



JOINT WASTEWATER MANAGEMENT BOARD AGENDA

BPU Service Center, 8027 Highland Scenic Rd, Commission Room

Thursday, February 12, 2026 @ 5:30 PM

The public is invited to attend these meetings in person

1. **Call To Order**

2. **Roll Call**

___ Cross ___ Czczok ___ O'Day ___ Tabatt ___ Angland

3. **Approval Of Agenda - Voice Vote**

4. **Unfinished Business**

A. **Approval of December 11, 2025 Minutes**

B. **Bolton & Menk Inc. Presentation of the Facility Plan**

5. **New Business**

6. **Adjourn**



Joint Wastewater Management Board Agenda Request

MEETING DATE: February 12, 2026

TITLE OF ITEM: Approval of December 11, 2025 Minutes

ACTION REQUESTED: Approve/Deny Motion **ESTIMATED TIME (MIN):** 2 Minutes

SUBMITTED BY: Danny Loch, Finance Manager **PRESENTER:** Danny Loch, Finance Manager

SUMMARY OF ISSUE: Minutes from the last Joint Wastewater Management Board are attached.

ALTERNATIVE, OPTIONS, EFFECTS ON OTHERS/COMMENTS:

RECOMMENDED ACTION/MOTION: Staff recommends approval of the minutes from the December 11th Joint Wastewater Management Board meeting.

FINANCIAL IMPACT: N/A



BRAINERD PUBLIC UTILITIES

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The meeting of the Joint Wastewater Management Board was held at 5:30 PM on December 11, 2025.

Brainerd Public Utilities Commissioner Matten called the meeting to order.

Joint Board Member Roll Call

Zach Tabatt (Baxter City Council) – Present
Mark Cross (Baxter City Council) - Present
Jeff Czczok (Brainerd City Council) – Present
Mike O’Day (Brainerd City Council) – Present
Dolly Matten (BPU Commission) – Present

Utility Staff Present

Public Utilities Director	Paul Sandy
Water/Wastewater Manager	Charlie Gammon
Finance Manager	Danny Loch

Others in Attendance

Baxter Utilities Commissioner	Rock Yliniemi
Brainerd City Administrator	Nick Broyles
Baxter Public Works Director/City Engineer	Trevor Walter
City of Brainerd City Engineer	Jessie Dehn
City of Brainerd Public Works Director	Mike Habighorst

Bolton & Menk	Morgan Salo, PE
Bolton & Menk	Paul Saffert, PE
Bolton & Menk	Mac Graupman, PE

Motion by O’Day and seconded by Tabatt to approve the agenda. There was a unanimous vote in favor of the motion. Motion carried.

Motion by Czczok and Seconded by Cross to approve the past minutes: March 13 and August 28, 2025. There was a unanimous vote in favor of the motion. Motion Carried.

Discuss Bolton & Menk Ink. (BMI) Update related to 50-year Wastewater Facility Plan – Liquid Treatment Alternatives

Morgan Salo, P.E., presented the results of BMI’s liquid stream treatment analysis on behalf of the BMI project team. The presentation reviewed five treatment alternatives: Sequencing Batch Reactor (SBR) – the existing treatment method; traditional Activated Sludge with Biological Nutrient Removal (AS-BNR); Integrated Fixed-Film Activated Sludge (IFAS); Membrane Bioreactor (MBR); and Biologically Aerated Filters (BAF).

JOINT WASTEWATER MANAGEMENT BOARD MEETING

August 28, 2025

Mr. Salo outlined the advantages and disadvantages of each alternative and discussed preliminary planning-level cost estimates ranging from approximately \$26 million to \$100 million, depending on the treatment alternative selected and future discharge limits imposed by the Minnesota Pollution Control Agency (MPCA). He noted that MPCA rulemaking related to total nitrogen limits has been paused, which has slightly delayed final decision-making on treatment alternatives. Based on the preliminary effluent permit determination, staff now has an estimated ten-year decision window to evaluate and advance potential treatment solutions.

BMI summarized its evaluation of liquid biosolids waste treatment alternatives, noting that the existing Sequencing Batch Reactors currently meet effluent limits, with some limitations related to nitrification. BMI further indicated that compliance with anticipated future discharge limits would require significant system modifications, including major changes to the biological treatment process and a potential conversion to an activated sludge system.

BMI explained that the selected liquid treatment alternative will establish the framework for future biosolids treatment by defining the expected volume and type of biosolids generated. It was also noted that all treatment technologies reviewed are capable of meeting future effluent limits, subject to varying levels of capital investment and modifications to equipment and tanks.

BMI presented its recommendations, which include continuing operation of the existing SBR system until a nitrogen limit or more stringent phosphorus limit is incorporated into the facility's permit. As a next step, BMI recommended proceeding with evaluation and planning for a new biosolids treatment facility. In the interim, BMI recommended targeted upgrades to the SBR system, including control system upgrades, pump and mixing improvements, and installation of a new chemical feed system to support chlorine addition and phosphorus removal.

BMI further recommended that, upon implementation of a new discharge limit, the utility evaluate whether continued use of SBRs or conversion to an activated sludge process—such as BNR, MBR, or IFAS—is the most appropriate long-term approach. BMI noted that the final treatment decision would be dependent on future permit limits and that anaerobic digestion would not be required if an activated sludge process is selected. Development of a decision matrix to guide future activated sludge treatment decisions was also recommended.

Commission members asked questions throughout the presentation, which were addressed and discussed by BMI and staff.

BMI concluded by outlining the next steps in the process, including continued evaluation and refinement of treatment alternatives, holding a public hearing at the January Commission meeting to meet MPCA requirements, providing presentations to the City Councils of Brainerd and Baxter, and submitting the report to MPCA by the March 6 deadline to meet funding eligibility requirements.

Adjournment

Motion by Czczok and seconded by Tabatt to adjourn the meeting to the next scheduled Joint wastewater management board meeting, the second Tuesday in February, February 12, 2025, 5:30 pm at Brainerd Public Utilities Service Center, there was a unanimous vote in favor of the motion. Motion was carried at 6:24pm.

Respectfully Submitted: Daniel Loch, Secretary/Finance Manager Brainerd Public Utilities



Joint Wastewater Management Board Agenda Request

MEETING DATE: February 12, 2026

TITLE OF ITEM: Brainerd WWTF Facility Plan Presentation

ACTION REQUESTED: Approve/Deny Motion

ESTIMATED TIME (MIN): 30 Minutes

SUBMITTED BY: Paul Sandy, Public Utilities
Director, Danny Loch, Finance Manager

PRESENTER: Morgan Salo

SUMMARY OF ISSUE: Representatives from Bolton & Menk will attend the Joint Wastewater Management Board Meeting to provide an in-depth update on the ongoing work of the Joint Wastewater Management Board and its comprehensive review of the Brainerd Wastewater Treatment Facility (WWTF). The presentation will walk members through an overview of the existing facility, long-term capacity needs including current design flows and loading conditions, regulatory considerations, as well as the treatment processes used for both liquid and solid waste streams.

In addition, Bolton & Menk will outline and evaluate potential alternatives for liquid stream treatment and biosolids management, highlighting the benefits, challenges, and long-term implications of each option. The presentation will conclude with a cost comparison of the alternatives and a set of recommendations aimed at ensuring the WWTF continues to reliably serve the community's needs for the next 25-years.

This work is being carried out through the preparation of a comprehensive Facility Plan, which documents existing conditions, evaluates potential improvement options, and identifies recommended upgrades.

The Facility Plan is a required step in the process and must be submitted to the Minnesota Pollution Control Agency (MPCA) for review and approval before the City can advance funding opportunities through the MPCA and the Minnesota Public Facilities Authority (MnPFA).

ALTERNATIVE, OPTIONS, EFFECTS ON OTHERS/COMMENTS: The presentation will summarize the planning process, key findings, and high-level recommendations to inform future policy, budgeting, and capital planning discussions. The BPUC will consider formal approval of the facility plan and hold the required public hearing at the next regularly scheduled Brainerd Public Utilities Commission meeting at 9:00am on February 24, 2026. Upon completion of the public hearing, the commission will consider a resolution in which approves the Facility Plan and allows staff to submit the Facility Plan to the MPCA for review. Approval will enable timely submission of the facility plan to the Minnesota Pollution Control Agency prior to the March 6, 2026 deadline.

RECOMMENDED ACTION/MOTION: Staff recommends approval of the Facility Plan and forwarding it to the Brainerd Public Utilities Commission for consideration at its next regularly scheduled meeting on February 24, 2026, at 9:00 a.m., including holding the required public hearing and taking action on approval of the plan and its submission to the Minnesota Pollution Control Agency.

FINANCIAL IMPACT: Detailed financial impacts will be presented during the presentation of the Facility Plan.



Brainerd, Minnesota Wastewater Treatment Facility Plan

February 12, 2026

Joint Wastewater Board Presentation

by Morgan Salo, P.E.

Today's Topics

- Facility Summary
- Design Flows and Loadings
- Current Treatment Process (liquids and solids)
- Liquid Stream Treatment Alternatives
- Biosolids Alternatives
- Recommendations and Cost Opinion

Facility Summary, Background, Purpose

- Class A facility originally construction in 1982
- Major upgrade completed in 2009
- 20-year asset inventory completed in 2024/2025
 - Biosolids improvements are high priority
 - Liquid treatment changes needed with more stringent limits
- Address biosolids storage capacity
- Address future Limits for Total Nitrogen and Phosphorus as drivers for treatment improvements
- Continue to support community growth for the next 25-years

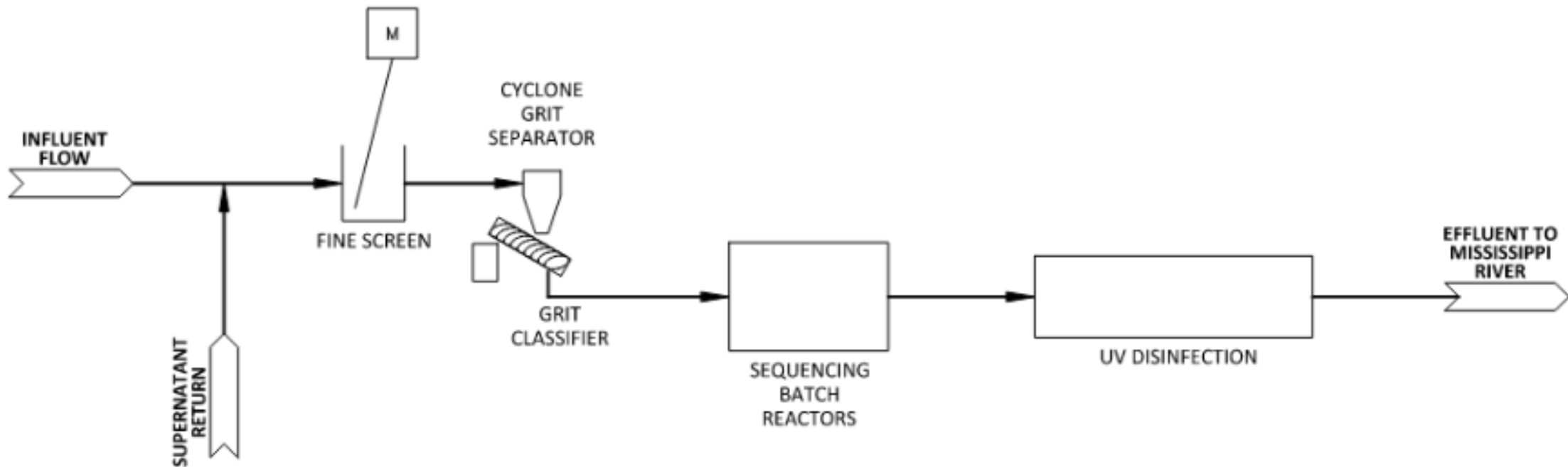
Flows and Loadings

Table 2.20: Current and Proposed design Flow and Load Summary for Mechanical Treatment		
Parameter	Current	Proposed 2050 Design Criteria
Population	24,103	32,932
Design Flow (MGD)		
Average Dry Weather (ADW)	1.62	2.39
Average Annual (AA)	1.94	2.77
Average Wet Weather (AWW)	2.13	3.06
Peak Flow (PH)	3.32	4.04
Peak Hourly Wet Weather (PHWW)	4.71	6.54
Peak Instantaneous Wet Weather (PIWW)	5.89	8.24
Design Load (lb/d)		
Carbonaceous Biochemical Oxygen Demand (CBOD ₅) ⁽¹⁾	3,357	4,446 - 5,000
Total Suspended Solids (TSS)	4,716	6,455
Total Phosphorus (TP)	97.0	132
Total Nitrogen (TN) or Total Kjeldahl Nitrogen (TKN)	661	988

(1) The projected BOD₅ loading is 4,446 lb/d. The design loading to meet future limits is 5,000 lb/d based on BOD:N ratios further discussed in the alternatives section.

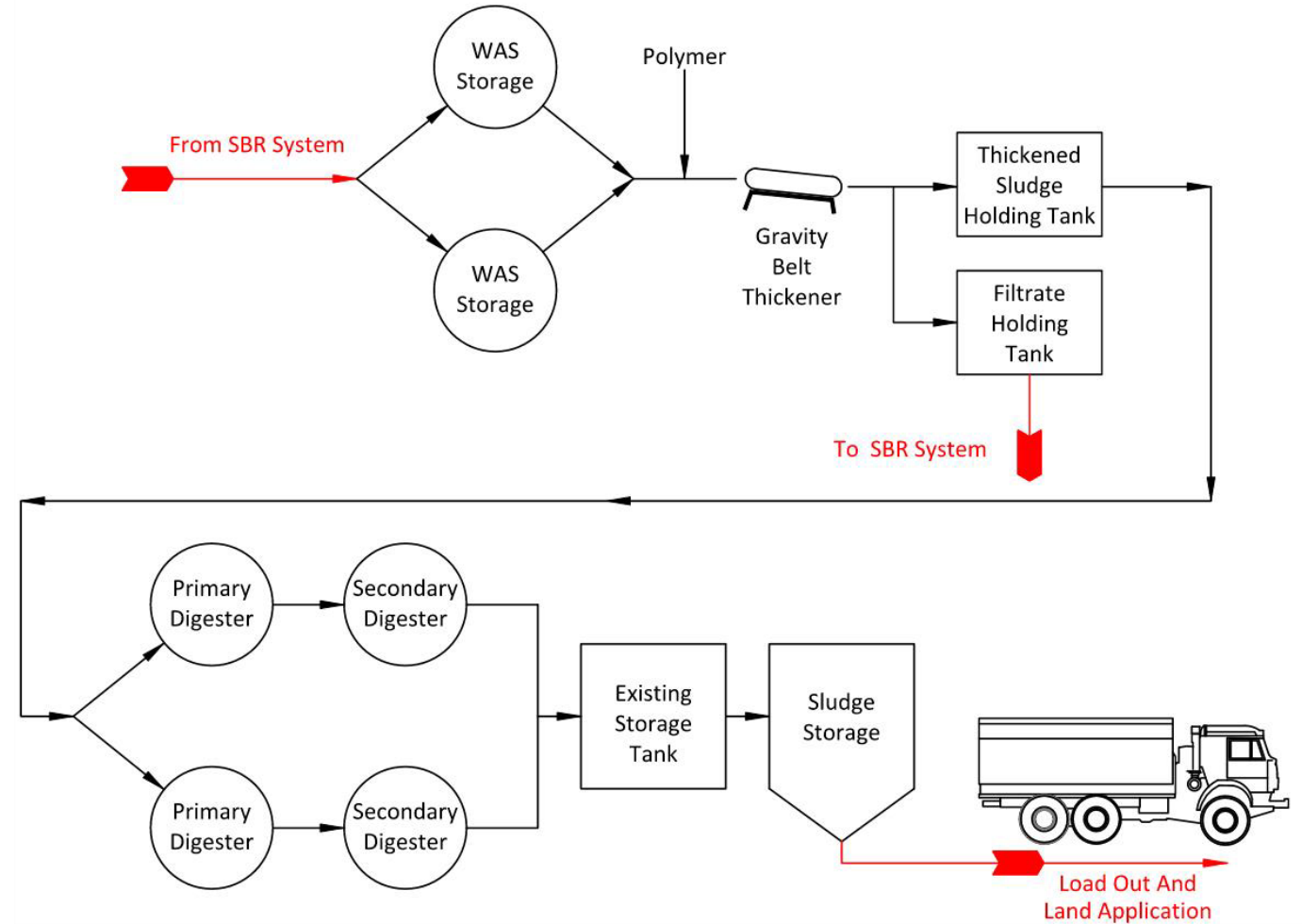
Current Liquid Treatment Process

Sequencing Batch Reactors



Current Solids Process

- Waste Activated Sludge (WAS) Holding
- Gravity Belt Thickener
- Thickened Sludge Holding Tank
- Filtrate Holding Tank
- Anaerobic Digestion
- Biosolids Storage
- Sludge Loadout and Hauling



Facility Needs

- Primary Need: Biosolids Treatment
 - MPCA requires 180 days of storage
 - BPU had less than 180 days from 2014 – 2019, 2022
 - Currently at or below 180 days of available storage
 - The facility land applies the biosolids for disposal
 - Current solids production makes land application difficult
 - Weather can greatly affect the ability to land apply
- Current liquids treatment process not set up for treating future limits
 - Future liquids treatment improvements required to meet TN of 10 mg/L and TP of 1 mg/L
- System improvements to maintain facility operation

Liquid Stream Treatment Analysis

GOALS

- Biological Treatment and Nutrient Removal (future limits)
- Solids Removal (TSS, bacteria, and other solids)

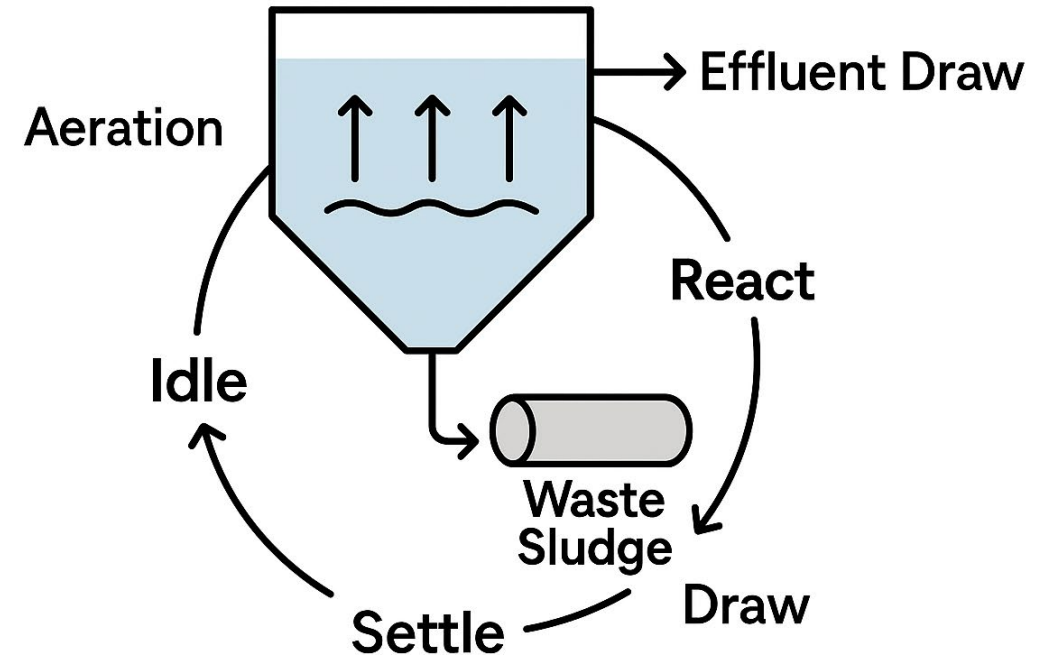
Treatment Alternatives Evaluated

- Sequencing Batch Reactor (SBR) – existing
- Activated Sludge – Traditional Biological Nutrient Removal (AS-BNR)
- Integrated Fixed – Film Activated Sludge (IFAS)
- Membrane Bioreactor (MBR)
- Biologically Aerated Filters (BAF)

Sequencing Batch Reactor

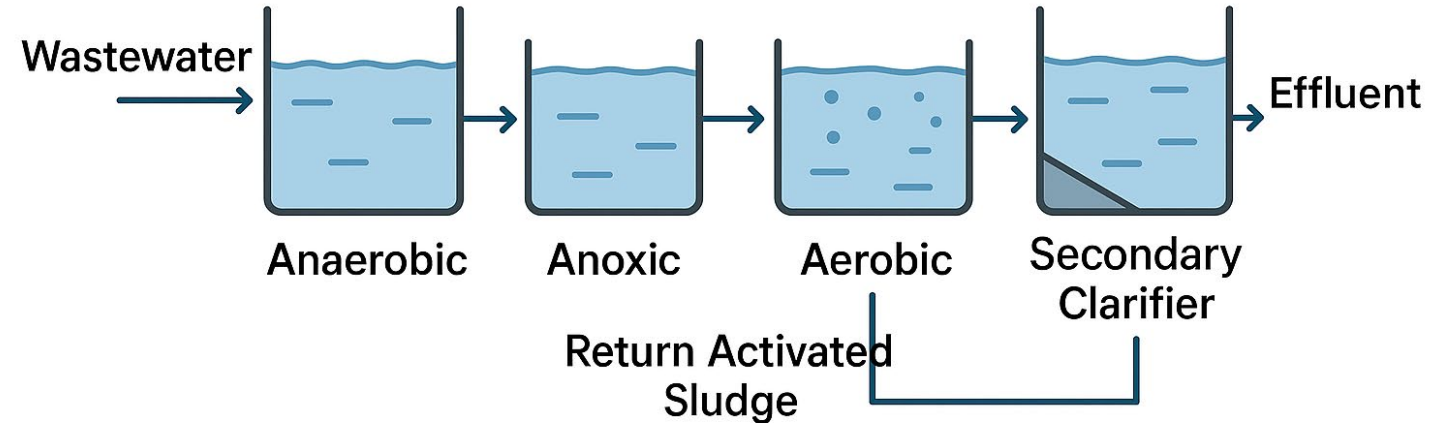
- Treats wastewater in batches (fill, react decant/draw, Idle)
- Used for both biological removal and solid removal in one process
- Treatment meets current NPDES Limits may not meet future limits
- Not suited for large variations in flow and pollutant loadings
- Current operation has inefficiencies for nitrification and phosphorus removal
- Blowers provide oxygen during the reaction cycle (large energy demand)
- Limited operational control and flexibility and equipment options

Sequencing Batch Reactor



Activated Sludge - BNR

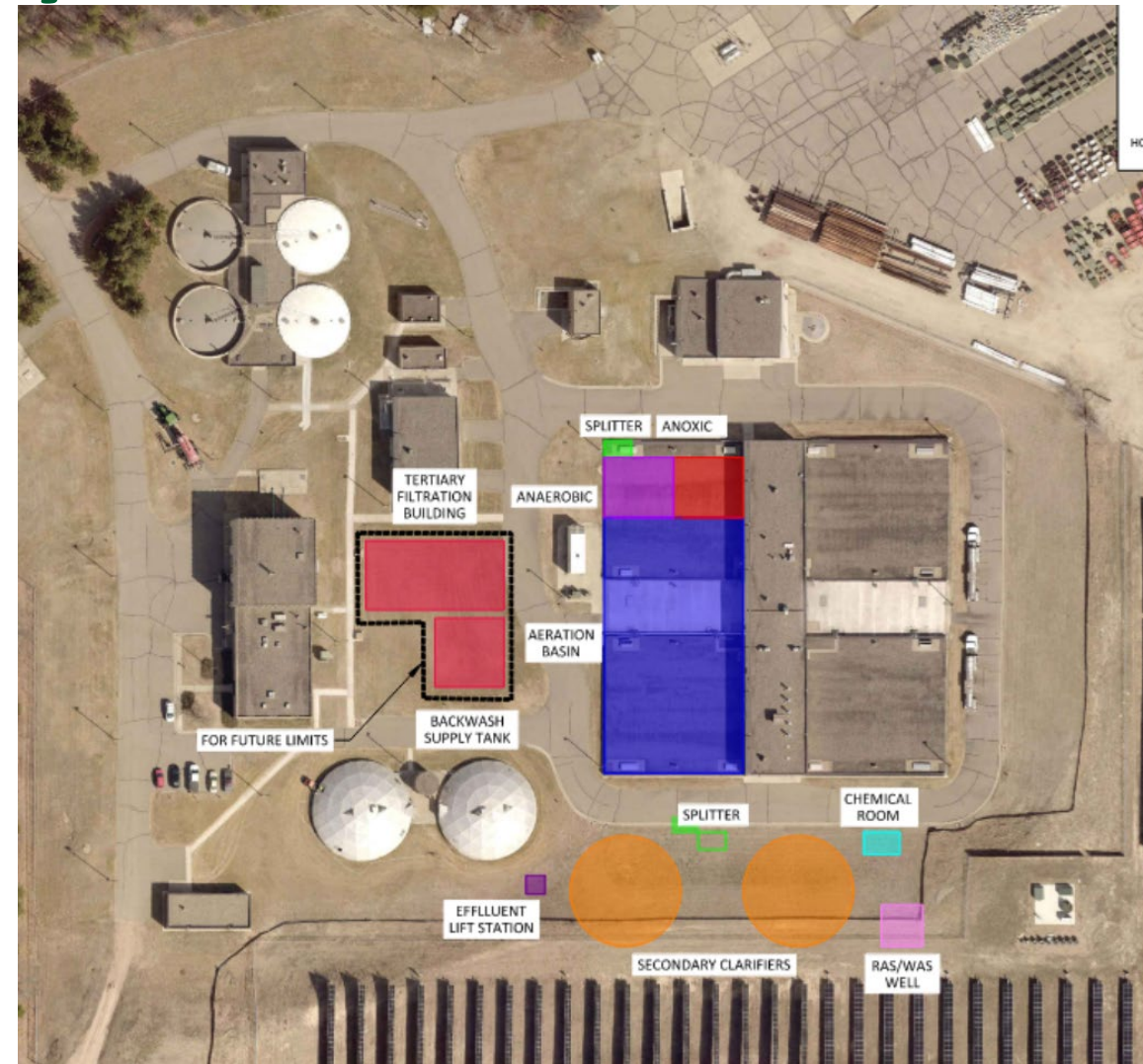
- Treats biological components in a series of process tanks
 - Anoxic, Anaerobic, Aerobic
- Secondary Clarifiers for solids removals is highly effective
- Allows for easy addition of tertiary filtration (required for TN and TP removal)
- Most common process – operational familiarity and flexibility
- Biology can be monitored and controlled
- Designed to meet current and future limits
- Can be retrofitted into existing footprint of SBR tanks
- Not limited to proprietary equipment



Modified UCT Activated Sludge Process

Liquid Treatment Summary

- SBR's will require significant modifications to meet future TN and TP limits
 - Restraints with proprietary equipment
 - Operation is not flexible to meet limits
- Conversion to Activated Sludge
 - Limit driven
 - Optimize to meet future limits
 - Operator friendly



Biosolids Treatment Options

- Alternative 1 – Keep existing plus Additional Sludge Storage
- Alternative 2 – Dewatering
- Future Phases – Heat Drying and Thermal Destruction

Biosolids Land Application

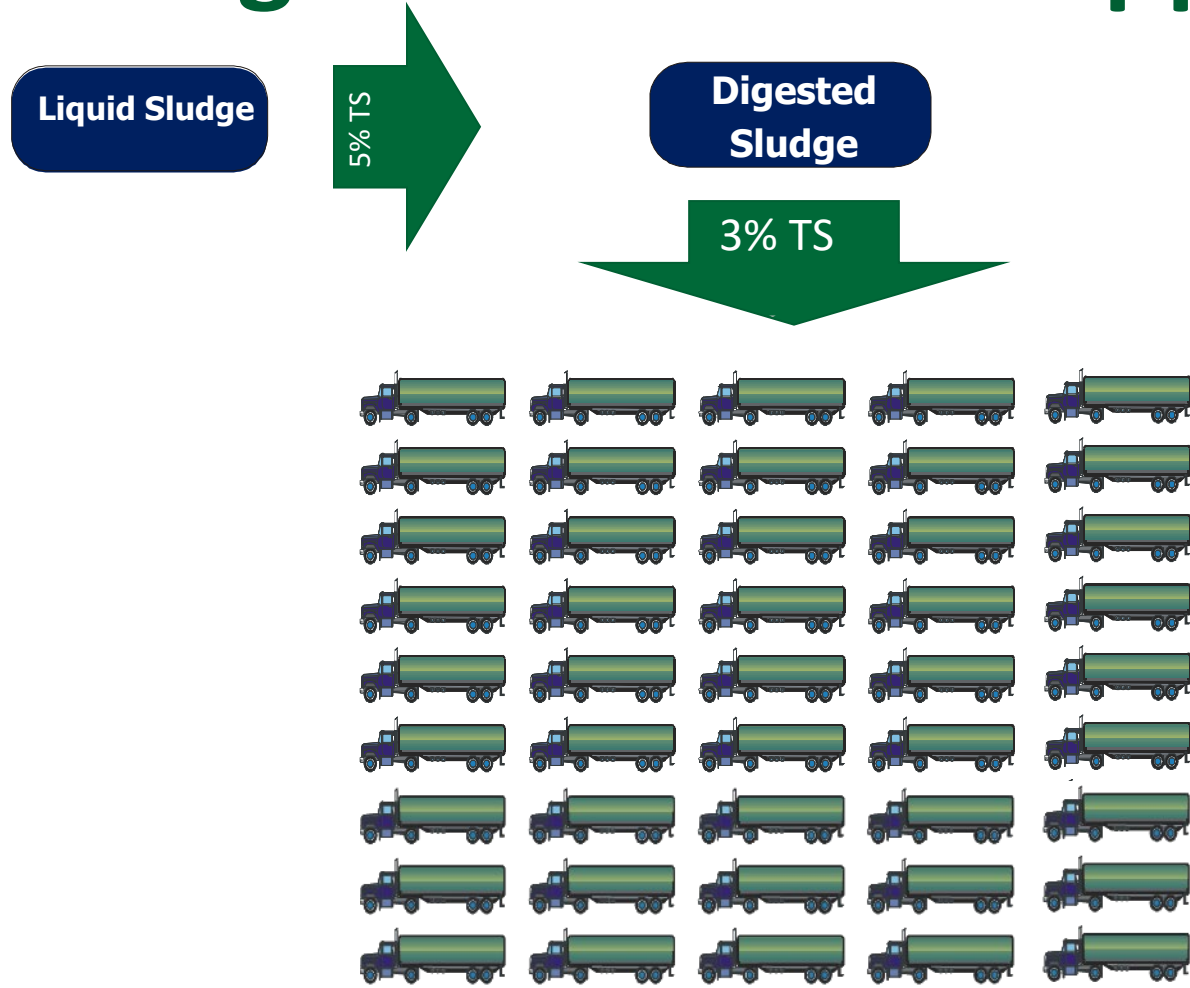
- Facility has one 5,000-gallon truck to haul biosolids
- On average, 950 truck trips to dispose of biosolids
- Land application sites are approximately 10-15 miles away equating to 24,000 miles traveled per year
 - 1,300 approved acres with MPCA and landowners
 - Annual average application to 300 – 400 acres (2025 = 616 acres)
- Approximately 3 BPU employees required for 7-8 months to dispose of biosolids
- If weather is unseasonably wet, land application must be delayed, and facility may not have storage volume available

Alternative 1 – Additional Sludge Storage

- Continue with the current biosolids treatment process
- Construct additional 1.75 MG above-grade storage for the treated biosolids
- Purchase additional tanker truck for hauling biosolids
- Requires at least 3 full time staff for land application
- Land application is only alternative for disposal
- Will need to rehab the digesters and replace gas burning equipment



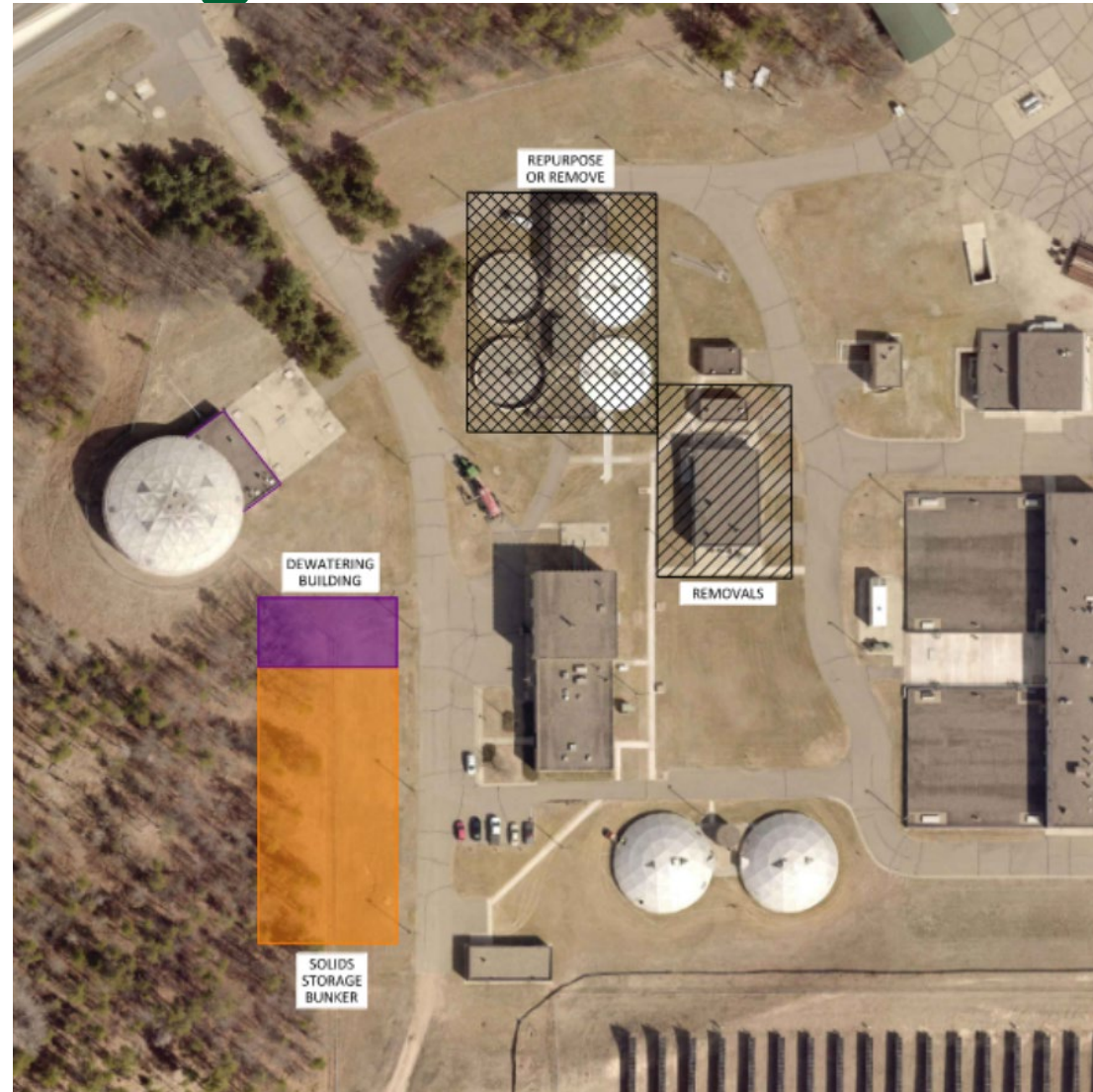
Impact of Digestion on Land Application



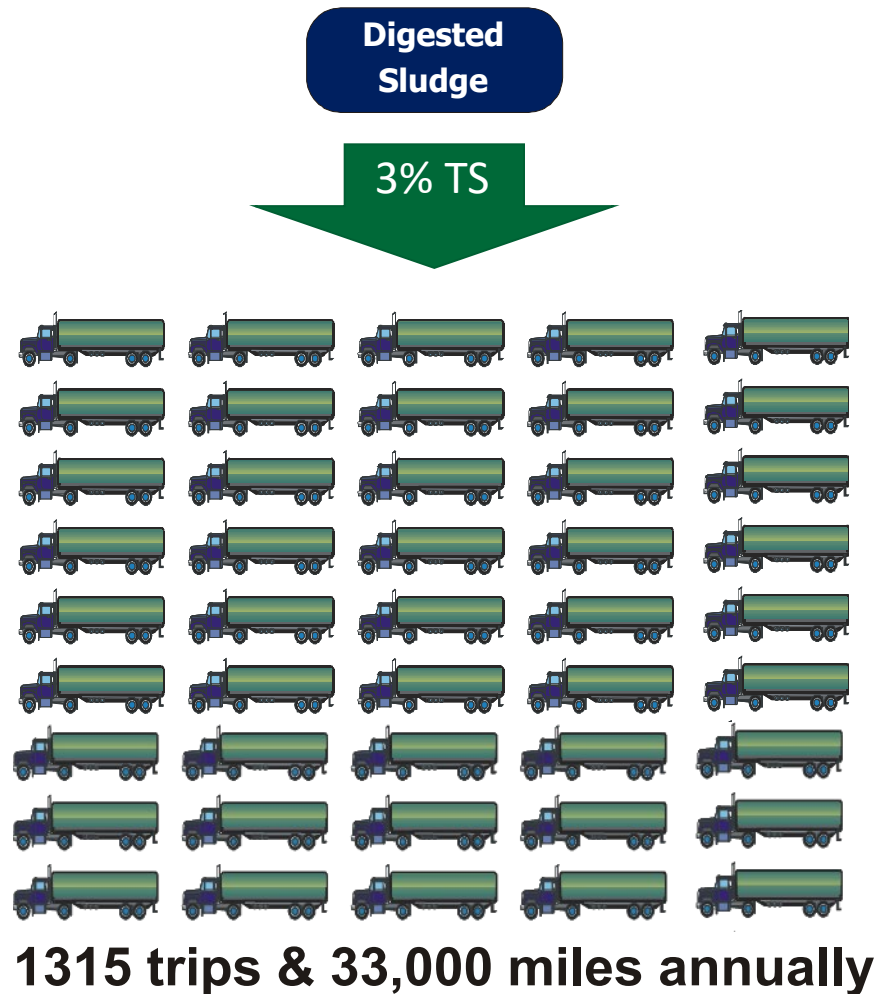
1315 trips and about 33,000 annual miles of transport required for disposal

Alternative 2 – Dewatering

- Decommission current process including anaerobic digesters
- Construct new dewatering equipment (screw press or centrifuge)
 - Goal is to dewater to ~20% solids
- Convert current sludge storage to aerobic storage
- Construct new cake storage system
 - Flexible options
- Set-up for future drying
- Creates opportunity for land application or landfill of dewatered solids



Impact of Dewatering on Land Application

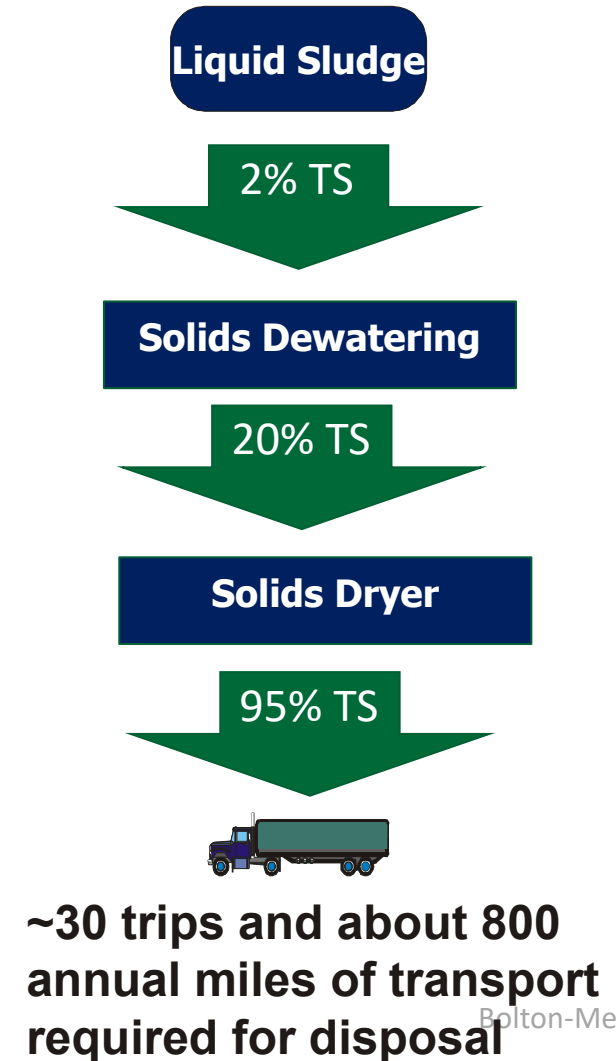
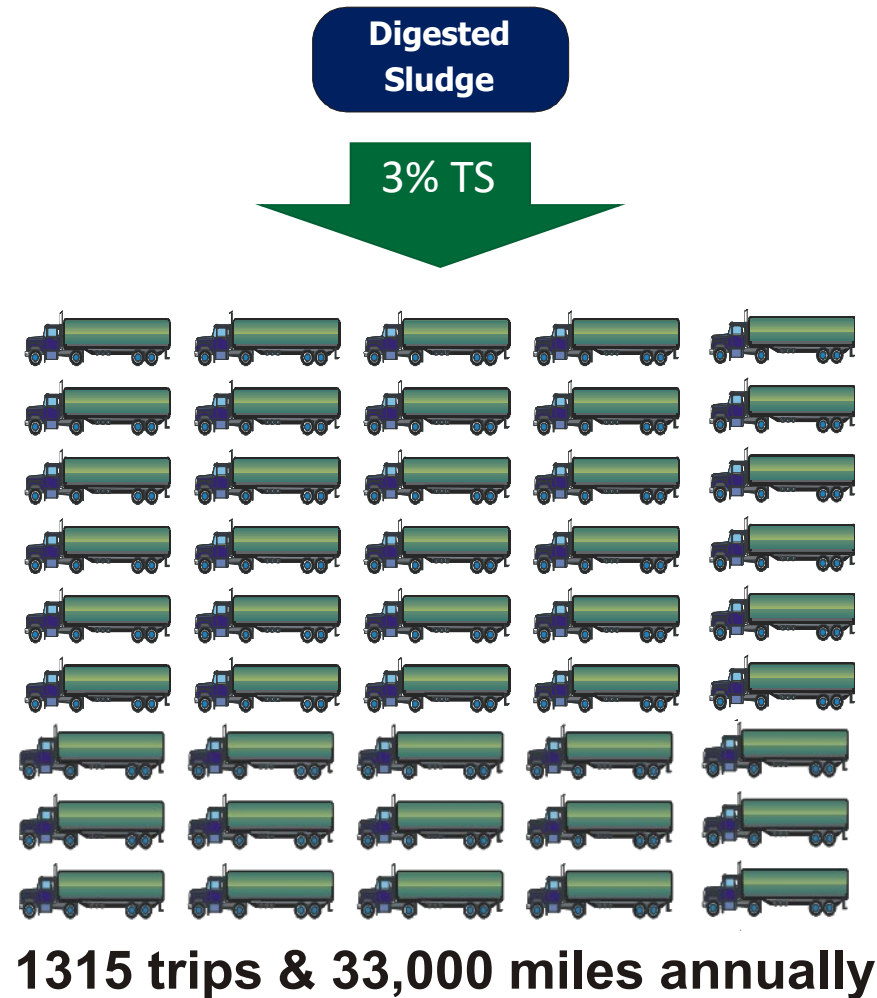


Future Biosolids Treatment – Heat Drying

- Class A product
- Dryer system follows the biosolids dewatering system of centrifuge, screw press, or belt filter press
- Construction of a new biosolids handling building required
- Dryer would operate 40 hours a week, 50 weeks a year (tentative)
- Class A product simplifies final disposal and can also be land applied with fewer restrictions
 - Driver for heat drying is when land application becomes more stringent or not available on current sites
- Can be added onto phase 1 biosolids system
- Set up for future thermal destruction



Impact of Drying on Land Application



Recommendations

Phased Approach Recommended

1. New Biosolids Treatment Process – Dewatering and Facility/System maintenance
2. Rehabilitation and modifications of liquid stream treatment to Activated Sludge:
 - Comply with future phosphorus limit
 - Comply with future nitrogen limit
 - Simplify treatment and update existing infrastructure
 - Flexible and expandable
 - Best opportunity for grants
3. Add Heat drying to biosolids process

Cost Opinions

Liquid Option	Total Project Cost	Current Total annual O&M Cost	Future Total annual O&M Cost
SBR Improvements	\$50 - \$70M	\$5.2M	\$5.6M
Activated Sludge	\$70 - \$90M	\$0	\$5.6M

1. Both options include tertiary filtration
 2. Projections show an increase of approximately \$400,000 of O&M for future improvements

Biosolids Option	Total Project Cost	Current Total annual O&M	Future totalannual O&M Cost
Expand Existing	\$30 - \$38M	\$5.2M	\$5.3M
Dewatering	\$25 - \$32M	\$0	\$5.2M
Heat Drying	\$25 - \$30M	\$0	\$5.6M
Thermal Destruction (PFAS)	\$35 - \$48M	\$0	\$5.6M

1. Projections a slight increase of \$100,000 in O&M to maintain operations and no change in O&M for conversion to dewatering
 2. Heat drying and thermal destruction costs are additive since they are additional processes not replacing something else

Cost Opinions for Phased Improvements

Capital Costs for Recommended Improvements			
Phase 1 Improvements		Phase 2 Improvements	
Item	Budget	Item	Budget
Pretreatment Improvements	\$5,110,000	General Conditions	\$4,850,000
<i>Contingency (20%)</i>	\$1,025,000	Secondary Treatment Improvements	\$48,350,000
<i>Engineering & Permitting</i>	\$1,225,000		
Biosolids Improvements - Dewatering	\$17,175,000		
<i>Contingency (20%)</i>	\$3,425,000		
<i>Engineering & Permitting</i>	\$4,125,000		
		Subtotal	\$53,200,000
Ancillary Facility Improvements	\$5,925,000	<i>Contingency (20%)</i>	\$10,650,000
<i>Contingency (20%)</i>	\$1,200,000	Total Construction Cost	\$63,850,000
<i>Engineering & Permitting</i>	\$1,450,000	<i>Engineering & Permitting</i>	\$12,750,000
Total Project Cost	\$40,660,000	Total Project Cost	\$76,600,000
Cost Range	\$38-48M	Cost Range	\$70-90M

Rate Impact for WWTF Improvements Only

Project User Rate Impacts for WWTF Improvements			
Item	Existing Budget	Proposed Phase 1 Improvements	Proposed Phase 2 Improvements
Annual Costs			
Capital Improvements (1)	\$0	\$2,705,993	\$5,097,861
Annual O&M	\$5,176,820	\$5,710,000	\$6,180,000
Existing Debt Service (3)	\$2,100,000	\$2,100,000	\$2,325,500
Total Annual Costs	\$7,276,820	\$10,515,993	\$13,603,361
Equivalent Dwelling Units (EDU)			
Brainerd Residential	4,863	4,863	4,863
Brainerd Commerical/Industrial/Institutional	4,724	4,724	4,724
City of Baxter	7,379	7,379	7,379
Total EDU	16,966	16,966	16,966
WWTF Improvement Cost per EDU (\$/month) (2)	\$35.74	\$51.65	\$66.82
Estimated City of Baxter Cost (\$/month)	\$263,741	\$381,142	\$493,041

(1) Capital Cost Annualized with a 20 year loan at 3% interest.

(2) detailed EDU breakdown in Appendix

(3) Assumes the yearly payment required for a 20-year loan from the phase 1 improvements in addition to existing debt service. Actual debt service should be evaluated at the time of phase 2 improvements

Funding Sources

- Clean Water Revolving Fund (CWRV)
 - Low interest loans at 20 or 30 years
 - 1% to 3% interest rate is typical
- Point Source Implementation Grant (PSIG)
 - 80% on eligible portions up to \$12,000,000
- Wastewater Infrastructure Funding (WIF)
 - Income based grants to reduce project costs to community
 - Cap of \$9 million
- City Bonding and Capital/State Bonding Request
- Assessment
- Federal Earmark from Representatives (House and Senate)

Next Steps/Schedule

- Facility Plan Submittal – March 2026
 - Public Hearing – February 24, 2026 at BPU Commission
 - Commission Approval via Resolution to Adopt Facility Plan
 - Submit to MPCA by March 6, 2026 (includes updated PPL application)
- Facility Plan Approval by MPCA – June 2026
- Preliminary Engineering for Phase 1 Biosolids: June 2026 – January 2027
 - Option for CMAR
- Final Design: February 2027 – December 2027
- Bid & Start Construction for Phase 1: Winter 2027/2028
- 20 – 30 Month Construction Schedule for Phase 1 (biosolids)
- Continue to monitor future limits and develop decision matrix for when to switch to Activated Sludge

Questions/Discussion

Brainerd, Minnesota

2026 Wastewater Treatment Facility Plan

Contact:

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Principal Water/Wastewater Project Manager

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