



Regional Flow and Cost Allocation

Environment Committee: October 28, 2025

Kyle Colvin, Manager, Wastewater Planning & Community Programs



Terms & Definitions



MWC

- Municipal Wastewater Charge - Communities costs for wastewater service

RWC

- Regional Wastewater Charge – ES budget needs for revenue collection through MWCs

Customer Community (Local Governments)

- Local municipalities (111) that are billed directly for regional wastewater service

Metered Flow Volumes

- Volumetric wastewater as determined through ES network of permanent sanitary sewer flow meters.

Estimated Flow Volumes

- Volumetric wastewater as determined through various methodologies mutually agreed to by Council and Customer Community.

Revenue Sources



Sewer Availability Charge (SAC)

MCES charges a one-time fee to local governments when a residence or business connects to the regional wastewater system for the first time or when the business increases capacity demand. **Future users** – Debt Service



Municipal Wastewater Charge (MWC)

Municipal Wastewater Charges are based on the Regional Flow Volume, the Community Flow Volume, and the Regional MWC budget.

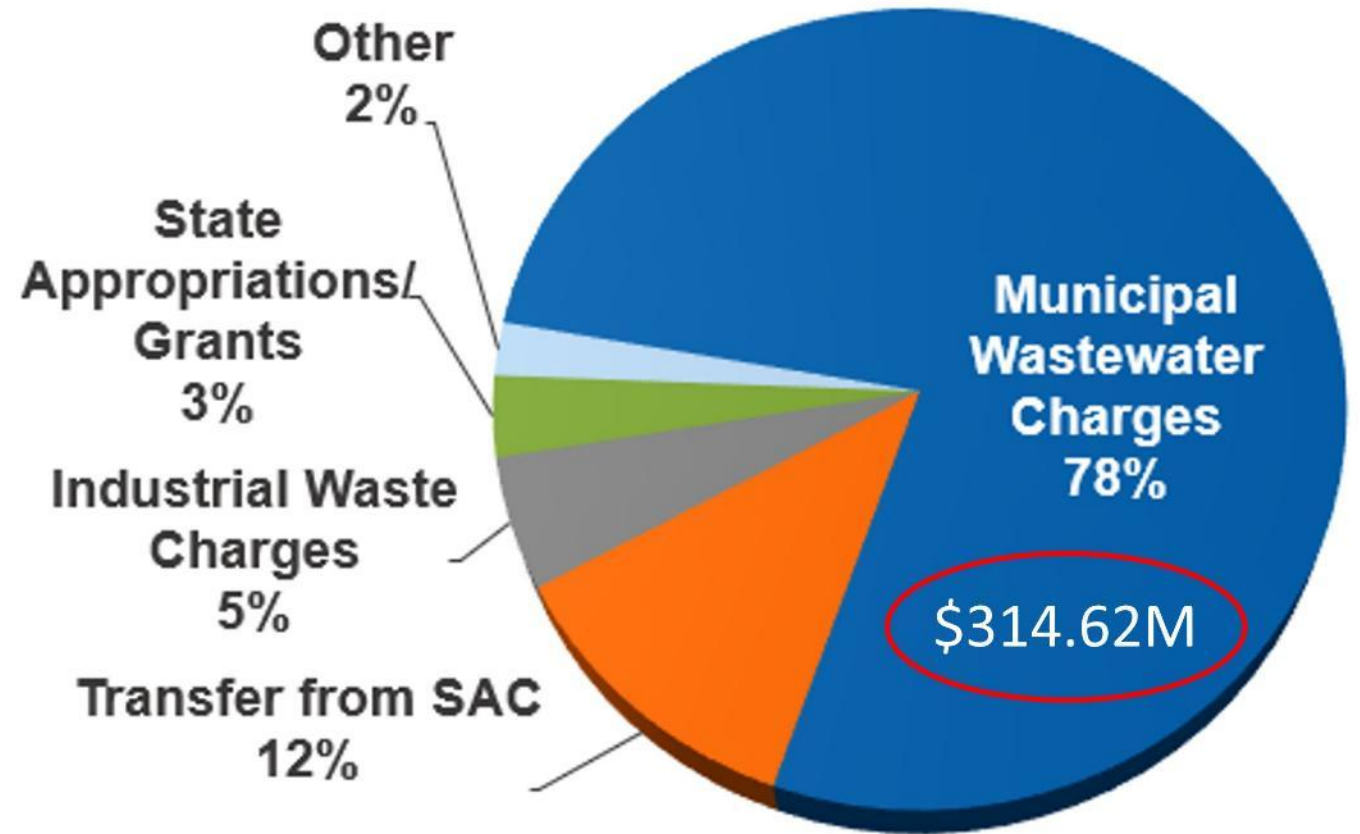
Current users – operational & maintenance



Strength Charges

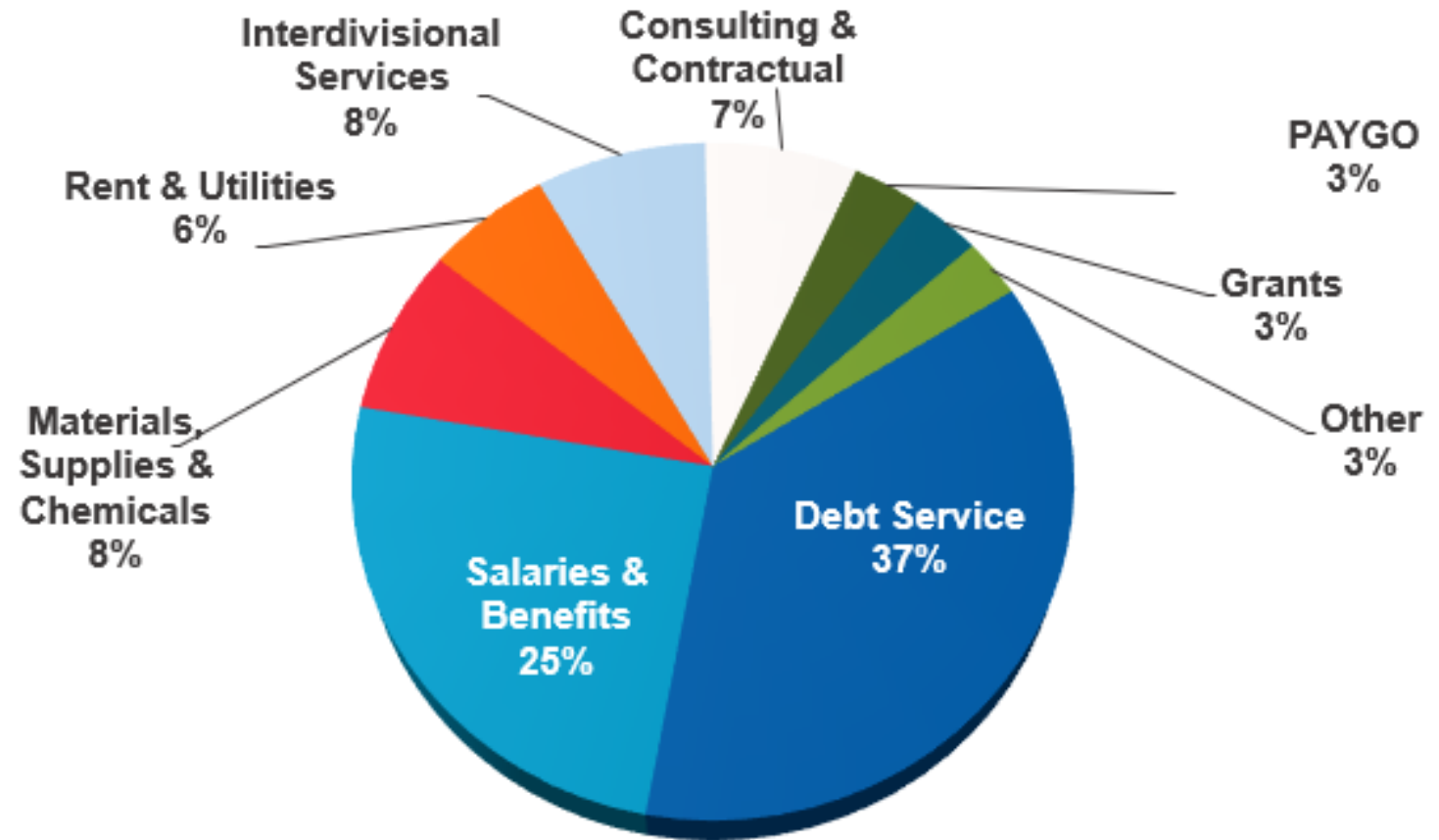
- Strength charges are collected via permits from 894 industries.
- This includes high-strength waste (pH, COD, BOD, metals, solids, etc.).
- Industries charged for added cost to treat. Customer communities **not** charged.

2026 Preliminary Revenue Sources: \$405.5M



*Other includes: \$4.6M use of reserve

2026 Proposed Revenue Uses by Category: \$405.5M



1972 Clean Water Act – Federal Grant Requirements



Public Law No. 92-500 (Federal Water Pollution Control Act Amendments of 1972), Section 204, (b) (1), requires that a utility;

- Part A: To adopt, or plan to adopt, a system of charges to assure that each recipient of waste treatment services within the applicant's jurisdiction **will pay its proportionate share of the costs** of O&M (including replacement) of any treatment services provided by the applicant.

MN Statutes – Collection of Current User Costs

473.517, Subd. 1.

Allocation of treatment, interceptor costs; reserved capacity.

- a) Authorizes the Council to charge local governments for current costs that either directly or indirectly discharge to the Metropolitan Disposal System during the budget year according to an allocation method determined by the Council.

473.521 Subd. 2

Municipalities obligations to Council

- a) Each government unit shall take all action that may be necessary to provide funds required to provide funds required for such payments and to make same when due.

473.521 Subd. 4

Deficiency tax levies

- a) If a governing body fails to meet any payment to council, Council may certify to county auditor outstanding payments for collection via tax rolls at 6% per annum.



Council Policies & Procedures - Flow/Cost Allocation

FM 12-5: Wastewater Service Charges Policy

The policy will maintain wastewater charges that enable MCES to:

- meet wastewater regulatory requirements;
- implement MCES infrastructure rehabilitation and repair needs; and
- provide wastewater capacity for growth consistent with the Council's Thrive MSP 2040.

"The Council will design and adopt charges using a regional cost-of-service basis and include Municipal Wastewater Charges, for domestic strength, allocated to communities uniformly, based on flow".

"If flow or other corrections are needed for prior-year billings, the Council will limit corrections in the billings to 6-years pursuant to Mn Statutes Section 541.05"

"The Council will seek customer input prior to, and give at least three months notice of, any material changes in the design of charges"

Council Policies & Procedures - Flow/Cost Allocation

FM 12-5a: Community Billing Adjustments and Disputes

Staff shall follow the steps described below to adjust prior years' billings if corrections in a community's flow or cost has been determined warranted and if necessary, Council staff will follow this progression in resolving billing disputes:

1. Negotiations around technical disagreements
2. Third party neutral mediation
3. Binding Arbitration

If staff determines that the payment is a substantial burden on the community, the ES Finance Director is authorized to provide a payment plan that allows the community to amortize the payment due for up to six years, which normally shall include a reasonable provision for interest.

Council Work Instructions - Flow/Cost Allocation

FIN-ESWI-07: Quality Assurance of Flow Measurements Used for Billing *(Outdated reference to data forms and group names)*

Work Instructions cover:

1. Responsibility of metered data set collection, review, and retainage (7 years).
2. Review of community flow trends and coordinating corrections to data if necessary.
3. Changes in Flow Measurement Conditions (Community Allocation Meter equation).
4. Estimation of Unmetered Flow Volumes (Larger areas reviewed with Community).
5. Monthly Schedule for Allocation development and Distribution to Communities.

FIN-ESWI-18: Reporting Process for Adjustments to Flow Measurements Used for Billings

Work Instructions cover:

1. Adjustment to flow measurement used for billing to account for other flow volumes.
2. Determination of hauled waste flow volumes (liquid waste and plant hauled waste).
3. Estimation of groundwater and other construction related discharge volumes.
4. Estimation of Unmetered Flow Volumes using IW temporary flow monitoring.

Flow Allocation (Municipal Wastewater Charge)



Determination of Flow Volume

Metered Volumes

- Volumetric wastewater as determined through ES network of permanent sanitary sewer flow meters.
- Data point collected every 2 to 5 minutes, then rolled up into retained 15-minute gallon per minute data point
- Flow data retained in perpetuity. (1992)

Estimated Volumes

- Volumetric wastewater as determined through various methodologies mutually agreed to by Council and Customer Community.
- Usually pertains to small area of one community serviced through an adjacent community's collection system. Most times flow allocation adjusted between communities, but some rely on Council to adjust.
- Some communities flow entirely adjusted due to small amount of flow generated and ability to accurately or reliably able to measure.

Metering System



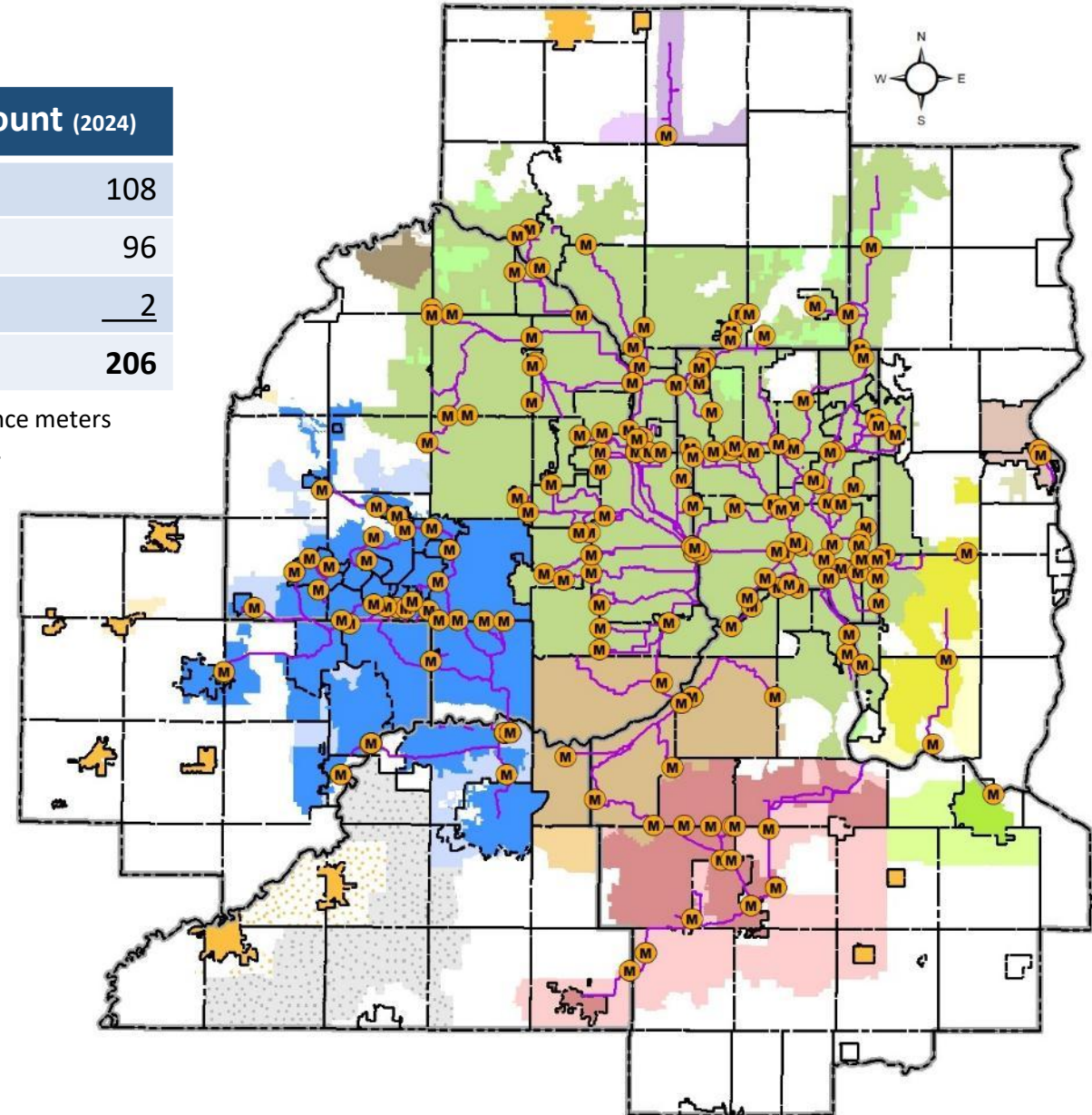
Parshall Flume with suspended level “radar” sensor. Note stilling well.



Magnetic flow meter on 36-inch Ductile Iron Pipe (Inverted Siphon)

Meter Type (Billing)	Count (2024)
Gravity Flume	108
Magnetic	96
Transit Time	2
Total:	206

Note: There are 22 system performance meters that are not used for billing purposes.

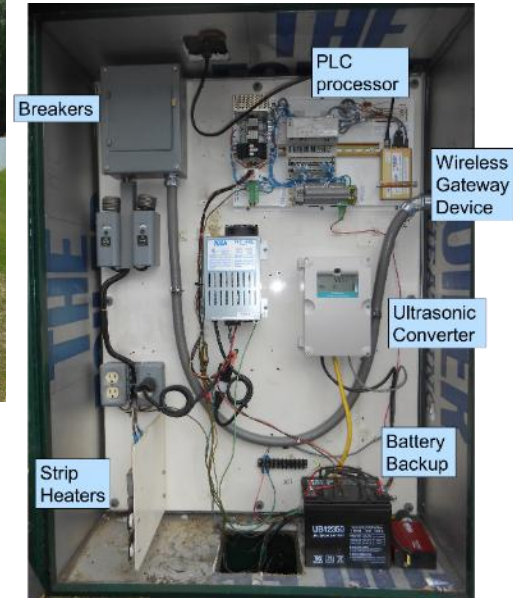


Flow Measurement Devices

Minneapolis East Twin Mag Meters Small Mag Meter in Typical Vault



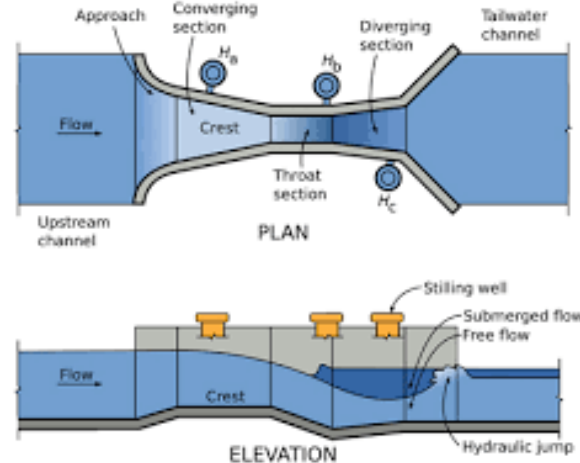
Meter Telemetry Cabinet & Instrumentation Panel



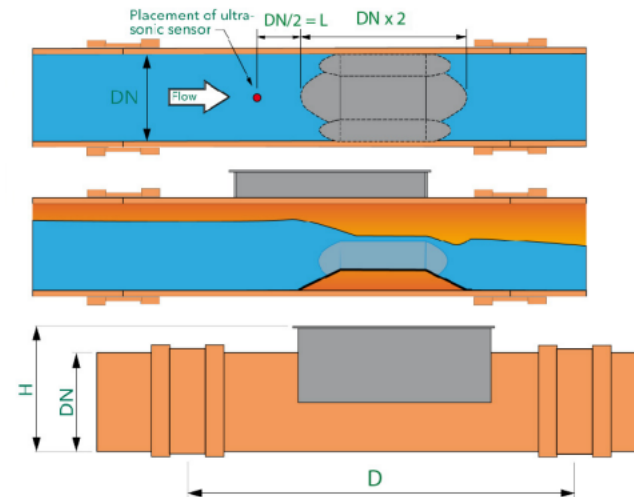
Parshall Flume



Parshall Flume Diagram



Palmer-Bowlus Flume Diagram



Unmetered Flow Adjustments

Intercommunity Adjustments

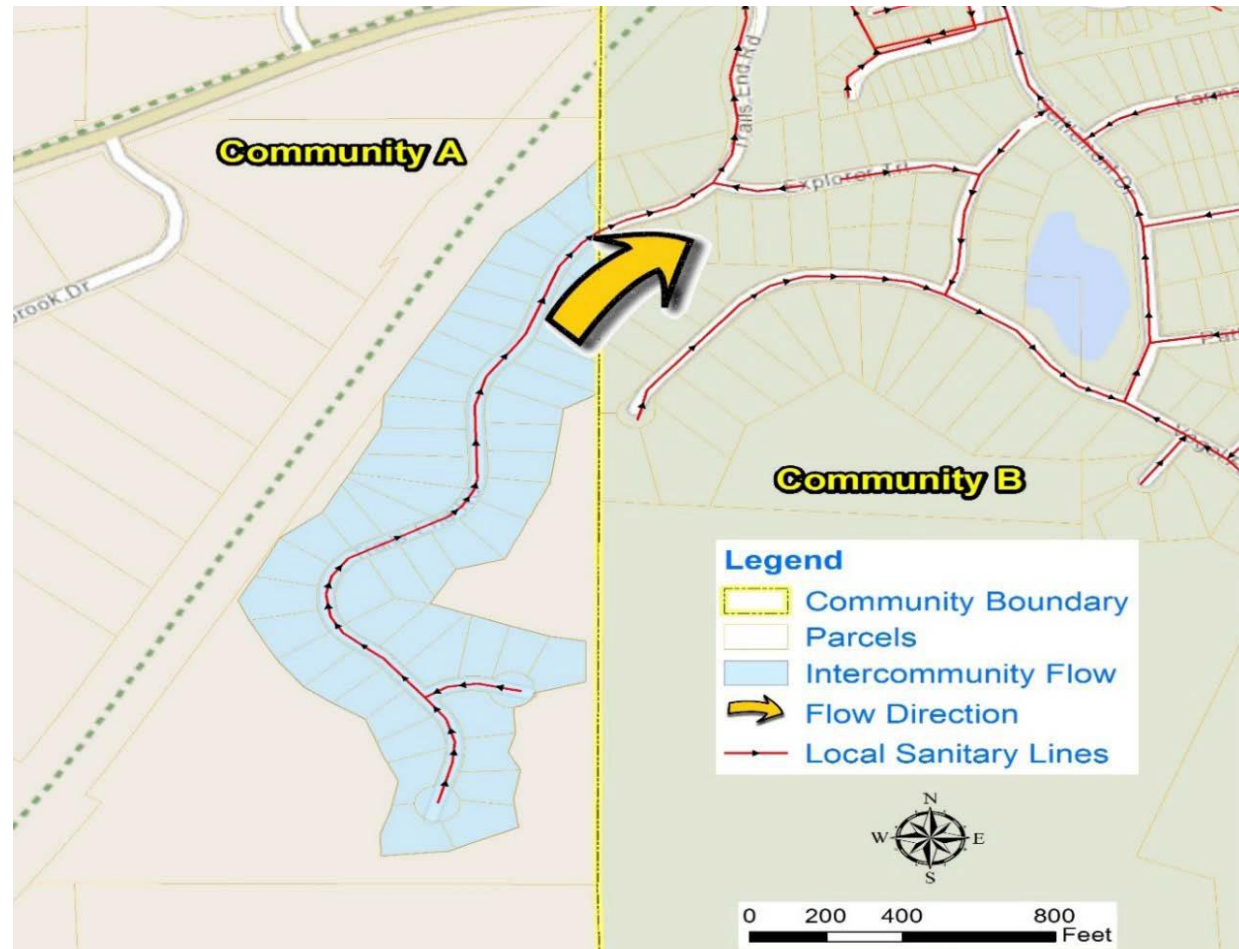
Intercommunity unmetered flow exchanges:

- Residential
- Commercial
- Industrial (GW Cleanup)

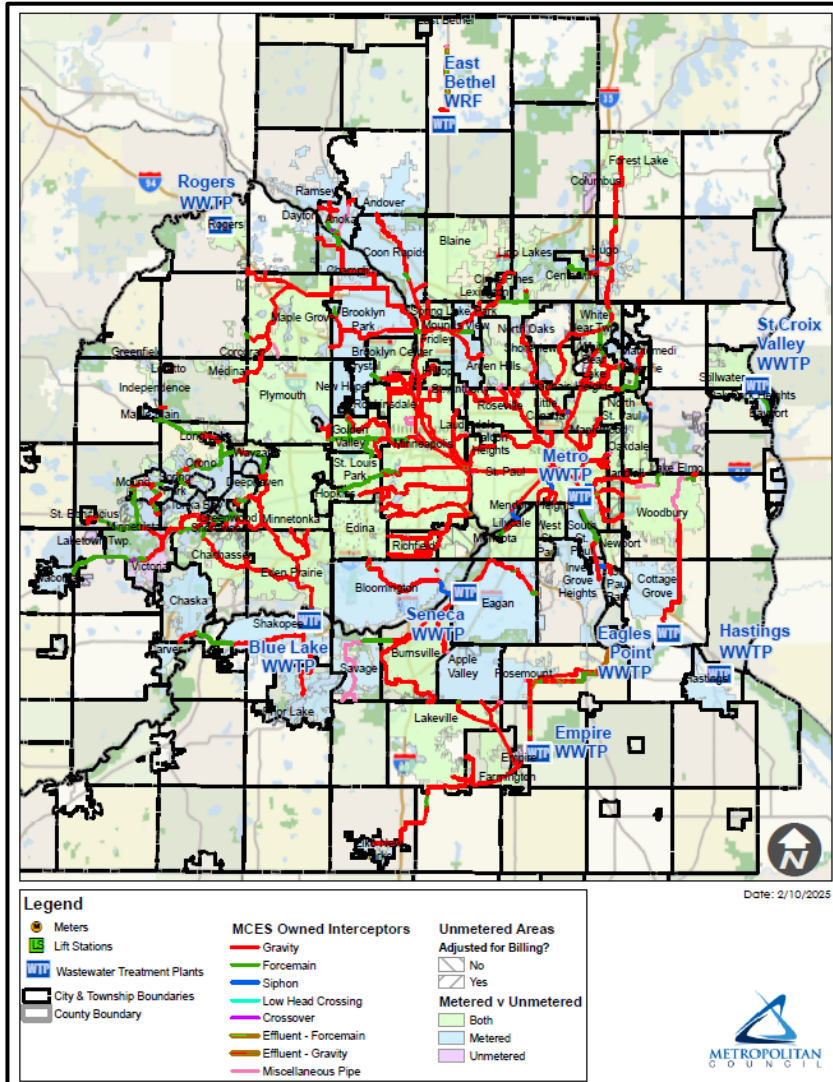
Some covered by agreements, adjusted locally

Some require adjustment by Environmental Services:

- Water use
- Connections (SAC)
- LS data
- Temp flow monitoring
- Percent of ES Meter



Community Unmetered Flow Adjustments



Metered (completely metered) (may have unmetered areas adjusted between the cities) (34)

Andover	Coon Rapids	Inver Grove Heights	Rosemount
Anoka	Cottage Grove	Maple Plain	Savage
Apple Valley	Crystal	Mendota	Shakopee
Bayport	Dayton	Mounds View	South St. Paul
Bloomington	Eagan	New Brighton	Spring Park
Brooklyn Park	East Bethel	New Hope	St. Paul Park
Carver	Elko New Market	Osseo	Waconia
Champlin	Hastings	Prior Lake	
Chaska	Hugo	Ramsey	

Unmetered (completely) (12)

Columbus	Laketown Twp.
Empire	Landfall
Gem Lake	Loretto
Greenfield	North Oaks
Hilltop	Victoria
Lake Elmo	Willernie

Both (metered and unmetered, adjusted by MCES) (65)

Arden Hills	Fridley	Mendota Heights	Shorewood
Birchwood	Golden Valley	Minneapolis	Spring Lake Park
Blaine	Greenwood	Minnetonka	St. Anthony
Brooklyn Center	Hopkins	Minnetonka Beach	St. Bonifacius
Burnsville	Independence	Minnetrista	St. Louis Park
Centerville	Lakeville	Mound	St. Paul
Chanhassen	Lauderdale	Newport	Stillwater
Circle Pines	Lexington	North St. Paul	Tonka Bay
Columbia Heights	Lilydale	Oak Park Heights	Vadnais Heights
Corcoran	Lino Lakes	Oakdale	Wayzata
Deephaven	Little Canada	Orono	West St. Paul
Eden Prairie	Long Lake	Plymouth	White Bear Lake
Edina	Mahtomedi	Richfield	White Bear Twp.
Excelsior	Maple Grove	Robbinsdale	Woodbury
Falcon Heights	Maplewood	Rogers	
Farmington	Medicine Lake	Roseville	
Forest Lake	Medina	Shoreview	

Unmetered Flow Adjustments (continued)

Construction & Hauled Waste Adjustments



Source: Trenchless Technologies, website



Source: ISUZU Trucks, website



Source: Met Council Asset Photo library

Construction Discharges

- Allowed via pre-approval by IWP
- For local projects, confirm municipality is aware of discharge and revenue collected
- For ES projects, volume discharge documented, and municipal flow volume adjusted to remove the construction discharge volume for the ES Project

Septage Waste

- Saint Paul, Farmington, and Fridley
- Volumes tracked by IWP and reported to WPCP
- Volume deducted to those municipalities that would be impacted by liquid waste volume captured at their billing meter

Regional WRRF Waste

- Saint Paul, Farmington, Fridley
- Volume deducted to those municipalities that would be impacted by volume captured at their billing meter

Special Discharge to Sanitary Sewer Request Form

Community submits request to IWPP

Request distributed to:

- Metering & Alarm – Capacity
- Wastewater Planning and Community Programs – Capacity, cost reimbursement, methodology for estimating flow.
- Construction Services – ES Project Coordination.



Metropolitan Council Environmental Services
Industrial Waste & Pollution Prevention Section
390 North Robert Street
St. Paul, MN 55101-1805

For MCES Use Only
Date Received: _____
Request ID: _____

COMMUNITY REVIEW FOR SPECIAL DISCHARGE TO SANITARY SEWER

A. Community Notification Information: The Signatory Authority for the MCES Special Discharge Permit Applicant in cooperation with a Community Representative (i.e. authorized personnel from the City Engineering or Public Works Department), must complete Section A, and then forward the form to the Community Representative, who then completes Section B of this form.

1. Applicant: _____

2. Waste Description: _____

3. Site Name: _____

4. Site Address: _____

5. MCES Engineer: _____

Email: _____ Phone: _____ Fax: 651-602-4730

6. Discharge Location Information: Complete the information below in coordination with the Community Representative and attach a Site Map that shows the proposed Discharge Location(s). If there are multiple discharge locations, provide the following information, 6.a – 6.i, for each location as a separate attachment.

a. Discharge Location Description (include GPS coordinates if available): _____

b. Proposed Discharge Start Date: _____

c. Estimated discharge duration: _____

d. Sewer Connection Type: ☐ Community Sewer connection ☐ MCES Sewer Connection

e. MCES Connection Point (Interceptor ID, Lift Station ID, etc.): _____

f. Discharge Type: ☐ Continuous Discharge ☐ Intermittent Discharge

g. Maximum Discharge Rate: _____ (gallons per minute) _____ (gallons per day)

h. Total Discharge Volume (gallons): _____

i. Proposed Volume Determination Method: _____

7. Community Sewer Volume Billing Arrangements: ☐ No charge ☐ Regular charge ☐ Other – Describe Below _____

Note: If No Charge is selected, the Community is still responsible for any/all MCES Wastewater Treatment Charges.

8. Indicate the Corporation, Proprietorship, or Government Unit financially responsible for Sewer Volume Charges: _____

B. Community Representative Information: Upon receipt of this form, the Community Representative completes this section and forwards to the MCES Engineer listed above (see item A.5).

☐ I approve of the information provided for items A.6, A.7, & A.8.

☐ I approve of the information provided for items A.6, A.7, & A.8, subject to the conditions listed below.

☐ I do not approve of the information provided for items A.6, A.7, & A.8, for reasons listed below.

Conditions/Reasons: (Community Conditions/Reasons will be evaluated and included as needed in the MCES review process)

Community Representative: _____ Title: _____

Signature: _____ Date: _____

Email: _____ Phone: _____

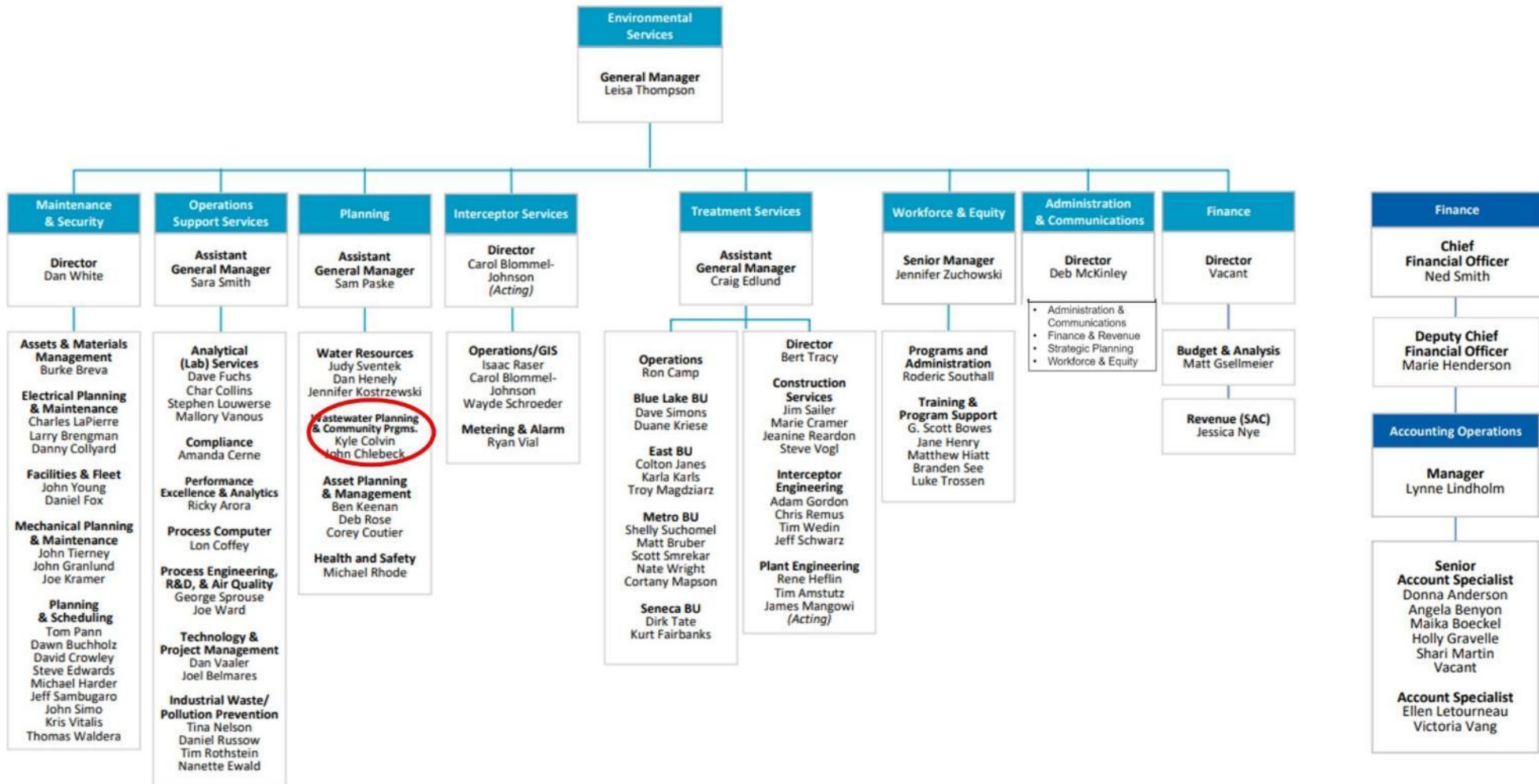
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Community Review-2021

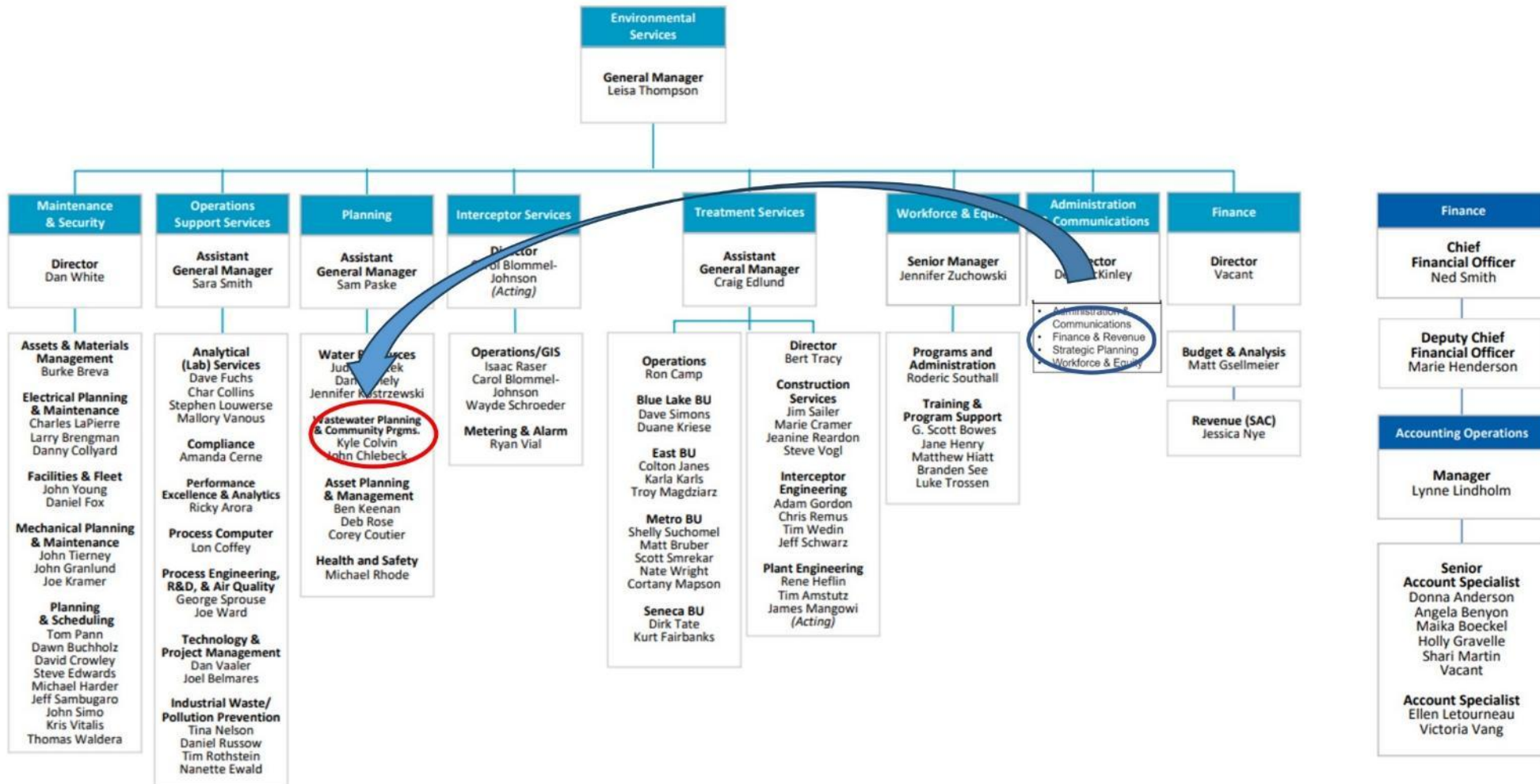
Metropolitan Council

17

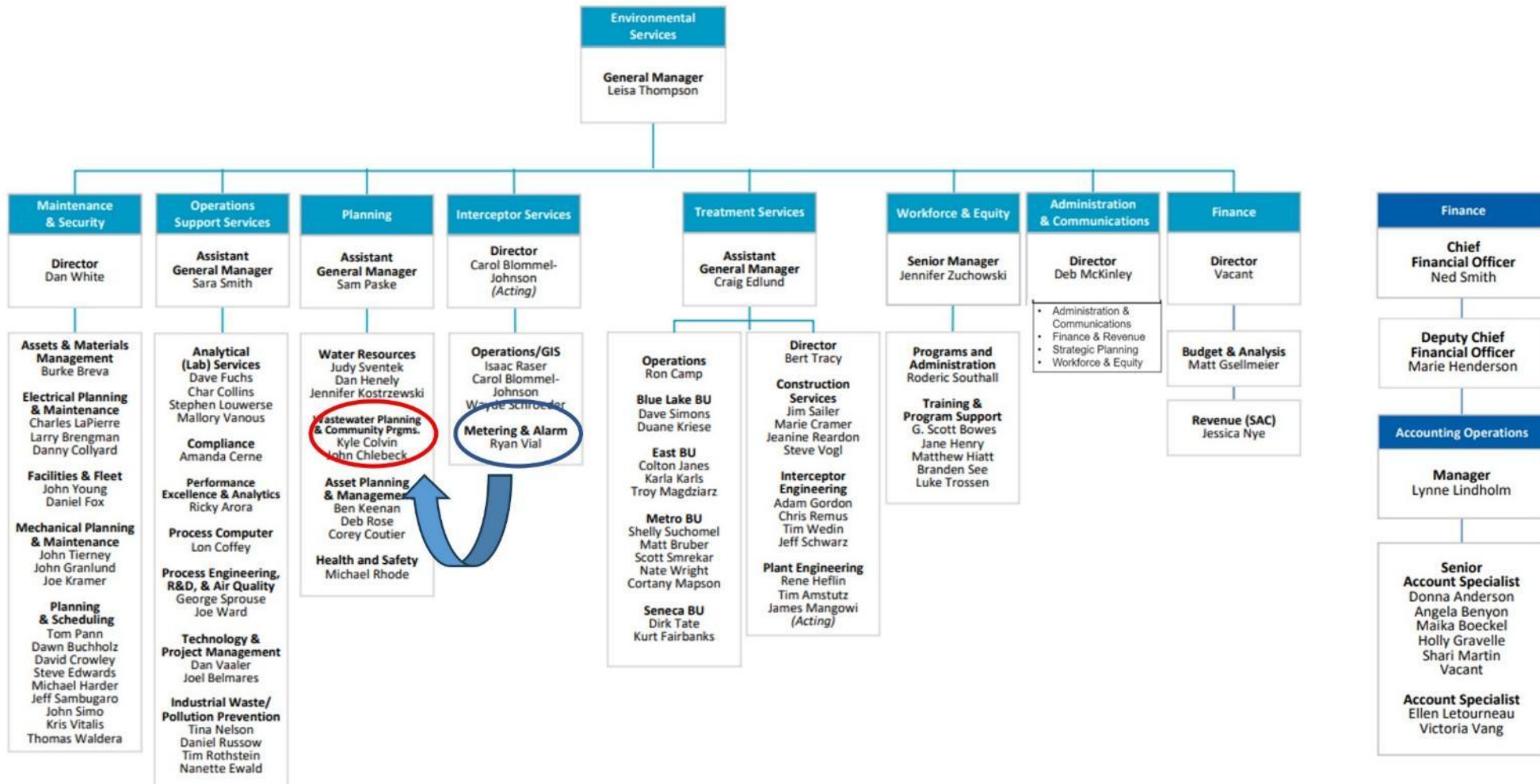
Flow/Cost Allocation activity within the Council?



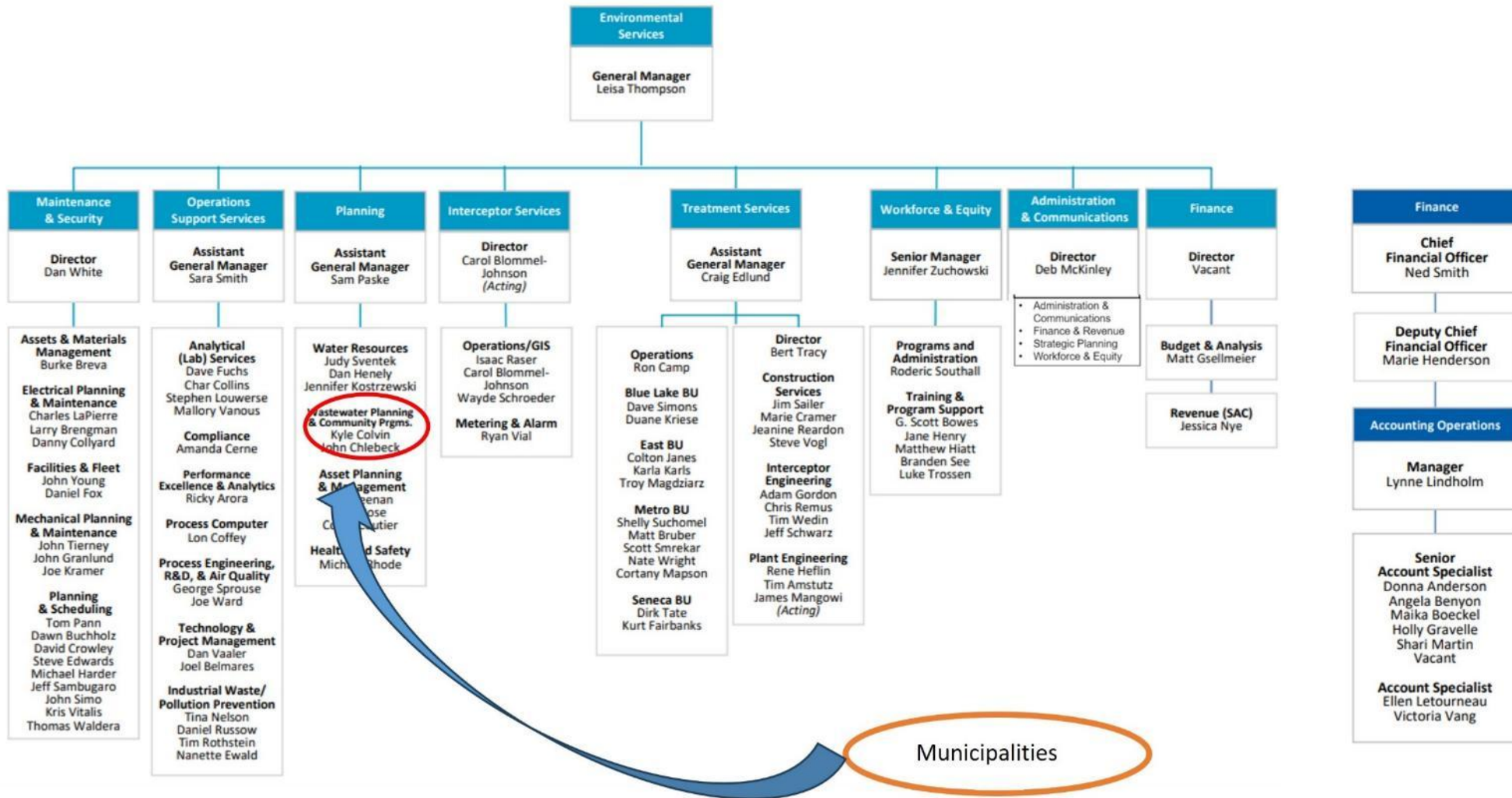
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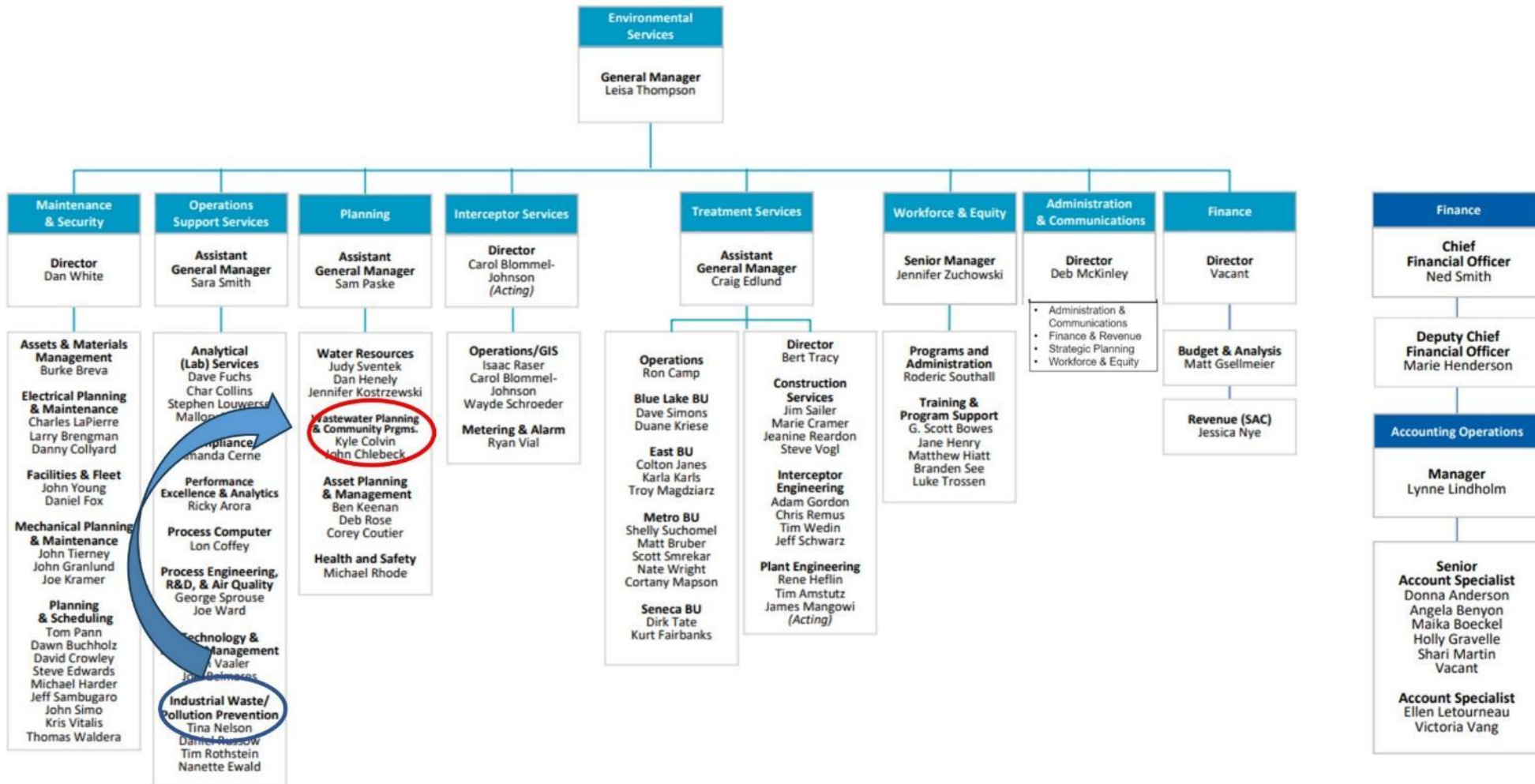
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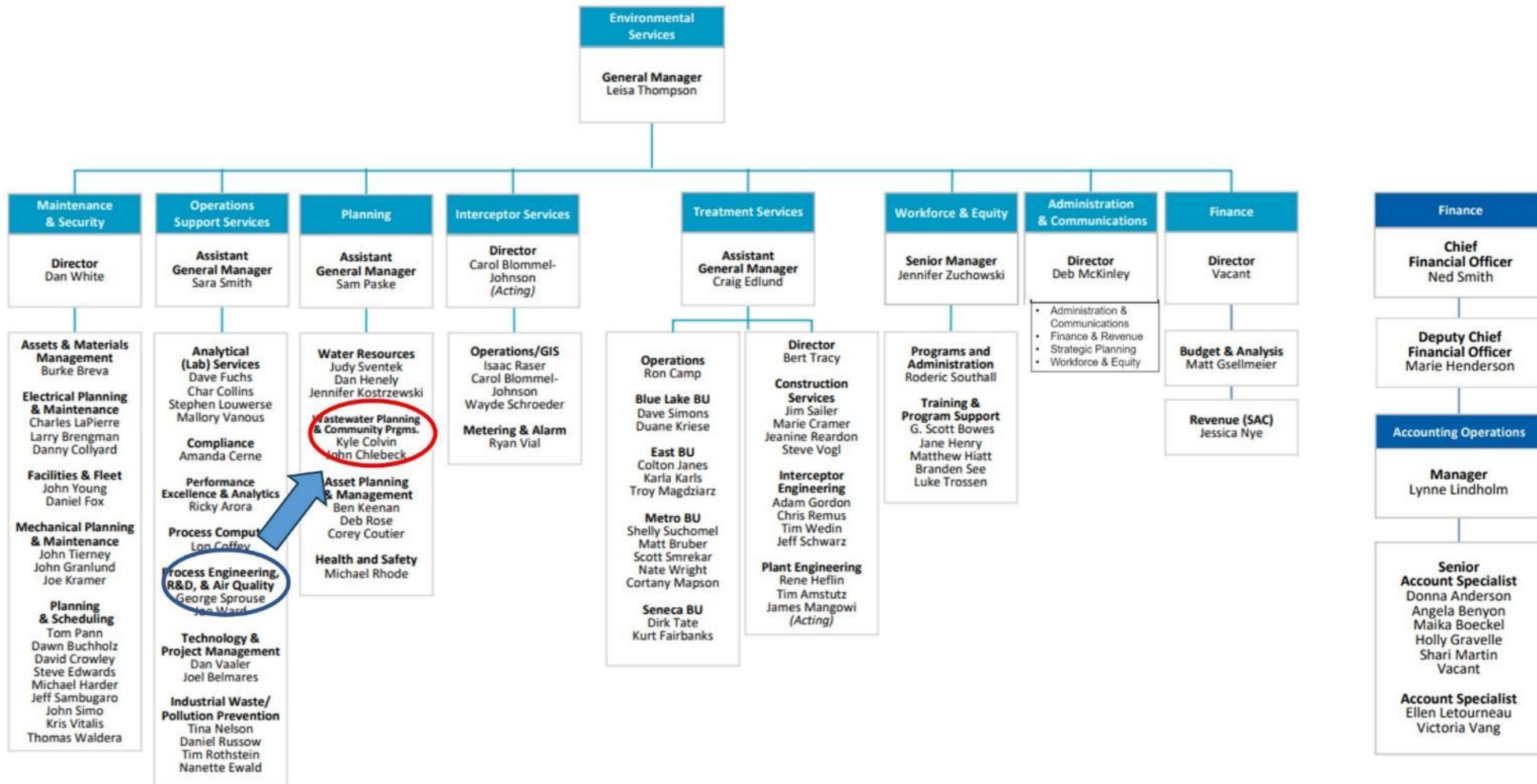
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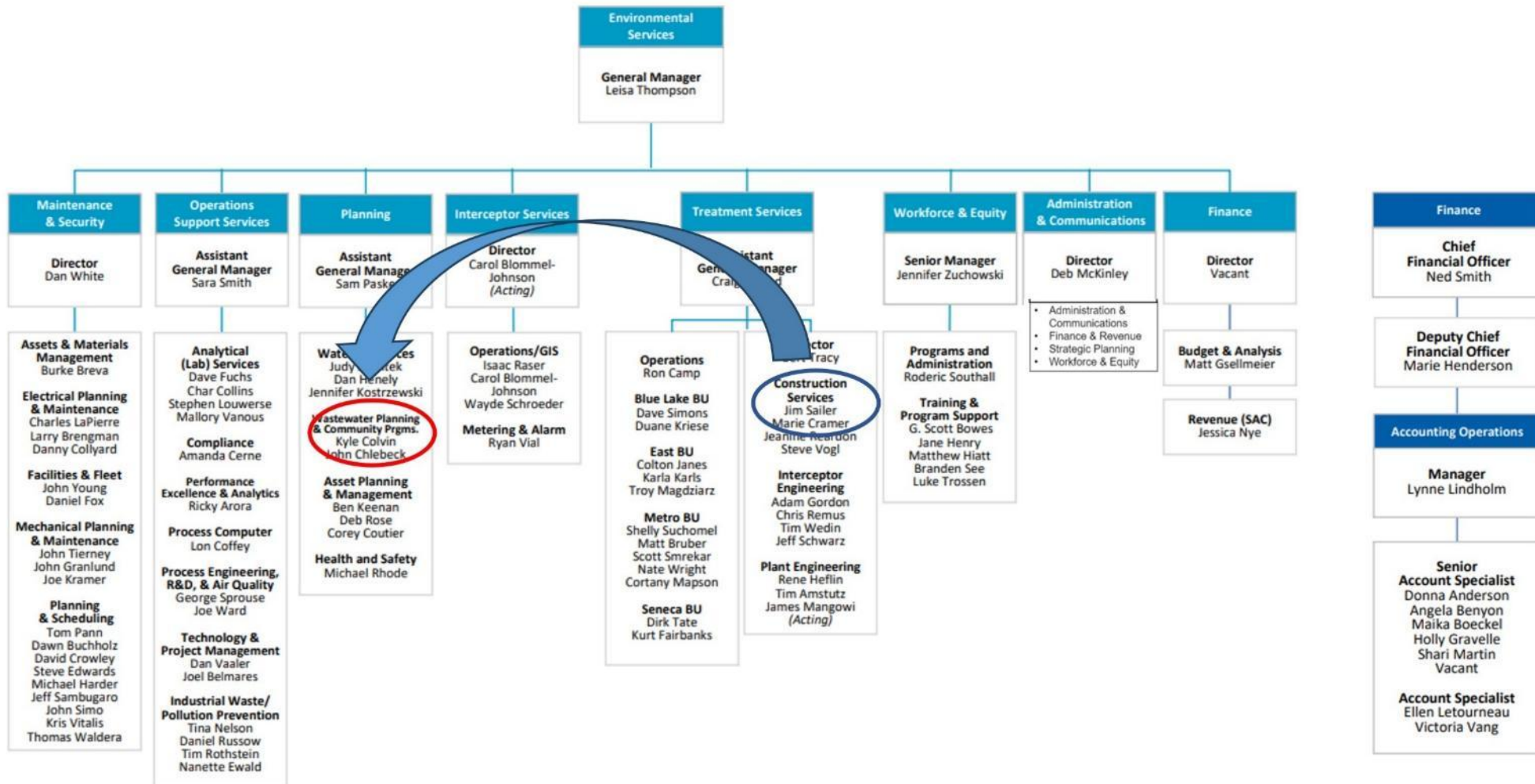
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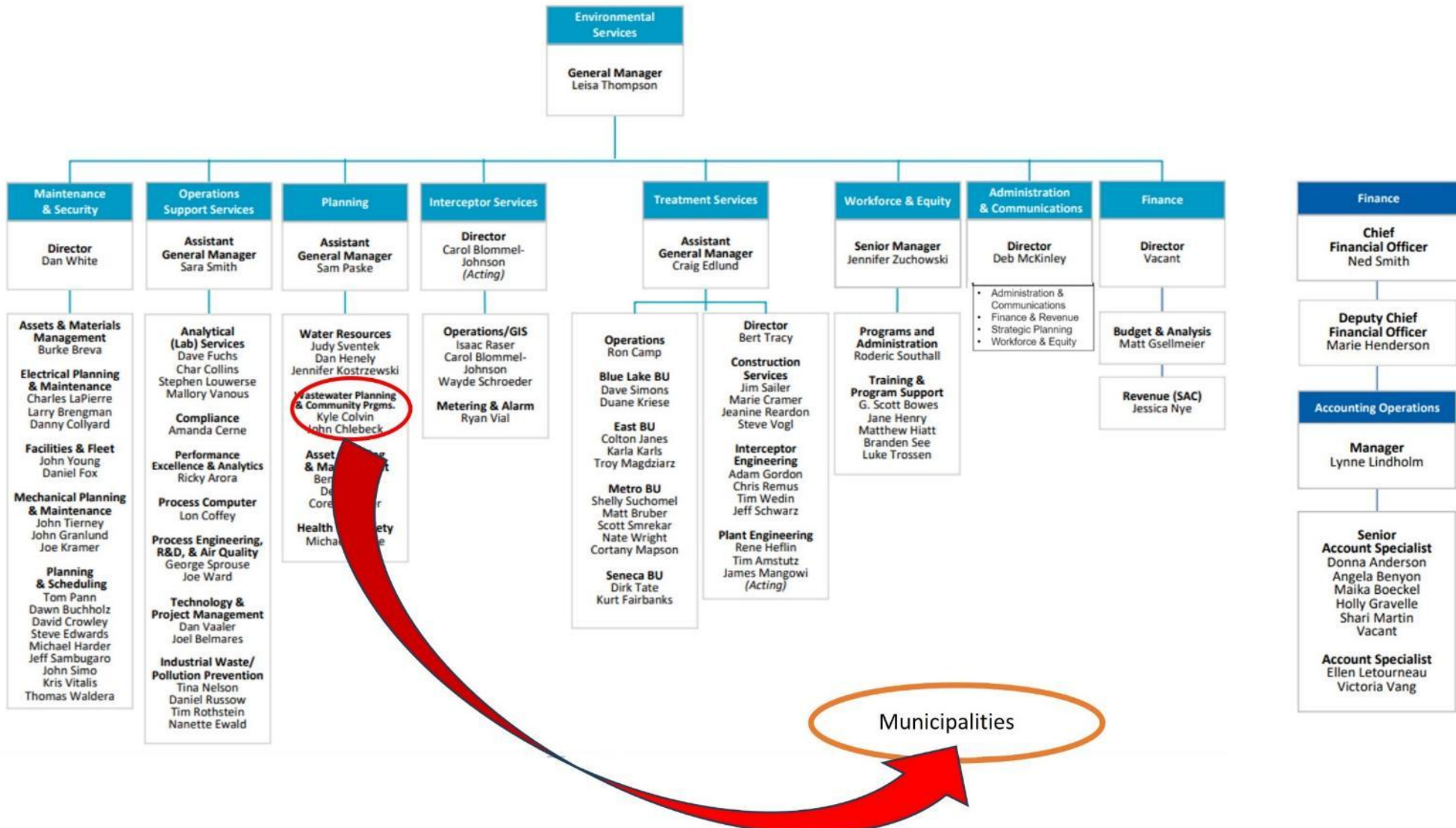
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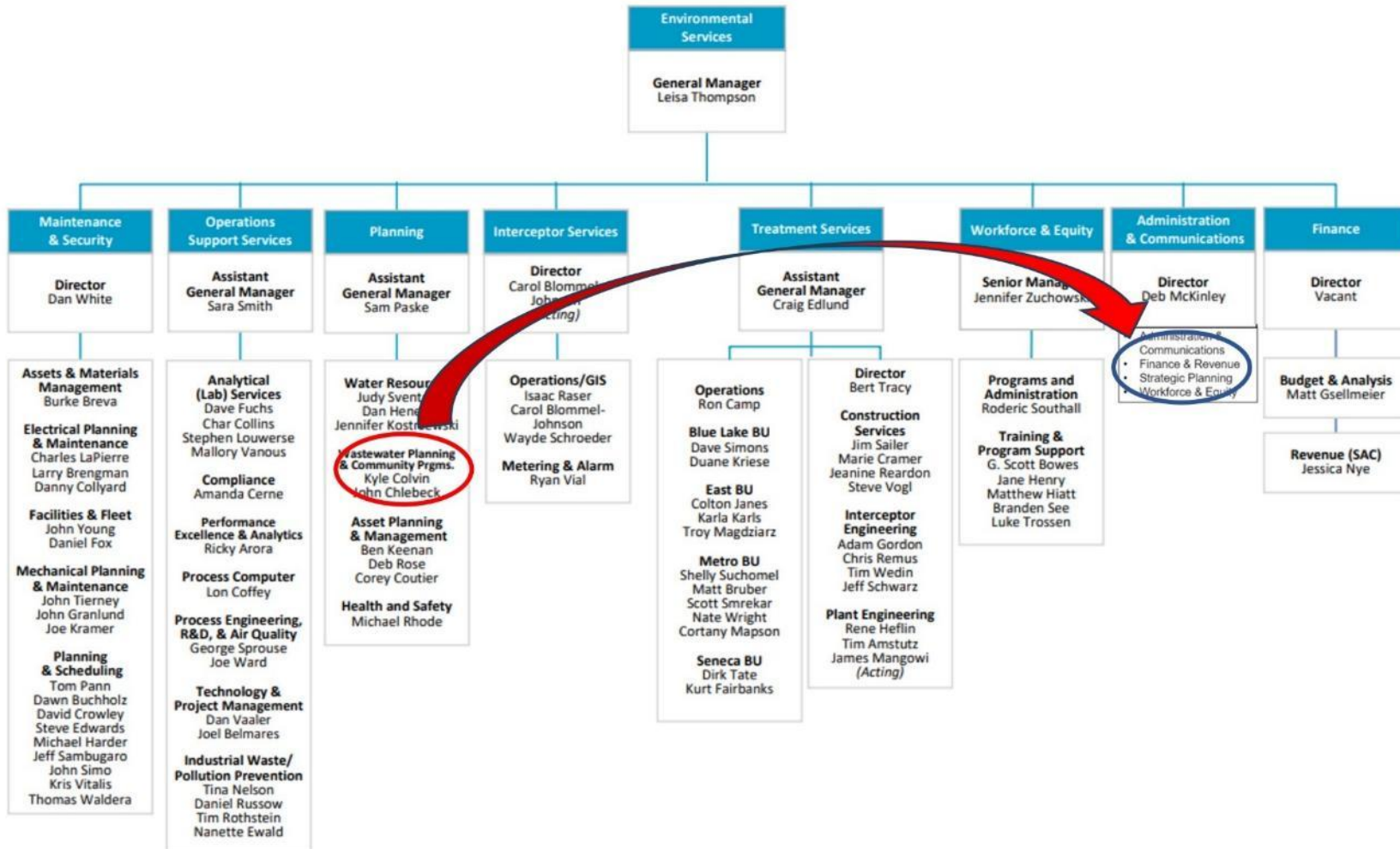
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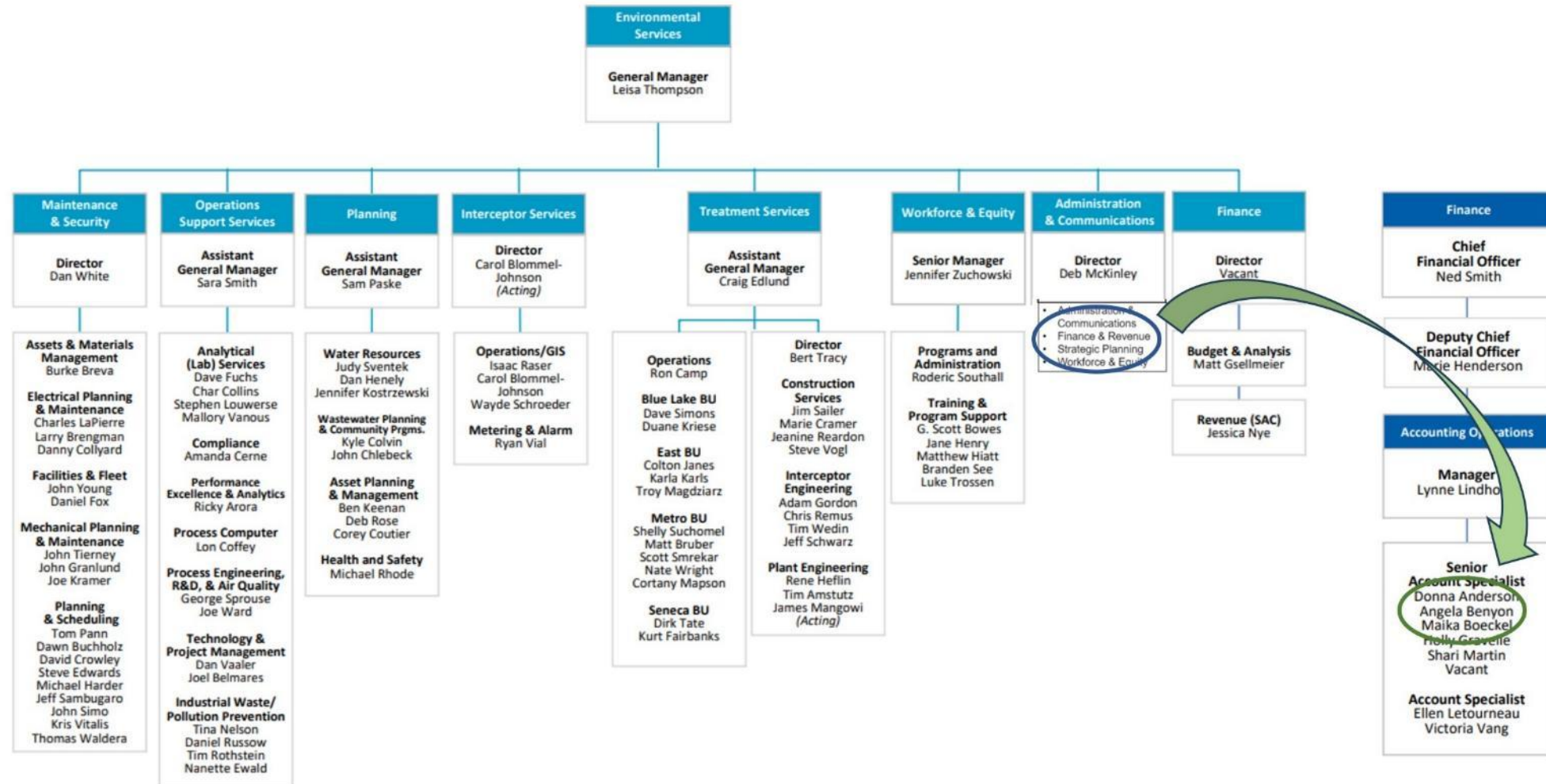
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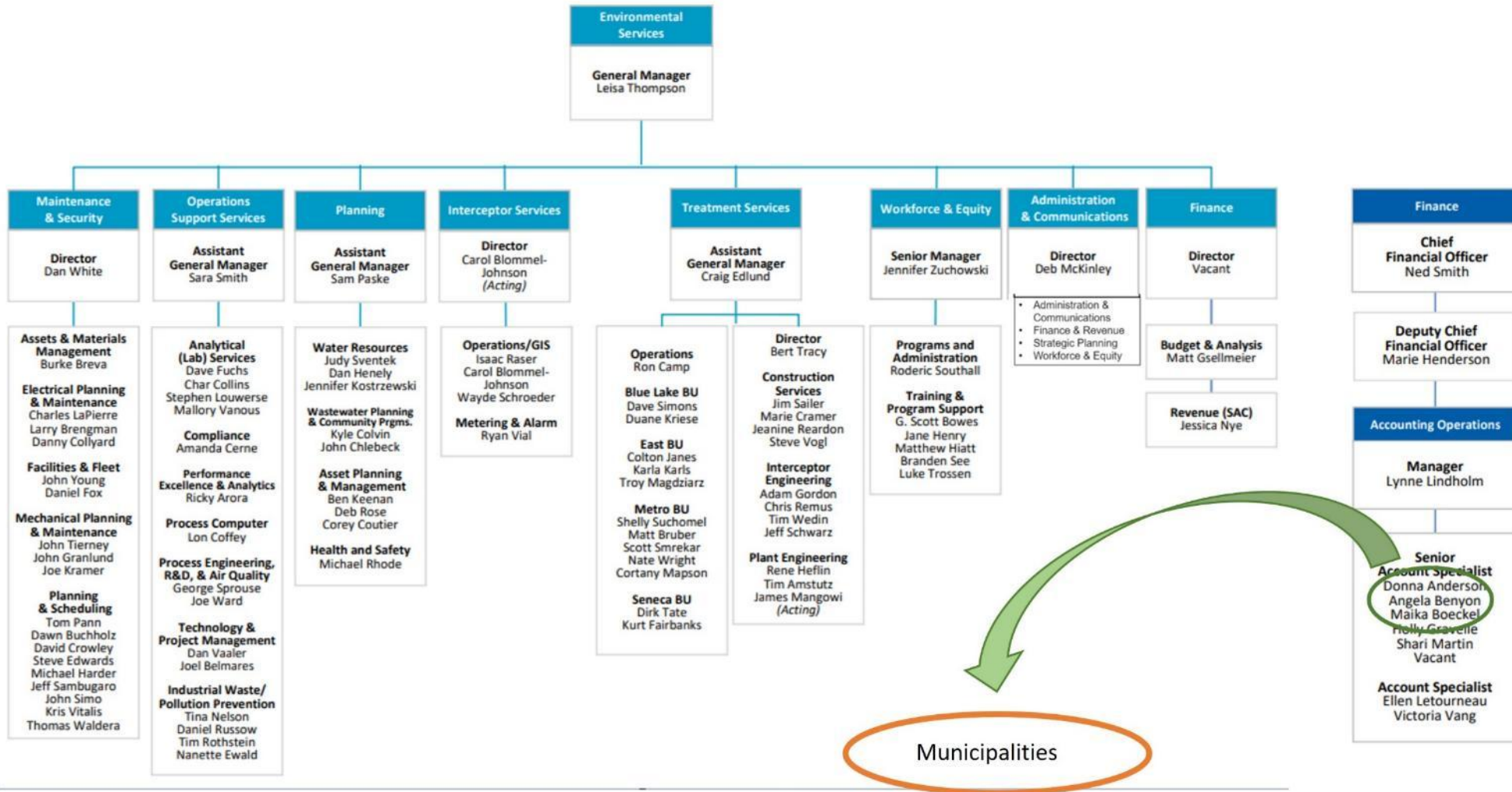
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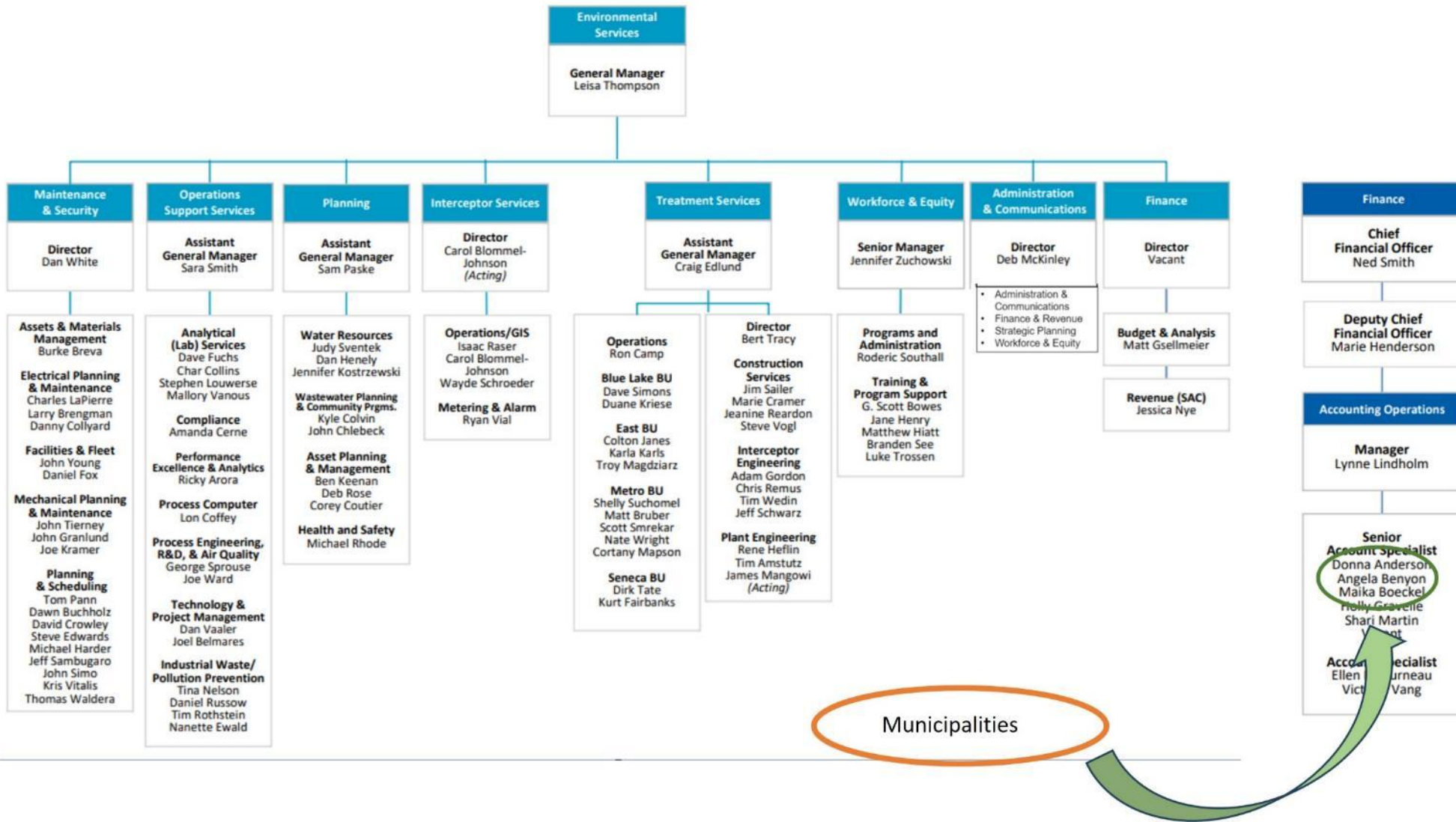
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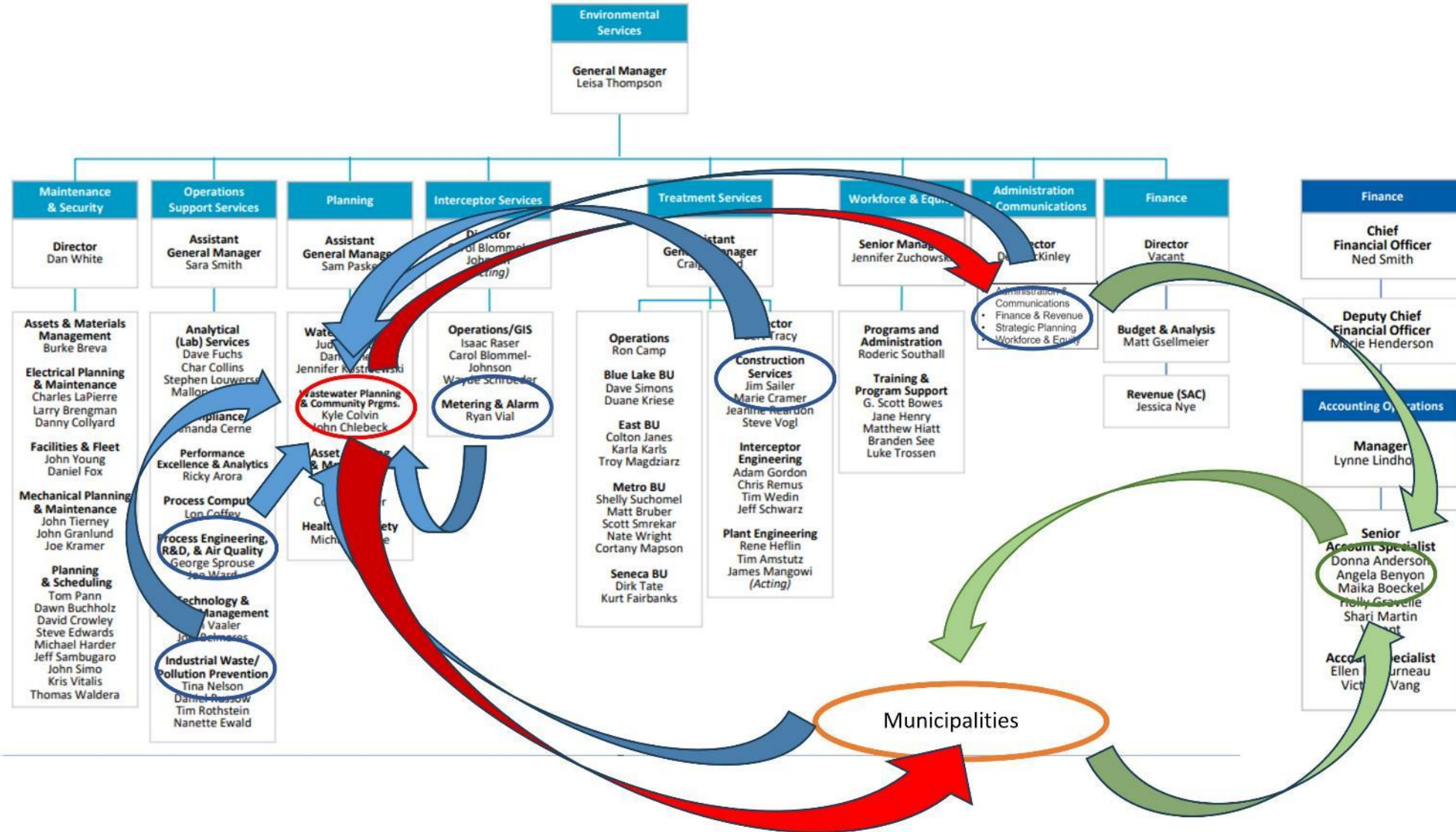
Flow/Cost Allocation activity within the Council?



Flow/Cost Allocation activity within the Council?



Flow/Cost Allocation activity within the Council?

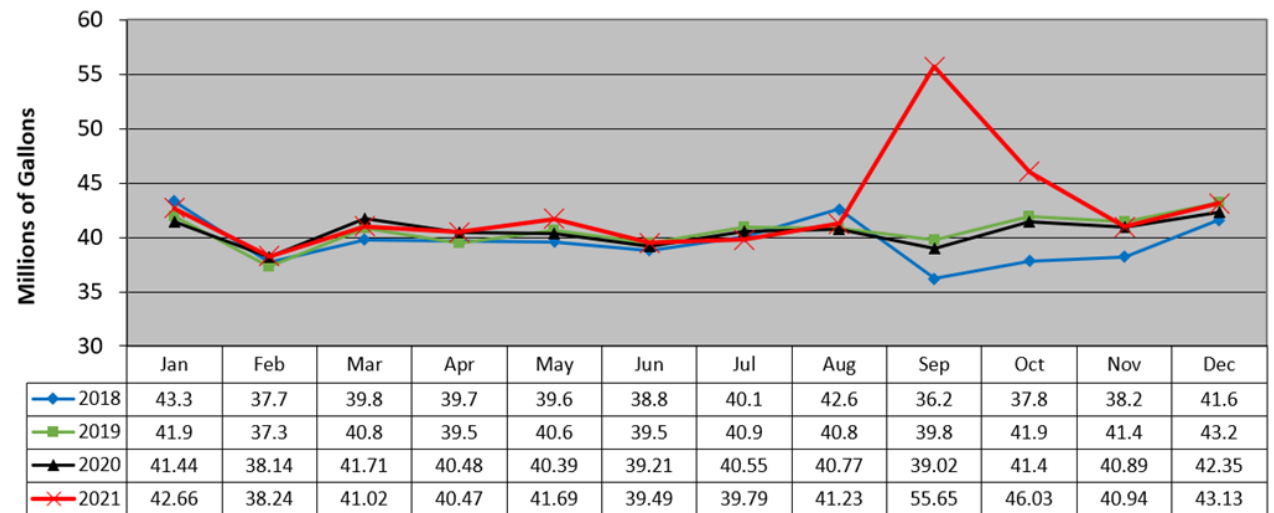


Quality Control Review

Metered Flow and MWC Review

- Quarterly metered flow and community total flow review
- Historical flow trends
- Historical MWC trends
- Meter checks
- SAC checks
- Special discharge request (SDR) checks
- Discuss trends with cities
- State Audit of review process

ANDOVER Monthly Flow Comparison



Andover

- SDR 4171 – City of Andover project including significant dewatering (contaminated groundwater)
- 22.4 MG
- August – October 2021

Highest & Lowest Cost Impacted Communities (2026)

Highest Increases – 39 Communities w/ 7% and greater increase

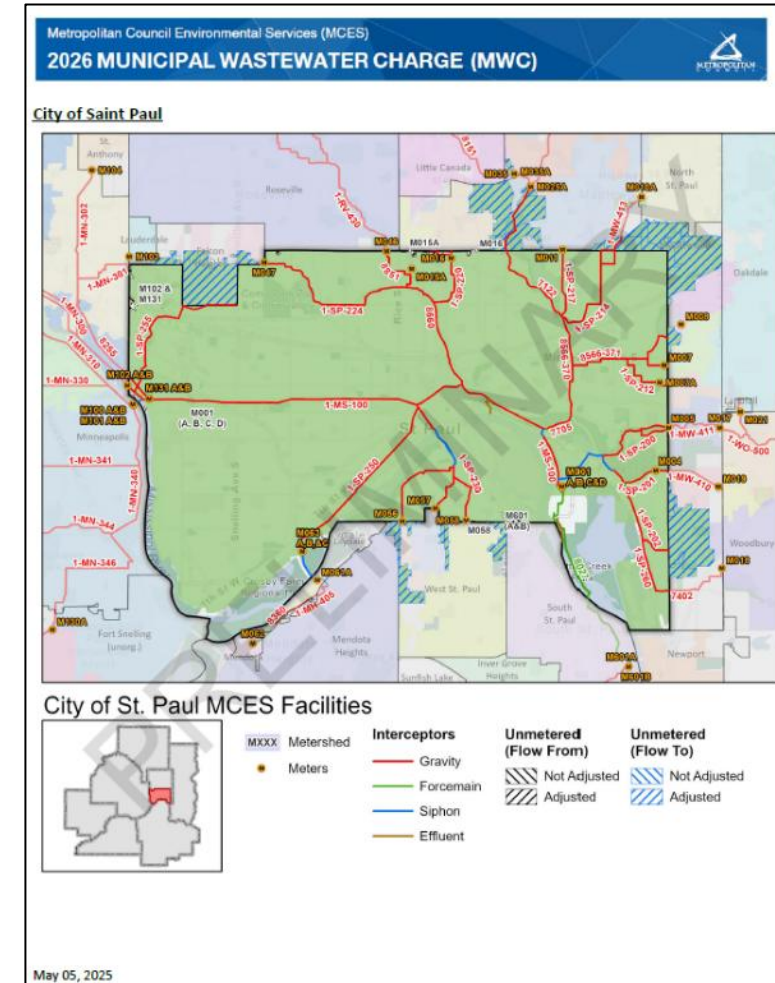
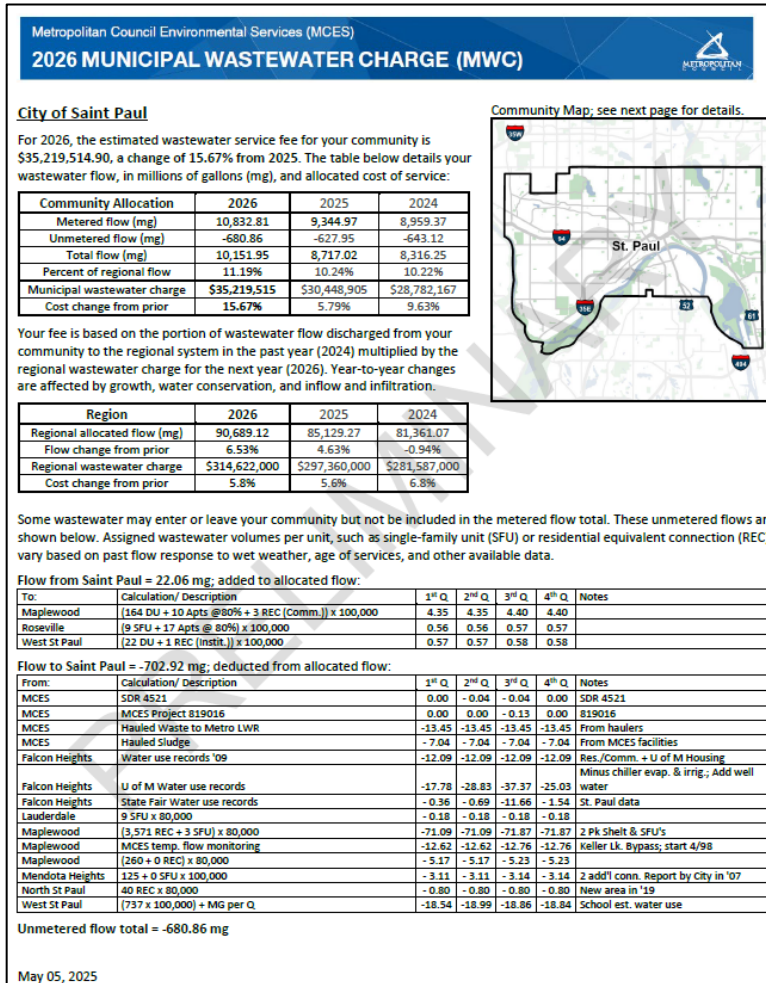
2026 Cost Allocation Summary, By Percent Change					Trend	Year-to-year Change									
Community	Increase %	2026 MWC	Rank	2016-26	2026	2025	2024	2023	2022	2021	2020	2019	2018	2017	
Mendota Heights	30.9%	\$ 1,889,173	1		31%	10%	-2%	-8%	0%	6%	2%	1%	10%	5%	
Long Lake	23.7%	\$ 434,626	2		24%	39%	2%	-12%	0%	-11%	11%	8%	22%	6%	
Tonka Bay	22.6%	\$ 256,064	3		23%	14%	3%	-18%	-2%	-2%	-2%	7%	18%	-3%	
East Bethel	18.2%	\$ 82,915	4		18%	-4%	15%	31%	38%	-8%	15%	27%	6%	19%	
Mound	16.6%	\$ 1,035,567	5		17%	8%	2%	-7%	-4%	20%	-16%	6%	15%	9%	
Wayzata	15.8%	\$ 729,095	6		16%	5%	11%	11%	-8%	7%	-11%	4%	3%	13%	
St Paul	15.7%	\$ 35,219,515	7		16%	6%	10%	2%	5%	6%	2%	-1%	4%	6%	
Deephaven	15.1%	\$ 764,065	8		15%	16%	15%	2%	10%	2%	4%	12%	-7%	-1%	
Dayton	14.8%	\$ 710,742	9		15%	22%	32%	34%	13%	11%	19%	18%	9%	6%	
Greenfield	14.4%	\$ 10,269	10		14%	6%	8%	-1%	13%	3%	-1%	-5%	13%	22%	
Hilltop	14.1%	\$ 122,846	11		14%	-8%	2%	18%	21%	-4%	14%	-2%	4%	10%	
Crystal	13.6%	\$ 2,141,109	12		14%	10%	3%	-2%	-1%	4%	5%	2%	9%	0%	
Loretto	13.5%	\$ 81,596	13		14%	31%									
Willernie	13.5%	\$ 67,442	14		14%	1%	9%	14%	-1%	-8%	6%	4%	-2%	8%	
Maple Plain	13.4%	\$ 283,922	15		13%	15%	1%	-6%	-14%	14%	-6%	-6%	32%	19%	
Fridley	12.9%	\$ 6,552,451	16		13%	7%	4%	8%	5%	-3%	2%	9%	3%	5%	
West St Paul	12.6%	\$ 2,758,563	17		13%	13%	9%	-6%	-3%	0%	7%	1%	9%	12%	
Hugo	12.1%	\$ 1,092,324	18		12%	3%	11%	18%	20%	-5%	13%	6%	-3%	6%	

Lowest Increases – 17 Communities w/ 0% and greater reduction

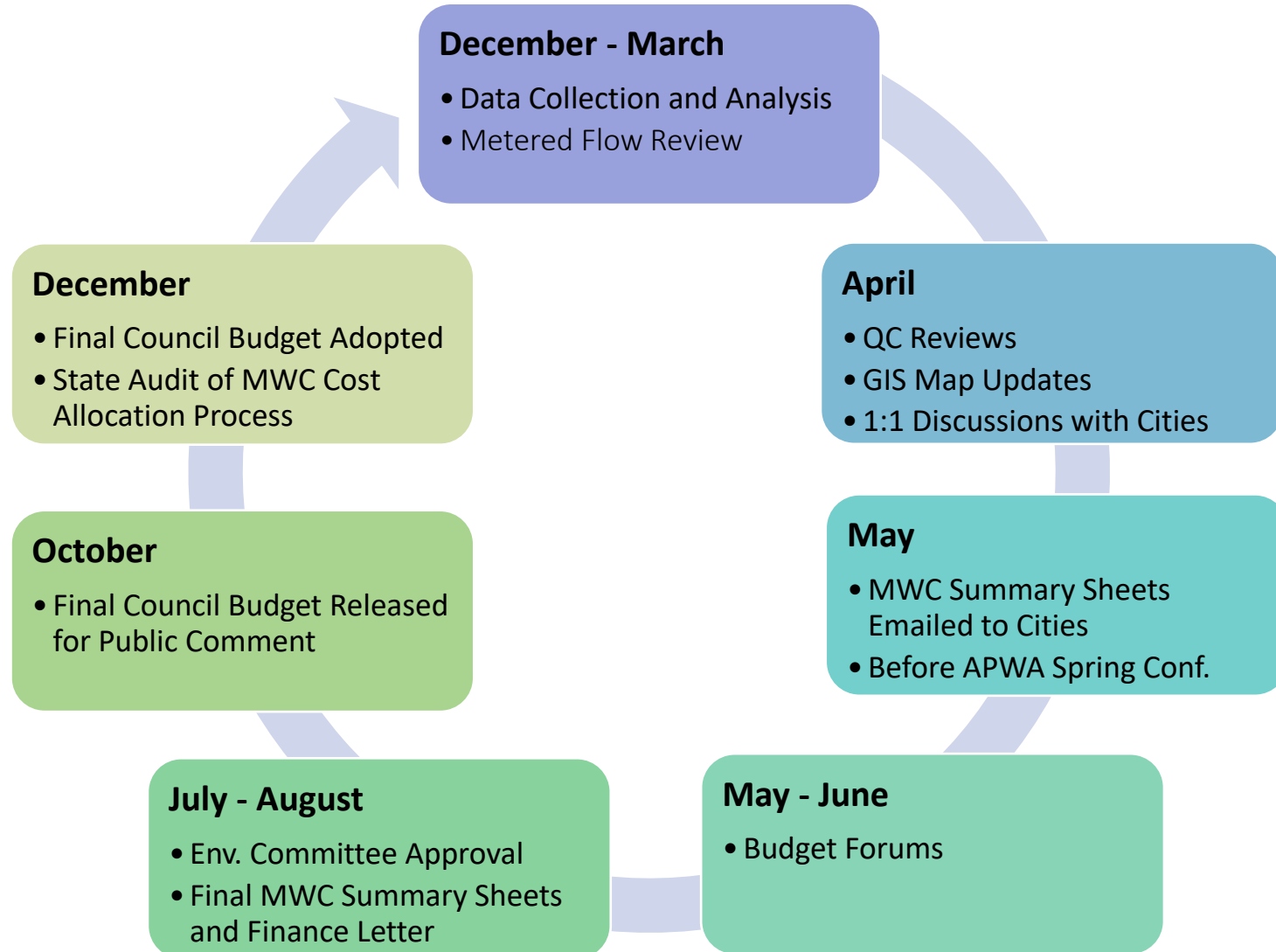
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Savage	-2%	\$ 2,673,047	103			-2%	11%	6%	10%	7%	-5%	4%	4%	4%	9%
Mendota	-2%	\$ 24,285	104			-2%	18%	14%	15%	-24%	-5%	16%	18%	-13%	4%
Eagan	-3%	\$ 7,560,993	105			-3%	4%	8%	7%	13%	-5%	6%	6%	2%	5%
Landfall	-3%	\$ 65,603	106			-3%	16%	-17%	15%	14%	-14%	5%	-3%	22%	-8%
Corcoran	-6%	\$ 345,120	107			-6%	31%	37%	47%	87%	60%	79%	92%	155%	0%
Gem Lake	-7%	\$ 47,875	108			-7%	-15%	13%	26%	10%	15%	23%	2%	-3%	8%
Spring Park	-9%	\$ 287,114	109			-9%	24%	-3%	11%	9%	2%	-2%	4%	1%	3%
Laketown Township	-12%	\$ 72,334	110			-12%	33%	10%	11%	4%	-6%	3%	14%	11%	0%
Circle Pines	-13%	\$ 316,603	111			-13%	-4%	23%	6%	11%	-14%	11%	-11%	4%	3%

Notification of Municipal Wastewater Charges

Individual Flow and Cost Allocations



Flow/Cost Allocation Timeline



Historic Allocation Methodologies

MWC Evolutionary Process

1971(72) – 1998

Regional and community flow allocation estimated 1 year prior to actual flow generation. Final costs determined using actual flow data and difference in cost made via "due to/ due from" adjustments 2-years after estimate.

1999 – 2004

Billings based on actual quarterly flow volumes determined 6-months prior to billing period.

2005 - 2015

"Firm flow" allocation method using actual flow volumes from period 18 to 6 months prior to billing year and equal monthly bills distributed over calendar year. MWC Budget is pre-established and individual costs based on proportionate share of total regional flow volume.

2016 – Present

Continues "firm flow" allocation method but changed flow period to, 2-year lag. 2017 bills based on flow volumes from 2015 calendar year.



Operating budget: MWC is allocated based on flow



A community's **percentage of the total system flow** determines their share of the total MWC.

2024



% of total flow

EXAMPLE

determines



Share of MWC

2026



Operating budget: 2026 Municipal Wastewater Charge is based on 2024 flow

	2023	2024	% Change
Flow (MG) 	85,129	90,689	 6.53%
City A 	1,610 MG 1.89% PERCENT OF TOTAL FLOW	1,755 MG 1.93% PERCENT OF TOTAL FLOW	 8.27% Change in Billed Wastewater Charge
City B 	75 MG 0.09% PERCENT OF TOTAL FLOW	75 MG 0.08% PERCENT OF TOTAL FLOW	 -0.26% Change in Billed Wastewater Charge

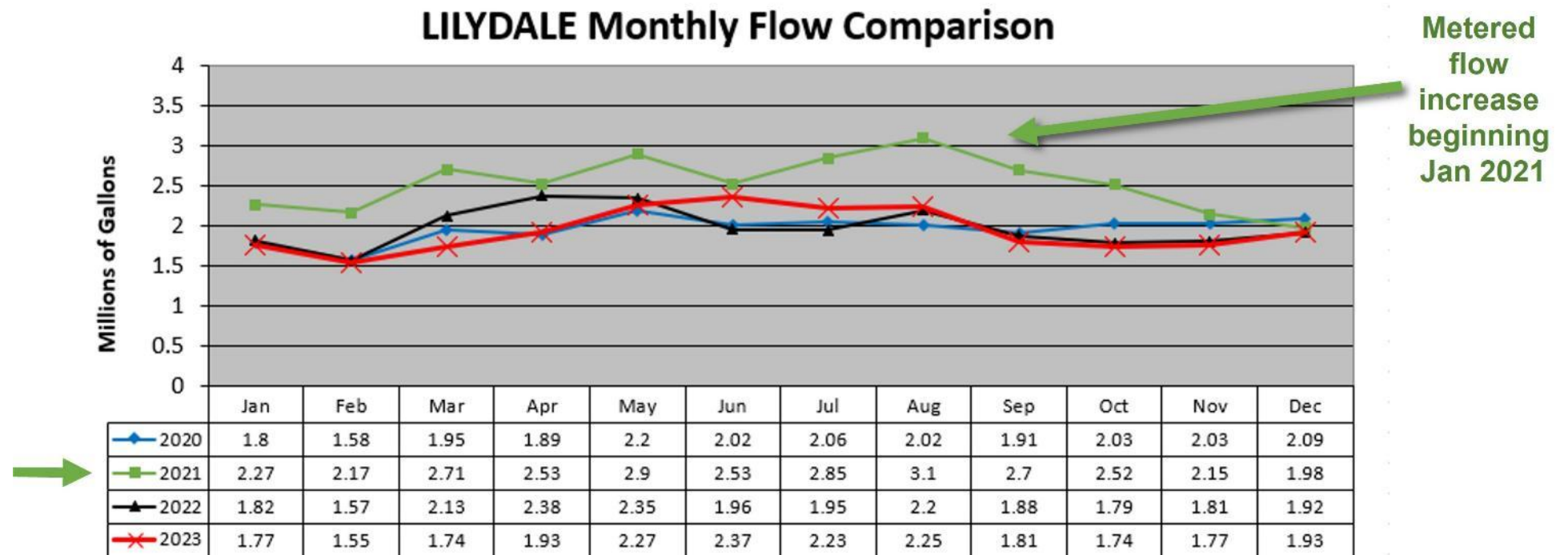
Note: The 2026 Regional Wastewater Charge reflects a **5.8% increase** from 2025.

Summary

- Regional approach provides uniform cost methodology for every community connected to the regional system.
- A community's cost is determined by their proportionate share of the regional wastewater treatment service costs.
- Challenging for some to shift cost allocation paradigm from rate based to proportional share concept.
- A community's proportionate share is in large part driven by their flow contribution which they have some control over. *Can be difficult to understand that lower flow can still result in higher cost.*
- Strength charges addressed at sources (Industries) versus community wide thus eliminating need for complicated MWC adjustments.
- Potential opportunity to address fluctuating year to year flow/costs by averaging rolling multiple year periods. *Disincentive for I/I mitigation work and flow from growth adjusted down by average.*

Community Outreach Case Studies

Lilydale Flow Increase



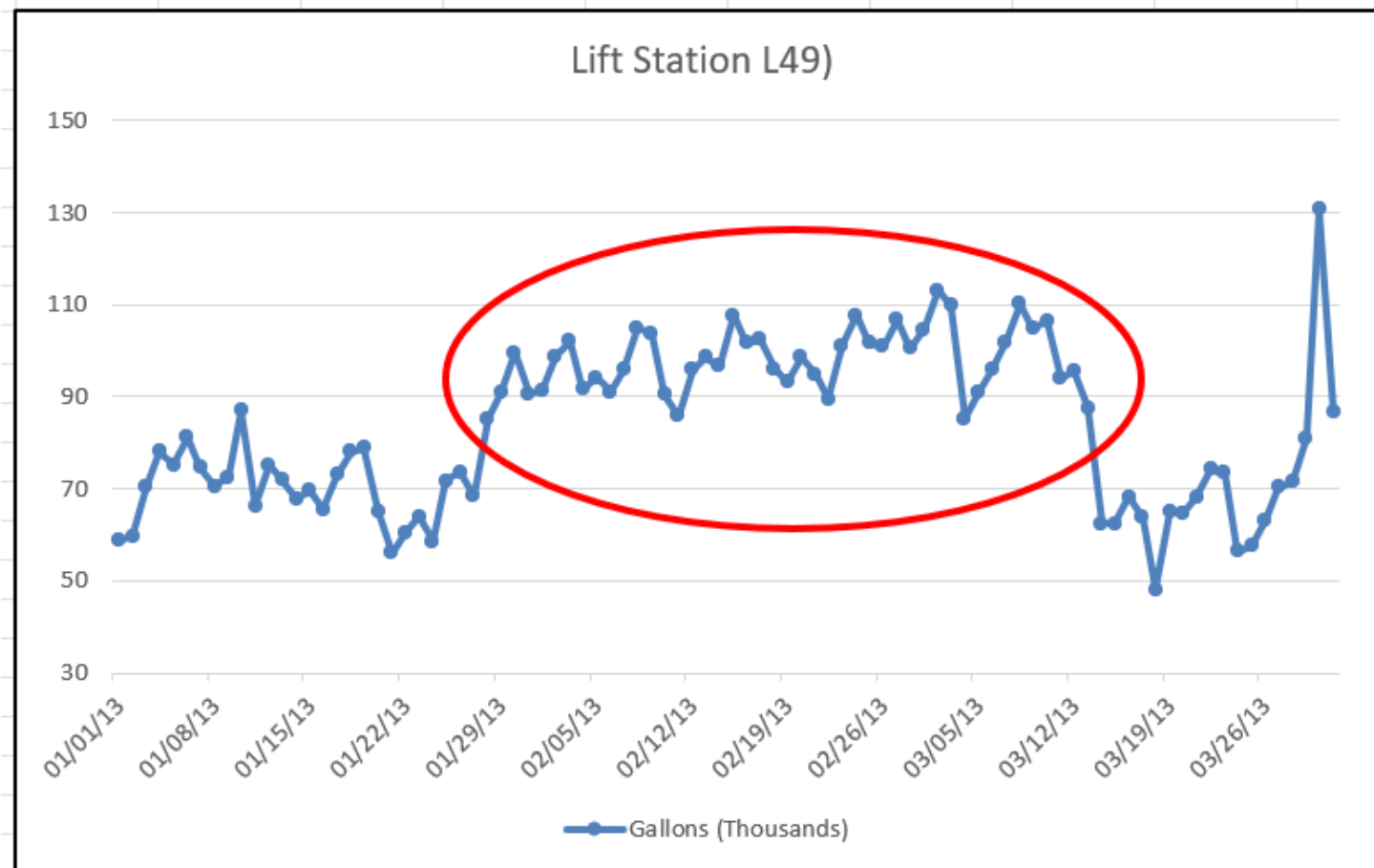
Lilydale Flow Increase 2021

- City notified of increased flow in early 2021 – corresponded with a warm winter
- MCES checks for any meter or sensor issues and continues to watch flow
- City then investigates and identifies an active leak from a potable water main break
- Water main break volume estimated at 3.2 to 4.8 MG from January to November 2021
- Corresponds to **about \$10,300 to \$15,400 additional cost** to the City
- City repaired the break in November 2021 and the flow returned to pre-event levels



Community Outreach Case Studies

Orono Peak Flow Increase - 2013



Community Outreach Case Studies

Orono Peak Flow Increase

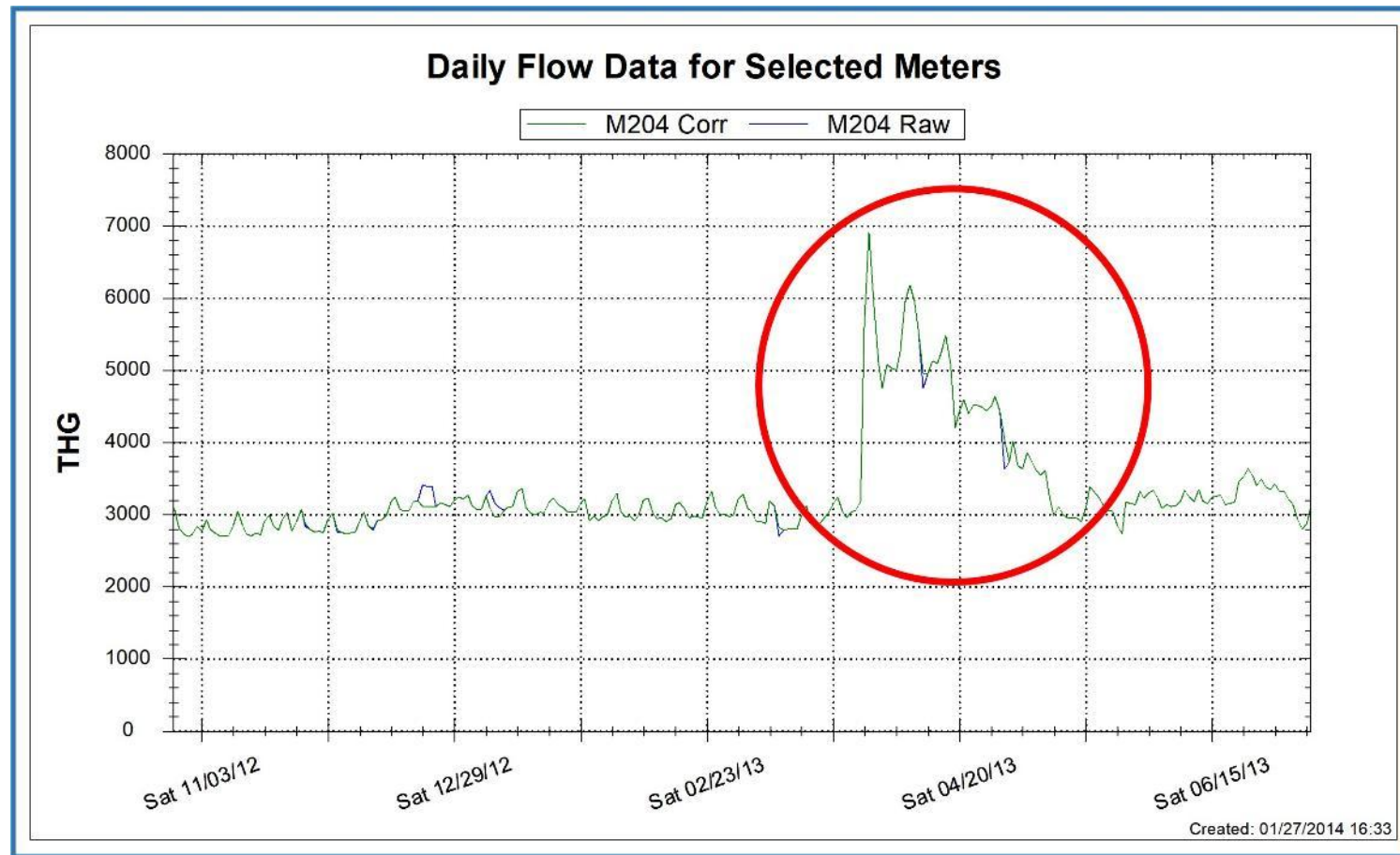
- Noticeable increase in wastewater flow at ES lift station L49 by M&A group.
- City notified of increased flow of approximately 31 gpm.
- City conducts service area field investigations and finds abandoned home with water running out open front door of residential home.
- Home mortgage bank-initiated foreclosure, owners abandon home with front door open.
- Excel energy shuts off power and gas due to unpaid bills and no response to account holder.
- Internal water lines freeze, burst, and water fills basement and floods first level to point where water is running out front open door.
- City shuts water supply off and wastewater flow returns to normal level.

Estimated Volume: 1.4 Million Gallons Additional MWC: \$3,212.32

Community Outreach Case Studies

Shoreview Peak Flow Increase - 2013

- Instantaneous flow increase
- March 30, 2013
- Additional 1.55 MGD



Shoreview Peak Flow Increase Spring 2013

- City notified of increased flow at M204
- City investigates and unable to identify source
- Staff mentions cold sewer flow during MH Inspection
- Comment gets to M&A group who sets up temp probe and confirms inflow coming from local city line
- City investigates based on small search area and locates source
- Dislodged MH structure in wet land area - Ice flow
- City repairs and flow returns to pre-event levels



Community Outreach Case Studies

Shoreview Peak Flow Increase

- Increased flow rate: 1.55 MGD
- Duration: 43 days
- Associated Volume: 66.68 MG
- Cost for Inflow Volume: \$142,801.24





For more information

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