



Meeting Agenda

4:30 – 6:00 PM, Wednesday August 18, 2021 Remote Zoom Meeting

UEB Zoom Meeting access link:

<https://us02web.zoom.us/j/83201655355?pwd=UVY3ODk0ZEhuc1pBWIJlVQmJSdDJVdz09>

Password: 972968 (New security feature may be required in future)

Or call: +1 346 248 7799

Meeting ID: 832 0165 5355

Password: 972968

1. Amendments to Agenda
2. Approve Minutes from July 21, 2021
 - a) See following content
3. Audience Business
4. Upcoming Meetings
5. Updates
 - a) Board of Trustees – Mike Karavas
 - b) Staff, Engineering – Aaron Caplan
 - c) UEB Chair – Jim Kerr
 - d) Member Updates
6. Sample Utility Reports for New or Revised Service
 - a) <https://drive.google.com/file/d/1Knto-AMOWY0d2WV619-vXjIG8OKFX0Di/view?usp=sharing>
 - b) https://drive.google.com/file/d/1FVaoL1x8mJex6y-qHBTIgV3RUSyRL_pp/view?usp=sharing
7. Mainstage Wastewater Treatment Plan Review
 - a) See following content
8. Economic Development Grant Application for Eastern Corridor Utilities
 - a) <https://www.townoflyons.com/AgendaCenter/ViewFile/Item/9138?fileID=18897>
9. 2020 Audit Report
 - a) See following content
10. 2021 Second Quarter Financial Utility Reports
 - a) <https://docs.google.com/presentation/d/1VnKpr9wmvN2kBTiTS-3jaOLS0lchg1WW/edit?usp=sharing&oid=107449530157729631611&rtpof=true&sd=true>



UEB Meeting Minutes, July 21, 2021

Meeting Time and Location: Began at 4:30pm. Held remote via Zoom meeting.

Attendance: Jim Kerr, Larry Quinn, Chris Meline, Lee Hall

Staff: Aaron Caplan

Liaison: Mike Karavas

Guests: Sam Scruby

1. Amendments to Agenda

None

2. Approve Minutes from July 7, 2021

Approved Unanimously

3. Audience Business.

None

4. Upcoming Meetings

- MEAN Committee and Management Meetings - August 18-19, 2021. Jim Kerr plans to attend

5. Updates

a) Board of Trustees, Mike Karavas

- Sales taxes have increased significantly.
- Condominium ordinance passed so UEB can now review utility implications of proposed condominiums.
- Net metering passed with delay of grandfathered units to 2030.
- Solar Farm with Battery Storage DOLA grant application passed.
- Summit Housing changes passed and capital improvement fees should be forthcoming.
- Wildfire risks were discussed along with concerns about fire hydrant capacities. Fire department likes 1000 gpm residential and 1500 gpm commercial.

b) Staff, Engineering. Aaron Kaplan

- UEB may need to address potential large new developments including 50 room hotel, factory homes, etc. The UEB consensus was that town code needs to be updated to require engineering studies to provide details and planning of required utilities for such large projects.
- Solar grant application will hopefully be submitted this week.
- A ballot initiative in the November election will be held to gauge town preference for the installation of the solar farm. Two questions are planned. One for near the bike park site and the other to allow solar farms as a by right development on parks and open space properties. This would cover other locations such as the dog park or south of the dog park. The deadline for submission to the county is July 23rd.
- The final 50 electric meters are being shipped soon and it is hoped that they can be installed by mid August.
- A total of 28 home solar sites had been grandfathered prior to MEAN requiring production meters and another two sites were inadvertently approved post grandfathering. MEAN requires 20 percent of the grandfathered sites to have production meters. This means (6 +2) or 8 production meters are still required. Town will issue a bid for this work in August.

c) UEB Chair – Jim Kerr
None

d) Other UEB Members
None

6. Library Rooftop Solar Requested Exception Review

Lyons limits nonresidential solar installations to 25kW. The Library has requested a system sized at 25.5 kW. While this is just barely over the 25 kW limit, it is over and does require approval.

At the last meeting we asked Aaron to hold off until a check of the MEAN Renewable Distributed Generation Policy could be accomplished. The concern was whether allowing the Library District to exceed the 25 kW limit would affect the Town's 5 percent cap.

We have been unable to get the latest MEAN Renewable Distributed Generation Policy, but a review of the 2018 version appeared to exempt customer owned systems from the cap. A call to Matt Reed, MEAN Distributed Resources & Generation Specialist, confirmed this was the case.

Motion

A motion was made and seconded. The UEB does not see any reason that the town should not approve the interconnection agreement proposed by the Library

Approved Unanimously

7. Should Electric Service Upgrade from 1 Phase to 3 Phase Require Additional Investment Fee

Does the town pay for any of the upgrade to infrastructure to help incentivize the town as a location for business? In particular a location needs 3 phase power brought along the street to the location where they would connect 3 phase service. It would need a 3 phase transformer. The transformer could be used by other businesses.

Should we consider a request to connect 3 phase power in place of single phase a new connection to the electric system and that would require the Electric Investment Fee be paid? Would future businesses that needed that 3 phase power also need to pay that investment fee?

The UEB general consensus was that town enterprise funds should not generally be used to support other town priorities such as economic development encouragement. However, this is felt to be a policy versus technical decision process.

8. Comprehensive Plan Questionnaire Review

In response to a request from the PCDC, the UEB addressed several questions related to the town utilities as part of the upcoming Comprehensive Plan update.

Motion

A motion was made and seconded. The draft questionnaire prepared by the UEB members should be forwarded to the PCDC.

Approved Unanimously

9. Mainstage Wastewater Treatment Plan Review

A draft wastewater management plan had been forwarded to the UEB review in anticipation of upcoming building permit application for brewing operations.

According to the plan, the operation will be small-scale only involving about 70,000 gallons per year of wastewater or about 6000 gallons per month. A monitoring port will be installed per new town requirements.

Wastes - including bad batches - will be side-streamed for use by farmers.

The facilities are expected to be completed within 3 months after approval.

The UEB hopes to see a set of drawings showing how the proposed brewing and wastewater management units are organized and a more complete SOP during final review.

Meeting ended: 5:35 pm. Minutes Submitted by: Larry Quinn

MAINSTAGE



BREWING

Mainstage Brewing Low and High Estimates for daily effluent, TSS, BOD

Author - Sam Scruby

7.28.21

Overview

Without an established space and equipment installed, we used the Brewer's Associations Data on brewery water usage averages to calculate our total water and waste water. Utilizing a case study contained in the Brewer's Association Waste Water Management Guidance, we estimated our total BOD and TSS while utilizing side streaming procedures to reduce spent grain, trub, and yeast from entering the waste water system. We used a more conservative reduction number to estimate our loads, but I fully expect to be below average water usage and believe our side-streaming efforts could yield lower totals in the future.

Low Estimate: 364 bbls brewed (1x7 bbl batch per week average)

	Daily (5 work days)	Weekly	Yearly
Gallons of beer produced	43.4 gal	217 gal	11,284 gal
Gallons of water used	301 gal	1506 gal	78,310 gal
Gallons of wastewater	234 gal	1170 gal	60,820 gal
Side-streaming BOD Estimate at 6420 mg/L (total lbs)	12.5 lbs	62.7 lbs	3,258.6 lbs
Side-streaming TSS Estimate at 1430 mg/L (total lbs)	2.8 lbs	14 lbs	725.8 lbs

MAINSTAGE



BREWING

High Estimate: 728 bbls brewed (2x7 bbl batch per week average)

	Daily (5 work days)	Weekly	Yearly
Gallons of beer produced	86.8 gal	434 gal	22,568 gal
Gallons of water used	602 gal	3,012 gal	156,620 gal
Gallons of wastewater	468 gal	2,340 gal	121,640 gal
Sidestreaming BOD Estimate at 6420 mg/L (total lbs)	25 lbs	125.4 lbs	6,517.2 lbs
Sidestreaming TSS Estimate at 1430 mg/L (total lbs)	5.6 lbs	28 lbs	1,451.6 lbs

Source: Waste Water Management Guidance - BA Technical paper - <https://bit.ly/3l7aGhI>

Beer is an alcoholic beverage made by fermenting wort. The main byproducts from this process are spent grains, spent yeast and trub. Trub consists of high weight protein precipitates. These byproducts are mostly liquid, and are high in organic materials and suspended solids. Brewery wastewater is often primarily regulated on a defined set of analytical parameters, such as Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), and pH. The organic content of wastewater is expressed and measured as BOD. BOD is the amount of dissolved oxygen needed by aerobic biological organisms to break down organic material present in a given water sample. The oxygen content is measured when the test starts, and again at the end of five days.

Spent yeast and trub are not only high in BOD, but also have a high level of TSS. They are direct liquid byproducts from the brewing process and contain a high concentration of both suspended and dissolved organic materials. TSS is an environmental concern because it can cause turbidity in aquatic ecosystems, which blocks UV penetration and can clog filter-feeding organisms.

MAINSTAGE



BREWING

The median ratio for brewery wastewater discharge is approximately 80% of their incoming water as effluent (wastewater to water ratio of 0.8). Effluent is defined as generated wastewater that flows to the sewer system.

Pre- side streaming

Parameter	Average	Max
Water Use Ratio (bbl/bbl)	6.94	12.60
Wastewater to Water Ratio (bbl/bbl)	0.78	0.93
Wastewater to Beer Ratio (bbl/bbl)	5.39	10.20
BOD Concentration (mg/L)	10,563	16,000
TSS Concentration (mg/L)	2,330	5,960

Post side-streaming - Case study Short's brewing:

BOD (mg/L) - 6420

TSS (mg/L) - 1430

Post side-streaming - brewerywastewater.com

“In numbers, brewery wastewater without side streaming should average about 10,000 mg/L BOD and 4000 mg/L TSS. Brewery wastewater after good side streaming practices should average about 2500 mg/L BOD and 500 mg/L TSS. Be aware that there will be a lot of variation in these numbers.”

Agenda Item 10. 2020 Audit Report

The annual audit report is another area to monitor the utility funds finances. The draft annual report can be found at <https://www.townoflyons.com/AgendaCenter/ViewFile/Agenda/08162021-1736?html=true>. They are drafts because they have not yet been accepted. Here are the highlights.

As of December 31, 2020, the unrestricted net position of the Electric Fund was \$854,762; the Water and Sanitation Fund was \$1,165,576; the Stormwater Fund was \$220,269.

Debt Covenants – Currently the Town is not in compliance with debt covenants related to the Water Fund. Debt agreements outline that net income must exceed 110% of debt service. In the current year, the Town's percentage was approximately 98%. We recommend the Town review activity within the Water Fund and determine whether adjustments to rates are needed.

Electric Fund – Revenue Refunding Bonds Revenue refunding bonds were issued in March 2019 (the 2019 Bonds) and refunded the 2003 electric revenue bonds in the amount of \$447,289. The average coupon rate is 2.87% over five years with the final payment on December 1, 2023. The 2019 Bonds may be redeemed without premium upon 30 days' notice by the Town. The 2019 Bonds are secured by pledged revenues consisting of gross revenues after deducting operating and maintenance expenses and by amounts in the reserve account. The 2019 Bonds were issued as a direct placement. In 2006, a revenue note was issued in the amount of \$412,000 in support of the same project. The rate on this note is 5.4% with a twenty-year term. · Water fund - loans payable A loan agreement was approved June 1, 2003 with the Colorado Water Resources and Power Development Authority (CWRPDA) (the 2003 loan) through the Drinking Water Revolving Fund in the principal amount of \$4,582,306 at 3.03% interest. Payments were due on February 1 and August 1 of each year, payable from the revenues of the Water and Sanitation Fund. Final payment was originally due on August 1, 2024. Revenues are pledged. This note was refinanced by the CWRPDA in February 2013. The refinancing provided a present value savings of approximately 4.1% as a percentage of current outstanding loan principal. These anticipated refunding credits will be reduced against the Town's principal at the time the credit is issued. The 2003 loan matures on August 1, 2024. DRAFT 8-10-21 TOWN OF LYONS, COLORADO NOTES TO FINANCIAL STATEMENTS December 31, 2020 D16 NOTE 6 - LONG TERM DEBT (CONTINUED) The Town entered into a loan agreement with the CWRDPA through the Drinking Water Revolving Fund, dated April 18, 2014 (the 2013 loan), in the principal amount of \$5,200,000. \$3,200,000 of the loan balance bears interest at 2.00% interest while the balance or "green" portion is at 0%. Payments were due on May 1 and November 1 of each year, payable from the revenues of the Water and Sanitation Fund. Final payment is due on November 1, 2034. Capital improvements are pledged. The Water fund loan agreements with the CWRPDA require three months operations and maintenance expenses be restricted for debt service. For purposes of the bond issue, the Water and Sanitation funds are combined. The required amount of restricted equity totals \$344,000 as of December 31, 2020. As of December 31, 2020, the Town was not in compliance with the required debt service covenants regarding adequate rates on either note.

Aaron Caplan