Minnesota Pollution Control Agency

National Pollutant Discharge Elimination System /State Disposal System (NPDES/SDS) Permit Program Fact Sheet

Permittee: City of Saint Cloud
400 2nd Street South
St. Cloud, MN 56301-3622

Facility Name: Saint Cloud Wastewater Treatment Facility
525 60th Street South
St. Cloud, MN 56301

Permit Number: MN0040878

Current Permit Expiration: March 31, 2013

Public Comment Period Begins: March 12, 2013
Period Ends: April 11, 2013

Receiving Water: Mississippi River, 1C, 2Bd, 3C, 4A, 4B, 5, 6 Water

Proposed Action: Permit Reissuance

Permitting Contact
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Minnesota Pollution Control Agency
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Phone 218-846-8104
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Total Facility Requirements 21

Nondegradation and Anti-backsliding 21

Purpose and Participation

Applicable Statutes
This fact sheet has been prepared according to the Title 40 Federal Code of Regulations (CFR) 124.8 and 124.56 and Minn. R. 7001.0100, Subp. 3 in regards to a draft NPDES/SDS permit to construct and/or operate wastewater treatment facilities and to discharge into waters of the State of Minnesota.

Purpose
This fact sheet outlines the principal issues related to the preparation of this draft permit and documents the decisions that were made in the determination of the effluent limitations and conditions of this 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 1 through 3 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 1 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. During the public comment period, however, you may request that the draft permit be presented to the

MPCA's Citizens' Board (Board) for final decision. You may participate in the activities of the Board as provided in Minn. R. 7000.0650.

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

Holly Christensen
Minnesota Pollution Control Agency
714 Lake Avenue, Suite 220
Detroit Lakes, MN 56501

The permit will be reissued if the MPCA determines that the Permittee 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.

Facility Description

Background Information

Facility Location

The Saint Cloud Wastewater Treatment Facility (Facility) is located in the SE ¼ of Section 7, Township 123 North, Range 27 West, City of Saint Cloud, Stearns County, Minnesota. The Facility is approximately 1 mile southeast of the City of Saint Cloud, in St. Augusta Township.

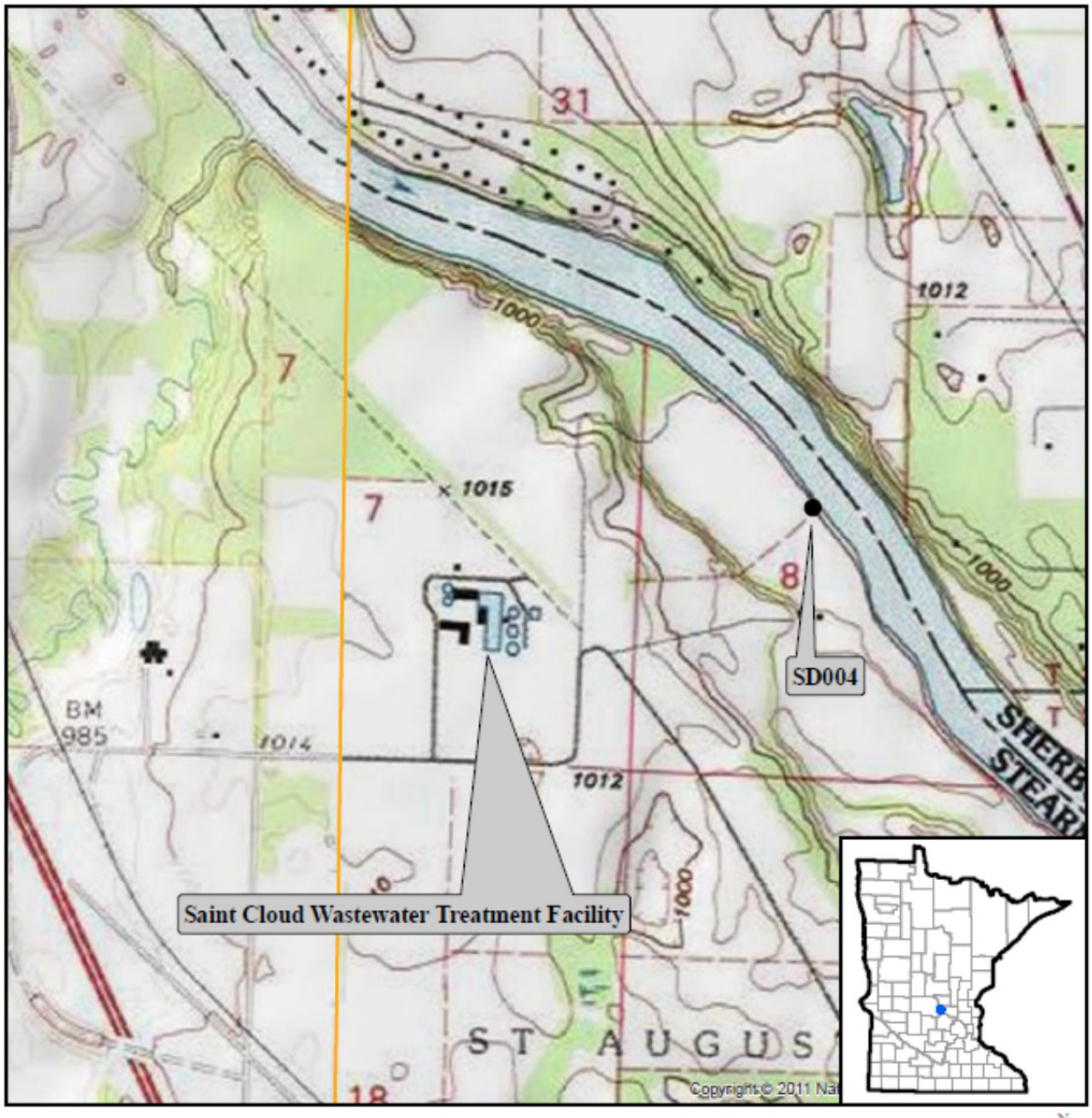
Outfall Location

The outfall (SD004) for the Facility is located in the SW ¼ of Section 8, Township 123 North, Range 27 West, City of Saint Cloud, Stearns County, Minnesota. The outfall is approximately ½ - ¾ of a mile east-northeast of the Facility and discharges to the Mississippi River.

Map of Permitted Facility

Topographic Map of Permitted Facility

MN0040878: Saint Cloud Wastewater Treatment Facility
T123N, R27W, Section 7
Saint Cloud, Stearns County, Minnesota



Map produced by: MPCA Staff, 02/13/13
Source: USGS Quad, Saint Cloud WWTF
Scale: 1:12,000

Components and Treatment Technology

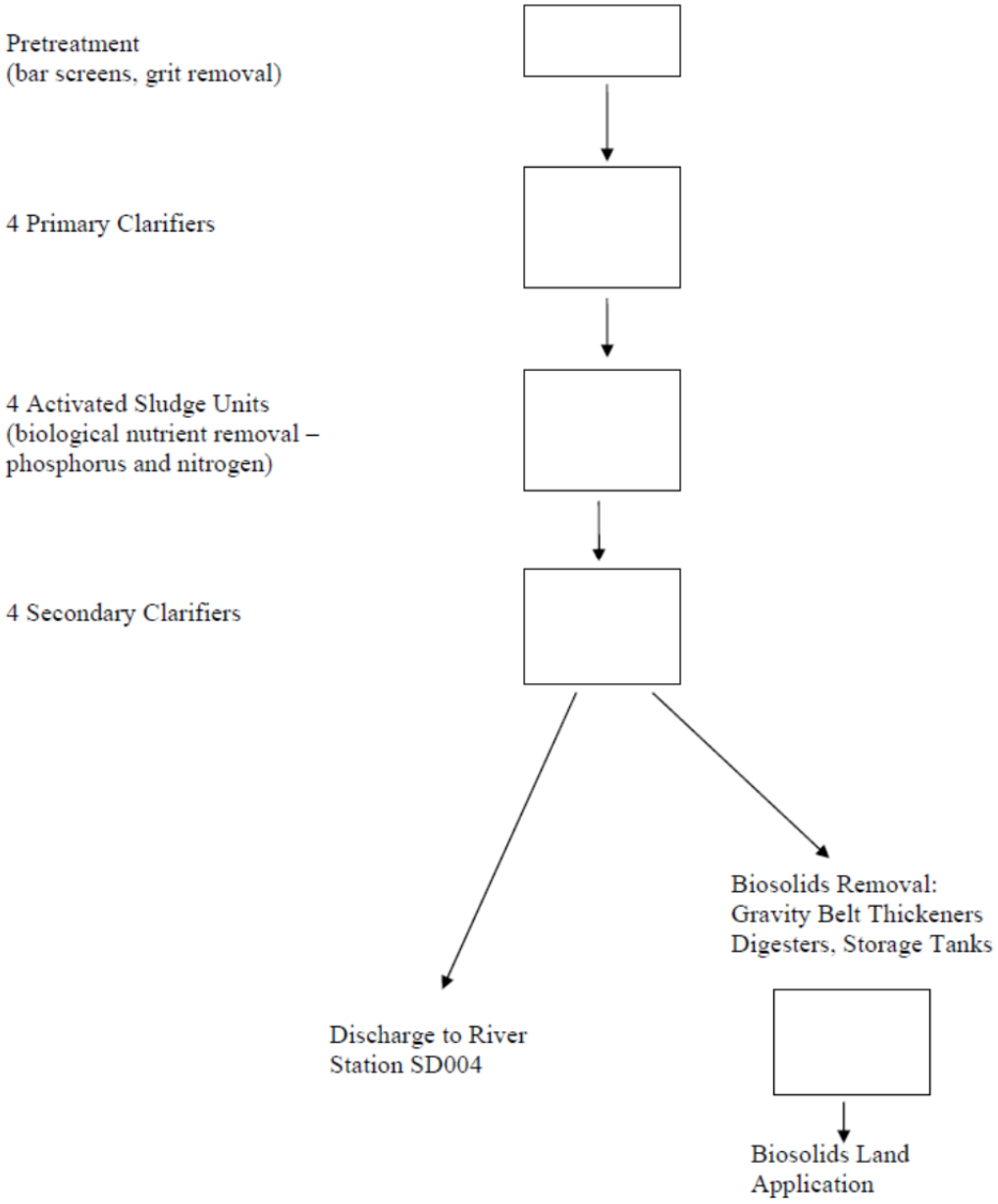
Current Information

Major components of the Facility include:
Collection System with Gravity and/or Pressure Sewer
1 Mechanical Bar Screen – main lift station
1 Influent Flow Meter – Parshall Flume
1 Mechanical Bar Screen – main inlet channel, pretreatment building
1 Manual Bar Screen – backup inlet channel, pretreatment building
2 Vortex Grit Removal Units
4 Primary Clarifiers
4 Activated Sludge Units – biological nutrient removal (phosphorus and nitrogen), pre-anoxic, anaerobic, anoxic and oxic zones
4 Secondary Clarifiers
Phosphorus Removal - biological
Phosphorus Removal – chemical, ferric chloride feed system
Ultraviolet (UV) Disinfection – 2 channels with 2 UV banks per channel
2 Gravity Belt Thickeners – with polymer feed system
3 Anaerobic Digesters - complete mixed, heated – mesophilic, 572,000 gallons each
1 Aerobic Storage Tank – 572,000 gallons
1 Storage Tank – underground, 5 million gallons
Biosolids Land Application
Effluent Pumping – 4 pumps at 500 gallons per minute each
3 Effluent Screens – 50 micron manifold strainers
Chlorination – sodium hypochlorite feed system at diffuser locations

The existing Facility consists of a pump station with a mechanical bar screen, 30-inch and 42-inch force mains, Parshall flume, fine mechanical bar screen, manual bar screen, two vortex grit removal systems, four primary clarifiers, four biological nutrient removal (BNR) trains, ferric chloride feed system, four secondary clarifiers and ultraviolet disinfection. The existing solids processing system consist of two gravity belt thickeners, three anaerobic digesters, an aerated biosolids storage tank and biosolids storage. Biosolids are land applied at approved sites. The Facility has a recycled effluent water system for on-site use. The system has four recycled effluent pumps, three manifold strainers and a sodium hypochlorite feed system.

The Facility has a continuous discharge (SD004) to the Mississippi River (Class 1C, 2Bd, 3B, 3C, 4A, 4B, 5, 6, Water), an Outstanding Resource Value Water (ORVW), and is designed to treat an average wet weather flow of 17.9 million gallons per day (mgd), an average dry weather flow of 17.6 mgd, a peak hourly wet weather flow of 34.33 mgd, a five-day carbonaceous biochemical oxygen demand ($CBOD_5$) concentration of 239 milligrams per Liter (mg/L) and a total suspended solids (TSS) concentration of 307 mg/L when using the average wet weather design flow of 17.9 mgd.

The Facility is capable of full nitrification and biological nutrient removal (BNR). When the Facility is operating in the Bio-P mode, the total capacity of all four BNR trains is 17.9 mgd average wet weather flow and the capacity per train is 4.475 mgd. When the Facility is operating in the BNR mode, the total capacity of all four trains is 15.0 mgd average wet weather flow and the capacity per train is 3.75 mgd.

Facility Flow Diagram and Solids Handling Process

Saint Cloud Facility Flow Diagram