



City of Reedsburg
134 South Locust Street, P.O. Box 490
Reedsburg, WI 53959
Ph. 608-524-6404 Fax. 608-524-8458
www.reedsburgwi.gov

Public Works Committee Agenda
September 15, 2021
Reedsburg City Hall Council Chambers
5:30 PM

DUE TO THE RESTRICTIONS CAUSED BY THE COVID-19 PANDEMIC, SOME VOTING MEMBERS MAY BE PRESENT VIA TELECONFERENCE OR VIDEO CONFERENCE, AS PROVIDED BY THE RECOMMENDATIONS OF THE WISCONSIN DEPARTMENT OF JUSTICE. [HTTPS://WWW.DOJ.STATE.WI.US/NEWS-RELEASES/OFFICE-OPEN-GOVERNMENT-ADVISORY-CORONAVIRUS-DISEASE-2019-COVID-19-AND-OPEN-MEETINGS](https://www.doj.state.wi.us/news-releases/office-open-government-advisory-coronavirus-disease-2019-covid-19-and-open-meetings)

NOTICE IS HEREBY GIVEN THAT A MAJORITY OF THE MEMBERS OF THE COMMON COUNCIL MAY ATTEND THIS MEETING TO GATHER INFORMATION ABOUT A SUBJECT OVER WHICH THE COMMON COUNCIL HAS DECISION-MAKING AUTHORITY. IF A QUORUM OF THE COMMON COUNCIL ATTENDS THIS MEETING, NO ACTION WILL BE TAKEN BY THE COMMON COUNCIL AT THIS MEETING.

CALL TO ORDER

APPROVAL OF MINUTES

I. APPROVE MINUTES FOR THE MEETING HELD ON AUGUST 18, 2021:

THE COMMITTEE WILL RECEIVE INFORMATION ON NON-AGENDA TOPICS BROUGHT BEFORE THE COMMITTEE BY MEMBERS OF THE PUBLIC. THE COMMITTEE WILL NOT DISCUSS THESE TOPICS, AND WILL NOT TAKE ACTION ON ANY OF THEM AT THIS MEETING

I. GENERAL BUSINESS:

- A. Consideration of an alternative plan for a new WWTP
- B. Discussion on future sewer rates impact
- C. Update on current projects

II. ADJOURN:



The City of Reedsburg does not discriminate on the basis of disability in the admissions or access to, or treatment of or employment in, its programs or activities. Disability-related aids or services, including printed information in alternate formats, to enable persons with disabilities to participate in public meetings and programs are available by calling (608) 524-6404. To be able to meet the needs of a request for a different format contact the City Clerk-Treasurer at 134 S. Locust Street, Reedsburg, WI at least 48 hours prior to the commencement of the meeting so that any necessary arrangements can be made to accommodate each request.

Reedsburg, WI
August 18, 2021

The Public Works Committee for the City of Reedsburg convened for a regular meeting, on August 18, 2021 at 5:30 p.m. at the Reedsburg Center Conference Room with the following members present:

Members Present: Craig Braunschweig, Dave Knudsen, Charlie Backeberg, Jamison Sporakowski and Phil Peterson

Also Present: Steven Zibell

Motion by Peterson seconded by Backeberg to approve the minutes from July 21, 2021 meeting.

Zibell discussed the proposed general, wastewater, stormwater funds for 2022. Zibell discussed a few changes but overall the budgets would stay the same as 2021. Motion by Sporakowski Seconded by Braunschweig to recommend the proposed budgets.

Motion Carried

Zibell stated he had a request from a resident to look at a possible stop sign at Huntington Park Drive and Viking Drive. Zibell stated a four way stop here may create backups on Viking Drive and thought this should be looked at in the future when more development happens to the east for a possible round-about. Committee felt the same and decided to keep monitoring this intersection.

No Action

Zibell presented an option to make the intersection of North Walnut and Eighth Street a four-way stop. The Committee felt this was needed since there have been a few accidents at this location and it does get extremely busy during school days. Motion by Sporakowski seconded by Peterson to recommend a four-way stop at the intersection of N Walnut and Eighth Street.

Motion Carried

Zibell gave an update on current projects including North Dewey Avenue and Eighth Street reconstruction.

No Action

Motion by Backeberg seconded by Sporakowski to adjourn.

Motion Carried

Adjourned at 6:27 p.m.
Respectively Submitted,

Steven T. Zibell, Public Works Director/City Engineer
City of Reedsburg

MEMORANDUM

Date: May 19, 2021 (*updated June 22, 2021*)

To: City of Reedsburg
Public Works Committee

From: Ben Heidemann, P.E. – Vice President
Town and Country Engineering

Subject: Reedsburg WWTF Facilities Plan
Summary of Alternatives

The City of Reedsburg is in the process of completing a Facilities Planning effort for their wastewater treatment facility to address capacity and flooding concerns. This memo serves as a general summary of the alternatives being considered for the facilities plan. Attached to this memo is a bulleted list outlining the scope of each alternative.

Alternative 1 – Upgrade Existing Facility

Design WWTF Capacity: 4.2 MGD, 15,750 lbs/day BOD

Alternatives 1A and 1B would utilize the existing facility. The existing facility needs additional capacity to be able to treat the projected loadings that it will be experiencing. Alternative 1A would upgrade/replace the majority the existing equipment/processes and add several new processes to achieve the required flow and BOD capacity. The sludge produced during the treatment process would remain being treated to a Class A biosolid via lime stabilization and an off-site sludge storage building would be built near the new public works building. Alternative 1B would require similar WWTF improvements to Alternative 1A, however sludge would be treated to Class A biosolids via temperature phased anaerobic digestion (TPAD).

Alternative 2 – Upgrade Existing Facility and Industrial Pre-treatment

Design WWTF Capacity: 4.2 MGD, 8,500 lbs/day BOD

Design Pretreatment Capacity: 0.6 MGD, 8,000 lbs/day BOD

Alternative 2 would be similar to Alternative 1A, requiring upgrades to the existing facility to achieve an increased flow and BOD capacity, however the BOD capacity improvements would be limited as industrial pre-treatment would also be constructed to treat Saputo and Bioriginal to a domestic strength waste. For the purposes of this plan it has been assumed that the pre-treatment facilities would be built near the new public works facilities. Industrial waste would undergo pre-treatment and the effluent would be discharged to the existing treatment via the existing gravity sanitary sewer. Sludge would be produced at the industrial pre-treatment site, but because there would be no human waste being treated; the sludge would not need treatment. Improvements to the existing WWTP would be limited as compared with Alternative 1. A sludge storage building would also be built at the pretreatment site to provide additional storage for the municipal biosolids.

Alternative 3 – New WWTF

Design WWTF Capacity: 4.2 MGD, 15,750 lbs/day BOD

Alternatives 3A, 3B and 3C considers construction of a new wastewater treatment facility to treat 100% of the wastewater generated within the City. For the purposes of this evaluation the dog park property, located adjacent to the public works garage, has been assumed as the new site. Should the City decide to move forward with a new facility a more formal siting investigation could be pursued. A new lift station would be built near the existing plant (SE of Nuk USA) with a dual

force main extending to the location of the new WWTF. The new treatment processes are outlined for each of three options below. Effluent from the plant would discharge to the Baraboo River, with the currently assumed routing following S Golf Course Road. For all alternatives Class A sludge treatment is assumed.

Alternative 3A would utilize conventional activated sludge treatment and Class A lime stabilization.

Alternative 3B would utilize conventional activated sludge treatment and Class A temperature phased anaerobic digestion.

Alternative 3C would utilize conventional activated sludge treatment, class B mesophilic digestion, and Class A sludge drying.

Alternative 3D would utilize conventional activated sludge treatment, no digestion, and Class A sludge drying.

Alternative 4— New WWTF with Industrial Pre-treatment

Design WWTF Capacity: 4.2 MGD, 8,500 lbs/day BOD

Design Pretreatment Capacity: 0.6 MGD, 8,000 lbs/day BOD

Alternatives 4A, 4B, and 4C would be similar to their Alternative 3 counterparts, however; the new treatment plant would be designed for a hydraulic capacity of 4.2 MGD and a BOD capacity of 8,000 lbs/day and a pretreatment facility (similar to Alternative 2) would be constructed for Saputo and Bioriginal waste. One exception to the similarity to Alternative 3 would be Alternative 4A, which would not utilize conventional activated sludge treatment, and instead use an oxidation ditch.

City of Reedsburg
 WWTP Facilities Plan
Alternatives Capital Cost Summary

Alternative Capital Costs		
ALT	DESCRIPTION	Cost Estimate
<u>1A</u>	Upgrade Existing + Lime	\$ 43,076,000
<u>1B</u>	Upgrade Existing + TPAD	\$ 52,898,000
<u>2</u>	Upgrade Existing with Industrial Pre-Treatment	\$ 53,561,000
<u>3A</u>	Conventional Treatment + Lime	\$ 70,495,000
<u>3B</u>	Conventional Treatment + TPAD	\$ 81,461,000
<u>3C</u>	Conventional + Class B Meso + Drying	\$ 85,594,000
<u>3D</u>	Conventional + Aerated Sludge +Drying	\$ 74,830,000
<u>4A</u>	Industrial Pre-Treatment + Ditch + Lime	\$ 81,297,000
<u>4B</u>	Industrial Pre-Treatment + Conventional + TPAD	\$ 90,147,000
<u>4C</u>	Industrial Pre-Treatment + Conventional + Class B Meso + Drying	\$ 94,252,000

City of Reedsburg
WWTP Facilities Planning
Present Worth Analysis - Base and Enhancements

Net Present Worth Summary - Base							Net Present Worth Summary - with Enhancements			
Alternatives	Capital Cost Estimate	Startup O&M Estimate	Design O&M Estimate	Replacement Fund Costs	Salvage Costs	Base Total Present Worth	Enhancements ¹		Additional Capital Cost	Total Present Worth
1A	\$43,076,000	\$1,666,500	\$2,366,100	\$390,500	\$4,352,000	\$77,271,000				\$77,271,000
1B	\$50,449,316	\$1,509,600	\$1,973,100	\$436,300	\$5,589,700	\$83,804,000	Cogen		\$2,448,684	\$84,884,000
2	\$53,561,000	\$1,742,100	\$2,120,700	\$506,600	\$6,552,000	\$89,465,000				\$89,465,000
3A	\$70,495,000	\$1,860,200	\$2,450,900	\$388,800	\$16,273,000	\$112,175,000				\$112,175,000
3B	\$74,207,936	\$1,577,400	\$1,971,000	\$437,100	\$16,656,700	\$116,591,000	Cogen, Sidestream		\$7,253,064	\$119,271,000
3C	\$78,340,936	\$1,676,200	\$2,040,300	\$523,300	\$16,120,400	\$117,922,000	Cogen, Sidestream		\$7,253,064	\$125,497,000
3D	\$74,830,000	\$1,895,000	\$2,503,100	\$520,600	\$14,543,000	\$118,079,751				\$118,080,000
4A	\$81,297,000	\$1,739,700	\$2,150,800	\$502,000	\$18,524,000	\$122,847,000				\$122,847,000
4B	\$87,698,316	\$1,699,900	\$2,018,100	\$572,300	\$18,902,700	\$129,284,000	Cogen		\$2,448,684	\$131,873,000
4C	\$91,803,316	\$1,776,100	\$2,155,500	\$662,200	\$18,593,700	\$135,872,000	Cogen		\$2,448,684	\$138,462,000

¹ Enhancements include a Cogeneration Facility for biogas utilization and Sidestream Treatment with sludge dewatering for phosphorus removal/recovery

Enhancements	Capital Cost Estimate	Startup O&M Estimate	Design O&M Estimate	Replacement Fund Costs	Salvage Costs
Sidestream	\$4,804,380	No Change	No Change	\$3,421	\$389,300
Cogen Building	\$2,448,684	No Change	No Change	\$27,191	\$304,300

City of Reedsburg
WWTP Facilities Plan
Alternatives Analysis – Other Considerations
May 19, 2021 (*updated June 22, 2021*)

Alternative 1:

- Very crowded site with no future expansion capacity
- High construction risk associated with tight construction with significant phasing
- Flood risk remains high

Alternative 2:

- Fewer improvements to site compared with Alternative 1
- Still high construction risk associated with tight construction and significant phasing
- Flood risk remains high
- Staff at two sites (WWTF and Industrial/sludge)

Alternative 3:

- Requires site acquisition for pump station and WWTF site (potentially)
- Biosolids considerations
- Greatly reduces flood risk (pump station likely still located in flood plain, but constructed significantly above flood elevation)
- Large expansion potential

Alternative 4:

- Requires site acquisition for pump station and WWTF site (potentially)
- Operations of more processes (WWTF plus Industrial WWTF)
- Greatly reduces flood risk (pump station likely still located in flood plain, but constructed significantly above flood elevation)
- Large expansion potential

Alternative 3 and 4 Sludge Treatment:

- Class A Lime Stabilization
 - 100% of today's biosolids production
 - High O&M cost associated with lime and sludge production (inflation not included in NPW analysis)
 - Larger quantity of sludge if PFAS are elevated significantly above standards
 - Simple treatment process
 - High value to farmers for lime content
- Class A Temperature Phased Anaerobic Digestion
 - 52% of today's biosolids production
 - More involved treatment process with potential for biological upset
 - Potential concentration of PFAS (if concentration is near standards)
 - 50+% reduction in biosolids volume
 - Potential for beneficial re-use of biogas
- Class A Sludge Drying with Anaerobic Digestion
 - 13% of today's biosolids production
 - Moderately involved treatment process with involved mechanical equipment
 - Energy intensive, though utilizes biogas for heat requirements
 - Explosion potential of dust
 - Higher potential for concentration of PFAS (if concentration is near standards)

- 90% reduction of sludge volume
 - Moderate potential for beneficial re-use of biogas (may be limited as both digestion and drying require biogas)
- Class A Sludge Drying without Digestion
 - 22% of today's biosolids production
 - High O&M cost associated with natural gas and electricity
 - Mechanically involved treatment process
 - Energy intensive
 - Explosion potential of dust
 - Higher potential for concentration of PFAS (if concentration is near standards)
 - 90% reduction of sludge volume



City of Reedsburg
 WWTP Facilities Plan
 User Rate Analysis
 September 15, 2021

Assumptions:

- Existing rate structure for base and surcharges
- Alternative 3C costs used for rate analysis, including enhancements
- 2020 users, sewer use, and industrial loadings
- Industrial capital payment proportional with discharge (vs. capacity requested)
- Itemized replacement fund similar to historical calculations (minus installation)
- \$125,000 hauled waste income and \$250,000 annual collection system expense

Rate Considerations:

1. Current Conditions: 2020 usage and actual charges
2. Base Impact: CWF Loan (20-year term, 2.0% interest)
3. City Capital Contribution: Base impact + \$16,000,000 capital contribution (downpayment)
4. Bond Pre-payment: Base + \$11,000,000 capital contribution + pre-pay all ex borrowing
5. Maximize CWF Principal Forgiveness: Above + \$12,000,000 capital contribution + \$1,750,000 CWF Principal Forgiveness
6. Rural Development Funding: Reduce CWF to maximize PF, RD funding for remainder at 25-year term, 2% interest
7. Rural Development Funding with Grant: Scenario 6 with \$5,000,000 grant

	1	2	3	4	5	6	7
FIXED	\$11.50	\$16.51	\$15.58	\$11.12	\$11.02	\$10.47	\$10.24
VOLUME	\$3.64	\$11.11	\$9.79	\$8.60	\$8.45	\$7.68	\$7.34
AVERAGE RESIDENT	\$28.53	\$68.50	\$61.36	\$51.34	\$50.56	\$46.39	\$44.60