



JUNEAU COMMISSION ON SUSTAINABILITY AGENDA

September 07, 2022 at 12:00 PM

Zoom Webinar

A. CALL TO ORDER

B. AGENDA CHANGES

C. APPROVAL OF MINUTES

- [1.](#) August 17, 2022

D. PUBLIC PARTICIPATION

E. ACTION / DISCUSSION ITEMS

2. Welcome New JCOS Members Jessie Barker and Nick Waldo - All JCOS
- [3.](#) Source Control Presentation - Brian McGuire, CBJ Utility Superintendent
4. National Drive Electric Week - Juneau EV Roundup - Duff Mitchell
- [5.](#) Juneau's Climate Action - Sustainability Draft - Gretchen Keiser and Steve Behnke, JCOS
- [6.](#) JCOS 101 (Part 1) - Steve Behnke, JCOS

F. INFORMATION ITEMS

G. COMMISSIONER COMMENTS

H. NEXT MEETINGS

7. Monthly Work Session / Subcommittee, Sept 21, 2022 @ 12PM Zoom
Monthly Regular Meeting, October 5, 2022 @ 12PM Zoom
Monthly Work Session / Subcommittee, October 19, 2022 @ 12PM Zoom

I. ADJOURNMENT

ADA accommodations available upon request: Please contact the Clerk's office 36 hours prior to any meeting so arrangements can be made for closed captioning or sign language interpreter services depending on the meeting format. The Clerk's office telephone number is 586-5278, TDD 586-5351, e-mail: city.clerk@juneau.org.

DRAFT MINUTES
Juneau Commission on Sustainability (JCOS)
Special Meeting
Wednesday, August 17, 2022, 12:00 p.m. (Noon)
Zoom

I. Call to Order. Acting Chair Behnke called the meeting to order at 12:05 p.m.

Present: Acting Chair Steve Behnke, Gretchen Keiser, Marian Call, Danielle Meeker, Duff Mitchell, Jim Powell

Absent: Dave Teal, Nick Waldo, Jessica Barker,

A quorum was present.

Staff & Others Present: CBJ Staff Liaison Denise Koch, Lori Sowa (CBJ), Alexandra Pierce (CBJ), Planning Commission Liaison Paul Voelckers

II. Agenda Changes.

III. Approval of Minutes.

a. July 6, 2022

Ms. Keiser proposed several amendments, which she will forward to Ms. Meeker and CBJ Staff Liaison Denise Koch for incorporation into minutes.

MOTION by Mr. Mitchell to approve 7/6/22 minutes as amended. Mr. Powell seconded.

IV. Public Participation. None.

- a. Acting Chair Behnke noted that JCOS has two new members, who will be introduced at the next JCOS regular meeting in September.

V. Action/Discussion Items

a. Electric Bus and Electric Infrastructure Grant Updates – Rich Ross (CBJ Capital Transit Superintendent)

Mr. Ross provided an update on CBJ's progress towards electrifying the city's bus fleet and charging infrastructure, including the use of grant funds that CBJ has received. Mr. Ross' memo and a schedule for CBJ bus replacement will be made available with meeting minutes.

Commissioner Call requested a written update on electric buses and bus infrastructure (attached). Mr. Ross responded to additional questions from commissioners by stating Capital Transit is investigating different bus manufacturers to determine which models/make will best suit Juneau needs as the CBJ works on future elec. bus orders.

b. JCOS letter supporting CBJ's USDA composting application – Gretchen Keiser (JCOS)

Ms. Keiser informed commissioners that CBJ is applying for USDA funding through a cooperative agreement program. This is a second attempt, as CBJ first applied in 2020. This is an updated grant application that better reflects our current reality. Commissioner Keiser participated in a phone call with Lori Sowa, Lisa Daugherty from Juneau Composts, and Alaska DEC. In the past grant application, JCOS was responsible for conducting workshops and public engagement. In the current application, the focus does not include workshops, so JCOS is given a supporting role. In March of 2021, JCOS put out a solid waste report, which is a key reference in the application. The application also notes that CBJ is beginning to work on a zero-waste plan.

MOTION by Commissioner Mitchell for JCOS to support the letter before opening for discussion. Commissioner Call seconds.

Mr. Mitchell asked whether there will be additional letters of support from other entities for this application. Ms. Keiser responded that there is a drafted support letter from DEC, and that there is planned outreach to school districts.

Mr. Mitchell asked who will be the main point-of-contact after Ms. Sowa leaves her position with CBJ. Staff Liaison Denise Koch responded that the Environmental Project Specialist will likely take over as the primary contact.

Ms. Sowa clarified that the application asks for letters of collaboration, rather than letters of support. CBJ is seeking letters of collaboration from Juneau Composts, the school district, and local food producers. CBJ's previous application included a letter of support from Juneau Community Gardens. Ms. Sowa notes that JCOS' proposed role in the previous application was to host a series of sustainability sessions around food waste reduction. CBJ reviewed applications that were funded in the previous round of awards and noticed that most successful applications were focused specifically on the composting aspect,

rather than food waste reduction. As a result, CBJ decided to be more strategically focused on the composting component. One potential role for JCOS is to let the public know what we're doing and provide some education around composting and waste reduction

Mr. Mitchell asked if CBJ's application will include letters of support from the trash utility (Alaska Waste) and the landfill itself. Ms. Sowa responded that there currently is not any specific collaborative role proposed with Alaska Waste and Waste Management.

Mr. Behnke asked if Senator Murkowski's office is working on any efforts related to solid waste and composting. Ms. Sowa replied that CBJ submitted a request for an earmark for \$2.5 mill for municipal composting facility, based on rough estimates of cost. It's become obvious that there is a significant infrastructure requirement in order to expand composting, which is beyond the capacity of private business. CBJ's understanding is that the proposal has some traction and may be funded. CBJ is considering plans for how to best use funds, which will include an RFP for a consultant to look at site feasibility and development costs, as well as composting processes and requirements. CBJ is currently looking at the suitability of South Lemon Creek Gravel Pit, which was identified in a previous feasibility study. CBJ is aiming to get consultant on board before Ms. Sowa's departure from CBJ.

Ms. Keiser asked Ms. Sowa about the funding source for the consultant. Ms. Sowa reported that there is a \$50K set-aside through PWFC from some of the funding that was already in CIP.. The initial work would be relatively small design work for conceptual site planning. There will be additional costs as we move into final design. It's possible that some of the funds set aside for zero-waste planning could be used for this work. The goal of the current phase of planning is to solidify our ideas, which will allow for better planning.

c. CBJ Comments on AEA Draft State EV Plan – Lori Sowa (CBJ)

Ms. Siwa reported that there is progress being made on electric vehicle (EV) infrastructure planning in Alaska. A large portion of infrastructure funding is going to states for states to then plan large-scale infrastructure along alternative fuel corridors that have been identified.

In Alaska, the Alaska Energy Authority (AEA) is developing a plan and deploying the funding once it is issued. AEA hired Michael Baker Engineering to develop the plan. The company is based out of the Pennsylvania area, but is international and has an office in Anchorage. There was an opportunity to provide comment on the plan. The first round of comments was solicited through Site Host Questionnaires. AEA requested that any municipality who had a potential site that they would like to host first submit a questionnaire. Ms. Sowa submitted several questionnaires for multiple sites around Juneau, as well as a separate document outlining the needs and context of EV infrastructure around Juneau. The second round of comments sought feedback on the draft EV plan. CBJ submitted several comments. Timeline for development of the plan and the way it was rolled out didn't allow for a lot of public comment to be incorporated. Final plan is on AEA website. The plan is intended to be a living document and is intended to be updated every year. Future comments from CBJ will emphasize the importance of opportunities for public engagement. The National Electric Vehicle Infrastructure (NEVI) program requirements are intended to develop corridors for drivers to be able to go long distances and be sure they're able to access charging infrastructure along the way. These sites are intended to have 450 kwh chargers. The proposed distance between sites doesn't fit well in Alaska. We are going to have to apply for exceptions.

Mr. Behnke thanked Ms. Sowa for submitting comments, and reiterates the need to be proactive in building a case for the need for exceptions to NEVI requirements in Southeast and across the state.

Ms. Call asked if there will be continued conversation with AEA as the report is developed. Ms. Sowa replied that CBJ hasn't yet received feedback or acknowledgement for its comments, and suggests that CBJ be proactive. PWFC Director Katie Koester participated in an AML meeting last week where she heard from AEA about need to make it a living document. There may be frustration in other communities about lack of back-and-forth conversation. Ms. Koch added that there will be continued effort to get AEA to hear what we have to say and integrate it into the plan.

Ms. Keiser asked if other Southeast communities have submitted comments. Ms. Sowa responded that she would have to refer to previous emails.

Ms. Keiser noted that JCOS might have a potential role in collaborating with CBJ. Due to the Inflation Reduction Act (IRA), there will be new state energy planning funds that may go to AEA. This might be an issue that CBJ wants to take to the Southeast Conference or the Southeast delegation to emphasize the importance and needs of the Southeast region.

Mr. Mitchell expressed his appreciation for Lori's comments and questions the reliability of statistics used in the report (e.g., percentage of EVs that are Teslas, percentage of Alaska EVs that are in Southeast). Mr. Mitchell expressed his opinion that it is incumbent upon CBJ to reach out and educate, and suggested having a meeting with Curtis Thayer from the AEA on Zoom to work on building rapport. Mr. Mitchell expressed concern that CBJ could miss out on future grant opportunities if we're not in compliance with state plans that don't fit Southeast.

d. Outreach on Juneau Climate Impacts Report – Jim Powell (JCOS)

Mr. Powell reported that the report was delivered to the city on July 11th. The report has received good reviews so far, and has been recognized as being unique for having both science and recommendations. The report coordinators would like to do an in-person (COVID-dependent) public meeting this fall, which could involve report authors. Mr. Powell requested that JCOS be involved in future outreach, and said that he will share extra hard copies with commissioners.

Mr. Mitchell requested that the plan be added to the JCOS webpage.

e. Community Indicators – Jim Powell (JCOS)

Mr. Powell reported that he is working on sustainability indicators for the city, and recently met with CBJ Planner Beth McKibben. Mr. Powell noted that the timing is opportune for the indicators to be developed in conjunction with CBJ's comprehensive plan. CBJ could then move forward with a set of key metrics, which could then be used to measure policies. CBJ has previously had indicators, but they were not widely used. Will be based upon expert indicators as well as perception of what's needed in the community. Mr. Powell requested that JCOS Commissioners let him know if they would like to be involved.

f. Sustainability 5-Yr Work Plan - Steve Behnke (JCOS)

Mr. Behnke referred commissioners to the draft that Ms. Keiser developed, which summarizes what CBJ has done in regards to sustainability efforts. Mr. Behnke has worked on taking this to the next step by developing a five-year set of priorities.

The draft dated August 12 is included in meeting packet. This is more of a focus on looking ahead and identifying priorities that JCOS could then plug into ongoing CBJ-CIP cycle and new legislative priorities process that Director Koester will begin to undertake in September. This is Important because federal funding opportunities such as the infrastructure bill and the Inflation Reduction Act have opportunities for CBJ and broader Juneau community. It seems like being proactive by identifying priorities will be advantageous. Mr. Behnke created a 1.5-page proposal for how JCOS could think about that, which will be something for JCOS to discuss with CBJ staff. Mr. Behnke requested that commissioners review this draft and Gretchen's memo from July and be prepared to discuss this in more detail at the next JCOS meeting, where we can decide how to move forward.

Ms. Koch noted that the current has more of a focus on climate than on the broader range of sustainability issues. One of the things JCOS was initially interested in – which also had CBJ buy-in – was zero waste planning. Ms. Koch suggests that JCOS work on expanding the set of priorities to include more broad sustainability goals, not just climate.

Mr. Behnke agreed that JCOS should be proactive about additional sustainability issues, and suggested that JCOS discuss them at the next regular meeting or work session. Ms. Keiser added that it's timely to look at the five-year plan and collaborate with CBJ. From a JCOS perspective, especially with new members and the potential to expand our capability, we want to focus on where JCOS can help the city optimize Juneau's access to federal funding that aligns with our priorities. Ms. Keiser notes that JCOS will need to research federal grant opportunities.

VI. Information Items

a. Outreach Committee Notes

Ms. Keiser noted that JCOS currently does not have a chair for its outreach committee, and directed commissioners to the meeting packet, which includes notes from former commissioner Anjuli Grantham on her work as chair.

b. Blueprint Downtown

Ms. Koch reports that CBJ Planner Beth McKibben has offered to provide JCOS with a briefing on Blueprint Downtown. Ms. Koch will work with Ms. McKibben to schedule a time for her to meet with JCOS.

VII. Commissioner Comments

VIII. Next Meetings

Monthly Regular meeting Sept 7, 2022 @ 12PM ZOOM

Monthly Work session/Subcommittee Sept 21, 2022@ 12PM ZOOM

Monthly Work session/Subcommittee Oct 5, 2022 @ 12PM ZOOM

IX. Adjournment: Mr. Behnke motions to adjourn at 1:15 pm.

Submitted by Danielle Meeker, Secretary



DATE: 8/17/22

TO: Juneau Commission on Sustainability

FROM: Rich Ross, Transit Superintendent

RE: Electric Bus and Electric Infrastructure Grant Updates

The process between grant applications and infrastructure being in place takes years.

Capital Transit launched its first electric bus into revenue service in April of 2021. Since then, we have been gathering operational data from the bus to help plan our future fleet operations and charging strategy. The reliability of this first bus has lacked when compared to its diesel counterparts. It has required two and a half more times as much maintenance attention than its diesel counterparts. We have reached out to other Transit agencies that have experience with battery electric buses to help identify more reliable bus vendors for consideration in our future electric bus purchases.

Our experience also identified the need for an on-route charging option. This will provide a back up to bus barn charging and provide some charging redundancy. Capital Transit applied for and was awarded a Federal Transit Administration (FTA) Bus & Bus Facilities grant to build this on-route charging infrastructure at the new Valley Transit Center (VTC). A NEPA Categorical Exclusion needed to be performed before construction of the charging infrastructure begins. The Categorical Exclusion was submitted in June 2022 and we are waiting to hear if it is accepted. We are also waiting on a grant agreement from the Alaska Department of Transportation and Public Facilities (ADOT&PF) before we can be reimbursed for project costs. Once those piece fall into place, we can add the bus charging infrastructure at VTC.

Capital Transit was awarded FTA Lo-No grants in 2018, 2019, and 2020 to purchase seven (7) additional electric buses and related charging infrastructure. FTA required Capital Transit to conduct a NEPA Categorical Exclusion study of Capital Transit's bus barn. The Categorical Exclusion was completed and submitted to FTA in the fall of 2021. After some further backup and clarification was provided it was accepted spring 2022. Capital Transit has completed all of the necessary CBJ purchasing process to purchase seven more electric buses once we receive the grant amendment from FTA. We have not yet received the grant amendment and cannot order the buses yet. Due to the continuing supply chain issues it is taking 16 – 24 months to receive a bus from the date they are ordered. Realistically we are not going see these seven new electric buses on Juneau's roads until the middle of 2024 calendar year. The next round of buses will not be eligible for replacement until they reach the end of their useful life in 2028.



As we designed depot charging for the bus barn, it became evident that significant facility upgrades were needed. We are happy to report that Capital Transit was recently awarded a \$2.2M FTA grant to rehabilitate and modernize the bus barn to accommodate continued fleet electrification.

CBJ is working hard and making progress on bus electrification. However, there's often a long lag time between award announcements and when we have the items on the ground. We thank JCOS for their assistance and support for bus electrification.

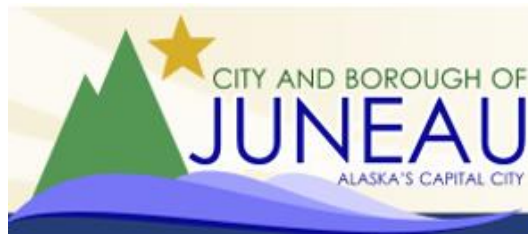


Electric Vehicle Replacement Schedule

Equipment Number	Fiscal Year Purchased/ Acquired	Useful Life	FY2023	FY2024	FY2025	FY2026	FY2027	FY2027	FY2028	FY2029	FY2030	Comments
			Equipment To Be Replaced	Equipment To Be Replaced	Equipment To Be Replaced	Equipment To Be Replaced	Equipment To Be Replaced	Equipment To Be Replaced	Equipment To Be Replaced	Equipment To Be Replaced	Equipment To Be Replaced	
6052	2010	12										FTA Lo-No grant. Will order electric bus once we have grant amendment from FTA.
6053	2010	12										FTA Lo-No grant. Will order electric bus once we have grant amendment from FTA.
6054	2010	12										FTA Lo-No grant. Will order electric bus once we have grant amendment from FTA.
6055	2010	12										FTA Lo-No grant. Will order electric bus once we have grant amendment from FTA.
6056	2010	12										FTA Lo-No grant. Will order electric bus once we have grant amendment from FTA.
6057	2010	12										FTA Lo-No grant. Will order electric bus once we have grant amendment from FTA.
6058	2010	12										FTA Lo-No grant. Will order electric bus once we have grant amendment from FTA.
6659	2016	12							*			
6660	2016	12							*			
6661	2016	12							*			
6662	2016	12							*			
6863	2018	12									*	
6864	2018	12									*	
6865	2018	12									*	
6866	2018	12									*	
6867	2018	12									*	
6868	2018	12									*	

*NOTE: Diesel buses that have not reached the end of their useful life are not eligible for federal grants to replace with electric buses.

8/18/2022



Source Control – Juneau's path to sustainable compliance

Brian McGuire

9/7/22





Agenda

- Source Control and Sustainability
- Source Control Definition
- Compliance Order (whys)
- What problems are we solving at the plants? (what)
- Project Plan (how)
- Implementation (who & when)
- Results/outcomes



Sustainability

- More discharge to the sewer results in more resources to pump, treat, ship and dispose of the inputs, outputs and bi-products of wastewater treatment.
- Source Control is designed to either remove discharges to a more appropriate and, often times, reusable end use (e.g. composting) or to treat it at the source. Both actions reduce to the amount of waste to treat.
- These reductions of waste result in a more sustainable municipal Utility operation. As the organic load and water volume to the plant decrease, so do :
 - energy
 - materials (chemicals)
 - biosolids (shipping and disposal)
- Source control is a sustainability issue.



Source Control

- Source Control is a program that works to limit *non-domestic waste* substances placed in the sewer.





Problem Statement

- Why are we doing this?
- In March of 2021, CBJ was issued a Compliance Order by Consent by ADEC.
- Why
 - DEC identified 55 effluent limit exceedances at the MTP from September 2015 to March 2019
 - DEC identified 31 effluent limit exceedances at the JDTP from September 2015 through March 2019.



The other “why”

Because it's the RIGHT THING TO DO!!!

- Source Control program's objectives are
 - To protect sewer workers and the public from discharges to the sewers.
 - To protect the sewer infrastructure from corrosive and other damaging materials
 - To protect treatment processes from conditions which may cause permit violations
 - To protect the environment from toxic substances that cannot be treated or removed.
 - To improve the quality of bio solids to use locally.

If you put in TERRIBLE stuff – it has a TERRIBLE effect on everything it touches!

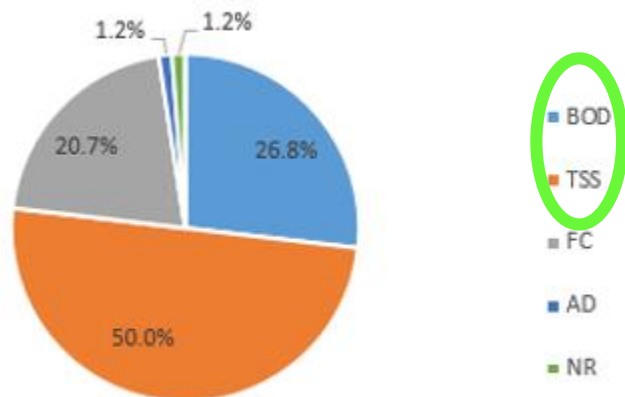
So remove the terrible stuff on the front end!



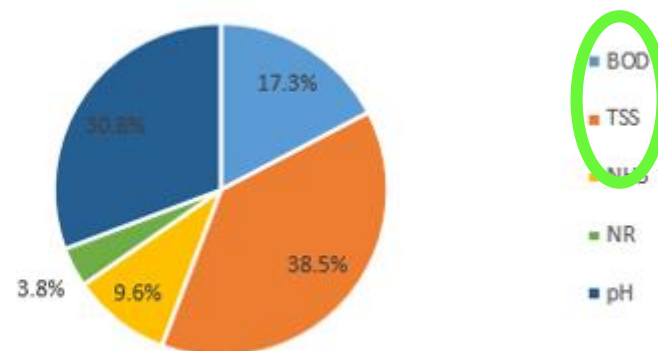
Data

- What should we focus on for biggest impact?

Mendenhall COBC Violation Category



JD COBC Violation Category



MWWTP Biggest Opportunity – TSS & BOD

JDTP Biggest Opportunity – TSS & BOD

Key: (Measures of Effluent Quality):

BOD = Biochemical Oxygen Demand

TSS = Total Suspended Solids

FC = Fecal Coliform

pH= Potential of Hydrogen

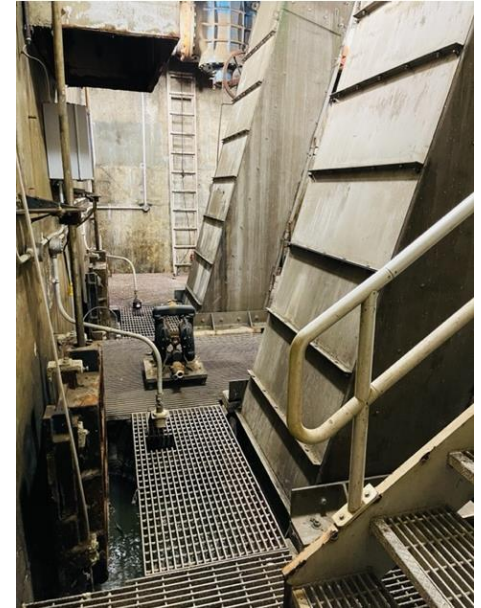
AD= Accidental Discharge

NR= Not Reported Timely

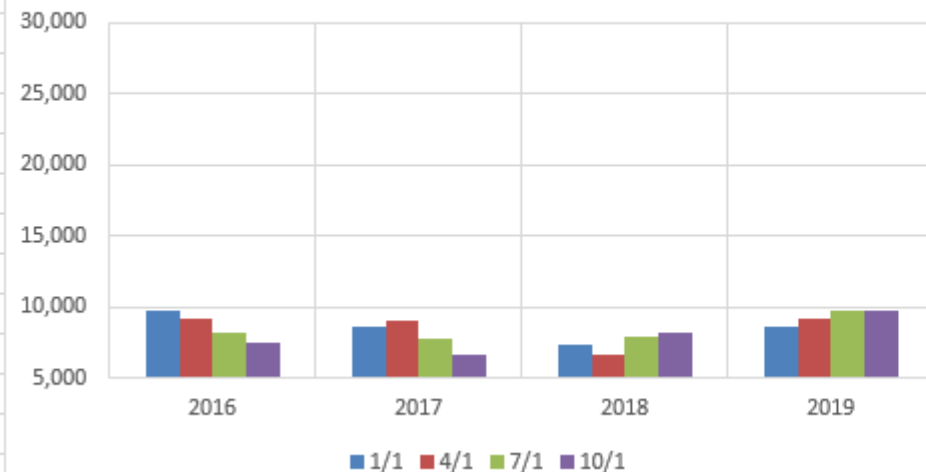


Data - MWWTP

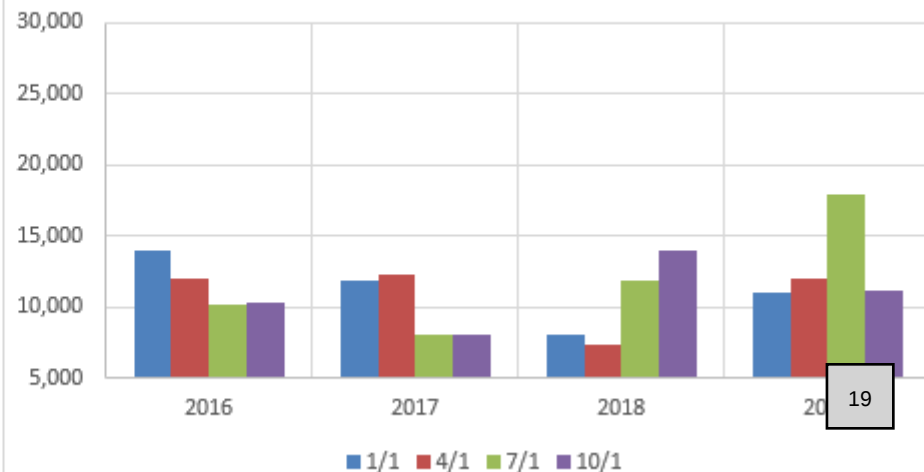
- Mendenhall Issues and Root Causes
 - What comes into the plant?



MWWTP lbs per day BOD



MWWTP avg lbs per day TSS





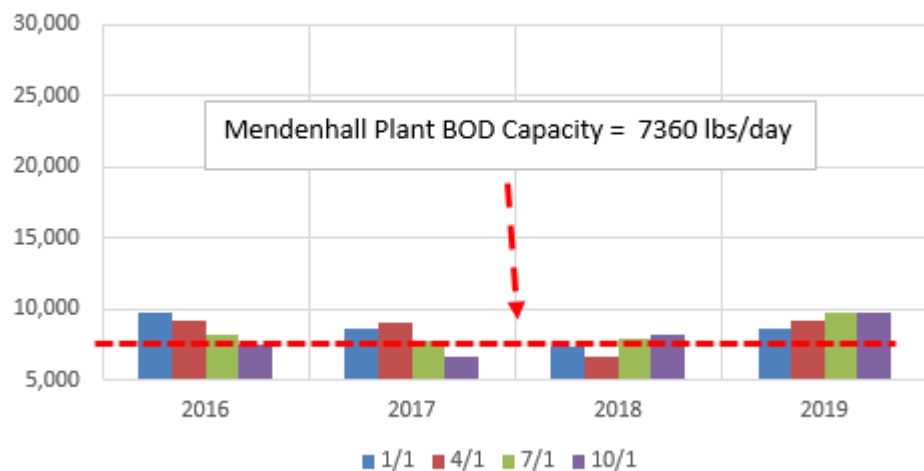
Data -MWWTP

- Mendenhall Issues and Root Causes
 - The Plant receives loading above design.

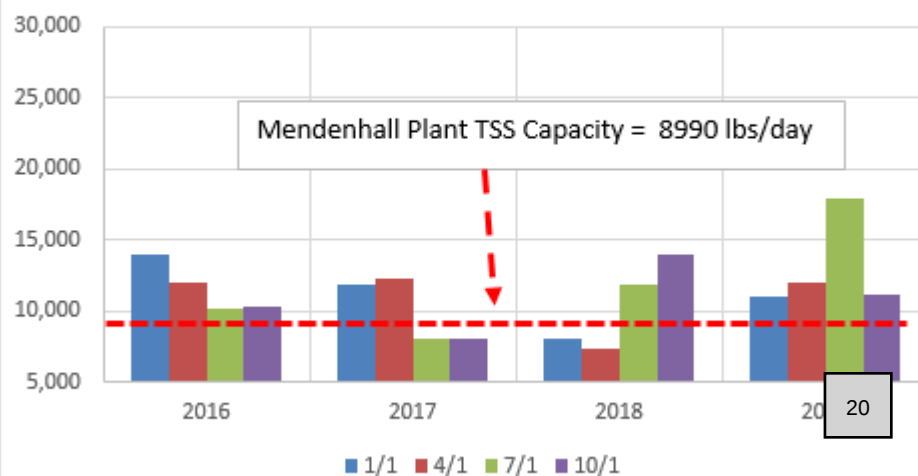
Quantity Problem



MWWTP lbs per day BOD



MWWTP lbs per day TSS



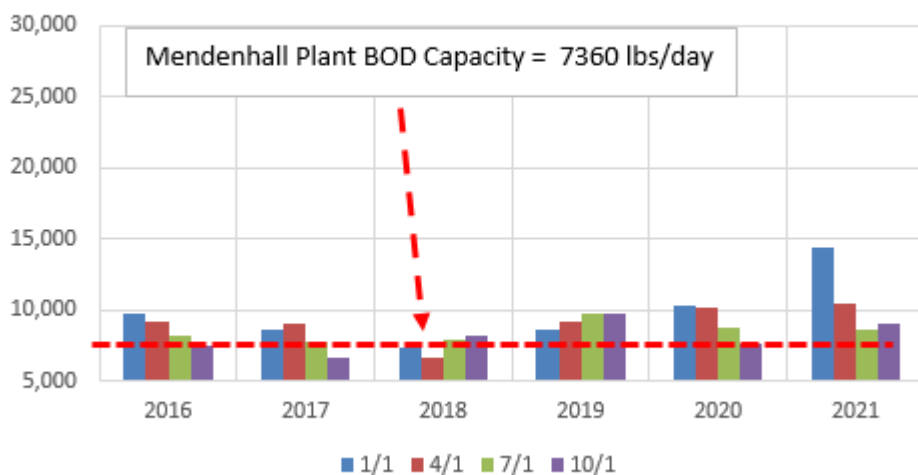


Data - MWWTP

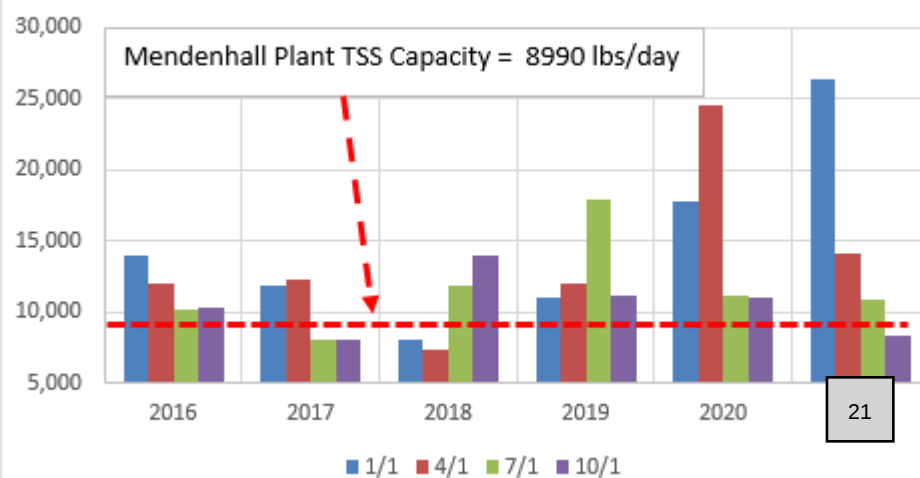
- Mendenhall Issues and Root Causes
 - Way over design capacity and getting worse
 - Better find the source!



MWWTP lbs per day BOD



MWWTP lbs per day TSS





Data - MWWTP

- Mendenhall Issues and Root Causes

- Contributing Factors

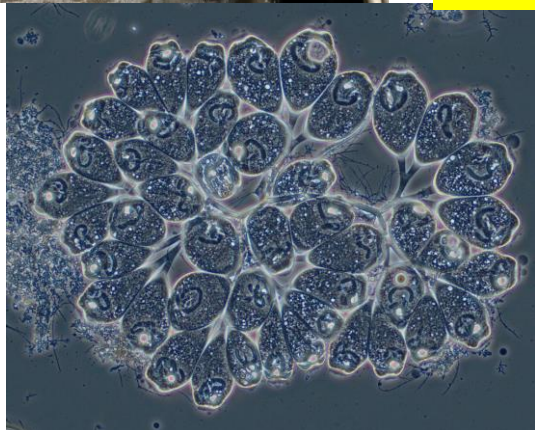
- Bacteria settling issues

Causes Effluent TSS, BOD

Root Cause: Fats, Oil, Grease



Quality Problem





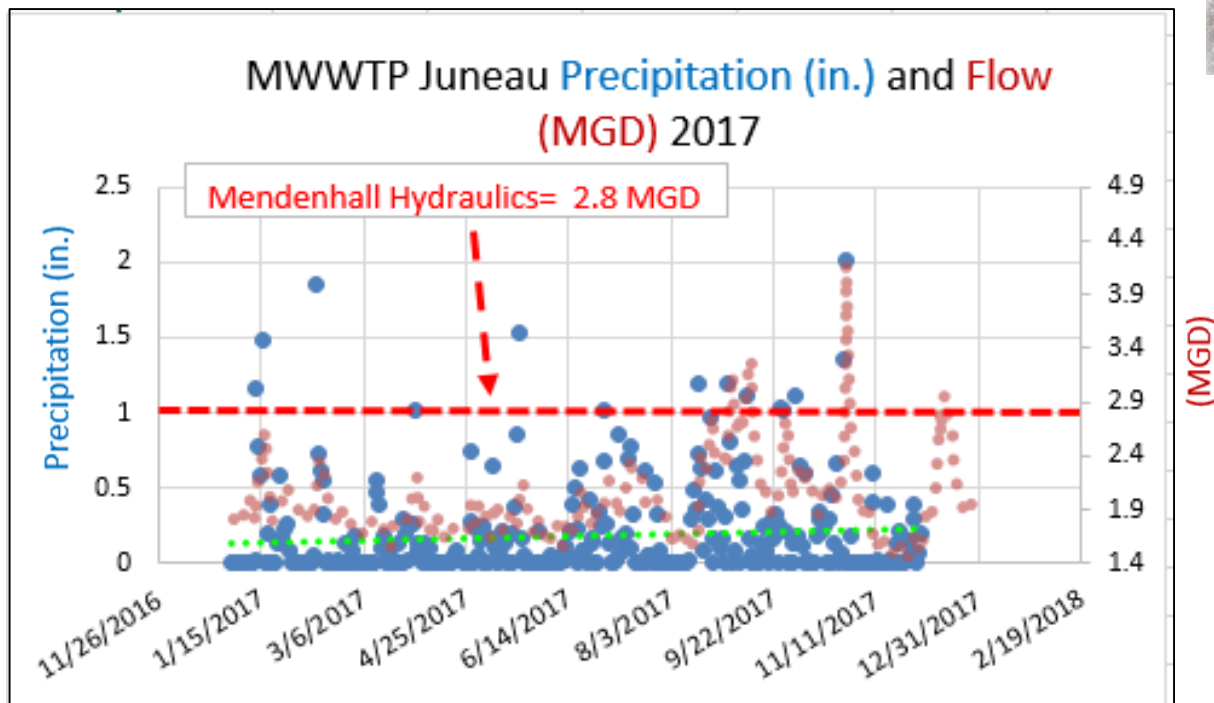
Data - MWWTP

- High Flow

Generally follows precipitation

Root Cause: Infiltration and Inflow (I&I)

Quantity Problem





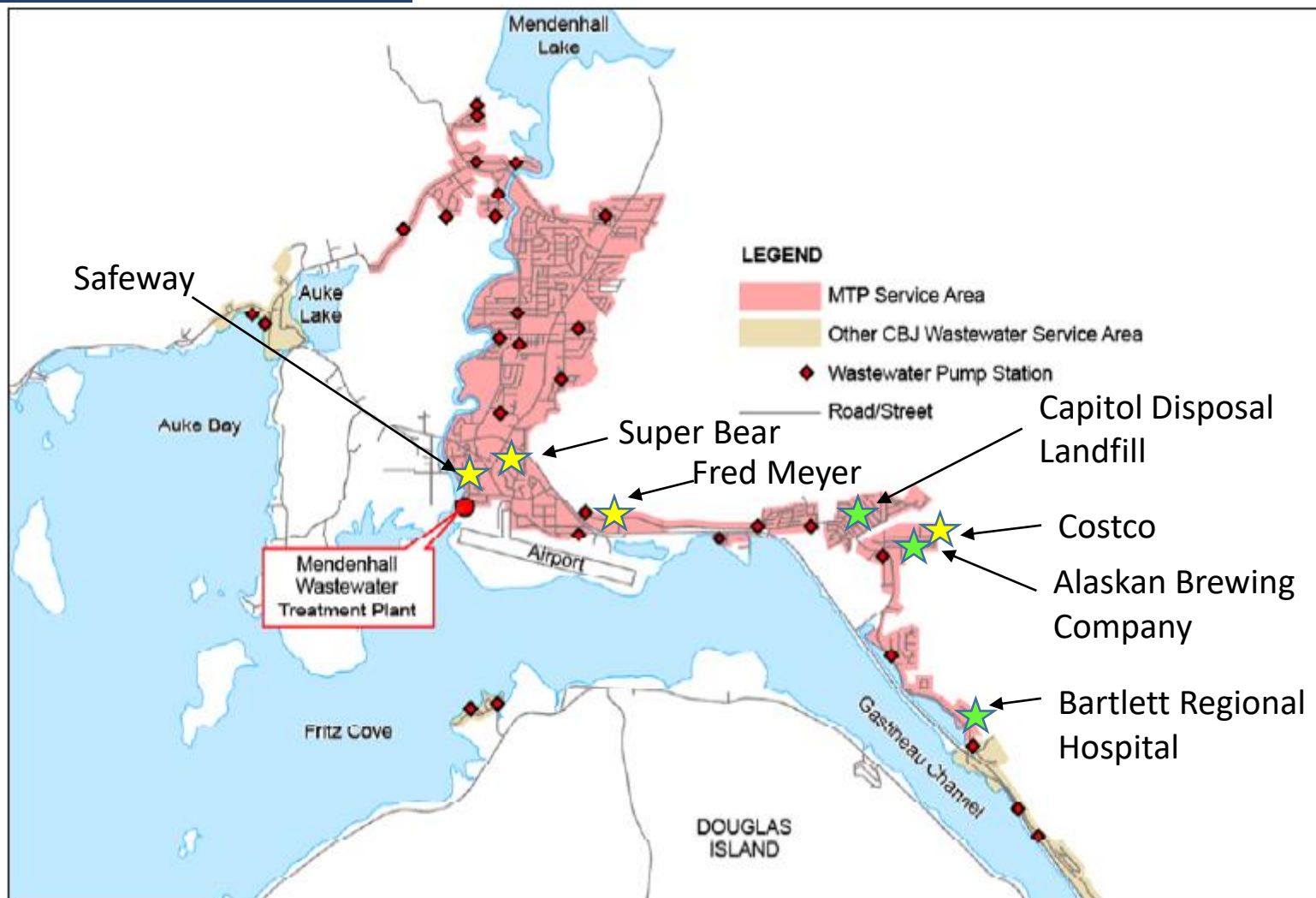
MWWTP Ind Users

- The Industrial Users Survey was completed in 2021
- It identified likely sources for Mendenhall issues.
 - Organic Loading (BOD and TSS)
 - Capitol Disposal Landfill
 - Alaskan Brewing Company
 - Bartlett Memorial Hospital
 - Major Food Service Facilities
 - Costco
 - Fred Meyer
 - Super Bear IGA
 - Safeway
 - FOG Loading
 - 138 food service facilities in the Collection area





MWWTP Ind Users





MWWTP Ind Users

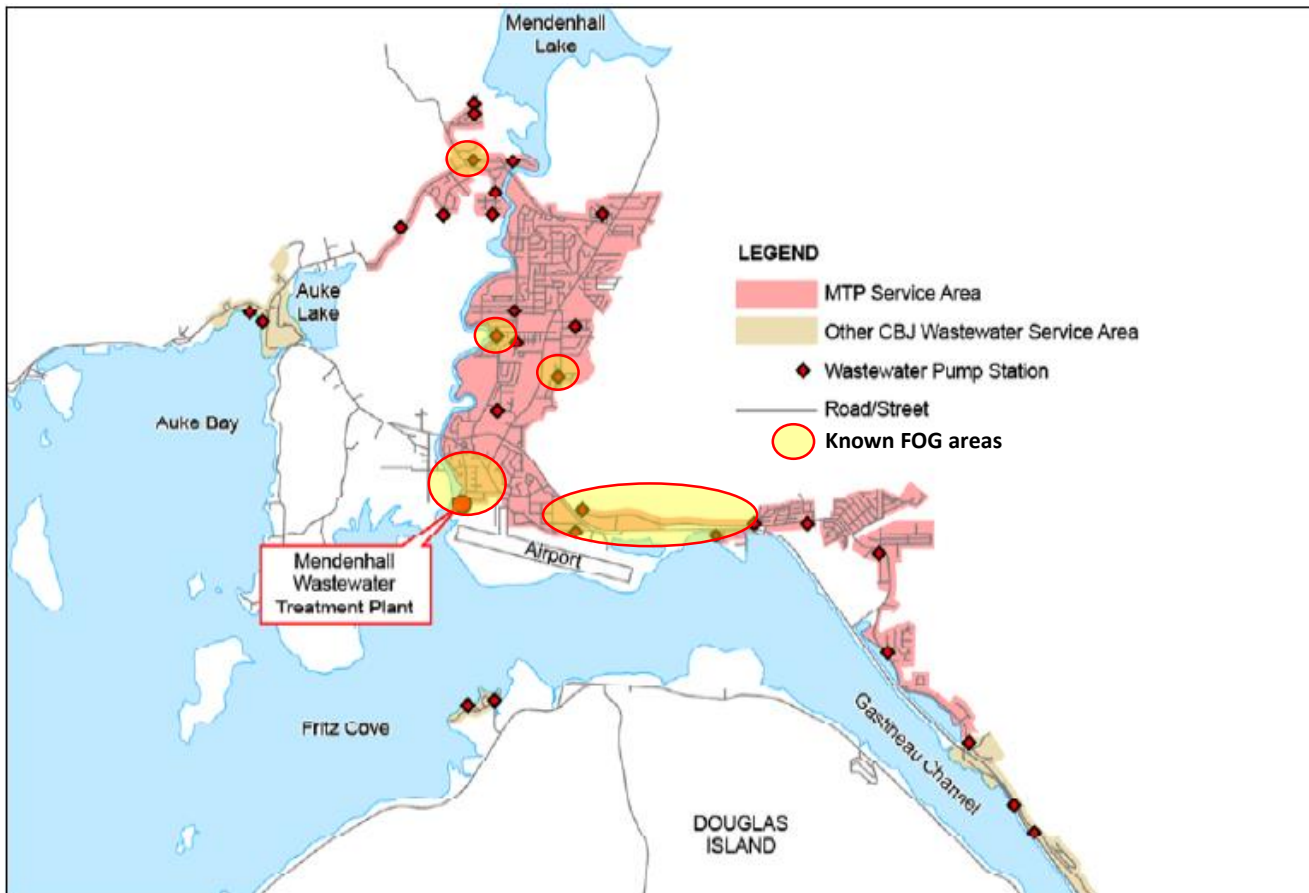
- Major Food Service Facilities (Grocery Stores)
 - Past sampling and observations have confirmed high loading
 - Actions
 - Engaged FM regarding grocery waste in downstream lift station
 - Next steps
 - Visit with leadership to educate on waste impacts
 - Identify waste streams
 - Confirm control devices and proper maintenance
 - Best practice share on non-sewer disposal methods
 - Collaborate to eliminate grinders
- Emerging concerns – Marijuana grow facilities
 - Typically nitrogen rich effluent. Region 10 moving to NH3 limit.
- FOG Loading *FOG = Fats, Oils & Grease*
 - 138 food service facilities in the Collection area





MWWTP Ind Users

- FOG Loading (138 Food Service Facilities)
- Known FOG problem areas include



FOG = Fats, Oils & Grease



FOG and FSE's

FSE = Food Service Establishment

FOG = Fats, Oils & Grease

- Utility Action Items:
 - Education on FOG impacts to Utility via outreach.
 - Communication of the following:
 - The CBJ has FOG requirements
 - FSEs need to have a Grease Removal Device (GRD)
 - CBJ Code 75.02.080 - Use of public sewers; regulations
 - FSE's must clean it regularly with pump outs
 - They must keep records of the cleanings
 - CBJ will enforce this if needed.
 - Help establish a Pumper Program
 - Start tracking FOG Cleaning as a line item in Work orders.
 - Establish a FOG Inspection Program



FOG and FSE's

- FSE Data for a FOG inspection Program
 - Physical Address (and GIS data or latitude/longitude)
 - Potential FOG Loading of FSE (very high, high, medium, low)
 - Proximity of FSE to a FOG-impacted sanitary sewer line (FOG line)
 - Type(s) of FOG pretreatment
 - Interceptor maintenance history
 - Fixtures and drains connected to interceptor
 - Contact information for FSE
 - Landlord or property manager contact information



Precip Infiltration

Inflow and Infiltration (I&I) abatement

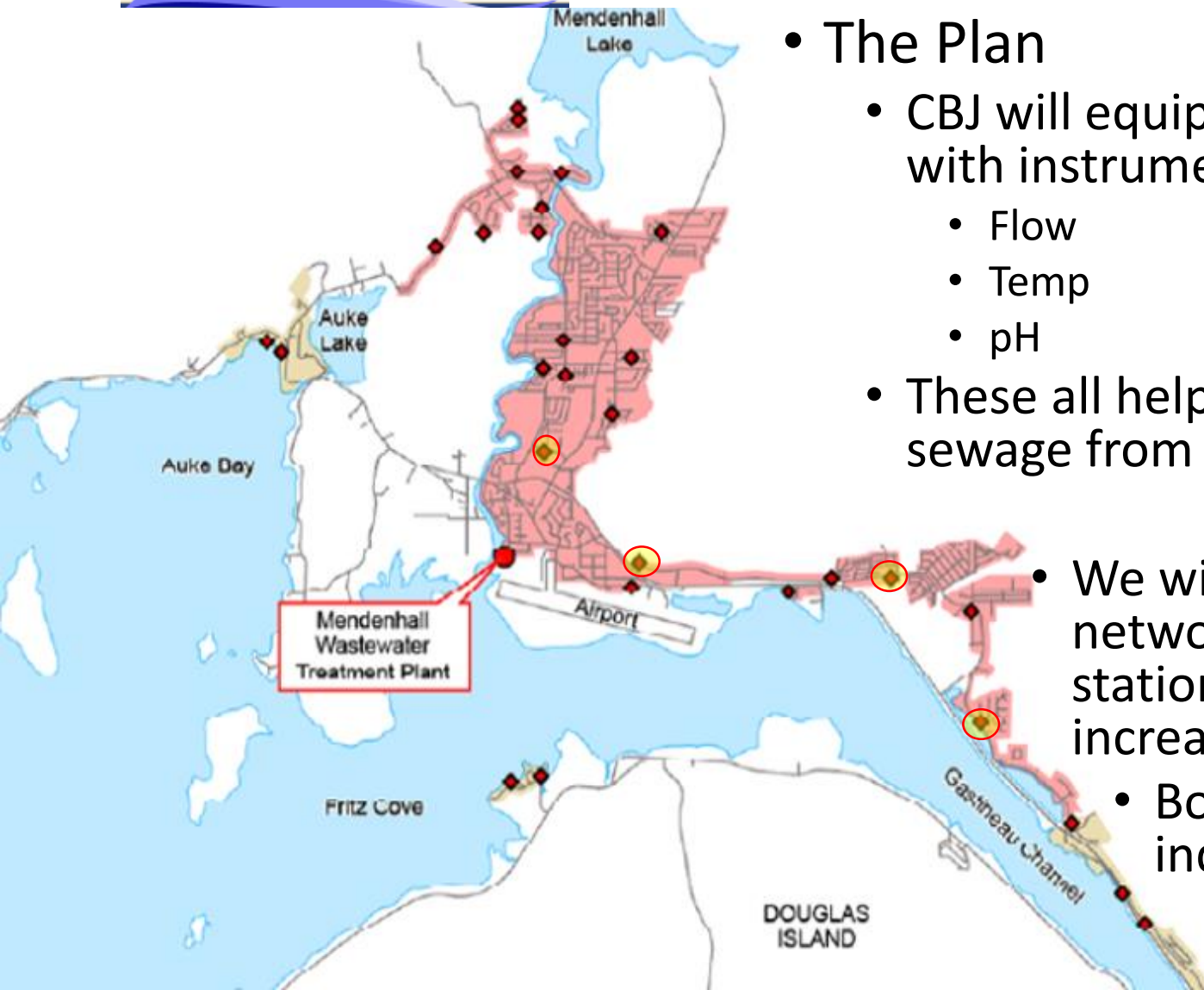
- Potential Sources
 - Leaking Infrastructure
 - Storm Water piped to Sanitary sewer
 - Businesses
 - Homes
- To stop it, we have to find it. How?





Precip Infiltration

- The Plan
 - CBJ will equip key liftstations with instruments:
 - Flow
 - Temp
 - pH
 - These all help distinguish sewage from stormwater.
- We will also engage a network of weather stations to match flow increases to rainfall.
 - Both occurring indicate I&I.





Thank you

Juneau's Climate Action and Sustainability:

What's Been Accomplished and a 5-10 Year Work Plan

8/31/2022 Draft

Juneau Commission on Sustainability

Introduction

It's been 11 years since the City and Borough of Juneau (CBJ) adopted its 20-year community climate plan, the *Juneau Climate Action and Implementation Plan* (JCAIP). The JCAIP identified a specific goal of reducing GHG emissions by 25% by 2032 and identified hundreds of potential actions for accomplishing this goal.

One of the JCAIP's top 10 recommended actions was to develop an energy plan for the community, which was completed in 2018 when the CBJ adopted the *Juneau Renewable Energy Strategy* (JRES). The JRES set a goal of shifting community energy use away from fossil fuels so that renewable sources would provide 80% of the total energy used in Juneau by 2045. This would help to meet the JCAIP climate action goals, reduce vulnerability to fuel price shocks such as in 2022, and increase the community's economic sustainability and resilience. The JRES recommended actions and the development of action plans in four general categories:

- An internal CBJ energy management program - to track and reduce its energy use and costs, contribute to climate and renewable energy goals, and lead by example.
- Buildings' energy use and space heating – install energy efficiencies and electrify heating to reduce Juneau's dependence on fossil fuels,
- Transportation – electrify to reduce Juneau's dependence on fossil fuels, and
- New renewable energy supplies for Juneau.

The JRES provided a menu of hundreds of specific policies and actions for meeting Juneau's climate and renewable energy goals, drawn from the CBJ Comprehensive Plan and from the JCAIP.

This white paper offers a retrospective on what's been accomplished in recent years since the JCAIP and JRES were adopted and identifies actions currently underway. While this focuses on the CBJ's role, the city is not the only player in strengthening Juneau's energy future – residents, homeowners, businesses, organizations, and government agencies all have a part to play in reducing GHG emissions and our reliance on fossil fuels. Also, JCOS proposes a 5 to 10-year work plan of priority actions that will move Juneau toward a sustainable and climate-resilient future.

What's Been Accomplished in Recent Years? How is Juneau Doing?

Measuring our Progress

Is Juneau meeting its climate and energy goals? Where do we stand on the JCAIP goal of a 25% reduction in 2010 GHG emissions by 2032, and on the JRES target of moving 80% of the community's total energy use to renewables by 2045?

If you don't measure, you can't gauge progress. While Juneau's 2010 energy profile and GHG inventory has not yet been updated, two actions contribute to answering these questions:

- In 2020, the CBJ maintenance staff began to compile 2015-to-present records and monitor energy use in CBJ facilities. Now, energy use in approx. 60 CBJ facilities is tracked, and CBJ Maintenance and Finance are working to automate ongoing electrical bills and fuel purchasing records.
- In 2022, CBJ contracted with a national firm to prepare a current energy profile/GHG emission inventory for the Juneau community as a whole and for local government, with the capability to model future efforts that help inform decision making. Preliminary results of this update are expected in fall, 2022.

CBJ and Community Actions in Recent Years and What's Underway Now

CBJ Energy Management

- Several CBJ facilities have had or are slated for near-term energy efficiency & HVAC upgrades, including Treadwell Arena, Savikko Park, Downtown Library, Glacier Fire Station, Eagle Valley Center, Lynn Canal Fire Station, Dzantik' Heeni and Riverbend schools, Centennial Hall, and Augustus Brown Pool.

- New construction and operation at the Juneau Airport's North Terminal and Bartlett Behavioral Health Facility incorporate numerous energy efficiencies.
- CBJ Engineering and Public Works (E&PW) incorporated energy use data from CBJ facilities into a 2021 Sustainability Report (<https://juneau.org/wp-content/uploads/2021/11/CBJ-AnnualSustainability-2021-r3.pdf>).
- Beginning in 2021, the CBJ incorporated sustainability as a criterion for projects in its Capital Improvement Plan.
- CBJ replaced eight of its vehicle fleet with EVs (what %?), and is investigating consolidation of its downtown-located vehicles for more efficient utilization and potential future EV purchasing.

- CBJ Transit secured federal funding for seven electric buses (39% of fleet), bus-charging equipment, and bus barn upgrades. Juneau's first electric bus began operation in April 2021 and is providing practical experience and trouble-shooting useful in ordering the next six electric buses.

Buildings: Energy Use and Space Heating

- Since 2020, the CBJ Assembly has funded Alaska Heat Smart (AHS), a local nonprofit that provides education & technical assistance to homeowners who then convert their home heating to air source heat pumps. AHS conducted about 450 home heating assessments, with approx. 80 more in progress. AHS data shows, on average, homeowners save about 67% on annual energy costs (\$5/gal fuel in 2022) and eliminate CO2 emissions equal to one automobile annually. In 2022, AHS secured \$2.4 million in two federal grants to install energy efficiencies and heat pumps in lower income Juneau homes over the next three years.
- The number of heat pumps has increased rapidly in Juneau. Owners have installed heat pumps in approx. 1500 Juneau homes, roughly 12% of Juneau's housing units.
- Air source heat pumps are a preferred heating system for new construction, renovations, and real estate sales. High demand has led to increases in hiring by local installers.
- To date, the Juneau Carbon Offset Fund has installed heat pumps in 30 lower-income homes.
- Spearheaded by Interfaith Power & Light volunteers and others, an investigation of potential financing options is underway to accelerate the adoption of heat pumps and other energy efficiencies. An application for a federal USDA line of credit project may be feasible.
- A district heating system for Aa'kw Village district and downtown is being designed.

Transportation - reduce reliance on fossil fuels

- To date, Juneau residents purchased about 500 EVs - roughly 2.5% of the community's 20,000 cars.
- Beginning in 2017, through a collaborative effort among nonprofits, businesses and agencies, 31 public EV chargers have been installed and provide free charging.
<https://www.plugshare.com/directory/us/alaska/juneau>

- CBJ investigated the challenges, locations, and installed 10 public EV charging stations in 2022 with CIP funding approved by the Assembly, additional funds and in-kind logistical, standard drawings, and coordination support from Juneau EV Assn. and AK EV Assn., and coordination with AEL&P. New Tier 2 charger sites: 8th St/Basin Rd (2 chargers), Twin Lakes (2), Harris Harbor (2), Eagle Valley Center (2), and Eaglecrest (relocated & added 2 to expand site to 4 chargers).
- With FY2023 \$5M grant, CBJ is collaborating with the State on renovation of the State Office Building parking garage to accommodate more parking and EV charging.
- Using 2022 Marine Passenger Fees (MPFs), the CBJ is analyzing the feasibility of electric bus circulators for downtown.
- In 2022, CBJ prioritized electrification of its two public docks for cruise ship shore power – through revenue bonds, MPFs, and potential federal grants.
- With 2022 MPFs, the CBJ commits to upgrade the 20-year-old electrical infrastructure serving the Franklin Dock shore power, as a precursor to electrifying the two city docks for shore power.
- Norwegian Cruise Lines has stated that it expects to provide cruise ship shore power if a new dock is approved. That development is now under Huna Totem Corp. ownership.
- A local entrepreneur has an electric boat operational.

New Renewable Energy Supplies

- Studies and grant applications have raised community awareness of what/when/where new hydropower supplies will be constructed in Juneau.

Community Sustainability

- Beginning in 2019, the CBJ Assembly identified annual sustainability goals and has taken actions to implement the Juneau Renewable Energy Strategy.
- In 2020, CBJ pursued USDA funding (unsuccessful) to expand Juneau’s composting capability in partnership with a private business, local schools, and Alaska Dept. of Environmental Conservation.
- In 2022, the Assembly funded a zero waste planning project to reduce & divert solid wastes and extend the life of Juneau’s landfill. The CBJ also has a congressionally

designated grant for \$2.5 million for a composting facility included in the pending FY2023 federal budget legislation.

- An Environmental Projects Specialist was hired in 2022 to work on CIP-funded zero waste, utility, EV, and energy/GHG inventory projects.
- A collaborative report by UAS, UAS, and CBJ, *Juneau's Changing Climate & Community Response*, is published in 2022 and identifies probable effects Juneau residents will be facing in coming decades.

A Proposed 5 to 10 Year Juneau Sustainability and Climate Action Plan

The CBJ's recent and ongoing actions identified above give Juneau strong momentum in achieving its climate, renewable energy, and sustainability goals. Federal legislation in 2021 (Infrastructure Investment & Jobs Act - IIJA) and 2022 (Inflation Reduction Act - IRA) present once-in-a-generation opportunities to propel the Juneau community forward on its path to a sustainable and resilient future. The CBJ is in the process of identifying a grant strategy for projects that CBJ would seek funding under the 2021 IIJA.

In light of ongoing work and pending grant opportunities, JCOS offers the following recommendations on priorities for action over the next 5 to 10 years. The Commission has sought to identify gaps in community-wide efforts to achieve equitable energy efficiency, climate resilience, and sustainability. It is JCOS's intention that the action plan contributes to overall community goals by:

- Helping community members, businesses, CBJ staff, and the CBJ Assembly identify priority actions;
- Providing guidance on funding for sustainability projects in the CBJ budget and CIP processes;
- Supporting private, foundation and public funding requests;
- Identifying and supporting federal funding opportunities;
- Contributing to public communications about Juneau climate and energy actions
- Identifying the connections between climate/energy goals and other community goals such as affordable housing, reducing landfill odors, etc.

1. Develop a community strategy to electrify transportation through a collaborative process. Identify the CBJ's role as a catalyst to overcome barriers and accelerate EV adoption, including particular areas where CBJ could facilitate the transition to EVs include:

- Adopt a CBJ policy of support for electrification of transportation.
- Collaborate to create a program for maintenance and repairs to public EV chargers.
- Finance EV charging infrastructure renovations for multi-family rental and condominium housing through LIDs, C-PACE, property tax deferments, etc.
- Amend CBJ codes to incentivize EV chargers in parking lots of new developments and to require EV chargers as a feature of new single and multi family housing construction.
- Provide waterfront electrification for EV charging infrastructure and work with the tourism industry to identify and implement incentives to assist in converting their fleets to electric buses, vans and vehicles.
- Lead by example by continuing to convert the City's fleet to EVs.
- Actively engage with the Alaska Energy Authority on State planning and funding for EV charging infrastructure in Southeast Alaska and on the Haines and Alaska Highways.

2. Facilitate energy efficiency and electrification in Juneau buildings:

- Adopt a CBJ policy of building decarbonization, and lead by example [\[2\]](#)
- Update building codes to incorporate current energy efficiency standards: 2021 International Energy Conservation Code (IECC) and ASHRAE Standard 90.1-2019. Consider a “stretch” code as a starting point.
- Continue to support efforts to upgrade the energy efficiency and heating systems of housing to enhance the affordability for lower income households.
- Establish financing options, such as “C-PACE” (Commercial Property Assessed Clean Energy), for commercial and multi-family building owners to install energy efficiency, heat pump systems, and climate resilience upgrades.
- Investigate district heating for the proposed City Hall and Civic Center and thereby provide momentum to encourage nearby federal and state facilities to support the project.
- Investigate federal ARP/ESSER funding for air quality/energy efficiency upgrades in Juneau schools
<https://www.buildinggreen.com/news-analysis/once-lifetime-opportunity-green-public-schools>

3. Track the Community's Progress: Energy Profile and GHG Emissions Inventory:
 - Continue to track and annually report CBJ facility energy performance.
 - Use the 2022 inventory as a benchmark to establish measurable sustainability indicators, and then track and communicate the indicators to the public.
 - Readjust the JCAIP and JRES goals and create interim targets for renewable energy and GHG emissions.
 - Use the 2022 modeling tool to identify actions where CBJ and others in the community can make notable progress toward GHG emission reduction and renewable energy goals.
 - Update the 2022 community energy profile and GHG emission inventory no later than 2027.
 - Include information on projected changes in energy use and GHG emissions anticipated from significant CBJ actions and projects over \$1 million, as well as projected costs of reducing or offsetting new GHG emissions.

4. New Renewable Energy Supplies & CBJ's Role
 - CBJ recognizes that it has a responsibility to advocate and articulate to the Regulatory Commission of Alaska and the Alaska Legislature the Juneau community's public interest in long-term renewable energy supplies.
 - CBJ seeks independent, expert analysis of its power needs and rate agreements favorable to the community, as warranted.

5. Community Sustainability
 - Based on the outcomes of the current zero waste planning project, CBJ implements actions within a 5-10 year timeframe to reduce wastes, divert wastes, enhance local resource recovery businesses, and begin new landfill planning.
 - Identify vulnerabilities in CBJ's infrastructure to climate change, and seek federal funding opportunities (e.g. stormwater management, landslide abatement, etc.).
 - Collaborate on workforce training for local construction/utility trades to meet demands for energy efficiency and climate resilience upgrades by residents, businesses, and agencies.

[1] JCOS previously identified GHG emissions, and the relative proportions of energy provided by fossil fuels and renewable sources, as initial sustainability indicators).

[2]The report “[Model Government Zero Emissions Buildings Policy](#)”, released May 2022, provides “plug-and-play” policy language for jurisdictions considering taking a lead-by-example approach to building decarbonization to show what’s possible.

August 31, 2022

To: JCOS Members
From: Gretchen Keiser, Chair
Subject: JCOS 101

In light of the recent addition of several new members to the Juneau Commission on Sustainability, I am collaborating with two former JCOS chairs (Steve Behnke and Duff Mitchell) on a series of short presentations, plus Q&A, on the origins, recent history, and governance of the Commission. We'll spread these out over the next few meetings as a way to assist our new sustainability compatriots in coming up to speed on JCOS.

Here's a general outline:

- Part 1 (Steve) JCOS origins, Juneau Climate Action & Implementation Plan (JCAIP) development
- Part 2 (Duff) JCAIP implementation, Juneau Renewable Energy Strategy (JRES) development, other Issues championed by JCOS
- Part 3 (Gretchen) JCOS governance, annual flow, JCOS-Assembly interaction