



Silver Bay's Wastewater Treatment Facility is an existing gravity collection system consisting of varying pipe sizes. The City performs infrastructure improvements as necessary to replace aging infrastructure. The City has been focusing improvements on areas believed to be major sources of infiltration and inflow (I&I). In addition, the safety of our employees is of concern as our current system is manual and employees are forced to work in confined spaces. The new automated system will remove the confined spaces making it safer for the employees.

Total project costs are expected to be \$4.5 million. Funding for the project will come through a combination of \$2 million in grants and the remaining \$2.5 million from a 1% loan from the Public Facilities Authority (PFA). Construction will primarily take place in 2020; however, parts of the project will carry over and closeout in 2021.





Recipient: City of Silver Bay

Project: Wastewater plant upgrade and rehab

Award Date: February 14, 2020

Total Project Cost: \$4,632,459

Description: The project consists of rehabilitation of the city's wastewater treatment facility and upgrades to reduce the discharge of mercury.

Project Funding:

Entity	Funding Source	PFA Funding ID	Amount
PFA	Point Source Implementation-Grant	MPFA-PSIG-G-041-FY20	\$732,824
	Clean Water SRF-Loan	MPFA-CWRF-L-041-FY20	\$2,509,295
	<i>(20 years at 1.000%, estimated savings to recipient is \$89,455)</i>		
	WIF Wastewater-Grant	MPFA-WIFC-G-041-FY20	\$1,390,340
Total Project Costs:			\$4,632,459

More about the Minnesota Public Facilities Authority and its Programs:

The Minnesota Public Facilities Authority (PFA) provides financing and technical assistance to help communities build public infrastructure that protects public health and the environment and promotes economic growth.

Clean Water Revolving Fund (also known as the Clean Water State Revolving Fund or CWSRF):

The CWSRF is supported by federal capitalization grants from the U.S. Environmental Protection Agency and state matching funds. These funds, together with PFA revenue bond proceeds, are used to make low interest loans to communities throughout the state for wastewater and stormwater infrastructure projects. Loan repayments revolve back to make new loans, providing a permanent source of low-interest capital to help cities finance clean water infrastructure projects. Since its start in 1990, Minnesota's CWSRF has awarded more than 565 loans for over \$3.1 billion, providing over \$691 million in interest savings to local governments and their taxpayers.

Water Infrastructure Fund (WIF):

The WIF program provides supplemental assistance grants for based on affordability criteria for high cost projects. WIF grants are packaged with PFA loans or USDA Rural Development loan and grant funds.

Point Source Implementation Grants (PSIG):

The PSIG program provides grants to help cities upgrade water treatment facilities to reduce their discharge of specific pollutants to meet water quality restoration and protection goals.

Minnesota Public Facilities Authority

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MEMORANDUM

Date: April 28, 2020
To: Mayor and City Council
From: Brian Guldán, P.E., Bolton & Menk, Inc.
John Graupman, P.E., Bolton & Menk, Inc.
Adam O’Gorman, EIT, Bolton & Menk, Inc.
Subject: Silver Bay Wastewater Treatment Facility
BMI Project No. M25.115018

Since the last progress meeting on March 24, 2020, the contractor has continued to hammer and excavate the bedrock to foundation elevations, installed underground electrical conduit, and is receiving equipment onsite.

Over the next month it is expected that the contractor will continue to excavate rock to the footing elevations for the pretreatment building. The influent and effluent pipes are to be installed, and the footings are planned to be formed and poured in May. The domes for the primary clarifiers are expected to be onsite late May to early June.

Construction completed to date:

- Partial rock excavation for Pretreatment Building
- Partial installation of underground electrical conduit.

Planned Construction:

- Continue to excavate rock for footings and piping.
- Install influent and effluent piping for the Pretreatment Building.
- Form and pour footings.
- Form and pour foundation walls.
- Continue installing underground electrical.

We continue to meet with the contractor on-site and by phone to ensure the work is completed in accordance with the contract documents and in the best interest of the City. According to the contractor’s anticipated schedule, the project is on schedule.

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Site Electrical Conduit Installation



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Pretreatment Building Rock Excavation



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Pretreatment Rock Excavation for Future Influent Pipe





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MEMORANDUM

Date: May 27, 2020
To: Mayor and City Council
From: Brian Guldán, P.E., Bolton & Menk, Inc.
John Graupman, P.E., Bolton & Menk, Inc.
Adam O’Gorman, EIT, Bolton & Menk, Inc.
Subject: Silver Bay Wastewater Treatment Facility
BMI Project No. M25.115018

Since the last progress meeting on April 28, 2020, the contractor has received piping, hydraulic gates, and light fixture equipment onsite. The contractor has excavated the pretreatment control structure, continued rock excavation beneath the pretreatment building, and has roughed-in electrical wiring.

Over the next month it is expected that the contractor will pour the splitter structure slab, pour the foundation and footings for the pretreatment building, and the pretreatment building. The dome for the primary clarifier 2 is expected to be onsite June 11th, the tertiary clarifier domes are expected to arrive in July, and the primary clarifier 1 and secondary clarifier domes should be arriving mid-August.

Construction completed to date:

- Receive equipment onsite.
- Continued rock excavation for Pretreatment Building.
- Partial installation of electrical wiring.

Planned Construction:

- Pour the splitter structure slab.
- Pour lean concrete base for the pretreatment building.
- Form and pour footings for the pretreatment building.
- Form and pour foundation walls for the pretreatment building.
- Continue with electrical wiring.

We continue to meet with the contractor on-site and by phone to ensure the work is completed in accordance with the contract documents and in the best interest of the City. According to the contractor’s anticipated schedule, the project is on schedule.

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Pretreatment Building - Piping and Rock Excavation Base Elevations



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MEMORANDUM

Date: June 29, 2020
To: Mayor and City Council
From: Brian Guldán, P.E., Bolton & Menk, Inc.
John Graupman, P.E., Bolton & Menk, Inc.
Adam O’Gorman, EIT, Bolton & Menk, Inc.
Subject: Silver Bay Wastewater Treatment Facility
BMI Project No. M25.115018

Since the last progress meeting on May 19, 2020, the contractor has installed rebar and poured concrete for portions of the pretreatment building foundation and walls. The control structure base slab has been poured, and rebar and forms have been partially installed for the control structure walls. Starters, motor control center, and instrumentation work has also begun onsite. Some miscellaneous metal materials and handrails arrived onsite this pay period.

Over the next month it is expected that the contractor will continue to install rebar and pour concrete for the pretreatment building structure. The outer brick erection is expected to be started next month. Magney also expects to begin excavation around primary clarifier #1 for pouring the dome support walls.

Construction completed to date:

- Partial installation of rebar.
- Partial rebar & concrete work on the foundation and walls for the pretreatment building.
- Partial rebar & concrete work on the control structure.
- Partial motor starters and MCC installation.
- Receive misc. metals onsite.

Planned Construction:

- Continue to rebar, form, and pour pretreatment building structure.
- Continue to rebar, form, and pour the control structure.
- Begin backfilling pretreatment building structure
- Begin laying block veneer for the pretreatment building.
- Begin excavation around primary clarifier #1.
- Continue work on the motor controls, instrumentation, and MCC work.

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We continue to meet with the contractor on-site and by phone to ensure the work is completed in accordance with the contract documents and in the best interest of the City. According to the contractor's anticipated schedule, the project is on schedule.

Pretreatment Building – Foundation and Walls Partial Construction



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Control Structure – Rebar and Forms





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MEMORANDUM

Date: July 29, 2020
To: Mayor and City Council
From: Brian Guldán, P.E., Bolton & Menk, Inc.
John Graupman, P.E., Bolton & Menk, Inc.
Adam O’Gorman, EIT, Bolton & Menk, Inc.
Subject: Silver Bay Wastewater Treatment Facility
BMI Project No. M25.115018

Since the last progress meeting on June 30, 2020, the contractor has continued work on reinforcing and forming the pretreatment influent channels and has completed work on the pretreatment building foundation walls.

Over the next month it is expected that the contractor will begin installing the exterior masonry around the pretreatment building, continue to form the channel walls, begin excavation around the primary clarifier, begin assembly of the tertiary clarifier domes, and begin installing conduit for the pretreatment building.

Construction completed to date:

- Pretreatment building foundation walls completed,
- Continued work on reinforcing and forming the pretreatment channels.

Planned Construction:

- Masons are scheduled for July 29th to begin constructing the exterior masonry on the pretreatment building,
- Continue forming the channel walls,
- Excavation around primary clarifier #1 to begin the first week of August,
- Dome assembly is anticipated to begin the first week of August,
- Holden electric will begin installing conduit before the pretreatment building is backfilled with the material excavated around the primary clarifier.

We continue to meet with the contractor on-site and by phone to ensure the work is completed in accordance with the contract documents and in the best interest of the City.

Pretreatment Building – Construction Progress



Name: City of Silver Bay

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Pretreatment Equipment Onsite





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MEMORANDUM

Date: August 28, 2020
To: Mayor and City Council
From: Brian Guldán, P.E., Bolton & Menk, Inc.
John Graupman, P.E., Bolton & Menk, Inc.
Subject: Silver Bay Wastewater Treatment Facility
BMI Project No. M25.115018

Since the last update at the July City Council Meeting, the contractor has completed placement of rebar and concrete for the pretreatment building channels and begun installation of the masonry walls. They have also been constructing the clarifier domes, one of which has been set in place for Tertiary Clarifier No. 1.

Over the next month it is expected that the contractor will enclose the pretreatment building with the completion of masonry walls, precast roof planks, and roofing. Prior to enclosing the building, the contractor will pour concrete for the building floor slab. Once the building is enclosed, the painter will mobilize to the site to begin work inside the building. Installation of the dome for Tertiary Clarifier No. 2 will also be completed in the next week or two.

Construction completed to date:

- Pretreatment building concrete channels
- Pretreatment building masonry walls
- Installation of dome for Tertiary Clarifier No. 1

Planned Construction:

- Pour floor slabs for pretreatment building
- Install pretreatment building roof system
- Begin work on pretreatment building veneer
- Installation of dome for Tertiary Clarifier No. 2

We continue to meet with the contractor on-site and by phone to ensure the work is completed in accordance with the contract documents and in the best interest of the City. Photos have been included at the end of this memorandum for your information.

Pretreatment Building – Setting Vapor Barrier for Floor Slab



Construction of Clarifier Domes





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MEMORANDUM

Date: September 21, 2020
To: Mayor and City Council
From: Brian Guldán, P.E., Bolton & Menk, Inc.
John Graupman, P.E., Bolton & Menk, Inc.
Subject: Silver Bay Wastewater Treatment Facility
BMI Project No. M25.115018

Since the last update at the September City Council Meeting, the contractor has completed placement of cast-in-place concrete for the pretreatment building floor slab and masonry installation for the walls. Precast concrete roof planks have also been set for the pretreatment building. The contractor has also continued constructing the clarifier domes for the tertiary clarifiers.

Over the next month it is expected that the contractor will be working on process, mechanical, and electrical installations in the pretreatment building. Painting will also be taking place inside the pretreatment building.

Construction completed to date:

- Pretreatment building concrete, masonry walls, and precast concrete roof plank
- Installation of domes for Tertiary Clarifiers

Planned Construction:

- Painting inside the pretreatment building
- Process, mechanical, and electrical equipment installations
- Complete building veneer

We continue to meet with the contractor on-site and by phone to ensure the work is completed in accordance with the contract documents and in the best interest of the City. Photos have been included at the end of this memorandum for your information.

Pretreatment Building – Setting Precast Concrete Roof Plank



Pretreatment Building – With Finished Floor and Concrete Roof Plank



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Construction of Clarifier Domes





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MEMORANDUM

Date: October 26, 2020
To: Mayor and City Council
From: Brian Guldán, P.E., Bolton & Menk, Inc.
John Graupman, P.E., Bolton & Menk, Inc.
Subject: Silver Bay Wastewater Treatment Facility
BMI Project No. M25.115018

Since the last update at the October City Council Meeting, the contractor has completed installation of the roofing system for the pretreatment building and constructed walls for the building loading dock and entrance. The contractor has also started excavation for the foundation walls for the clarifier cover for the secondary clarifier.

Over the next month it is expected that the contractor will complete excavation around the secondary clarifier for the cover foundation. They will also be working on process, mechanical, and electrical installations in the pretreatment building along with installation of the generator. The painter will also continue work in the pretreatment building.

Construction completed to date:

- Pretreatment building concrete, masonry walls, and roofing
- Installation of domes for Tertiary Clarifiers

Planned Construction:

- Process, mechanical, and electrical equipment installations
- Installation of generator
- Installation of secondary clarifier cover foundation

We continue to meet with the contractor on-site and by phone to ensure the work is completed in accordance with the contract documents and in the best interest of the City. Photos have been included at the end of this memorandum for your information.

Pretreatment Building – Installation of Roofing Membrane



Pretreatment Building – Tying Rebar for Loading Dock Walls

