specific Conduct.             | CalMoMax     |             | umhos/cm | 1094 | 1205 | 1212 | 638  | 772  | 998  | 1037 | 1030 | 886  | 729  | 980  | 1108 |
| Sulfate, Total (as SO4)       | CalMoMax     |             | mg/L     | 86   | 84   | 87   | 40   | 44   | 71   | 73   | 73   | 37   | 59   | 71   | 70   |