### WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT

### ANNUAL REPORT 2022



### June 13, 2023

# ADMINISTRATION 2022



# ADMINISTRATION 2022

#### **ORGANIZATION**

The Walworth County Metropolitan Sewerage District (WalCoMet) was created by order, dated December 26, 1974, by the Wisconsin Department of Natural Resources, pursuant to Sections 200.01 to 200.16, Wisconsin Statutes, to include all territory within the corporate limits of Elkhorn and the area served by the Delavan Lake Sanitary District (DLSD). In subsequent actions, the following areas were added to form the present service area of WalCoMet: Walworth County Institutions, the City of Delavan, the Village of Williams Bay, the Town of Walworth Utility District No. 1 (Inspiration Ministries), Geneva National Sanitary District, the Village of Darien, the Town of Darien Utility District No. 1 (Pioneer Estates Mobile Home Park), Lake Como Sanitary District and Mallard Ridge Landfill.

#### **POWERS**

WalCoMet is a municipal body corporation with various powers granted by law, including the power to plan and construct sewerage facilities; to engage in solid waste management; and, to finance its projects by special assessments, general obligation bonds, mortgage revenue bonds and tax levies.

#### **GOVERNING BODY**

WalCoMet is governed by five commissioners, each appointed by the Walworth County Board of Supervisors of the County for five-year terms as follows:

Dean Logterman	President and Commissioner	Term Ending 2/28/2025
Ron Henriott	Secretary and Commissioner	Term Ending 2/28/2024
Douglas Snyder	Commissioner	Term Ending 2/28/2026
William Duncan	Assistant Secretary and Commissioner	Term Ending 2/28/2027
Sam Tapson	Commissioner	Term Ending 2/28/2028

#### TIME AND PLACE OF MEETINGS

The Commissioners of WalCoMet generally meet on the second Tuesday of each month at 1:30 p.m. at WalCoMet's Administration Building, 975 West Walworth Avenue, Delavan, Wisconsin. Special meetings are held upon call of any member of the Commission, as required.

#### WASTEWATER FACILITIES

#### Sources of Wastewater

WalCoMet receives wastewater from the City of Elkhorn, the City of Delavan, the Village of Darien, the Village of Williams Bay, the Delavan Lake Sanitary District (DLSD), the Lake Como Sanitary District (LCSD), Walworth County Institutions (WCI), the Geneva National Sanitary District (GNSD), the Town of Walworth Utility District No. 1, and the Town of Darien Utility District No. 1. The total area serviced lies within the corporate boundaries of these entities and comprises approximately 16 square miles. The ultimate drainage area that can contribute to the system encompasses about 70 square miles.

#### **Collection System**

Wastewater is collected in systems owned, operated, and maintained by the municipalities, the town sanitary districts, and the corporate structure of the county. From these collection systems, WalCoMet interceptors and lift station facilities convey the wastewater to the water reclamation facility, located at the westerly limits of the City of Delavan on STH "11".

#### **User Charges Billed**

WalCoMet collected user charges totaling \$5,620,493 from its member entities for the calendar year 2022. The totals include invoices representing flows and loadings for the months of January through December of 2022, which encompass invoices dated February 2022 to January 2023. User charges for 2020, 2021, and 2022 based on the final audited data are as follows:

Entities	<u>2020</u>	<u>2021</u>	<u>2022</u>	
City of Elkhorn	\$2,058,576	\$1,717,696	\$1,733,044	
City of Delavan	\$1,301,674	\$1,473,444	\$1,430,227	
Delavan Lake Sanitary District	\$ 986,765	\$ 857,443	\$ 766,073	
Village of Williams Bay	\$ 781,875	\$ 714,805	\$ 689,146	
Walworth County Institutions	\$ 92,185	\$ 101,031	\$ 100,338	
Village of Darien	\$ 262,299	\$ 213,500	\$ 229,202	
Geneva National Sanitary District	\$ 321,037	\$ 320,729	\$ 316,100	
Lake Como Sanitary District	\$ 322,655	\$ 302,983	\$ 283,796	
Town of Walworth Utility District No. 1,	\$ 22,825	\$ 22,507	\$ 20,066	
Town of Darien Utility District No. 1	\$ 53,643	\$ 55,824	\$ 52,502	
Total	\$6,203,534	\$5,779,962	\$5,620,494	

User charge revenue for 2022 showed a decrease of 2.75% from 2021.

The total flows for 2022 were 1,266,729,000 gallons. This was a decrease of 2.5% over the flows of 2021. The following is a historical view of total annual flows at the WalCoMet facility:

YEAR	TOTAL FLOW (MG)
2017	1,573
2018	1,660
2019	2,068
2020	1,768
2021	1,298
2022	1,266

Billing consists of five separate parameters: flow, biological oxygen demand (BOD), total suspended solids (TSS), ammonia (NH3-N), and customer units (CU). At the time of formation, and then updated in 2010, WalCoMet evaluated the cost to operate the water reclamation facility and assigned a portion of the cost to each billing parameter appropriately. Each entity is charged proportionately compared to the cost to treat the parameters it discharges to WalCoMet's System.

Readers are cautioned that each entity has costs associated with collecting, conveying, as well as billing wastewater charges. These costs are charged by each entity to their customers as needed and as deemed appropriate by each entity.

#### SEWER SERVICE CHARGES

WalCoMet's 2022 service rates were established at the Regular Meeting of the Commission on November 9, 2021, and were as follows:

Volume	\$ 1.17 per 1000 gallons
BOD	\$ 0.68 per pound
Suspended Solids	\$ 0.49 per pound
Nitrogen	\$ 3.17 per pound
Customer Units	\$ 3.29 per Customer Unit
Connection Fee	\$ 4,000 per Customer Unit

A customer unit shall mean a unit intended for single-family dwelling purposes. A customer unit shall be defined as a single-family residence, an apartment, a residential condominium unit or a manufactured home. For purposes of determining the number of equivalent customer units for nonresidential uses, a 5/8" or 3/4" water meter is equal to one customer unit.

For the Delavan Lake Sanitary District, the quantity of each water meter size that would be required was calculated from the initial connection records. The basis used to determine this was the Wisconsin Administration Code, Commerce 82. An annual update of customer units is made both by building permits and razing records of entities. The year-end 2022 Customer Units established for each community were as follows:

Entities	Customer Units	<u>% of Total</u>
City of Elkhorn	4796.0	26.93%
City of Delavan	3827.5	21.49%
Delavan Lake Sanitary District	3374.0	18.96%
Village of Williams Bay	2331.5	13.09%
Walworth County Institutions	155.0	0.87%
Village of Darien	720.0	4.04%
Geneva National Sanitary District	1129.5	6.34%
Lake Como Sanitary District	1242.0	6.97%
Town of Walworth Utility District No. 1	65.0	0.37%
Town of Darien Utility District No. 1	168.0	0.94%
Total	17,808.5	100%

The total represents an increase of 92 customer units from year-end 2022.

#### SEWER USE ORDINANCE

Sewer Use Ordinance No. 82-001 Revised November 10, 2015 was effective during the year 2019.

Pretreatment Ordinance No. 96-001 Revised November 10, 2015 was effective during the year 2019.

#### WATER RECLAMATION

Water reclamation in the regional facility is an advanced process utilizing suspended growth biological processes followed by tertiary treatment with sand filtration. The facility regularly produces higher-quality effluent than required by its WPDES discharge permit.

#### WATER RECLAMATION FACILITY IMPROVEMENT PROJECTS

#### Motor Control Center 1A & 1B

Motor control center (MCC) 1A and 1B were replaced due to its age and service life expectations. MCCs generally distribute power that is used to operate motors that drive pumps, blowers, and other process equipment. Included with the MCC replacement were variable frequency drives, programable logic controllers, harmonic filters, and surge protection. Other improvements to the electrical room that were included in the project include air conditioning improvements, a lighting upgrade, and access modifications to comply with current building codes. The project was awarded to Hady Electric, Inc. for an original contract price of \$363,833. The project was completed on March 25, 2022, with a final contract price of \$375,308.78.

#### **County O Lift Station Force Main, Phase 1**

A new 36-inch force main was constructed from Creek Road (where the Darien lift station force main connects to the CTH O lift station force main) to the water reclamation facility. The new

force main serves the CTH O lift station. The existing downstream portion of the 24-inch force main continues to serve the Darien, Pioneer Estates, and Mallard Ridge Landfill lift stations. Interconnections between the force mains for redundancy were constructed but will not normally be used. To connect the new force main with the existing force main, a valve vault was constructed near Creek Road. To connect the new force main to the water reclamation facility, a new influent box was constructed at the headworks. The project was awarded to Fischer Excavating, Inc. for an original contract price of \$2,821,555.40. The project was completed on December 20, 2022, for a final construction cost of \$2,801,141.63.

#### YEAR 2022 SEWER EXTENSIONS

The following sanitary sewer extensions were approved by the Commission in 2022.

- 1. March 8, 2022, the Commission adopted Resolution 2022-03 accepting the plans for sanitary sewer extension, for Harvest Point Condominium Subdivision in the City of Elkhorn
- 2. April 19, 2022, the Commission adopted Resolution 2022-04 accepting plans for a sanitary sewer extension, for Arbor Ridge Subdivision in the City of Delavan
- 3. August 9, 2022, the Commission adopted Resolution 2022-06 accepting plans for a sanitary sewer extension, for Borg Road in the Town of Delavan

#### YEAR 2022 COMMISSION ACTIONS

The Commission took the following major actions in 2022:

January 11, 2022, the Commission unanimously adopted Resolution 2022-01 and 2022-02, Designation of Officers and Designation of Official Newspaper.

January 11, 2022, the Commission unanimously approved invoice 13885-10 from Donohue & Associates for construction services for the MCC 1A & 1B replacement project and design services for the phosphorus removal project in the amount of \$28,229.00.

January 11, 2022, the Commission unanimously approved invoice 0178719 from Strand Associates for engineering and design services for the lift station grating replacement project in the amount of \$5,405.26.

January 11, 2022, the Commission unanimously approved the purchase from Seiler Geospatial one (1) Trimble R2 GNSS receiver with the accessory package and training totaling \$7,188.

January 11, 2022, the Commission unanimously approved the purchase of up to 2,000 gallons of Sodium Hypochlorite for the price of \$4.30 per gallon from Martelle Water Treatment for a total not to exceed \$8,600 with a delivery allowance of \$600.

January 11, 2022, the Commission unanimously approved the purchase of Ferric Chloride from Kemira Water Solutions for the unit price of \$725.00 per dry ton with a total purchase not to exceed \$159,500.00.

January 11, 2022, the Commission unanimously approved the award of the contract for the classification and compensation study to Public Administration Associates, LLC not to exceed \$12,000, and authorize the administrator to execute the contract.

January 11, 2022, the Commission unanimously approved payment application number 7 for the MCC 1A & 1B replacement project to Hady Electric in the amount of \$78,614.86 for work completed.

January 11, 2022, in consideration of action arising from the closed session the Commission unanimously approved to follow the Administrator's recommendation in the memo dated January 10, 2022, for compensation and vacation and the memo dated January 11, 2022. The Commission listed the 2022 goals for the Administrator as follows 1. Train a Superintended to fill in for the Administrator during times of temporary absence; 2. Visit the entities on a quarterly basis. 3. Develop a succession plan for the Assistant Administrator position.

February 8, 2022, the Commission unanimously approved the final invoice 13885-11 from Donohue for construction services for the MCC 1A & 1B replacement project and design for the phosphorus removal improvement project in the amount of \$10,961.40.

February 8, 2022, the Commission unanimously approved the purchase of a new Fairbanks Nijhuis T40 from LW Allen for the purchase price of \$14,454.00 plus shipping not to exceed \$15,000.00.

February 8, 2022, the Commission unanimously approved the purchase of a new Fairbanks Nijhuis T20 from LW Allen for the purchase price of \$10,880.00 plus shipping not to exceed \$11,380.00.

February 8, 2022, the Commission unanimously approved the purchase of a new Grasshopper 725DT from LTR Power Center for the price of \$14,950.00.

March 8, 2022, the Commission unanimously approved invoice 13885-12 from Donohue & Associates for construction services for the MCC 1A & 1B replacement project and design services for the phosphorus removal project in the amount of \$16,631.40.

March 8, 2022, the Commission unanimously approved payment application number 8 for the MCC 1A & 1B replacement project to Hady Electric in the amount of \$13,377.67 for work completed.

March 8, 2022, the Commission approved payment application number 5 for the County O lift station force main project to Fischer Excavating in the amount of \$39,953.45.

March 8, 2022, the Commission unanimously approved to award the contract for the lift station grating replacement project to Beson and Houle in the amount of \$158,760.00 and granted authorization to the Administrator to approve up to 5% of the project costs for contingencies and to sign the Notice of Award.

March 8, 2022, the Commission unanimously approved Task Order 22-01 from Strand Associates for construction-related services for the Lift Station Grating Replacement project for

an estimated cost not to exceed \$17,000.00 and authorize the administrator to execute the document.

March 8, 2022, the Commission unanimously approved the purchase of a Vaughan Rotamix pump for digester #1 from William/Reid for the purchase price of \$15,670.86 plus shipping of \$800.00 for a total price not to exceed \$16,470.86.

March 8, 2022, the Commission unanimously approved the purchase of the replacement Fairbanks Nijhuis pump from L.W. Allen Inc. for the purchase price of \$28,682.00 plus shipping not to exceed \$29,182.00.

March 8, 2022, the Commission unanimously approved Driveway Pavement Design Amendment No. 1 to Task Order No. 3 from Donohue & Associates, Inc. for an additional price of \$7,850.00, resulting in a total contract price of \$754,850.00 and authorize the Administrator to execute the amendment.

March 8, 2022, the Commission unanimously approved Millipore Sigma to replace the current deionization water system for \$14,399.00 with a 4% contingency for a price not to exceed \$14,974.96.

March 8, 2022, the Commission unanimously approved the purchase of three MSA Altair 5X Multi-Gas Meters and associated calibration and charging equipment from Fastenal for a price not to exceed \$16,500.00.

March 8, 2022, the Commission unanimously approved the proposal for 2022 GIS support and technical services from Symbiont for the full scope, minus item 1, for a cost not to exceed \$25,700.00 and authorize the Administrator to execute the contract.

March 8, 2022, the Commission unanimously approved the purchase of a Hach 950 sampler from USA BlueBook for the price of \$6,638.77 and an N-Con Sentinel M96 sampler from N-Con Systems Company Inc. for the purchase price of \$7,226.12 for a total price of \$13,864.89 plus \$500 shipping for a total price not to exceed \$14,364.89.

April 19, 2022, the Commission unanimously approved the Financial Report as of December 31, 2021, as presented by RSM.

April 19, 2022, the Commission unanimously approved invoice 0181731 from Strand Associates for the Williams Bay #2 force main preliminary engineering of r \$5,022.26.

April 19, 2022, the Commission unanimously approved invoice 13885-13 from Donohue & Associates for construction services for the MCC 1A &1B replacement project and engineering services for the phosphorus removal improvements in the amount of \$52,290.00.

April 19, 2022, the Commission unanimously approved payment application number 9 (final pay application) for the MCC 1A/1B Replacement Project to Hady Electric in the amount of \$44,918.81 for work completed.

April 19, 2022, the Commission unanimously accepted the bid for the construction contract for the phosphorus removal project from C.D. Smith Construction, Inc. with bid alternates 1 and 3

for a total amount of \$16,730,878.00 and proceed with the project award. Commission unanimously approved a project contingency in the amount of 5% of the total bid, or \$836,543.90 as a required condition of the Clean Water Fund. Commission approved to authorize the Administrator to execute contract documents on behalf of WalCoMet for the duration of the project.

April 19, 2022, the Commission unanimously approved Task Order 6 from Donohue & Associates for construction-related services for the Phosphorus Removal Project for a cost not to exceed \$1,153,820 and authorize the administrator to execute the document.

April 19, 2022, the Commission unanimously approved Task Order 7 from Donohue & Associates for the SCADA path forward study for a cost not to exceed \$19,760 and authorize the administrator to execute the document.

April 19, 2022, the Commission unanimously approved quote #275124v1 from Heartland Business Systems to complete the Microsoft Office 365 migration for the amount of \$10,978.99 and authorize the administrator to execute the quote.

April 19, 2022, the Commission unanimously accepted the 2022 annual support renewal contract with AVEVA Select Midwest and authorize payment of \$11,960.00.

April 19, 2022, the Commission unanimously authorized an expenditure of \$3,000 to the 2022 Walworth County Clean Sweep Program.

April 19, 2022, the Commission unanimously accepted the proposal from Siegler Grading and Excavating, LLC for the sum of \$7,500.00 with a contingency of \$1,000 for a total cost not to exceed \$8,500.00.

April 19, 2022, in consideration of action arising from the closed session the Commission unanimously approved the Habor Shores IGA with changes discussed in the closed session and a form approved by District Council.

May 10, 2022, the Commission unanimously accepted the proposal from Electrical Testing Solutions for \$18,590.00 and authorize a \$1,000.00 contingency for a total amount not to exceed \$ 19,590.00. The Commission also requested staff to ask the electrical utility for which power plant supplies each source coming into the plant.

May 10, 2022, the Commission unanimously approved invoice 13885-14 from Donohue & Associates for design services for the phosphorus removal improvement project in the amount of \$14,940.00

June 14, 2022, the Commission unanimously adopted the position of support for the requested WalCoMet sanitary sewer area modification amendment to the SSA and authorize the Administrator to communicate this position with the appropriate staff at SEWRPC so that they may act at their next quarterly meeting.

June 14, 2022, the Commission unanimously accepted the 2021 CMAR as presented and adopt Resolution 2022-05 and instructed Staff to submit the 2021 CMAR to the DNR.

June 14, 2022, the Commission unanimously authorized the administrator to execute the Walworth County Emergency Mutual Aid Agreement on behalf of WalCoMet.

June 14, 2022, the Commission unanimously approved invoices 0181237, 0182837, 0183002, 0183767, 0183929, and 0183930 from Strand Associates for a total amount of \$38,646.94.

June 14, 2022, the Commission unanimously approved invoice 13885-15 from Donohue & Associates for construction-related services for the phosphorus removal improvement project in the amount of \$12,505.80.

June 14, 2022, the Commission unanimously authorized payment of the environmental fees to the Wisconsin Department of Natural Resources, which have been invoiced at \$11,808.27.

July 12, 2022, the Commission unanimously approved invoices 0184923, 0185076, and 0185075 in the total amount of \$12,147.06 for construction-related service for the lift station grating replacement project, preliminary engineering for the Williams Bay #2 force main, and construction-related services for the County O lift station force main project.

July 12, 2022, the Commission unanimously approved invoice 13885-16 from Donohue & Associates for construction-related services for the phosphorus removal improvement project and the SCADA path forward study in the amount of \$18,108.90.

July 12, 2022, the Commission unanimously approved the list of surplus property and authorize staff to dispose of items consistent with the policy for disposal of surplus property as approved on October 9, 2018.

July 12, 2022, the Commission unanimously accepted the proposal from Bane Nelson to replace the primary building double doors and the Delavan lift station main entrance door for \$13,972.00 with a contingency of 15% for a total amount not to exceed \$16,068.00.

August 9, 2022, the Commission unanimously approved to award the 2022 sanitary sewer televising project to Northern Pipe, Inc. for the price of \$22,048.50 with a 5% contingency for heavy cleaning for a price not to exceed \$23,150.93.

August 9, 2022, the Commission unanimously approved invoice 13885-17 from Donohue & Associates for construction-related services for the phosphorus removal improvement project and the SCADA path forward study in the amount of \$17,283.35.

August 9, 2022, the Commission unanimously accepted the "Technical Memorandum Control System Evaluation" as the final deliverable from Donohue for the SCADA path forward study.

August 9, 2022, the Commission unanimously approved the Annual Report for WalCoMet for the calendar year 2021.

August 9, 2022, the Commission unanimously approved to award the project to remediate the SPB 100 circuit breaker to Electrical Testing Solutions for the price of \$6,140.00.

August 9, 2022, the Commission unanimously approved to award the 2022 standby generator preventative maintenance project to Interstate Power Systems for the price of \$6,855.90.

August 9, 2022, the Commission unanimously approved to award the County O lift station standby generator rebuild project to Fabick Caterpillar for the price of \$20.823.50.

September 13, 2022, the Commission unanimously accepted the Wage and Compensation Study from Public Administration Associates, LLC in the current draft form and authorize PAA to present the study to the full staff and instruct staff to develop an implementation plan and wage and salary plan for consideration at a future meeting.

September 13, 2022, the Commission unanimously approved invoices 0186728, 0186611, 0186336, and 0187020 in the total amount of \$11,494.95 for construction-related service for the lift station grating replacement project, preliminary engineering for the Williams Bay #2 force main, construction-related services for the County O lift station force main project and miscellaneous on-call services.

September 13, 2022, the Commission unanimously approved invoice 13885-18 from Donohue & Associates for design-related services and construction-related services for the phosphorus removal improvement project in the amount of \$26,608.70.

September 13, 2022, the Commission unanimously approved payment application number 1 for the Phosphorus Removal Improvement Project to CD Smith in the amount of \$154,565.00.

September 13, 2022, the Commission unanimously approved the proposal from VP Plus, Inc. for \$13,712.00 with a contingency of \$500.00 for a total not to exceed \$14,212.00.

October 11, 2022, the Commission unanimously accepted the Wage and Compensation Study from Public Administration Associates, LLC in the final form and authorize payment of \$4,420.00 to PAA.

October 11, 2022, the Commission unanimously accepted the Long-Range Financial Plan presented by Ehlers Public Finance Advisor Lisa Trebatoski.

October 11, 2022, the Commission unanimously approved to instruct Staff to publish the Walworth County Metropolitan Sewerage District Proposed Budget for the Fiscal Year 2023 and to establish a public hearing on November 8, 2022, at 1:00 PM for the purpose of public comment on the budget.

October 11, 2022, the Commission unanimously approved invoices 0187811, 0187290, 0188423, 0188424, and 0187810 in the total amount of \$7,121.79 for construction-related service for the lift station grating replacement project, construction-related services for the County O lift station force main project, miscellaneous on-call services, and preliminary engineering for the Williams Bay #2 force main project.

October 11, 2022, the Commission unanimously invoice 13885-19 from Donohue & Associates for design-related services and construction-related services for the phosphorus removal improvement project and design-related services and hardware procurement for the SCADA & PCN improvement project in the amount of \$122,304.72.

October 11, 2022, the Commission unanimously approved payment application number 2 for the Phosphorus Removal Improvement Project to CD Smith in the amount of \$182,214.75.

October 11, 2022, the Commission unanimously approved quote # PT-47225.01 for semi tanker from Polar Tank Trailer for the cost of \$85,091.00 with a contingency for unexpected material costs not to exceed \$87,000.00.

November 8, 2022, the Commission unanimously adopted the Fiscal Year 2023 budget as presented.

November 8, 2022, the Commission unanimously adopted the rate study for fiscal year 2023 as presented with any changes discussed at the public hearing and implement the adopted rates on February 1, 2023.

November 8, 2022, the Commission unanimously adopted the connection fee for a 5/8" or 3/4" meter for the fiscal year 2023 at \$4,000 per new connection.

November 8, 2022, the Commission unanimously adopted the Wage and Salary Plan as presented with an effective date of January 1, 2023, and to include it as part of the employee handbook.

November 8, 2022, the Commission unanimously approved Resolution 2022-07 to abate the tax levy and direct the officers of WalCoMet to pay the 2023 obligations when due from the funds on hand.

November 8, 2022, the Commission unanimously approved payment application number 1 and 2 for the Lift Station Grating Replacement Project to Beson and Houle for a total amount of \$120,543.60.

November 8, 2022, the Commission unanimously approved invoices 0189104, 0189103, and 0187367 in the total amount of \$4,849.04 for construction-related service for the lift station grating replacement project, miscellaneous on-call services, and preliminary engineering for the Williams Bay #2 force main project.

November 8, 2022, the Commission unanimously adopted resolution 2022-08, authorizing the issuance and sale of up to \$20,593,842 general obligation sewerage system promissory notes, series 2022, and providing for other details and covenants with respect thereto.

November 8, 2022, the Commission unanimously approved invoice 13885-20 from Donohue & Associates for construction-related services for the phosphorus removal improvement project and design-related services and hardware procurement for the SCADA & PCN improvement project in the amount of \$69,454.75.

November 8, 2022, the Commission unanimously approved payment application number 3 for the Phosphorus Removal Improvement Project to CD Smith in the amount of \$261,287.08.

November 8, 2022, the Commission unanimously approved change order 1 for the Phosphorus Removal Improvement Project for an amount not to exceed \$80,000.00.

November 8, 2022, the Commission unanimously approved to set the meeting time for the December 13th meeting at 11:00 am, establish the "Annual Holiday Luncheon" on December 13,

2022, beginning at 12:30 PM, instruct Staff to make the necessary preparations for the luncheon and move to authorize a payment of \$50.00 per employee for the annual holiday benefit.

November 8, 2022, in consideration of action arising from the closed session the Commission unanimously approved the new 17-step wage grid as presented, authorize the Administrator to place each staff member into the grid as presented, and authorize the Administrator to distribute a one-time year-end bonus of \$1,500 for each staff member.

November 8, 2022, in consideration of action arising from the closed session the Commission unanimously approved the equipment lease between WalCoMet and Walworth County for the 5,000-gallon tanker trailer and authorize the Administrator to execute the lease.

December 13, 2022, the Commission unanimously approved payment application number 3 for the Lift Station Grating Replacement Project to Beson and Houle for an amount of \$30,278.40 pending receipt of lien waivers.

December 13, 2022, the Commission unanimously approved invoices 0190162, 0189578, and 0189579 in the total amount of \$6,106.83 for construction-related service for the lift station grating replacement project, the County O force main construction project, and preliminary engineering for the Williams Bay #2 force main project.

December 13, 2022, the Commission unanimously invoice 13885-21 from Donohue & Associates for construction-related services for the phosphorus removal improvement project and design-related services and hardware procurement for the SCADA & PCN improvement project in the amount of \$144,565.68.

December 13, 2022, the Commission unanimously approved payment application number 4 for the Phosphorus Removal Improvement Project to CD Smith in the amount of \$378,255.73.

December 13, 2022, the Commission unanimously approved Task Order 9 from Donohue and Associates for the Lift Station SCADA Improvements for \$85,100.

December 13, 2022, the Commission unanimously approved to Task Order 22-02 from Strand & Associates for the Force Main Condition Assessment Plan for \$28,000.

December 13, 2022, the Commission unanimously approved the proposal from Ewald Automotive Group for two (2) Ford F-250 Super Duty trucks for a total not to exceed \$105,626.00.

#### 2023 ANNUAL BUDGET

The 2023 Annual Budget was unanimously approved by the Commission at the Regular Meeting on November 9, 2022. A public hearing on the budget was also held on that date.

#### ANNUAL REPORT

The Commission unanimously approved this 2022 Annual Report on June 13, 2023, and authorized its distribution.

The foregoing report for the year 2022, being the thirty-eighth annual report year of the Commissioners of the Walworth County Metropolitan Sewerage District, is being made pursuant to Section 200.11(e) of the Wisconsin Statutes.

Commissioner Dean Logterman, President Commissioner Ron Henriott, Secretary Commissioner William Duncan Commissioner Douglas Snyder Commissioner Sam Tapson



# OPERATIONS 2022

#### **INTRODUCTION**

The advanced water reclamation facility has been in operation for forty-two years. In 2009, an upgrade was completed increasing both the organic treatment capacity and hydraulic capacity. The design average flow increased from 5.75 MGD to 7.00 MGD.

#### **DISCHARGE PERMIT CONDITIONS**

On January 1, 2021, WalCoMet was issued the current WPDES permit. WalCoMet has contracted with Donohue and Associates to complete the plans and construction specifications to comply with the upcoming new low-level phosphorus limits that will be set forth in the WPDES permit issued in 2024.

The current permit requirements are:

#### **Monitoring**

Influent

- Biochemical Oxygen Demand five times per week
- Total Suspended Solids five times per week
- Metals (cadmium, chromium, copper, lead, mercury, nickel, zinc) once per month

#### Effluent

- Total Phosphorus three times per week
- Bio-chemical Oxygen Demand five times per week
- Ammonia Nitrogen five times per week
- Total Suspended Solids five times per week
- Dissolved Oxygen daily
- pH daily
- E. Coli two times per week (May-Sept.)
- Seven Metals (cadmium, chromium, copper, lead, mercury, nickel, zinc) once per month
- TKN once per quarter
- Nitrogen, Nitrite and Nitrate once per quarter
- Chlorides once per quarter
- Whole Effluent Toxicity Acute once per year
- Whole Effluent Toxicity Chronic once per year

#### Biosolids

- Metals (arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, zinc) minimum once per quarter
- Nutrients (TKN, Ammonium, Phosphorus, Potassium) once per quarter
- Radium 226 once per year
- PCB analysis once in 2016 only
- Municipal Sludge Priority Pollutant Scan once in the permit duration

#### **Effluent Limits**

Month	TSS Weekly Avg (lbs/day)	TSS Monthly Avg (lbs/day)	TSS Monthly Avg (mg/L)	BOD Weekly and Monthly Avg (mg/L)	NH3-N Weekly Avg (mg/L)	NH3-N Monthly Avg (mg/L)
January	618	468	14	14	8.2	6.0
February	684	519	14	14	8.2	6.8
March	618	468	10	10	8.2	6.9
April	641	485	10	10	7.5	3.5
May	618	468	10	10	7.0	4.1
June	641	485	10	10	5.0	3.6
July	618	468	10	10	4.3	2.4
August	574	434	10	10	4.5	2.4
September	641	485	10	10	6.4	3.0
October	618	468	10	10	8.2	3.9
November	641	485	10	10	8.2	4.8
December	618	468	14	14	8.2	4.7

Dissolved Oxygen

• 7.0 mg/L year-round limit

pН

- 9.0 s.u. daily maximum
- 6.0 s.u. daily minimum

**Total Phosphorous** 

• 0.8 mg/L monthly average lbs./day 3 samples per week

E.Coli (Seasonal May 1<sup>st</sup> – September 30<sup>th</sup>)

• 400 colony forming units/100 ml monthly geometric mean 2 samples per week

Whole Effluent Toxicity (WET)

- Acute Toxicity  $-LC_{50} < 100\%$  effluent for either species
  - Once each year / rotating quarters
- Chronic Toxicity IC<sub>25</sub> < 85% effluent for either species</li>
  Twice each year / rotating quarters
  - WET testing shall continue after the permit expiration date and continue until new permit is issued.

Biosolids (Concentrations above these limits exclude recycling as a disposal option)

Arsenic	75 mg/Kg	Dry Weight
Cadmium	85 mg/Kg	Dry Weight
Copper	4,300 mg/Kg	Dry Weight
Lead	840 mg/Kg	Dry Weight
Mercury	57 mg/Kg	Dry Weight

Molybdenum	75 mg/Kg	Dry Weight
Nickel	420 mg/Kg	Dry Weight
Selenium	100 mg/Kg	Dry Weight
Zinc	7,500 mg/Kg	Dry Weight

For reference purposes, it should be noted that 1 mg/L is equal to 1 part per million, 1 mg/Kg is equal to 1 part per million, and 1 ug/L is equal to 1 part per billion.

#### WASTEWATER VOLUME TREATED

In 2022, there were 1,266,729,000 gallons of wastewater treated and discharged to Turtle Creek. This represents a 2.4% decrease in volume from 2021, mainly due to very lower precipitation in 2022. The 2022 average daily flow of 3.47 million gallons was 50.4% of the plant daily design value of 7.00 MGD. The highest monthly average flow occurred in April with an average of 4.4 MGD. This was 53.7% of the design maximum monthly flow of 9.57 MGD.

Graph 1 shows the total annual volume of wastewater received at the water reclamation facility over the past 12 years. Graph 2 depicts the daily average volume and its relationship to the facility design flow for the same period.

The highest daily volume recorded was on April 23, 2022. On that day, 6.099 million gallons were treated which is 30% of the design max daily flow of 20.2 MGD. The following table shows peak flow for the past 10 years.

Date	Gallons
April 23,2022	6,099,000
March 10, 2021	7,009,000
May 17, 2020	12,193,000
October 2, 2019	17,885,000
October 1, 2018	19,997,000
July 12, 2017	19,393,000
March 31, 2016	7,281,000
June 15, 2015	10,810,000
April 14, 2014	6,920,000
April 18, 2013	19,024,000

#### WATER RECLAMATION FACILITY OPERATIONS PERSONNEL

In 2021, the operations department and the collections department merged to promote interdisciplinary knowledge and greater emergency coverage. Staffed by 8 full-time operators, it also required support for large operational activities from 1 full-time maintenance technician and 2 full-time laborers.

# GRAPH 1: TOTAL ANNUAL WASTEWATER VOLUME



YEAR



MILLIONS OF GALLONS PER DAY

#### LIQUID STREAM TREATMENT

In 2022, a total of 1,266,729,000 gallons of wastewater were measured at the lift stations. The flow for each entity is shown in the following table.

Entity	Total Gallons
City of Elkhorn	469,067,000
City of Delavan	231,488,000
Delavan Lake Sanitary District	166,790,000
Village of Williams Bay	188,262,000
Geneva National Sanitary District	77,024,000
Lake Como Sanitary District	41,327,000
Village of Darien	36,978,000
Walworth County Institutions	30,215,000
Mobile Home Park	16,358,000
Mallard Ridge Landfill	10,500,000
Inspiration Ministries	3,612,000
Total Volume Treated	1,266,729,000

Graphs 3 and 4 illustrate the cumulative total wastewater flow by month and the percentage of contribution from each entity in 2022. It should be noted that "others" on the graph represent the totals of the Village of Darien, Walworth County Institutions, Geneva National Sanitary District, Pioneer Estates Mobile Home Park, Lake Como Sanitary District, Inspiration Ministries, and Mallard Ridge Landfill which individually comprise a relatively small percentage of the total volume.

#### EFFLUENT QUALITY

The primary goal in the operation of the water reclamation facility is to meet the discharge limits imposed by the Environmental Protection Agency and the Wisconsin Department of Natural Resources. The operation's objective is to produce the highest quality effluent possible. Throughout the life of the reclamation facility, effluent quality has been significantly better than the weekly and monthly standards in the WPDES permit.

Graphs 5, 6, 7, and 8 show the 2022 weekly average effluent concentrations and discharge limits for suspended solids, biochemical oxygen demand, ammonia nitrogen, and phosphorus. Removal rates for most of the pollutants were above 97.7%.

On average, for calendar year 2022, the WalCoMet water reclamation facility removed 9,890 lbs./day of BOD5, 12,001 lbs./day of TSS, 893.9 lbs./day of NH3-N, and 191.0 lbs./day of phosphorus.

#### SOLIDS STREAM TREATMENT AND RECYCLING

Primary clarifiers are used to settle out the settable solids and suspended solids. These solids are pumped to the anaerobic digesters where they are maintained at a temperature of 98 degrees Fahrenheit. A rotary drum thickener is used to concentrate solids from the secondary process from











MONTH



less than 1% to approximately 6%. After treatment in the anaerobic digesters, the biosolids then flow to a 1.2-million-gallon on-site storage tank and can be hauled to a 1.6-million-gallon off-site storage tank located on the district's farmland. Biosolids are recycled by injection or incorporation on agricultural land as a fertilizer.

In 2022, biosolids were recycled on both the district's biosolids site and privately-owned agricultural land. In the spring, 1,826,000 gallons of biosolids were applied to 149.0 acres of the district's site. In the fall, 3,426,500 gallons were applied on 373.7 acres of private agricultural land. A total of 5,251,040 gallons of biosolids were applied to 522.7 acres.

Biosolids metal concentrations remained relatively low in 2022, the lone exception is the concentration of Arsenic. This can be directly attributed to the district's industrial pretreatment program which regulates the significant industrial users within the district. The pretreatment program continues to search for sources of arsenic.

#### WATER RECLAMATION FACILITY PURCHASED ENERGY USE

Electric costs at the reclamation facility increased from 2021. The electric costs were \$259,810 in 2021 and \$274,142 in 2022. Kilowatt-hours consumption for 2022 was 3,132,785. Natural gas expenses showed an increase from \$77,348 in 2021 to \$101,117 in 2022. It should be noted that both gas and electric consumption do not include the energy requirements of the collection system.

#### ENERGY PRODUCED

Methane gas is produced by the anaerobic digestion process used to stabilize and reduce the volume of biosolids before they are recycled. The methane produced is used in the reclamation facility to offset purchased energy costs. In 2022 134,081 cu. ft. of methane was produced. A total of 77,203 cu. ft. was used for heating the digesters in place of natural gas and 56,878 cu. ft. was flared off in the waste gas burner.

# MAINTENANCE 2022



# MAINTENANCE 2022

#### **MAINTENANCE STAFF**

Maintenance at the water reclamation facility is completed by the wastewater operators and maintenance technician. During the seasonal bio-solids application and larger maintenance projects, all staff contribute time as required. WalCoMet also has two laborers who maintain the buildings and grounds. Scheduling is flexible with operators assisting in the laboratory and completing additional projects as required.

#### **MAINTENANCE ACTIVITIES**

Maintenance activities are primarily divided into three maintenance classifications: preventive maintenance, corrective maintenance, and new construction.

Preventive maintenance at the reclamation facility includes routine inspection and servicing of all process and non-process equipment, vehicles, and building structures. Preventive maintenance procedures are based on maintenance specifications supplied by the manufacturers. Tailoring the procedures to the equipment's exact application and environment enhances these specifications. The facility has a wide range of very complex equipment whose repair and maintenance requires a highly trained staff with a specialized skill set.

Corrective maintenance of equipment is completed as needed by assignment to qualified employees. A variety of monitoring techniques are used to track the condition and performance of equipment, which provides for the projection and scheduling of down-time needed for corrective maintenance. Work order assignments and documented standard maintenance procedures are used to control quality throughout the maintenance tasks.

New construction is an ongoing function of WalCoMet staff. Improvements achieved by upgrading equipment and operational procedures increase operational efficiency. Cost savings and an increase in operational flexibility are also realized through new construction.

In 2022, 8,511 hours were required for the maintenance of the facility (6,005 hrs. in preventative maintenance and 2,506 hrs. in corrective maintenance). The breakdown of total labor classifications is shown in Graph 9.

Projects that have been completed by the staff or through contracted services are summarized in the following sections.

#### **PREVENTIVE MAINTENANCE**

#### Scheduled Routine Maintenance

Routine scheduled preventive maintenance is a vital function for properly maintaining equipment. Staff performs inspection, monitoring, and servicing of all process, non-process equipment, and structures.



#### Water Reclamation Facility

#### **Scheduled Maintenance Cleaning and Inspection**

Process basins, tanks, and wet wells require routine cleaning to remove heavy solids, sediment, and grease to maintain proper operation and efficiency. Larger cleaning projects require contracted services to clean out heavy material for disposal. When possible, to reduce project cost, WalCoMet land-applies the treated solids at its biosolids site. All other material is disposed of at a state-approved facility. After the basins are cleaned, staff inspects and services the basins along with associated equipment and valves.

#### **Primary Scum Wet Well**

Scum and grease that enter the treatment plant through the influent are continually removed at the primary clarifiers. Contracted services are required to remove the material and clean the basin. This year approximately 8,000 gallons of grease were removed. All material is hauled off-site for disposal at a state-approved facility.

#### **Bio-Solids Storage Tanks**

The 1.6-million-gallon bio-solids storage tank is routinely cleaned after seasonal application projects. To minimize cleaning costs at the end of the application, staff enters the tank and hoses the remaining material, so it can be pumped to the injector. In cases when heavy grit and debris are present, it is necessary to utilize a vacuum truck for removal. If possible that material is injected on WalCoMet's biosolids site. If not, the material is disposed of at a state-approved facility.

#### **Digester Cleaning**

Anaerobic Digesters No.1 and 2 were drained, cleaned, and serviced in 2022 in accordance with WalCoMet's scheduled maintenance. Staff cleaned out the interior of the tank and removed all the sediment. Digester cleaning is a simpler process since the last improvement project in 2009 when new mixing equipment was installed in the digesters which help to keep the solids suspended and fine screens were installed at the head works to help to remove rags. The quantity of rags and associated pump plugging problems has decreased significantly. After the tank was cleaned, the staff completed the inspection and service.

#### **Primary Rectangular Clarifiers**

Annual maintenance was completed on all four primary clarifiers. As part of the odor control system, the clarifiers are entirely covered with aluminum planks. To perform the annual maintenance, it is necessary to remove the aluminum covers for access and ventilation. Cleaning and maintenance were completed on all four primary clarifiers, including repairs to mechanical drive units. The internal tank coatings which protect the concrete from corrosion are also inspected for integrity. Most of the coatings were in good shape. The condition of the coatings continues to be monitored, particularly in a couple of areas where imperfections have been identified.

#### **Ultraviolet Disinfection**

Staff routinely monitor and service the UV system that provides seasonal disinfection. The system contains two banks comprised of 96 UV lamps each. Only one bank is needed during normal flows and both banks operate at high flows.

#### **Process Pumps**

Process pumps are inspected and serviced through an extensive preventive maintenance program. Both the mechanical and electrical performance of all major pumps is documented and evaluated to determine the reliability of each installation. These maintenance records are very useful in trending current conditions and scheduling necessary equipment replacement.

#### **Aeration Blower**

Staff routinely monitors and services the two 100-horsepower high-efficiency turbine aeration blowers, the existing 200-horsepower turbine blower, the 15 actuated valves, 9 dissolved oxygen probes, and 9 flow meters to control the aeration basins and reduce energy costs.

#### **Process Instrumentation**

A wide range of metering systems is utilized for process control and safety requirements. Contracted services are used to maintain the critical portions of these systems. All meters are inspected, serviced, and calibrated a minimum of once per year. All metering equipment used for entity billing was calibrated in accordance with the Wisconsin Department of Natural Resources requirements.

#### **Heat Exchangers**

All process boiler heat exchangers are serviced routinely. Semi-annually the units are inspected, burner efficiencies recorded, and operational safeties tested. Annually, both fire and sludge sides of each boiler are dismantled for cleaning and inspection. Combustion is analyzed, and adjustments are made to maintain burner efficiency and safety.

#### **Digester Recirculation Pump**

Annually, centrifugal pumps servicing the digester heating systems are removed from service for a rebuild. Due to the abrasive content within the anaerobic sludge, packing sleeves need to be replaced each year. This service also gives staff the chance to inspect the pumping element and adjust wear ring operational clearances. Bearings are also inspected and replaced if necessary.

#### **Main Electrical Equipment**

The main electrical distribution equipment for the water reclamation facility is tested every two years. The scope of this service encompasses checking the two main utility power sources coming into the facility from the main disconnects and breakers outside, the grounding of the outside utilities, and the maintenance and testing of the facility high voltage distribution equipment. This includes inspection and maintenance of high voltage transformers and high voltage distribution devices that deliver power to the facility MCCs. The maintenance was performed in 2022 and is scheduled for 2024.

#### **HVAC Equipment**

Both heating boilers for the reclamation facility are serviced annually. Routine maintenance includes cleaning both the fire and wet sides of each unit. Combustion is analyzed, and adjustments are made to maintain burner efficiency and safety. Normal scheduled service of the heating, air conditioning, and dehumidification systems are performed seasonally.

#### Vehicles

All routine preventive maintenance on vehicles was performed. Larger repairs and repairs needing diagnostic or alignment equipment were completed by local repair services.

#### **Biosolids Transport Vehicles**

All over-the-road semi-tractors with associated tank trailers are inspected and certified to comply with Wisconsin Department of Transportation regulations annually.

#### Lifting Equipment

All overhead hoists underwent mandated frequent and periodic inspections. Contracted services were used to complete the annual inspection and service, at which time all minor repairs were completed. As part of the hoist service contract the contractor also provides operator refresher training for our staff.

#### Lift Stations

#### **Lift Station Generators**

Lift station stand-by power systems are inspected weekly. Staff exercise the generator units monthly by performing a simulated power fail. This exercise tests all components of the system under expected load conditions. Staff also performs all routine maintenance such as lubrication and filters, starting system components, and cooling system service over the year. This year contracted services were used to complete a comprehensive level 1 inspection and tests of the ten generators. First, all components of the generator units are inspected to identify any concerns. The units are then operated to analyze the response of transfer electrical circuitry and to ensure the generator can run and maintain normal run parameters. Additionally, the oil and coolant were both tested for degradation. Testing for wear metals in lubrication and coolant is a very useful way to identify problems with the internal components of the engine.

#### **Process Pumps**

Staff maintain a wide range of pumps throughout the collection system. Systems range from two 7.5-horsepower end suction centrifugal pumps at Pioneer Estates lift station to four 160-horsepower dry pit submersible pumps at Elkhorn No.1 lift station. Preventive maintenance consists of scheduled inspection of all equipment. Some routine services include recommended lubrication, an inspection of pumping elements, and electrically testing the motor's condition. Pumps are either automatically or manually rotated in sequence to ensure an equal number of hours of use in the lead position.

#### Wet Well Maintenance

Wet wells are inspected and serviced weekly. Grease and rags build up on transducers that monitor levels and flows. Staff perform permit-required confined space entries into wet wells to clean and monitor the buildups. While in the wet wells staff inspects grinders and mixers that help control the grease and rags. Staff also perform service on the alarm floats and gates for flow control. All employees entering and participating in confined space entry must be trained and approved in WalCoMet's Confined Space Entry Program including all associated mandated safety programs.

#### **Sewage Grinders**

To reduce problems caused by debris and non-organic material including disposable wipes WalCoMet incorporates grinders at most lift stations. These units are located at the inlet to the wet well and shred rags and debris in the sewage prior to it entering the well and pumps. History and manufacturer's recommendations have shown that cutting elements typically last around five to seven years of operation before major repairs or replacement is necessary. The grinders have three major components: cutting elements, gear reducers, motors, and controls. Due to repair and replacement costs staff continually monitor each component separately to determine service life. The grinders are some of the most maintenance-intensive equipment at the lift stations, but they serve an important role. With the introduction of flushable disposable wipes in the past several years, problems in collection systems have increased. Flushable disposable wipes have become one of the leading causes of increased maintenance and pump plugging throughout municipal sewage systems around the country.

#### Instrumentation

Staff and contracted services maintain the instrumentation and communications systems at the lift stations. Each lift station uses licensed radio communication to transmit data and alarms to the reclamation facility's SCADA system. Each lift station flow meter that records flow volumes from the entities must be calibrated annually to comply with the Wisconsin Department of Natural Resources requirements. This calibration is conducted by contracted services in conjunction with an instrumentation service contract for the reclamation facility.

#### **CCCD Re-certification**

Lift stations that have a potable water system either from a municipal water supply or private well require a cross-control connection device (CCCD). This device protects the potable system from contaminated non-potable water due to pressure differences. Testing and re-certification are required annually. Staff coordinates a certified contractor to inspect and re-certify all CCCD at both lift stations and the treatment facility. WalCoMet has a total of 14 CCCD, evenly split between the main facility and the remote locations. All necessary repairs were completed by the contractor while they were on site.

#### **Fire Extinguishers**

Annually WalCoMet uses a vendor to service and re-certify the fire extinguishers. The remote extinguishers at the lift stations are recalled to the reclamation facility to minimize the travel costs of the vendor. Service, re-certification, and training normally are completed in one day. If extinguishers need to be taken off-site for hydrostatic testing temporary extinguishers are provided.

#### **Air Relief Valves**

Collection system force mains incorporate 51 combined air relief-vacuum valves which relieve gasses at high points in the system to maintain design conditions for efficient operation. Under normal operation, these valves can become plugged and require routine maintenance. The original valves, constructed of cast iron, are being replaced with lightweight noncorrosive replacements. The new valves are sized to provide for the standardization of connections to incorporate uniformity throughout the collection system. Anti-slam check valves are fitted to the air relief-vacuum valves to reduce the likelihood of malfunction.

#### **Ventilation Systems**

Each lift station incorporates ventilation systems that require services throughout the year. The systems are maintained to meet code requirements. The larger custom stations have separate exhaust equipment for the generator room and the multilevel lift station buildings. The largest systems are for ventilating the wet wells. Staff serviced louver actuators, belt drive systems, and normal motors. WalCoMet has installed dehumidification systems at several lift stations. These systems are in the dry well pump areas to control humidity to reduce pipe condensation and corrosion.

#### **Process Valving**

All process valves are exercised routinely. This service keeps the valves operable and removes buildup from the seats. If any additional maintenance such as shaft packing or valve actuator adjustments are required, it is completed during this service.

#### **CORRECTIVE MAINTENANCE**

#### Normal Corrective Maintenance

Staff services process and non-process equipment, including building and structures. Completion of a project includes rigorous procedures to ensure that equipment put back in service meets or surpasses manufacturer and construction standards.

#### Water Reclamation Facility

#### **Aeration Basins**

With the new blower upgrade came a new control scheme for the aeration basins. All new Alma actuated valves, flow meters, and more dissolved oxygen probes give more control to the blowers to put oxygen where it is required. Now the blower system can operate at a lower speed which reduces electricity consumption.

#### Thickener

Thickened activated sludge (TAS) mix pump and the TAS transfer pump had both inner and outer end plates and lobes replaced. Oil was changed and lubrication was performed as required.

#### **Digester Recirculation Pump**

Digester recirculation pump number 2 was replaced in 2022 due to excessive wear and age.

#### **Air Handlers**

A variety of repairs were completed to the air handlers throughout the reclamation facility. Replacement motors and belt drive systems were installed, and actuators and linkages were repaired.

#### Lift Stations

#### Generators

Routine generator maintenance and stage 1 generator testing took place in 2022. WalCoMet took County O generator out of service, which required the rental of a backup generator to repair and replace broken and leaking parts.

#### **Pumping Systems**

In 2022 pump #2 at Williams Bay #1 lift station was removed and replaced by staff. The replacement was required due to the significant wear and age of the pump.

#### **Sewerage Grinders**

One of the County O lift station grinders was replaced in 2022 due to age and condition.

#### **BUILDINGS AND GROUNDS**

The buildings and grounds maintenance needs, including regular maintenance and special projects, for the reclamation facility and lift stations, were completed by building and grounds staff.

# COLLECTION SYSTEM 2022



### **2022 SERVICE AREA**



# COLLECTION SYSTEM 2022

#### **COLLECTION SYSTEM SERVICES OVERVIEW**

WalCoMet owns, operates, and maintains interceptors and pumping facilities that convey wastewater to the water reclamation facility located in Delavan. Each entity served by WalCoMet, which may be a City, Village, Town, Sanitary District, or other institution, operates its own local collection system. The entities' collection system discharges to WalCoMet's facilities at different locations throughout the service area.

WalCoMet collection system consists of 200,806 lineal feet of piping or approximately 38 miles of interceptors of which approximately 31 miles is force main and approximately 7 miles of gravity sewer.

There are ten lift stations that WalCoMet owns and operates within a 16-square mile service area. WalCoMet collects wastewater samples at ten different locations throughout the collection system for purposes of billing the entities for the treatment of their wastewater. These samples are analyzed in WalCoMet's state-certified laboratory located at the reclamation facility.

WalCoMet monitors flow at thirteen different locations throughout the collection system.

Through an inter-municipal cooperation agreement between WalCoMet and the City of Elkhorn, WalCoMet operates and maintains the Elkhorn No.2 lift station and associated forcemain.

#### **COLLECTION SYSTEM SERVICES STAFF**

The collection system staff was combined with the reclamation facility operators to increase system knowledge and emergency coverage. Each lift station is monitored 24 hours a day and will alert staff in the event of an equipment failure or emergency condition. The scheduling also requires weekend entity sampling once per month.

#### **COLLECTION SYSTEM ACTIVITIES**

The collection system maintenance activities are categorized into preventive maintenance, corrective maintenance, and new construction.

Preventive maintenance in the collection system is performed routinely on equipment, structures, and interceptors. An annual schedule is assigned through weekly checklists which are monitored on completion. Larger scheduled projects are assigned routinely using a documented work order system. These projects normally require a moderate amount of time and generate useful information for trending the equipment's condition.

Corrective maintenance consists of scheduled projects which require removing equipment from service for repair or rebuild. Corrective maintenance also includes any necessary repairs to infrastructure. In the event a piece of process equipment would fail prematurely all repairs would be conducted under corrective maintenance. Due to the range and complexity of equipment in the

collections system, it is necessary to maintain a qualified staff with the proper skills to maintain these systems. The equipment that is repaired and put back in service meets or surpasses the manufacturer's specified requirements. Completed repairs are documented on work orders. This system maintains the history of equipment and is used in evaluating performance and projecting the useful service life of the equipment.

In-house new construction implements improvements in operational flexibility and reduces operational expense. Historically many of the new construction projects have been focused to achieve savings in utility costs or expanded hydraulic capacity.

Buildings and grounds maintenance is performed routinely by WalCoMet staff at the lift stations to maintain the appearance of the property and protect the integrity of the structures and grounds.

Routine weekly operation of the lift stations consists of inspection of the equipment at each site including recording operational data and monitoring utility usage and run hours. Staff also performs scheduled maintenance including lubrication of equipment and manufacturer's recommended service to both mechanical and electrical components. Weekly, a crew is needed to perform confined space entries to gain access to wet wells for service. During this service, the staff cleans flow and level monitoring devices, inspects and lubricates equipment, and controls rag and grease buildups.

Monthly the Operations staff samples the lift stations to analyze the characteristics of the wastewater contributed by each entity. This sampling is random each month and continues for a seven-day period. Validation sampling and testing are conducted routinely consisting of sampling for a thirty-day period and comparing monthly to the weekly results.

Periodic training is completed throughout the year, including required safety training. Staff also attends related wastewater educational seminars including the Wisconsin Wastewater Operator Association Annual Conference and events through Wisconsin Rural Water Association.

#### WISCONSIN DNR REQUIREMENTS

Staff has upgraded the Capacity, Management, Operation & Maintenance (CMOM) program according to Wis. Adm. Code NR 210.23. The overall program goals for the CMOM are:

- The sewerage collection system is properly managed, always operated, and maintained.
- The sewerage collection system provides the adequate capacity to convey all peak design flows.
- All feasible steps are taken to eliminate excessive infiltration and inflow as defined in NR 110.03 (13c), cease sanitary overflows and sewerage treatment facilities overflows, and mitigate the impact of such overflows on waters for the State, the environmental, and public health.
- To develop and maintain a process to ensure timely and accurate notification to the public and other directly impacted parties of any incidents of overflows from the sewer system. To submit required annual reports in accordance with the provisions of NR 208.

# COMPLIANCE AND MONITORING 2022



# COMPLIANCE AND MONITORING 2022

#### **LABORATORY**

The WalCoMet laboratory is responsible for the sampling and direct analysis or oversight of third-party laboratory analysis of the required water quality testing for the District.

Samples are collected from various points in the collection system on a one week per month basis for the purpose of monitoring and billing of the eleven entities that WalCoMet serves. These are listed as follows:

- Delavan Lift Station
- CTH O Lift Station
- Elkhorn No.1 Lift Station
- Walworth County Institutions Lift Station
- Lake Como Sanitary District Lift Station
- Geneva National Sanitary District Lift Station
- Williams Bay No. 1 Lift Station,
- Delavan Lake Sanitary District No. 4 Lift Station
- Delavan Lake Sanitary District Lake Lawn Lift Station
- Darien Lift Station
- Pioneer Estates Lift Station
- Inspiration Ministries Lift Station
- Mallard Ridge Landfill Lift Station

The samples from the first eleven sites are collected approximately 84 days per year. Mallard Ridge Landfill is sampled once per week with 5 different analyses each. Inspiration Ministries Lift Station is sampled 2 weeks per year and the result of the analyses is extrapolated out for billing calculations. Annually approximately 3074 individual samples are collected and analyzed by WalCoMet staff. Samples were collected and analyzed for the treatment plant operation and permit compliance occurs 5 days per week. The laboratory also analyzes investigative samples that are collected by WalCoMet staff and from the entities WalCoMet serves.

Beginning in spring of 2019 RRC (Rock River Coalition) volunteers collect stream samples from Turtle Creek which the WalCoMet lab examines. WalCoMet's lab also performs sample analysis for Walworth County Land Use & Resource Management on an as-needed basis.

#### **INDUSTRIAL PRETREATMENT PROGRAM**

WalCoMet maintains an industrial wastewater pretreatment program within the requirements of the WPDES permit. This program mandates that the District take the following actions:

- develop local discharge limitations
- survey industrial users and categorize them as regulated or non-regulated
- establish and enforce a sewer use ordinance enabling WalCoMet to inventory, monitor, and control industrial discharges
- develop an inspection and sampling program for regulated industries and user selfmonitoring procedures
- develop and enforce response plans
- develop industrial user permits
- implement the program
- provide staffing and equipment
- develop a cost and funding mechanism for the program

In 2022 there were twenty-four permitted industrial users served by the District. Seventeen significant users who possess a discharge permit expelled process wastewater to the District (ten permitted dischargers are categorical and eight permitted dischargers are non-categorical). Six significant users have been issued a general permit and do not discharge process wastewater to the District (all six general permittees are categorical).

WalCoMet revised the 1996 Pretreatment Ordinance during 2015. Final adoption of the ordinance took place on November 10, 2015, with an effective date of January 1, 2016. The modification to the ordinance was required by the Wisconsin Department of Natural Resources and the US EPA to adopt the "streamlining guidelines". Ordinance number 96-002 was adopted by the Commission on September 11, 2018, amending the pretreatment ordinance relating to local limits.

As part of the Industrial Pretreatment Program, the District is mandated to develop and implement a sampling program for those industries that discharge their process wastewater and have regulated numerical discharge limits. The District contracted with Sigma Environmental Services, Inc. in 2020 to sample those industries, it is a three-year contract.

Eight permit holders were published for violations in 2022. Applied Material Solutions, Inc. SPX Flow, Swiss Tech, and Pentair were in significant non-compliance for oil and grease exceedances. WalCoMet issued a Notice of Violation they are now in compliance with permit limits. Precision Plus and Getzen Company had chronic and technical review violations for pH limits. WalCoMet notified Precision Plus of this violation, they are currently adjusting pH with discharges and are following their discharge permit. Andes Candies had significant non-compliance for chlorides. GFL Mallard Ridge landfill had significant non-compliance for zinc. All industries were in compliance at the end of 2022.

#### WATER RECLAMATION FACILITY COMPLIANCE

The Water Reclamation facility met all its discharge parameters as detailed in the Wisconsin Pollutant Discharge Elimination System (WPDES).

WalCoMet is required by the Wisconsin Department of Natural Resources to submit a Compliance Maintenance Annual Report (CMAR). This report contains detailed information on discharge sampling and analysis, various operational functions, staffing, and collection system operation and maintenance. WalCoMet received a score of 4.0 (on a 4.0 grade point scale) for the 2021 CMAR.

# REVENUE AND EXPENDITURES 2022



# REVENUE AND EXPENDITURES 2022

#### ANNUAL FINANCIAL AUDIT

All financial transactions of WalCoMet are audited by RSM US LLP which submits an audit report at the end of each year covering the financial transactions for the year. All the revenue and expenditure information contained in this section is based on the financial audit for 2022.

#### **COMPARISON OF BUDGET TO ACTUAL**

A comparison of the year 2022 budgeted revenues and expenditures to the actual revenues and expenditures is shown in the accompanying tables. The format of the tables is consistent with WalCoMet's approved budget format.

Overall revenues were 1.6% below budgeted revenue in 2022, being \$117,009 below projections. Higher than predicted revenues from interest income, connection fees, and leachate revenues were able to compensate for user charges being 15.3% under anticipated amounts during 2022.

Graph 10 is a representation of the 2022 revenues. This graph illustrates the point that 78% of revenue is from customer user charges. The remaining revenue sources, therefore, account for a total of 22% of the revenue stream of WalCoMet.

Operating expenses were lower than budgeted; coming in \$98,181 less than anticipated.

Total expenditures were under budget by \$429,323, which is roughly 6.4% of the total budget of approximately \$6.737 million. Graph 11 provides a breakdown of 2022 expenditures. Graph 12 provides a breakdown of expenditures by type. Debt service accounts for 36% of total expenditures. Reclamation facility operations and maintenance amount to 36% of the total. Administrative costs account for 9% and total other expenses, which include both replacement fund eligible and non-eligible projects, account for 11%.

The remaining tables and graphs provide a summary of expenditures for each operation and maintenance category.

#### **Reclamation Facility Operations**

Graph 13 presents the expenditure summary for reclamation facility operations. The two largest cost categories are salaries/benefits (51%) and power (17%).

#### Sludge Disposal

Graph 14 presents the expenditure summary for sludge disposal activities. Salaries and benefits amount to 64% of the sludge disposal cost. Vehicle fuel (22%) and maintenance (13%) are the other major costs associated with sludge disposal.

#### **Reclamation Facility Maintenance**

Graph 15 presents the expenditure summary for reclamation facility maintenance. Labor costs, salaries, and benefits, amount to 59%. Maintenance plant and equipment, which covers the actual

#### WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT 2022 BUDGET TO ACTUAL FOR 1/1/2022 T0 12/31/2022

		2022 APPROVED BUDGET	<u>2022</u> ACTUAL		VARIANCE FROM BUDGET	PERCENT VARIANCE FROM BUDGET
REVENUES						
INTEREST ON SAVINGS INTEREST ON INVESTMENTS CONNECTION FEES USER CHARGE REVENUE LEACHATE DISPOŞAL & TESTING PRETREATMENT PROGRAM REVENUE	\$ \$ \$ \$ \$ \$	73,442 152,000 6,635,390 221,476 77,418	\$ 188 \$ 393 \$ 5,620 \$ 756 \$ 78	,897 \$ ,050 \$ ,438 \$ ,167 \$ ,010 \$	(115,455) (241,050) 1,014,952 (534,691) (592)	257.2% 258.6% 84.7% 341.4% 100.8%
FARMLAND LEASE AGREEMENTS MISCELLANEOUS/GAIN ON SALE OF EQUIPMENT	\$ \$	126,750 20,000	\$ 126 \$ 26	,747 \$ ,158 \$	- 3 (6,158)	100.0% 130.8%
TOTAL REVENUES	\$	7,306,476	\$ 7,189	,467 \$	117,009	98.4%
EXPENDITURES						•••••
COMMISSION EXPENSES						
COMMISSIONERS PER DIEM TRAVEL & MILEAGE	\$	5,000	\$ 2	,950 \$	2,050	59.0%
TOTAL COMMISSION EXPENSES	\$	5,000	\$ 2	2,950 \$	2,050	59.0%
ADMINISTRATIVE EXPENSES						
SALARIES EMPLOYEE BENEFITS ATTORNEY FEES ENGINEERING AUDIT & ACCOUNTING PROFESSIONAL SERVICES	\$ \$ \$ \$ \$ \$ \$ \$ \$	253,020 108,900 40,000 30,000 41,050 70,000	\$ 254 \$ 65 \$ 34 \$ 9 \$ 40 \$ 104	,792 \$ ,678 \$ ,845 \$ ,992 \$ ,113 \$ ,980 \$	(1,772) 43,222 5,155 20,008 937 (34,980)	100.7% 60.3% 87.1% 33.3% 97.7% 150.0%
PUBLISHING TRAVEL & MILEAGE	\$ \$	5,000 500	\$ 5 \$	,458 \$ - \$	(458) 500	109.2% 0.0%
OFFICE SUPPLIES TELEPHONE	\$	5,000	\$ 3	,511 \$	1,489	70.2%
MAINTENANCE OFFICE EQUIPMENT COPY MACHINE MAINT. & SUPPLIES	\$ \$	3,000 5,500	\$ \$5	927 \$ ,357 \$	2,073 143	30.9% 97.4%
GENERAL INSURANCE TRANSPORTATION EXPENSES	\$	2,400	\$ 3	,134 \$	(734)	130.6%
MISCELLANEOUS POSTAGE	\$ \$	5,500 2,000	\$7 \$1	,397   \$ ,769   \$	(1,897) 231	් 88.5%
CONFERENCES AND SEMINARS REFERENCE/RESOURCE MATERIALS UNEMPLOYMENT COMPENSATION	\$ \$	15,000 1,000	\$ 14 \$	,648 \$ 135 \$	352 865	97.7% 13.5%
TOTAL ADMINISTRATIVE EXPENSES	\$	587,870	\$ 552	2,737 \$	35,133	94.0%
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	\$	533,300	\$ 652	,667 \$	(119,367)	122.4%
	\$	229,600	\$ 168	,241 \$	61,359	73.3%
CHLORINE	ֆ \$	246,500 5,000	\$ 274	,142 \$ ,071 \$	(27,642) (1,071)	111.2%
OTHER CHEMICALS POLYMER	\$ \$	104,020 10.000	\$ 140 \$ 13	,404  \$ .338  \$	(36,384)	135.0% 133.4%
SLUDGE OPERATIONS EXPENSE	\$	5,000	\$ 5	,402 \$	(402)	108.0%
HEATING FUEL	\$ \$	74,000 145,000	\$ 101 \$ 133	,117 \$ 795 \$	(27,117)	136.6%
TELEPHONE & COMMUNICATIONS	\$	19,000	\$ 10	,961 \$	8,039	57.7%
	\$	16,000	\$ 20	,042 \$	(4,042)	125.3%
TREATMENT OFFICE SUPPLIES	\$	4,000	\$ 3	,158 \$	842	79.0%
SAFETY EQUIPMENT & TRAINING	\$	30,000	\$ 27	,154 \$	2,846	90.5%
FREIGHT EXPENSE	» Տ	23,000	\$ 19	,796 \$ 123 \$	1,377	8.2%
DNR FEES UNEMPLOYMENT COMPENSATION	\$ \$	12,500	\$ 11 \$	,933 \$ - \$	567	95.5%
	۴	170.000	¢ 404	107 *	(40.407)	100 00/
EMPLOYEE BENEFITS	ծ \$	77,100	\$ 49	,267 \$	27,833	63.9%
MAINTENANCE PLANT & EQUIPMENT VEHICLE REPAIR & MAINTENANCE SUPPLIES-PLANT MAINTENANCE	\$ \$	120,000 5,000 7,000	\$ 149 \$ 8 \$ 5	,775 \$ ,330 \$	(29,775) (3,330) 1.047	124.8% 166.6% 85.0%
BLDGS & GRNDS MAINTENANCE	Ŷ	7,000	- 0	,ψ	1,0 11	00.070
SALARIES-MAINTENANCE GRDS, BLDGS.	\$	175,300	\$ 158	,960 \$	16,340	90.7%
ENFLUTEE BENEFITS MAINTENANCE GROUNDS & BUILDINGS	\$ \$	40,000	φ 40 \$ 35	,970 \$ ,127 \$	4,873	54.3% 87.8%
SUPPLIES-GROUNDS & BUILDINGS	\$	3,000	\$ 2	,622 \$	378	87.4%
TOTAL TREATMENT PLANT EXPENSES	\$	2,156,680	\$ 2,24	5,092 \$	(88,412)	104.1%

LABORATORY					
SALARIES EMPLOYEE BENEFITS MAINTENANCE CONTRACTED ANALYSIS TESTING	\$ \$ \$	75,150 32,400 1,000 15.000	\$ 70,302 \$ 18,122 \$ - \$ 16,750	\$ 4,848 \$ 14,278 \$ 1,000 \$ (1,750)	93.5% 55.9% 0.0% 111.7%
SUPPLIES	\$	13,000	\$ 13,431	\$ (431)	103.3%
TOTAL LABORATORY EXPENSES	\$	136,550	\$ 118,604	\$ 17,946	86.9%
INTERCEPTOR EXPENSES					
SALARIES EMPLOYEE BENEFITS REPAIRS & MAINTENANCE CHEMICALS	\$ \$ \$	16,900 7,300 9,000	\$ 8,795 \$ 2,267 \$ 21,918	\$ 8,105 \$ 5,033 \$ (12,918)	52.0% 31.1% 243.5%
TOTAL INTERCEPTOR EXPENSES	\$	33,200	\$ 32,981	\$ 219	99.3%
LIFT STATION EXPENSES					
SALARIES EMPLOYEE BENEFITS POWER FUEL	\$ \$ \$	74,800 32,200 157,350	\$53,598 \$13,816 \$136,397	\$ 21,202 \$ 18,384 \$ 20,953	71.7% 42.9% 86.7%
REPAIRS & MAINTENANCE TELEPHONE CHEMICALS	\$ \$	45,300 16,200	\$ 53,051 \$ 7,543	\$ (7,751) \$ 8,657	117.1% 46.6%
TOTAL LIFT STATION EXPENSES	\$	325,850	\$ 264,404	\$ 61,446	81.1%
SLUDGE DISPOSAL					
SLUDGE DISPOSAL SALARIES SLUDGE DISPOSAL EMP. BENEFITS PROFESSIONAL SERVICES	\$ \$	120,300 51,800	\$ 73,098 \$ 18,843	\$ 47,202 \$ 32,957	60.8% 36.4%
VEHICLE MAINTENANCE & EXPENSE FUEL ROAD BONDS	\$ \$ \$	11,000 14,040 1,500	\$ 19,265 \$ 31,147 \$ 1,500	\$ (8,265) \$ (17,107) \$ -	175.1% 221.8% 100.0%
TOTAL SLUDGE DISPOSAL EXPENSES	\$	198,640	\$ 143,852	\$ 54,788	72.4%
PRETREATMENT PROGRAM EXPENSES					
SALARIES EMPLOYEE BENEFITS PROFESSIONAL SERVICES EQUIPMENT MAINTENANCE	\$ \$ \$	10,000 4,400 12,900 1,000	\$ - \$ - \$ 13,290 \$ -	\$ 10,000 \$ 4,400 \$ (390) \$ 1,000	0.0% 0.0% 103.0% 0.0%
TOTAL PRETREATMENT PROGRAM EXPENSES	\$	28,300	\$ 13,290	\$ 15,010	47.0%
TOTAL OPERATING EXPENSES	\$	3,472,090	\$ 3,373,909	\$ 98,181	97.2%
OTHER EXPENSES					
CASH FUNDED (EXISTING ERP BALANCES) NON REPLACEMENT FUND ELIGIBLE PROJECTS DEPOSIT TO EQUIP. REPLACEMENT FUND	\$ \$	145,900 877,500	\$ 220,823 \$ 471,435	(74,923) \$ 406,065 \$	151.4% 53.7%
TOTAL OTHER EXPENSES	\$	1,023,400	\$ 692,258	\$ 331,142	67.6%
DEBT SERVICE					
SERIES 2007 DEBT (CWF G.O.) SERIES 2008 DEBT (CWF G.O.) SERIES 2019A DEBT (TAXABLE GO BONDS) SERIES 2021A DEBT (REVENUE REFUNDING ) SERIES 2021B DEBT (GO BONDS )	\$ \$ \$ \$ \$	177,986 1,492,928 114,680 263,350 192,339	\$ 177,986 \$ 1,492,928 \$ 114,680 \$ 263,350 \$ 192,339	\$- \$- \$- \$-	100.0% 100.0% 100.0% 100.0% 100.0%
TOTAL DEBT SERVICE	\$	2,241,283	\$ 2,241,283	\$ -	100.0%
TOTAL EXPENDITURES	\$	6,736,773	\$ 6,307,450	\$ 429,323	93.6%
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EXCESS REVENUE OVER EXPENDITURES	\$	569,703	\$ 882,016	\$ (312,313)	154.8%



**GRAPH 10 TOTAL REVENUE - 2022** 

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#### **GRAPH 11 TOTAL EXPENDITURES - 2022**



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### **GRAPH 12 TOTAL EXPENDITURES BY TYPE - 2022**

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#### **GRAPH 13 TREATMENT PLANT EXPENSES - 2022**

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### **GRAPH 14 SLUDGE DISPOSAL EXPENSES - 2022**



### GRAPH 15 TREATMENT PLANT MAINTENANCE EXPENSES- 2022



. مرتب mechanical components of the reclamation facility including items such as pumps, motors, chains, etc., account for 37%. Supplies and Vehicle Repair and Maintenance consisting of lubricants, filters, and other expendable items account for 4% of the total.

#### **Laboratory**

Graph 16 presents the expenditure summary for the laboratory. Laboratory activities are highly labor-intensive when looked at on a percentage basis. 75% of the laboratory expenditures are attributable to salary and benefits. Laboratory supplies such as chemicals, reagents, and glassware are 11% of the total. Contracted testing for specialized analyses, such as heavy metals, accounted for an additional 14%.

#### **Interceptors**

Graph 17 presents the expenditure summary for interceptor operation and maintenance. Salaries and benefits accounted for 34% of the interceptor costs for 2022. Repairs and maintenance expenses were at 66% of the total.

#### Lift Station Expenses

Graph 18 presents the expenditure summary for lift station operation and maintenance. The largest cost category for the lift station is energy costs of \$136,397 (52%) which is principally electricity for pumping. Labor costs were at \$67,414 (25%) for the year. Repairs and maintenance costs are \$53,051 or 20% for the year. WalCoMet collects revenue from the City of Elkhorn for operation and maintenance expenses at the Elkhorn #2 lift station per the Intergovernmental Agreement.

### **GRAPH 16 LABORATORY EXPENSES- 2022**

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### **GRAPH 17 INTERCEPTOR EXPENSES - 2022**



### **GRAPH 18 LIFT STATION EXPENSES- 2022**

