

# Public Works Operations

**2023 – 24 Biennial Report**

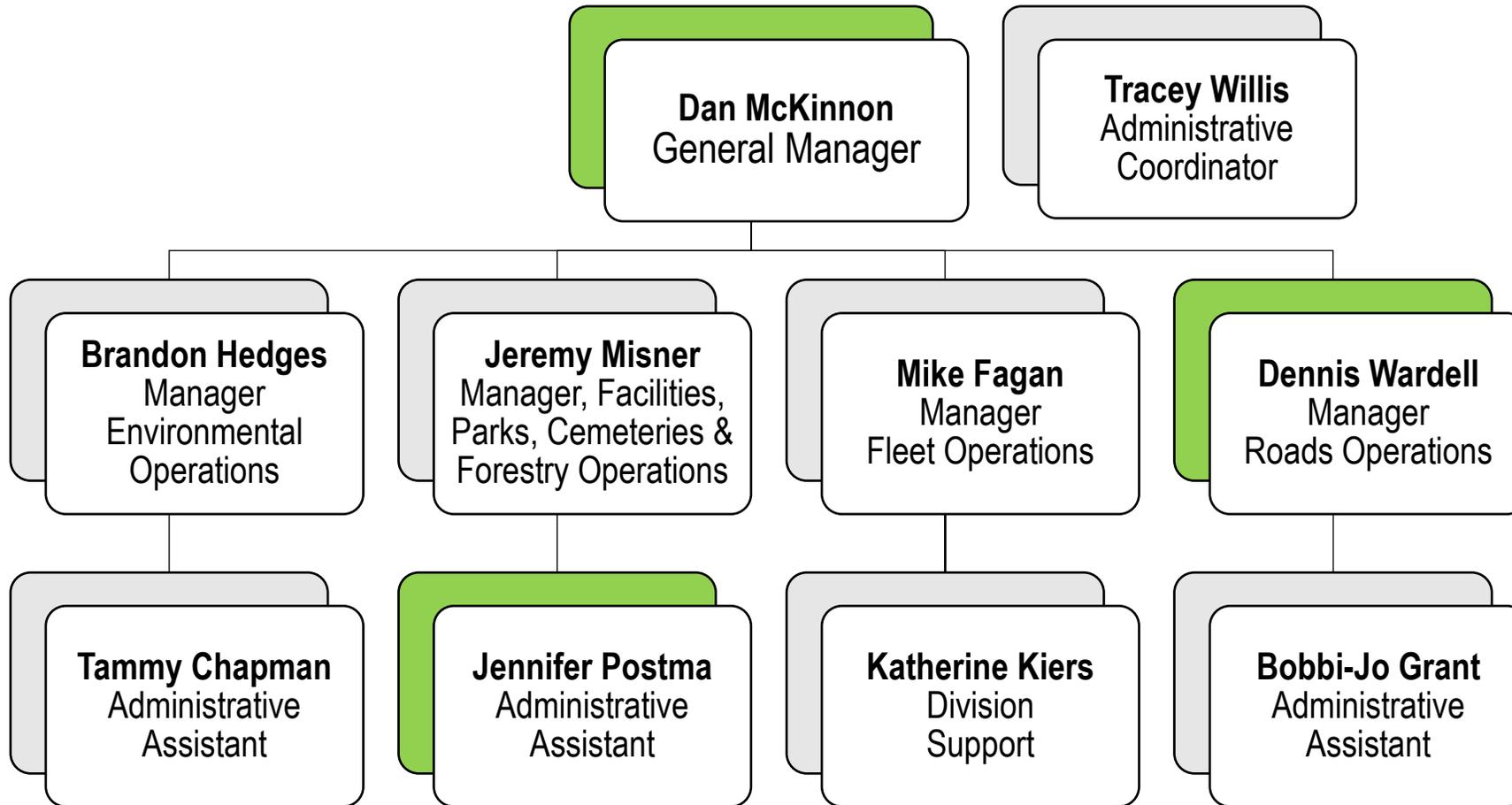
April 8, 2025

# Public Works Operations Department

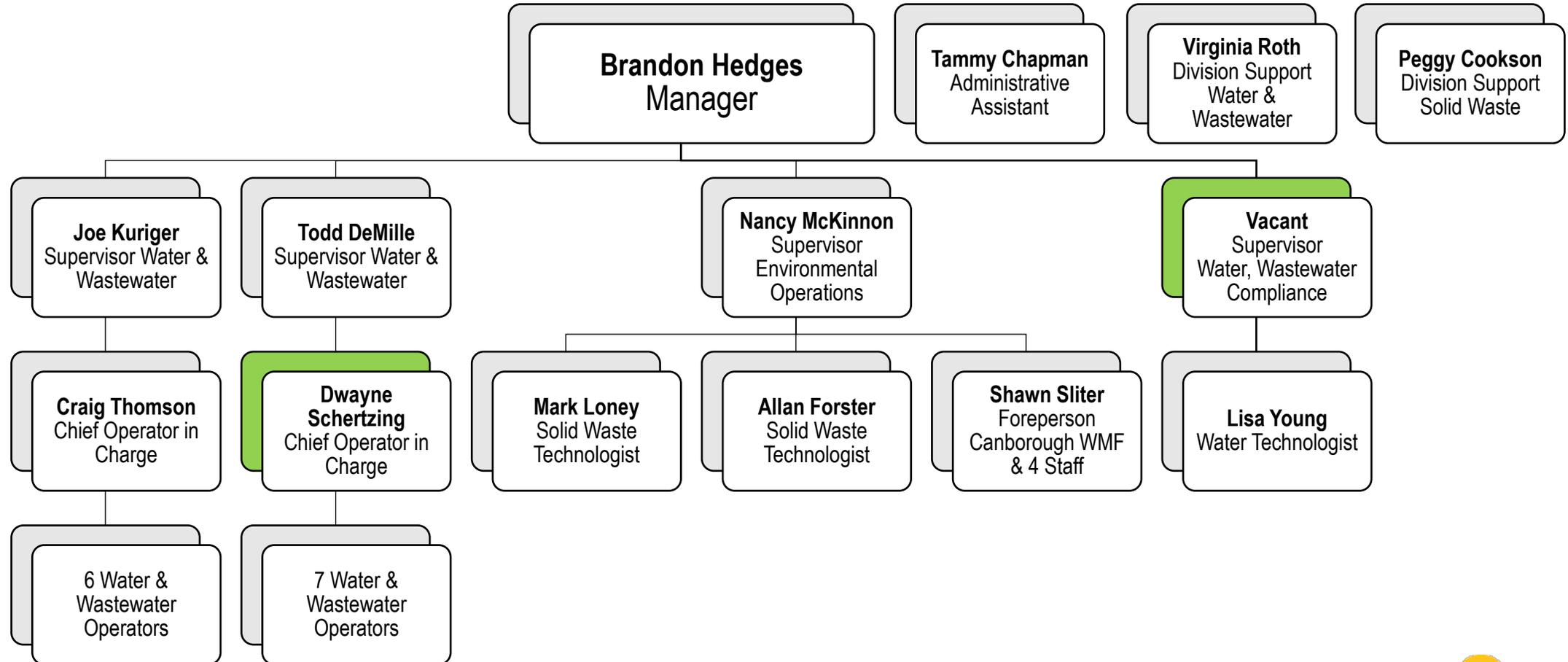
Haldimand County's Public Works Operations department is comprised of:

- Environmental Operations (Drinking Water, Wastewater, Stormwater, Solid Waste)
- Facilities, Parks, Cemeteries and Forestry Operations
- Fleet Operations and
- Roads Operations

# Department Management Team



# Environmental Operations Team



# Environmental Operations

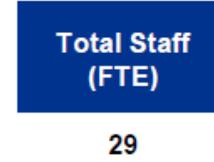
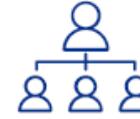
## Divisional Summary

Based on 2023 actual revenues and expenditures, Environmental Operations had total operating expenses of \$26.1 million, revenue of \$10.4 million, resulting in an estimated net levy of \$15.7 million.

As part of its mandate, the division performs a number of activities. These include, but are not limited to, activities related to water operations, solid waste and urban storm sewer.

Based on stakeholder consultations, the following key divisional challenges were noted:

- As the County continues to grow, the division may require additional staff to manage increases to the service portfolio and respond to ongoing regulatory changes in the portfolio.



### Budget Activity Breakdown

Environmental Operations	Water Operations	Revenue	Activity Working Days
	Water Operations	\$16,087,720	\$8,335,810
	Solid Waste Administration	\$1,487,200	\$315,270
	Solid Waste Collection	\$3,102,480	\$3,102,480
	Solid Waste Disposal Sites	\$4,019,490	\$2,721,270
	Solid Waste Reduction	\$739,040	\$569,550
	Urban Storm Sewer	\$733,630	\$638,300

### Expense Categories

Other expenses	\$6,440,260
Contracted Services	\$6,130,000
Expenses - Hamilton Water S..	\$4,469,600
Salaries & Benefits (incl. OT)	\$3,114,720
Materials & Supplies	\$2,729,470
Expenses - Leachate	\$2,524,030
Interfunctional Adjustments	\$707,670
Expenses - Utilities	\$42,990
Rents and Financial Expenses	\$10,820

### Revenue Categories

General Fees	\$5,131,240
General Recoveries	\$2,407,880
Bulk Service Charges	\$2,046,780
Development Charges Reserve Funds	\$562,040
Transfers from Reserves / Reserve Funds	\$197,620
Grants / Subsidies	\$141,320

# Environmental Operations

## Areas of Responsibility

- Drinking Water distribution and treatment operations contract
- Wastewater collection and treatment operations contract
- Urban stormwater collection
- Drinking Water treatment, transmission mains and storage facilities
- Wastewater treatment plants, lagoon facilities and forcemains
- Collection and disposal of waste, no longer recyclable materials
- Perpetual care, operations and maintenance of closed landfill sites



# Key Activities of our Division

## Water and Wastewater

- Operation and maintenance of the Water Treatment and Distribution Infrastructure includes three drinking water systems.
- Administration and management of the Ontario Clean Water Agency (OCWA) water treatment/industrial pump station operations contract (\$2.9 million annually).
- Operation and maintenance of the water distribution and collection infrastructure
- Administration and management of the Veolia Wastewater Treatment Plant contract for operation and maintenance of the wastewater treatment plants, lagoons, pump stations and forcemains (\$3.5 million annually).
- Operation and maintenance of the urban roadway stormwater systems in the urban communities.
- Conduct water and wastewater sampling and monitoring to ensure regulatory compliance.





Canborough Scale House

# Key Activities of our Solid Waste Division

- Operation and maintenance of the Canborough Waste Management Facility including administration of hauling contract with George Barnes and Sons (\$1.5 million annually), operation of diversion centre and re-use program.
- Administration and management of the garbage, leaf and yard waste curbside collection contract with Norfolk Disposal (\$3.2 million annually).
- Perpetual care maintenance and annual inspection for 16 closed landfill sites across the County including enhanced monitoring and reporting for five of those sites.
- Maintenance of the landfill gas collection and flaring system at the Tom Howe Landfill Site.
- Leachate management for Tom Howe and Canborough Landfill Sites management of the leachate hauling contract (\$550 thousand annually) and overall leachate collection system maintenance.



# Drinking Water

## 2023 - 24 Highlights

- Renewal of Dunnville Permit to Take Water
- Completed distribution system leak detection in all distribution systems
- Introduced Standard of Care and Operational Plan to Council for required endorsement
- Year 2 Drinking Water Quality Management Standard (DWQMS) Surveillance Audit (S2) completed
- *Interior re-lining of the Caledonia standpipe*
- Installation of CCTV at the Caledonia and Cayuga reservoirs and the Hagersville, Jarvis and Dunnville water depots to improve site security
- McClung/Avalon development watermain commissioning, subdivision deficiency inspections, and water meter installations
- Implemented exploratory distribution system sampling to support water distribution optimization
- Completed risk assessments for County Drinking Water Systems
- Completed external audit and received accreditation for Drinking Water Quality Management Standard



# Wastewater

## 2023 - 24 Highlights

- Negotiated extension of the Wastewater Treatment Contract
- Completed Rapid Assessment Technology (RATS) inspections in the Cayuga and Caledonia wastewater collection systems



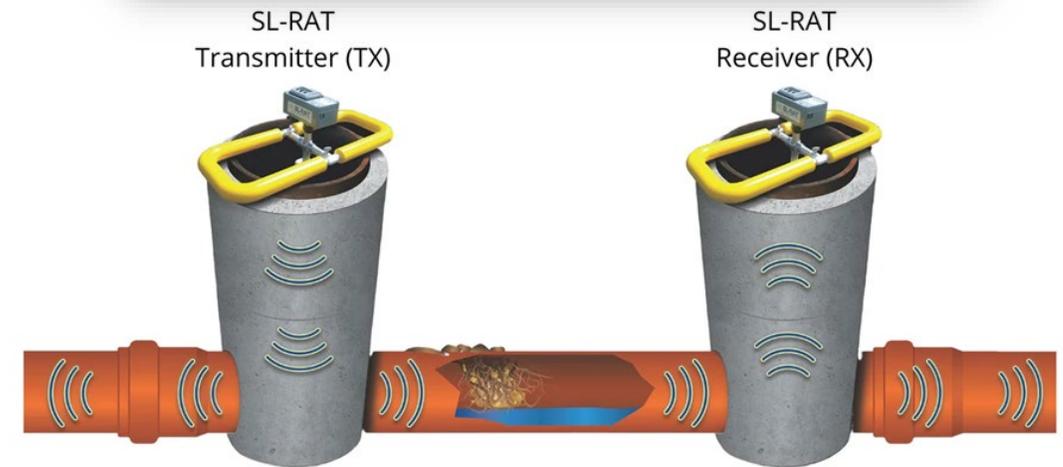
# Water and Wastewater - 2025 Priorities



- *Drinking Water Backflow prevention program*
- Improved excess soil management
- Skills development and training for staff
- Work with Engineering Services with respect to water and sanitary main replacement projects
- Continue administration of the Sanitary Discharge Agreements with industrial customers
- Emergency Response Training for Operations staff
- *Strengthen processes related to the Drinking Water Quality System (DWQMS)*
- Improve municipal servicing information available on the County's Geographic Information System (GIS)
- Improved water loss/accountability reporting for all drinking water systems

# Water and Wastewater - 2025 Priorities

- RATS (Rapid Assessment Technology Services)
- Utilizes patented acoustic technology to provide real-time blockage assessments in 150 to 450 mm gravity lines.
- System uses a transmitter in one manhole and a receiver in the next to determine and record the condition of each section of line in three minutes or less.
- Network map and condition report pinpointing the areas which require the more costly CCTV and Jetting services



# Solid Waste

## 2023 - 24 Highlights

- In a recent County wide survey, 96% of residents were satisfied with Garbage Collection – a 10% increase compared to 2022 – directly contributed to the Curbside Contractor Norfolk Disposal.
- Completion of the installation of the gas flare at Tom Howe Landfill Site including updating the Operation and Maintenance documents and related reports for submission to the MECP
- Solid Waste Management Master Plan (SWMMP) contract awarded and project initiated



Canborough Waste Management Facility

# Recycling / Diversion Program

## 2023 - 24 Highlights

- Transitioning of the Blue Box Program. Haldimand County transitioned to the new provincially administered Blue Box Program as of January 1, 2024
- EEE Collection Bin – a \$2,277 donation was made to the Haldimand County Charitable Donations Committee from the bin located at the Walpole Roads yard
- 79 bikes diverted as part of the used bike recycling program, which is a partnership between Haldimand County, Dunnville Youth Impact Program, Source for Sports and GEDSB
- Entered into new agreements for diversion bins for shingles, metals and construction and demolition materials at the Canborough Waste Management Facility

# Household Special Products (HSP)

## 2023 - 24 Highlights

Eight successful Household Special Products (HSP) collection events took place in 2023 and 2024

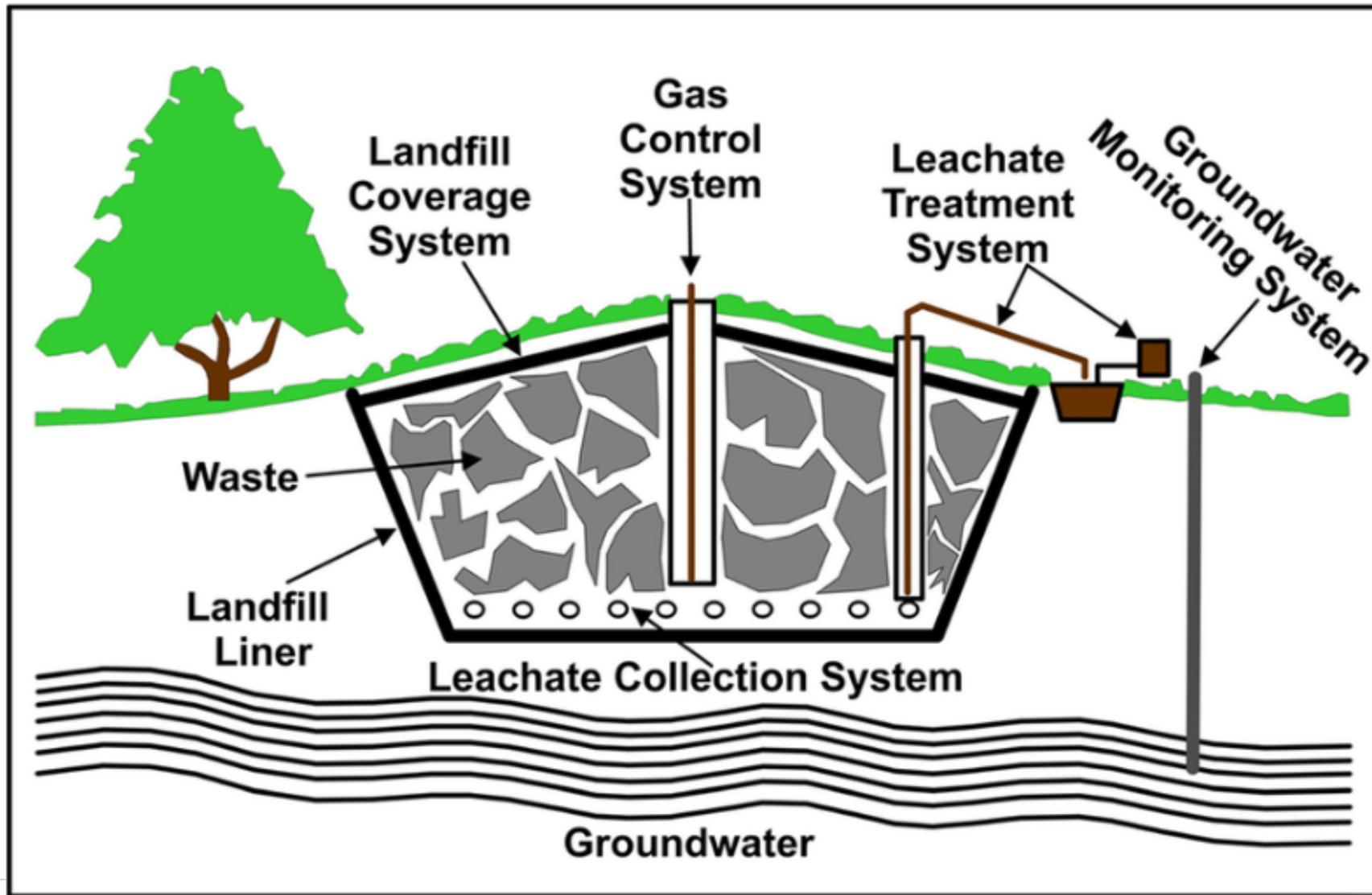
- 2,709 vehicles
- 122 MT of hazardous material
- 23 MT of electronic waste
- 13 Haldimand County facilities accept batteries



# Solid Waste / Recycling

## 2025 Priorities

- Flushing of leachate systems at the Canborough and Tom Howe Landfill Sites
- *Feasibility study regarding willow tree plantation options for potential leachate volume reductions at Tom Howe*
- Completion of ODM and ECA update for Canborough Landfill and Canborough Waste Management Facility
- Summarize and report on two years of garbage audit data and determine feasibility of conducting a garbage audit of IC&I properties.
- Explore options for reducing or eliminating monitoring requirements at the Seneca and Oneida closed landfill sites.
- Installation and system retrofit for three new leachate pumps for Tom Howe.
- Continue work on Solid Waste Management Master Plan including public consultations, investigating recommendations and presenting final report to Council.



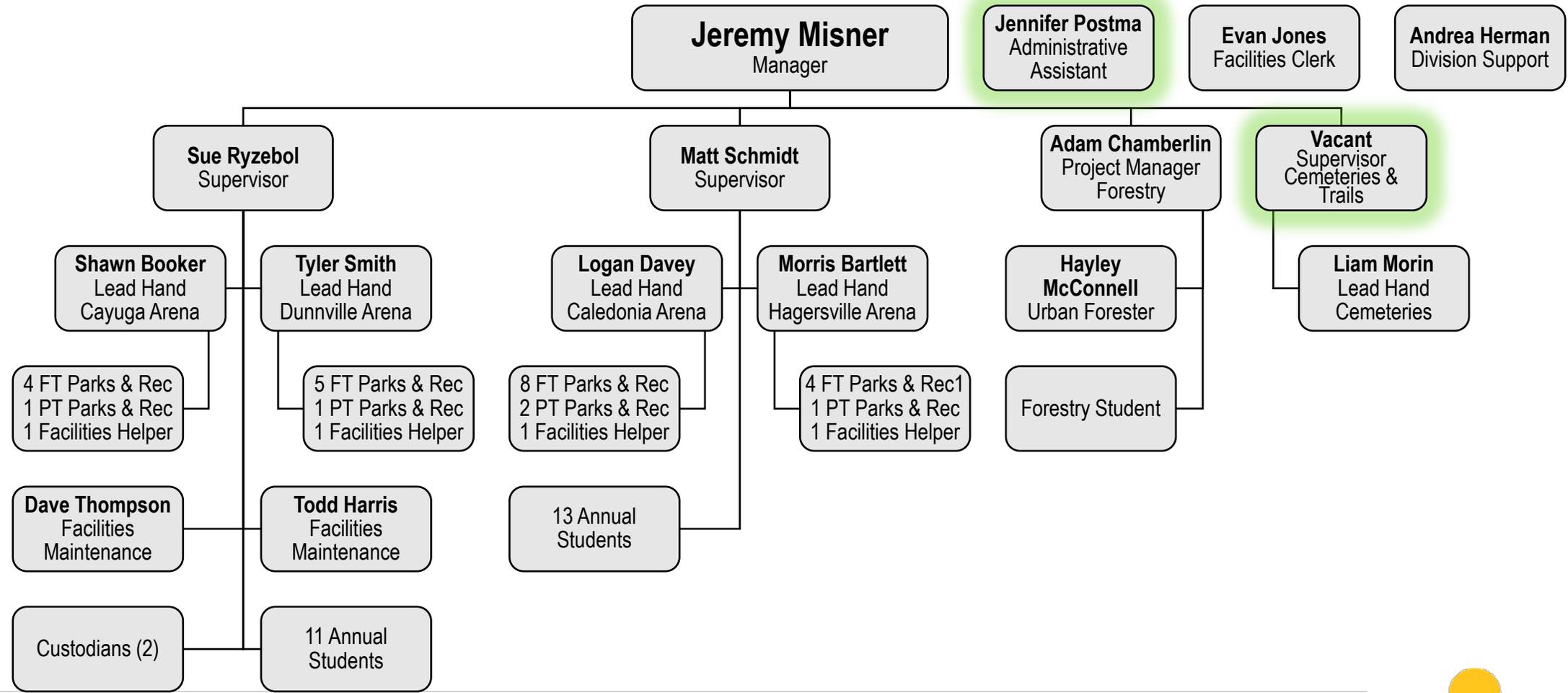
# ENV Emerging Issues

- Wet weather events increasingly causing bypasses and overflows
- Increased rainfall increases the organic matter and contaminants entering the source water for our drinking water. This puts strain on our treatment plants with extra coagulation, filtration and disinfection efforts.
- Warmer source water combined with wet weather also promotes algal blooms, especially the dangerous cyanobacteria (Blue Green Algae) that produce toxins like microcystin
- More intense rainfalls also increases leachate production from the Tom Howe and Canborough closed landfill sites thereby driving increased operating costs



Tom Howe Landfill Site – leachate collection

# Facilities, Parks, Cemeteries & Forestry Operations Team



# Parks, Cemeteries, & Forestry Operations

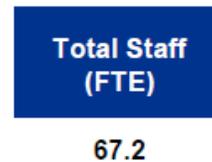
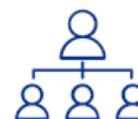
## Divisional Summary

Based on 2023 actual revenues and expenditures, Parks, Cemeteries, and Forestry Operations had a total operating expense of \$8.7 million, revenue of \$1.9 million, resulting in an estimated net levy of \$6.8 million.

As part of its mandate, the division performs a number of activities. These include, but are not limited to, activities related to the maintenance of arenas, cemeteries, community centres/halls, forestry, parks, and pools.

Based on stakeholder consultations, the following key divisional challenges were noted:

- Recruiting and retaining skilled staff due to the division's diverse service portfolio.
- Increased workload of current service levels has strained current resources.



Budget Activity Breakdown		Operating Expenses	Revenues	Net Levy
Facilities, Parks, Cemeteries and Forestry Operations	Arenas	\$3,975,910	\$1,495,660	\$2,480,250
	Cemeteries	\$451,590	\$212,150	\$239,440
	Community Centres/ Halls	\$400,950	\$0	\$400,950
	Facilities, Parks, Cemeteries & Forestry Operations	\$720,210	\$0	\$720,210
	Forestry Maintenance	\$948,470	\$5,290	\$943,180
	Parks & Parkettes	\$1,994,330	\$161,360	\$1,832,970
	Pools	\$204,630	\$0	\$204,630

**Expense Categories**

Salaries & Benefits (Incl. OT)	\$3,740,320
Other expenses	\$1,797,640
Contracted Services	\$1,337,770
Expenses - Utilities	\$809,170
Interfunctional Adjustments	\$588,350
Materials & Supplies	\$233,810
Rents and Financial Expenses	\$189,030

**Revenue Categories**

General Recoveries	\$1,334,590
Development Charges Reserve Funds	\$407,810
Transfers from Reserves / Reserve Funds	\$132,060

# Facilities, Parks, Cemeteries & Forestry Operations

## Areas of Responsibility

Administration of facilities operations and maintenance including;

- Corporate buildings
- Arenas, pools and splash pads
- Parks (playground equipment, courts, sports fields, piers, boat launches, lighthouses)
- Cemeteries
- Trails and park pathways

Assist Community Hall user groups

Forestry management



Caledonia Arena



# Facilities, Parks, Cemeteries & Forestry Operations

## 2023 – 24 Highlights

- Street Cemetery
- Urban Forester position approved and appointed
- Installed four columbarium units (Caledonia, Cayuga, Dunnville & Hagersville)
- Notable projects completed include
  - the HCCC bathroom partition
  - Caledonia Pool Canopy replacements
  - Port Maitland East dock replacement
  - Wingfield Park dock replacement, Dunnville Pool Heater Replacement
  - Hagersville Arena Condenser Header and Brine Pump Replacement.

# Forestry 2023 - 24



**2,274  
Trees  
Pruned**

**1,974  
Trees  
Removed**

**1,467  
Stumps  
Removed**

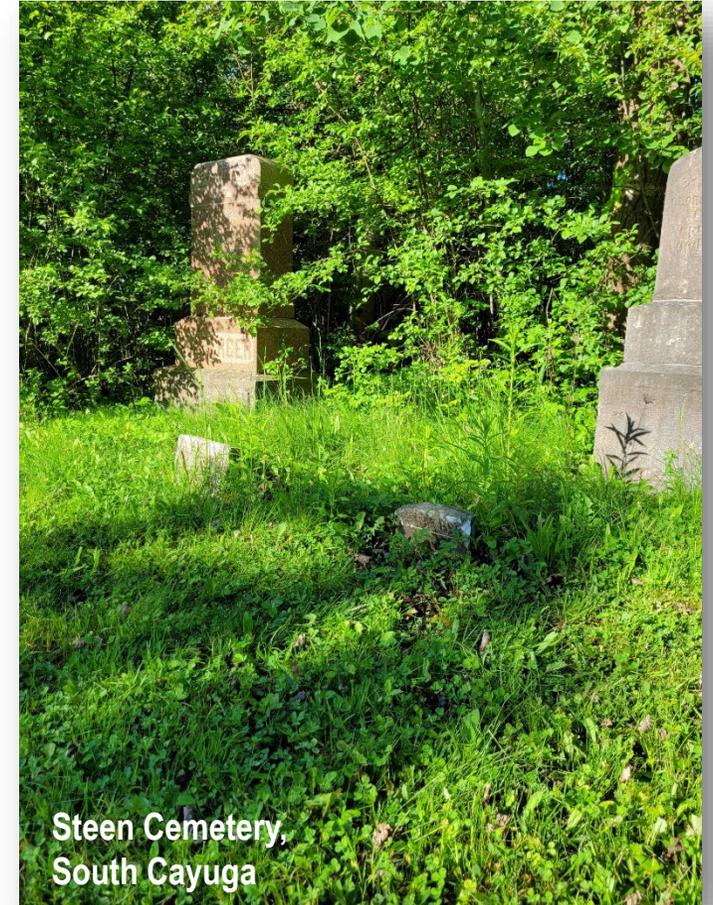
**880  
Trees  
Planted**

# Facilities, Parks, Cemeteries & Forestry Operations 2025 Priorities

- Construction of Hagersville Downtown Street Tree Project
- Cayuga and Dunnville Arena rubber floor installation
- Finalize Minimum Service Levels for FPCF Operations
- Comprehensive professional development and succession planning, with a focus on ongoing enhancement of core technical training for staff
- Trail Maintenance Program: Establish Trail Maintenance Standards
- Establish Responsibility Matrix
- Implement staffing initiative for Supervisor Cemeteries and Trails

# Facilities, Parks, Cemeteries & Forestry Operations 2025 Priorities

- Develop and implement maintenance protocols for the new Hagersville Active Living Centre.
- Conduct tree pruning operations in Caledonia (South of the Grand River) and Oneida township.
- 2025 was the year we intend to achieve sustainability with the Forestry Program
- Enhance service standards for designated marquee County Parks.
- Ongoing assessment of staffing needs to anticipate and adapt to future demands.
- Completion of Waterfront Way in Selkirk



# FPC Emerging Issues

- Wet weather creating challenges to keep up with grass cutting in spring
- Climate change has led to longer growing seasons, extending them by weeks or even months creating challenges in shoulder seasons especially in August.



# FPC Emerging Issues

- Waste collection within Parks and Trails has increased significantly
- Growth in demand for outdoor amenities in Winter is challenging historical use of staff
- Staff recruitment and retention for both permanent in part time staff becoming more challenging.
- New Supervisor position will support optimization of resources in the field

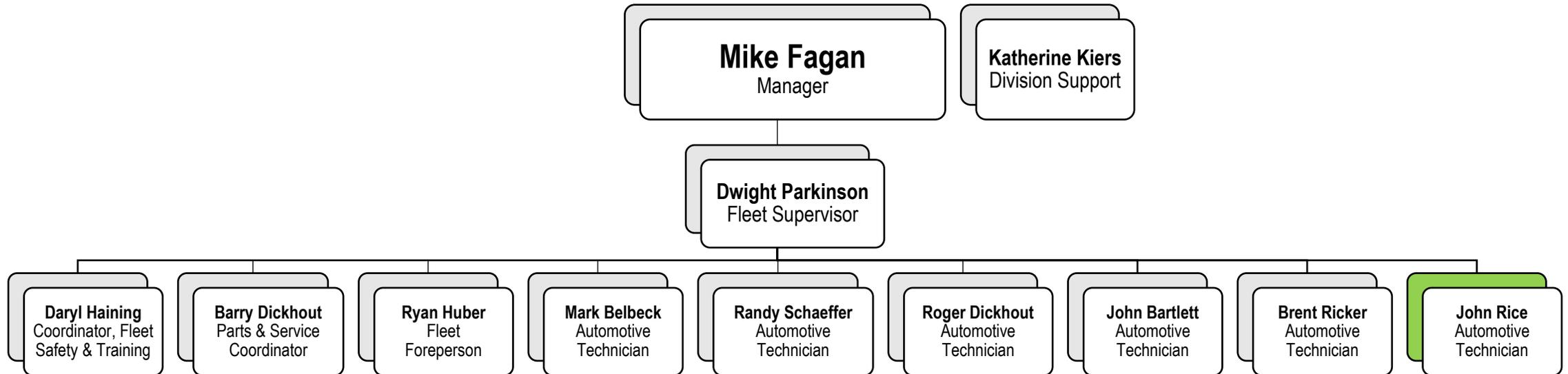


# FPC Emerging Issues

- Noxious weeds and invasive species is of great concern with no dedicated staff or proactive programming
- Growth and Development is increasing inventory of parks/trails and new facilities to be operated
- Lack of a effective work order system
- Ongoing risk of 60 privately licensed or presumed unlicensed cemeteries in Haldimand County potentially becoming the responsibility of the County.
- BAO recently advised of a specific location likely to require assistance



# Fleet Operations Team



# Fleet Operations

## Divisional Summary

Based on 2023 actual revenues and expenditures, Fleet Operations had total operating expenses of \$23.9 thousand, revenue of \$10 thousand, resulting in an estimated net levy of \$13.9 thousand.

As part of its mandate, the division performs a number of activities. These include, but are not limited to, activities related to the maintenance of fleet and equipment pool.

Based on stakeholder consultations, the following key divisional challenges were noted:

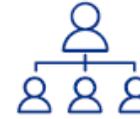
- There may be a risk of future vacancies due to imminent retirements within five years. While recruitment hasn't been problematic, the County will require effective succession planning to proactively identify at risk positions.
- The current fleet management system, Pearl, lacks the capacity to provide essential data, underscoring the need for a system that can monitor labour, vehicles, and parts.
- The County's facilities lack appropriate wash bays to help maintain vehicle lifespan.



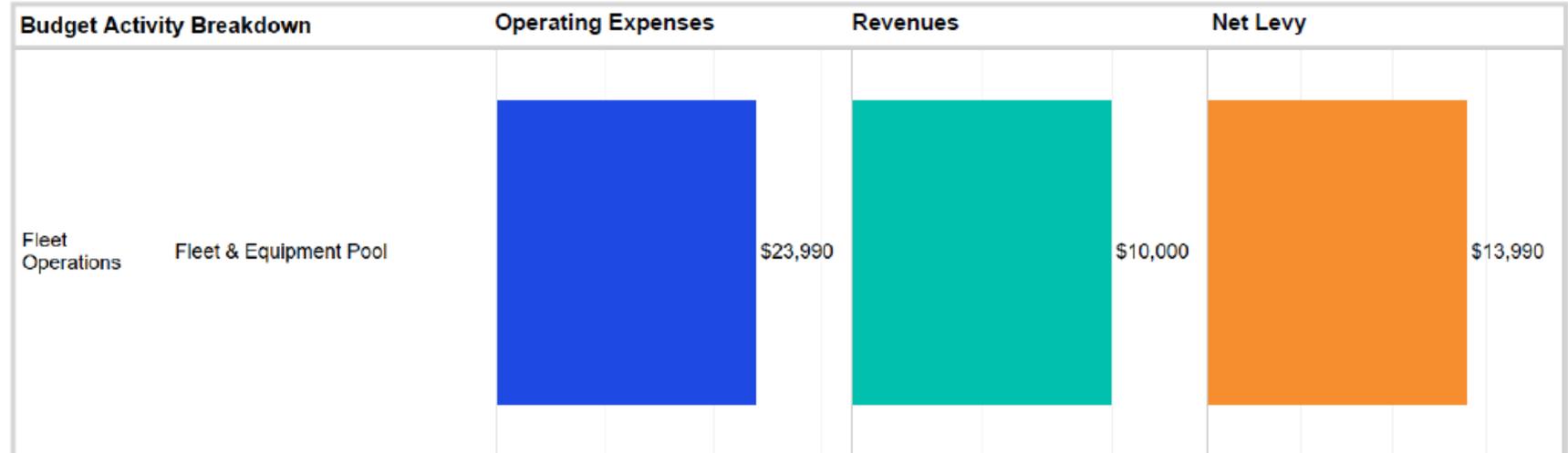
**Total Expenses**  
\$23,990



**Total Revenue**  
(\$10,000)



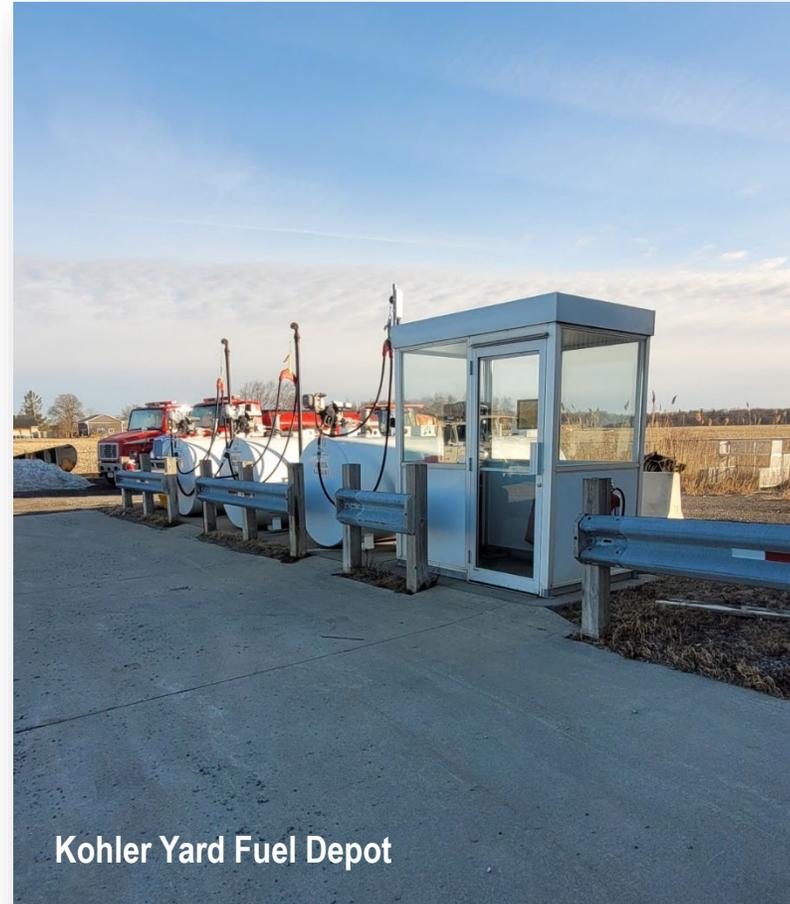
**Total Staff (FTE)**  
12



# Fleet Operations

## Areas of Responsibility

- Vehicle and equipment service, training and support
- Vehicle procurement, licensing and disposal
- Fuel procurement and depot maintenance
- Commercial motor vehicle licensing and program management



Kohler Yard Fuel Depot

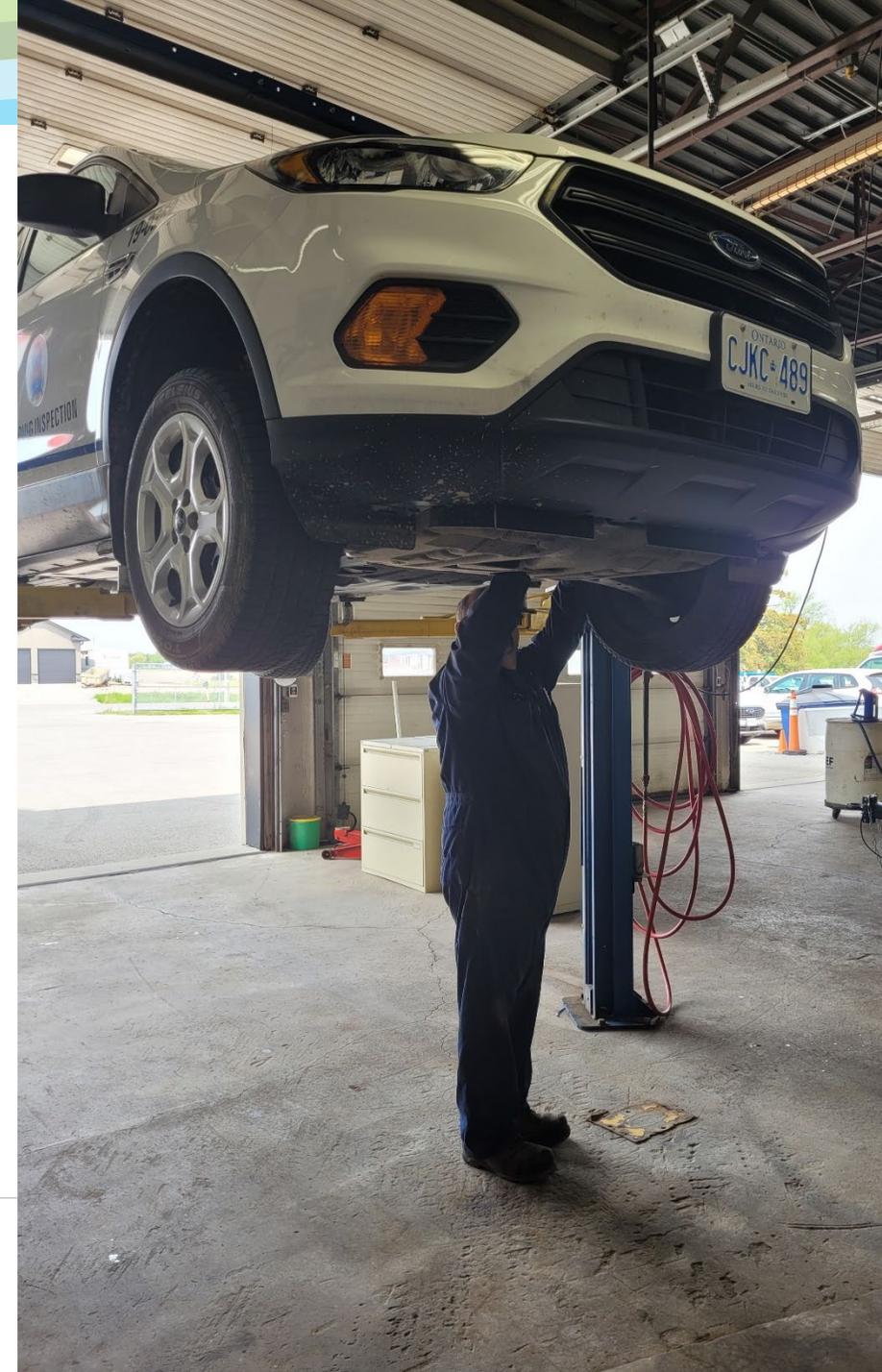
# Key Activities of the Fleet Operations Division

## Fleet Maintenance & Asset Management

- Responsible for procurement, maintenance and disposal of over 500 vehicles and equipment
- Annual licensing of approximately 135 vehicles
- Establish capital costs and life cycles of over 100 classes of vehicles and equipment
- Maintain an electronic maintenance management system (Pearl) to ensure legislative requirements are met (annual/semi-annual safety inspections – preventative maintenance)

## Fuel Procurement & Fuel Depot Maintenance

- Responsible for fuel procurement, delivery and contract management of fuel supplier
- Responsible for the ongoing maintenance/inspections of five (5) County fuel depots



# Key Activities of our Division

## Vehicle & Equipment Training

- Provide staff training through internal resources, third-party contractors, online (OSG) and original equipment manufacturers (OEM)
- Maintain electronic management system (Stargarden) to ensure staff are properly trained and provided refresher training when required
- The county is an approved participant in the Driver Certification Program. Provides the County with the authority to renew and/or upgrade staff licences and provide air brake endorsement



# Key Activities of our Division

## Commercial Vehicle Operators Registration (CVOR) Monitoring and Compliance

- Required to operate commercial vehicles defined as vehicles with an RGWV rating of 4,500 KG or over
- CVOR rating must be kept in good standing to control insurance costs. A high safety rating can trigger an MTO facility audit which may restrict the number of commercial vehicles operated by the County. This will limit the Division's ability to meet their service levels. MTO can suspend our CVOR.
- Ensure all maintenance activities (annual inspections – defect repairs) are performed promptly and driver documents are complete (pre-trip inspections – hours of service – training records – driver files) and available for MTO inspection if required.

			
Issued pursuant to the Highway Traffic Act / Délivré en vertu du Code de la route			
<b>Commercial Vehicle Operator's Registration Certificate</b> <b>Certificat d'immatriculation d'utilisateur de véhicule utilitaire</b>			
Commercial Vehicle Operator's Registration No. N° d'immatriculation d'utilisateur de véhicule utilitaire	<b>184-673-564</b>		
Name / Nom <b>LASKA TRANSPORT INC.</b>	O/A		
Expiry Date / Date D'expiration	<b>Y/A</b> 2018	<b>M</b> 10	<b>D/J</b> 30

This certificate or a copy must be carried in each commercial motor vehicle being operated under the Commercial Vehicle Operator's Registration.

For a replacement, of a CVOR Certificate complete and submit a Commercial Vehicle Operator's Registration (CVOR) Replacement Application form. For corrections or information changes, complete and submit a Commercial Motor Vehicle Operator's Registration (CVOR) Update Application form. Application forms are to be submitted to: Ministry of Transportation, Carrier Sanctions & Investigation Office, 301 St. Paul St., 3rd floor, St. Catharines, ON L2R 7R4.

Pour le remplacement d'un certificat d'immatriculation IUUV, remplir et soumettre le formulaire de demande de remplacement d'un utilisateur de véhicule utilitaire (IUUV). Pour des corrections ou bien des demandes de mises à jour de l'information, remplir et soumettre un formulaire de demande de mise à jour d'un utilisateur de véhicule utilitaire (IUUV).

Les formulaires de demandes doivent être soumis au: Ministère du transport, Bureau de la sécurité des transporteurs et de l'application des lois, 301 rue St. Paul, 3<sup>ème</sup> étage, St. Catharines On L2R 7R4

# Fleet Operations 2023-24 Highlights



- Assisted Roads Operations division on implementation of new AVL/GPS tracking and material (salt/sand) reports on all plow trucks.
- Tender and renew County bulk fuel contract.
- In-servicing of two anti-icing trailers for Roads Operations and design washout system to ensure reliability.
- Work with EMS staff on procurement/outfitting and in-servicing of vehicles/trailer to support the Community Paramedic Program.
- Increase maintenance activities on Fire apparatus, plow trucks and ambulances as extended life cycles are required due to extreme delays in delivery of new units.
- Implement and train staff on new processes for commercial vehicle inspections as mandated by the MTO DriveON Program.
- Work with IT staff, vendor and Fleet staff on the successful implementation/training of the new fuel dispensing program (Simcon).

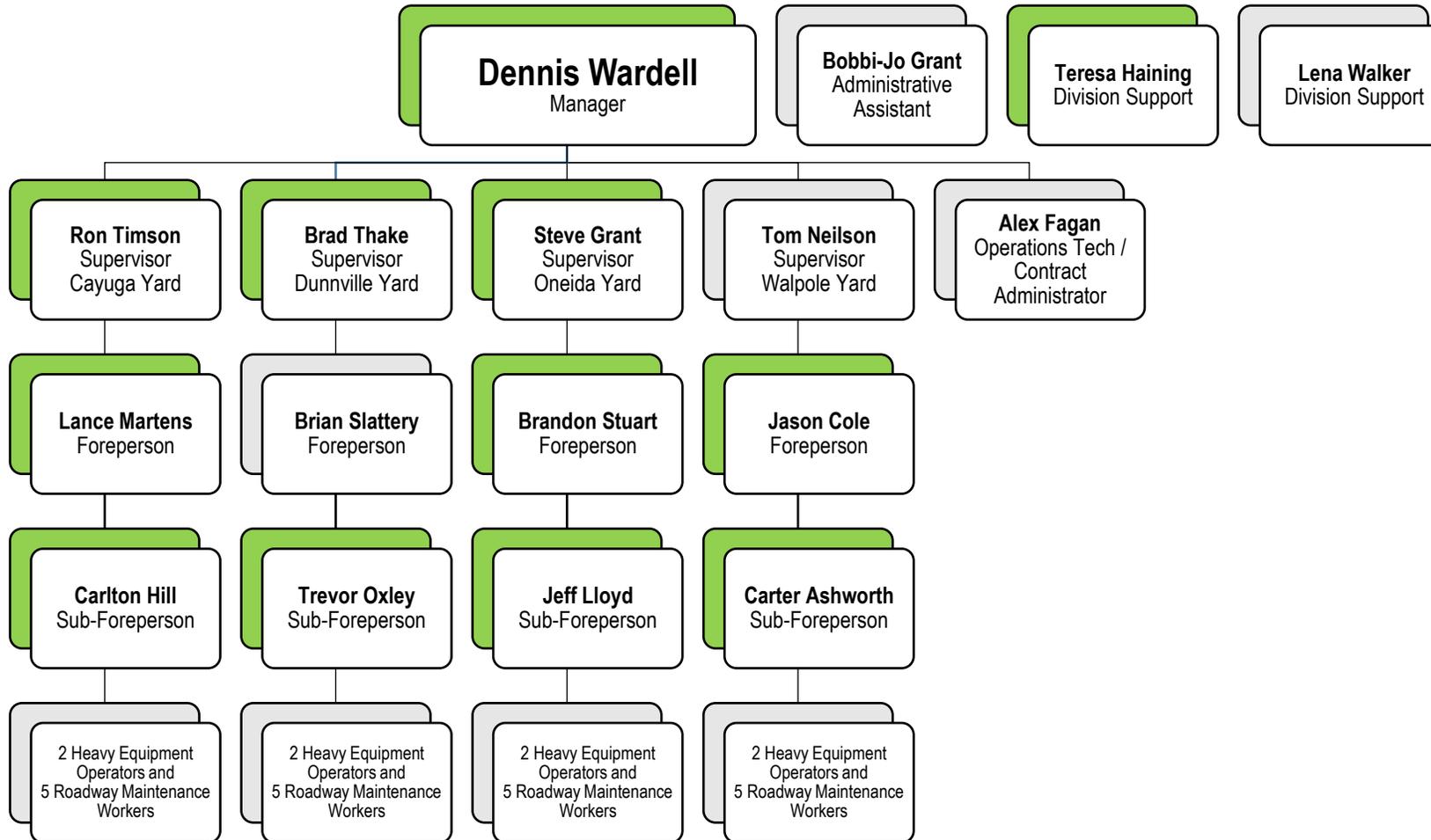
# Fleet Operations 2025 Priorities

- Work with divisions to ensure all 2025 capital vehicle and equipment replacements are properly identified and 'right sized' for efficiencies and meet the requirements of the division.
- Prepare for external Driver Certification Program audit in July 2025. Typically three cycle
- Work with EMS staff to investigate new manufacturer of Type 3 ambulances (Tri-Star) currently in the process of being certified by the Ontario MOH. Current ambulance manufacturer (Demers/Crestline) has delayed delivery of new ambulances for over 2 years.
- Work with MAP project team to implement a fleet maintenance management/work order system.
- Specification writing, procurement and in-servicing of all Council approved V&E purchases in 2025 budget.
- Continue to actively participate on Vehicle Accident Review Committee to fully investigate all accidents and identify trends to reduce accidents/costs and liability.

# Fleet Emerging Issues

- Price escalation has levelled off for light duty vehicles
- Parts availability/supply chain issues continuing to be problematic
- Extended lead time for delivery of heavy specialty vehicles
- Ongoing challenges attracting staff, especially certified technicians
- 50% of staff eligible to retire within three years
- MAP project will be challenging to implement
- Possible transition to green fleet, different maintenance equipment/hoists and new training for staff

# Roads Operations Team



# Roads Operations

## Divisional Summary

Based on 2023 actual revenues and expenditures, Roads Operations had a total operating expense of \$17.1 million, revenue of \$381 thousand, resulting in a net levy of \$16.7 million.

As part of its mandate, the division performs a number of activities. These include, but are not limited to, activities related to road safety, sidewalks and boulevard maintenance, parking lot maintenance, winter control, road surface maintenance, road drainage maintenance, and roadside maintenance.

Based on stakeholder consultations, the following key divisional challenges were noted:

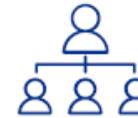
- A lack of data to support an asset-linked maintenance plan has resulted in more reactive maintenance activities.
- The County’s salt management plan is outdated, with several key risk highlighted by a recent audit.
- General growth within the County and additional infrastructure will require differing skill sets and additional resources to maintain service levels.



**Total Expenses**  
\$17,109,000



**Total Revenue**  
(\$381,510)



**Total Staff (FTE)**  
53.5



**Activity Working Days**  
4,459

Budget Activity Breakdown		Operating Expenses	Revenues	Net Levy
Roads Maintenance	Administration	\$1,778,720	\$289,400	\$1,489,320
	Facilities	\$353,790	\$0	\$353,790
	Roadside Maintenance	\$7,727,060	\$92,110	\$7,634,950
	Winter Control	\$7,249,430	\$0	\$7,249,430

Expense Categories	
Contracted Services	\$5,019,240
Salaries & Benefits (incl. OT)	\$4,830,370
Interfunctional Adjustments	\$4,146,940
Expenses - Sand & Salt	\$1,490,400
Materials & Supplies	\$947,140
Expenses - Utilities	\$491,510
Rents and Financial Expenses	\$183,400

Revenue Categories	
Grants / Subsidies	\$199,500
Transfers from Reserves / Reserve Funds	\$92,280
General Recoveries	\$89,730

# Roads Operations

Maintain and preserve:

- Public rights-of-way/road allowances
- Sidewalks
- Municipal parking lots

Maintenance Programs:

- Paved road maintenance - shouldering, surface repairs, roadside drainage
- Sidewalk and curb repairs
- Streetlight repair and maintenance contract
- Rural roadside mowing
- Winter Control - Snow Removal (roads; sidewalks; parking lots)



# Key Activities of the Roads Operations Division

- Primary focus is public safety, preventative maintenance, emergency response and overall management of the County's transportation network
- 1,500 kilometers of public rights-of-way/ road allowances (roads),
- 172 kilometers of sidewalks and
- 8 municipal parking lots consisting of approximately 20,000 m<sup>2</sup> in asphalt surface area.
- Signs and marking, roadside safety devices, inspections and road patrol, culvert replacement and ditching.



# Roads Operations 2023-24 Highlights

- Participated in procurement and consultation process for Public Works Operations Facility Locations and Service Review.
- Soils Management and Excess Soils procedural plan under O. Reg 406/19 and other relevant legislation.
- Boundary Agreement review of current boundary agreement with the City of Hamilton. Agreements to be updated, amended and formalized in Q1 of 2025.
- Responsibility Matrix .... Undertook a review of our current Roads Operations processes and procedures.
- Resolved 1,870 resident concerns in 2023 and 1,524 in 2024

# Roads Operations 2023-24 Highlights

In a recent County wide Resident Satisfaction Survey:

- 80% of residents reported that they were satisfied with Sidewalk and Streetlight Maintenance – a 8% increase over 2022 and
- 75% of residents also indicated that they were satisfied with Roads Maintenance – a 16% increase over 2022.

Both of these positive increases can be attributed to improved maintenance programs, contract management and a renewed emphasis on customer service.



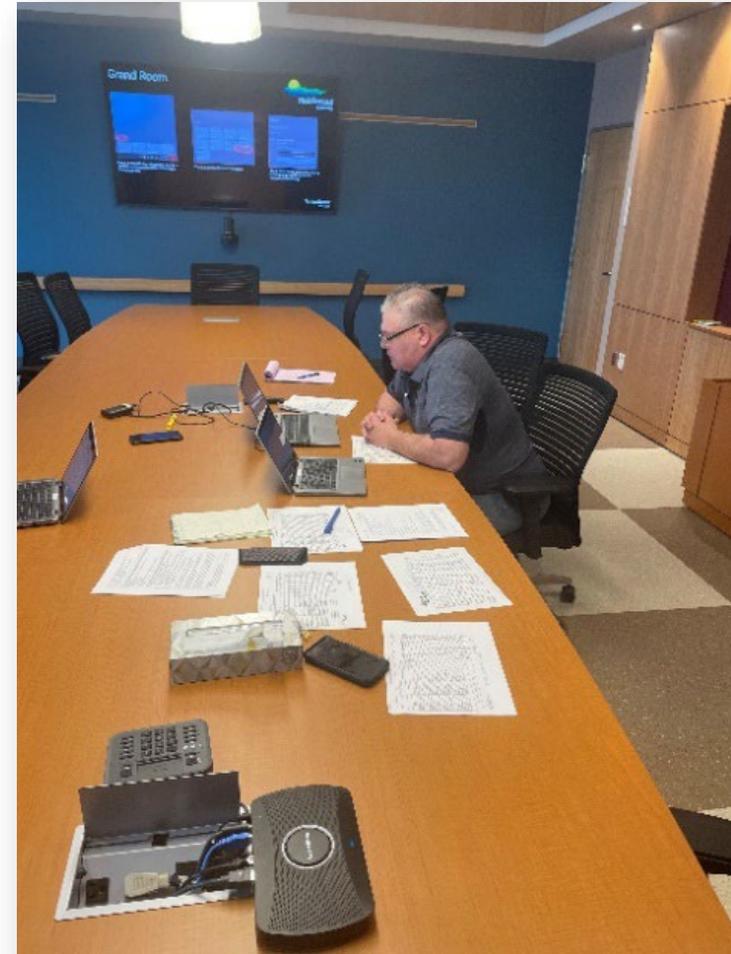
# Roads Operations 2023-24 Highlights

- Successful roll out of new anti-icing trailer for winter maintenance program.
- Roads Operations Division also responded to 1,870 resident concerns in 2023 and 1,524 in 2024
- Rural Roadside Mowing Pilot of class 4, 5 and 6 roads continued into 2025 to determine success.
- Gravel road conversion program was completed in 2024 – equipment and budgets reconciled for 2025



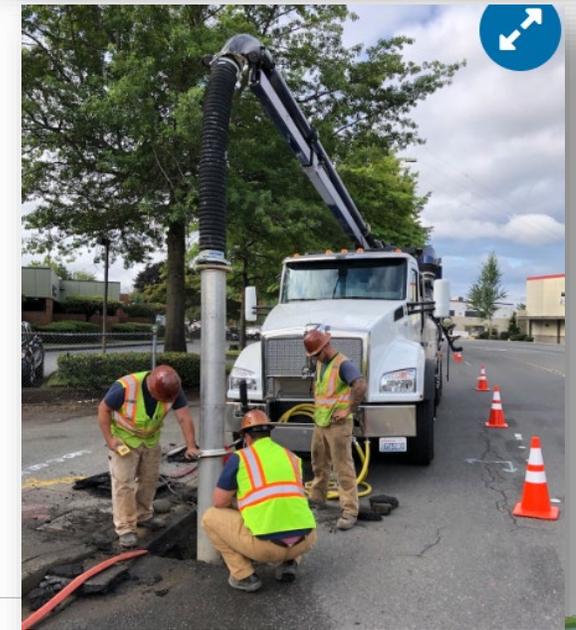
# Roads Operations 2025 Priorities

- Finalize a comprehensive Roads Use Bylaw and present to Council for approval.
- Complete an updated Winter Control Level of Service document to reflect current practices and present to council for approval.
- Complete next phase of the Roads Optimization Review
- Continue updating all current boundary road agreements with neighbouring municipalities.
- Undertake a business process review of the Roads Operations Permit process.
- Document management improvement project



# Roads Operations 2025 Priorities

- Implement AVL Tracking and installation of Geotab devices in all Roads Operations vehicles.
- Implement A.I. Road Patrol Software pilot program in Q1 and procure and implement new permanent A.I. Road Patrol program by end of Q4.
- Install forward facing cameras in select Roads Operations vehicles.
- Procure and implement an electronic Mobile Work Management system.
- Create and implement a Catch Basin maintenance program in urban and hamlet areas of the County.



# Emerging Trends



Moving bulk salt into the brine building



Loading bulk salt into the brine machine



Brine storage tanks



Brine salinity verification



Brine application



# Roads Emerging Trends

Climate Change...

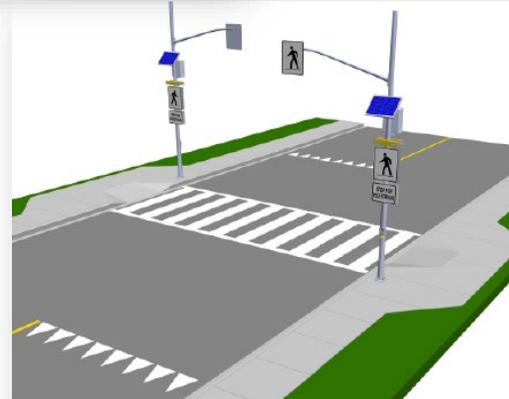
- Intense Wet weather
- Milder winters
- Invasive species



# Roads Emerging Trends

## Growth...

- Urban expectations
- Additional assets to maintain
- Service levels



# Roads Emerging Trends

- Technology in the field
- A.I. for Road Patrol
- Document Control
- Work Order System



# Roads Emerging Trends

- Process Control
- Risk Management

The screenshot shows the myGEOTAB mobile application interface. The top navigation bar includes a search bar, a 'Groups filter' dropdown (set to 'All groups selected'), and user profile information. The main content area is titled 'Trips History' and displays a list of trips for 'Thu Jan 06 - Vehicle 1'. The list includes columns for location, status, and duration. A map on the right shows the route of the selected trip. Below the map, there are two camera feeds: 'Vehicle 1 - Front Camera' and 'Vehicle 1 - Rear Camera'.

Location	Status	Duration
170 Hancock Rd, Ridgehaven SA 5097, Australia	Stopped	12:50 - 09:28
170 Hancock Rd, Ridgehaven SA 5097, Australia	Driving	09:28 - 09:33
58 Mataro Rd, Hope Valley SA 5090, Australia	Stopped	09:33 - 09:38
58 Mataro Rd, Hope Valley SA 5090, Australia	Driving	09:38 - 09:51
1290 Grand Jct Rd, Hope Valley SA 5090, Australia	Stopped	09:51 - 16:28
1290 Grand Jct Rd, Hope Valley SA 5090, Australia	Driving	16:28 - 16:33
976 North East Road, Modbury SA 5092, Australia	Stopped	16:33 - 16:43
976 North East Road, Modbury SA 5092, Australia	Driving	16:43 - 16:48
429 Montague Rd, Modbury SA 5092, Australia	Stopped	16:48 - 18:39

# Roads Optimization Review

- PWO Operations/ Facilities Locations and Service Review
- KPMG Recommendations

## Haldimand County – Public Works Operations Facility Locations and Service Review

### New Central Facility – Cayuga / Oneida

Caledonia and Cayuga will be the drivers for future growth within the County, with over 70% of population growth concentrated in those areas. The existing yards servicing those areas also represent the most constrained (Oneida) and oldest (Cayuga) facilities within the County.

The Oneida yard is constrained by adjacent properties, removing any possibility of expansion, and the existing layout makes for operational and safety challenges when dealing with fueling and vehicle movements simultaneously. The material storage on site is also outside of the fenced area, raising the risk of salt being stolen in off-hours.

The Cayuga facility is the oldest in the County and in need of replacement. Its location on a non-municipally serviced site, its lack of proper wash facilities and its adjacency to new residential development suggest it may not be suitable for redevelopment.



A consolidated replacement yard would require a new facility of approximately 14 bays (servicing 15 plow routes), plus a wash bay. Given the plow routes serviced by each facility, a central facility between Caledonia and Cayuga would be required. The map above highlights current plow routes serviced by each yard, including where a central facility could be located. It should be noted that determining an optimal spot of land was out-of-scope for the review.

An efficient layout would likely mirror that of Wellington County's Drayton Garage (above left, 10 bays) or Central Garage (12 bays), with double-depth drive-thru bays flanking employee space. Both Wellington's Drayton and Wellington facilities have separate salt/sand domes, similar to Haldimand County's existing layouts. A similar model is being used by Huron County for their Wingham Yard redevelopment.

The additional storage outlined to the right (beyond the bays) could be accommodated by unheated outbuildings or a lean-to on the main garage, or they could be addressed within a single footprint. A case study of a consolidated facility can be found on pg. 59, referencing Wellington County's under-construction Arthur Garage.



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Wellington County's Drayton Garage was completed in 2019, with a budget of \$7.2 million for a 10 bay (5 x double-depth) facility, with an adjacent shared wash bay with the Township of Mapleton.



Available Facility Space Analysis (~ area in sq. m.)		
	Cayuga	Oneida
Office / Employee	35	50
Garage Bays	8 bays	6 bays
Indoor Storage - Heated	143	840
Indoor Storage - Unheated	1,019	-
Outdoor Storage - Covered	-	-
Material Storage - Unheated	774	161
Outdoor Storage - Open	1,607	387
Vehicle Parking	791	608

Document Classification: KPMG Confidential | 25

# KPMG Case Study

Haldimand County - Public Works Operations Facility Locations and Service Review

## New Facility - Case Study - Wellington County

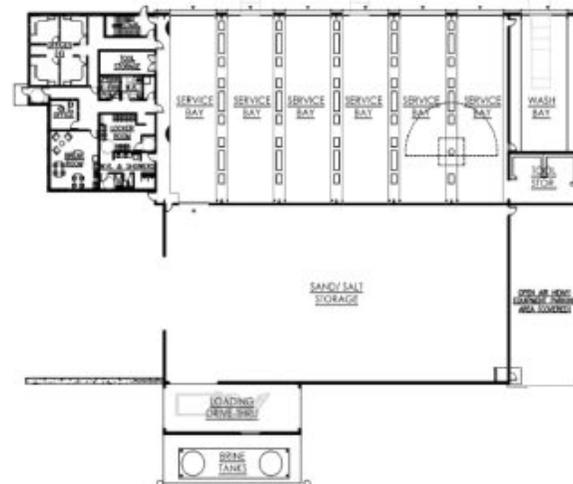
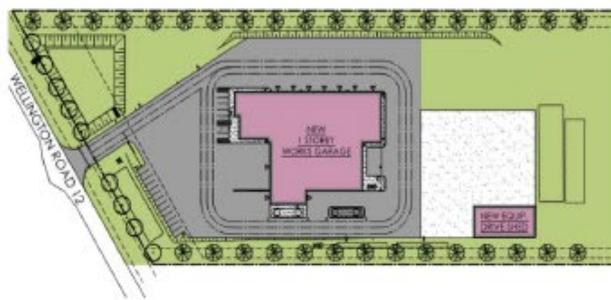
Wellington County is in the midst of construction of a new yard in Arthur. With the older garage both too small and on a constrained site, the County chose a new site that will, in future, also accommodate a new paramedics station.

The facility, shown at right, combines the sand/salt storage and operations bays into a single structure, with drive-thru loading of both salt and brine.

There is an additional external enclosed (but unheated) equipment shed, and a covered storage area.

The building contains 6 heated service bays, as well as a dedicated wash bay. The bay count allows for heated storage of the trucks for the 3 current plow routes and 1 for the patrol vehicles. Allowing for future growth, the additional 2 bays will in the interim be used for the spare plow and heated storage.

This facility is currently under construction with opening planned in spring 2025, with an approved budget of \$16.8 million.



Images from County of Wellington Arthur Garage Project Presentation, council meeting February 23, 2023. ([https://pub-wellington\\_escrimemeetings.com/filestream.ashx?DocumentId=6908](https://pub-wellington_escrimemeetings.com/filestream.ashx?DocumentId=6908))

## Haldimand County – Public Works Operations Facility Locations and Service Review

### Cost considerations for new facility

Based on the County's requirements for a facility that consolidates the Cayuga and Caledonia yards and comparable facilities constructed by other municipalities, the County should consider a facility that is approximately 3,150 sq.m. in size. This facility would include 8 double depth heated storage bays, a dedicated wash bay, indoor storage, attached material storage, and office space. Based on these requirements, the following represents a high-level estimate of the cost of construction for the facility.

Facility Details			Low cost <sup>1</sup>	High cost <sup>1</sup>
New Facility Element	Requirement	Approximate size		
<b>Main Facility</b>			<b>\$515 / sq.ft</b>	<b>\$610 / sq.ft</b>
Heated Garage Bays	8 double depth heated garage bays	800 sq.m or 8,600 sq.ft.	\$4,429,000	\$5,246,000
Wash Bay	One attached wash bay	50 sq.m or 550 sq. ft	\$283,250	\$335,500
Material storage	Combined salt / sand storage into a single structure, with drive-thru loading of both salt and brine.	1000 sq.m or 10,750 sq.ft.	\$5,536,250	\$6,557,500
Office Space	Office space to include male and female locker and washrooms, dedicated meeting rooms, boardroom, lunchroom, and dedicated and shared office space.	500 sq.m or 5,400 sq.ft	\$2,781,000	\$3,294,000
<b>Outbuildings or additional storage</b>			<b>\$80 / sq.ft.</b>	<b>\$180 / sq.ft</b>
Indoor storage	Additional indoor heated storage for light duty equipment, tools, maintenance, etc.	800 sq.m or 8,600 sq.ft.	\$688,000	\$1,548,000
<b>Total</b>			<b>\$13,717,500</b>	<b>\$16,981,000</b>
<b>Cost of hydro, gas, water/wastewater, administration (e.g., phone)</b>			<b>\$27,010 (per year)</b>	

<sup>1</sup> - Cost of construction is based on AtusGroup 2024 Canadian Cost Guide for public sector facilities maintenance building and warehouses in the GTA. These construction costs include hard construction costs only and do not include land, legal or other costs. The costs associated with facilities maintenance buildings are for the main facility only (e.g., maintenance, material storage, and administrative areas). Any outbuildings would be an additional cost. The costs associated with outbuildings or additional storage considers the construction cost of heated shell space.



The total costs shown are high-level estimates based on similar projects completed at other municipalities in Ontario in the past 5 years. These costs do not include the acquisition of land required for a new facility. It should be noted that land acquisition costs could potentially be partially offset through the sale of existing Cayuga and Caledonia sites. Furthermore, a detailed schematic design and specification from a registered engineering firm should be complete prior to making investment decisions, to confirm requirements of a chosen site.



# PWO Themes

- Quality Management
- Growth & Development
- Mobile computing/Technology availability
- Document Control/Standard Operating Procedures
- Clear roles and responsibilities/Risk Management
- Succession
- Awesome culture
- Ultimate goal is exceptional customer service

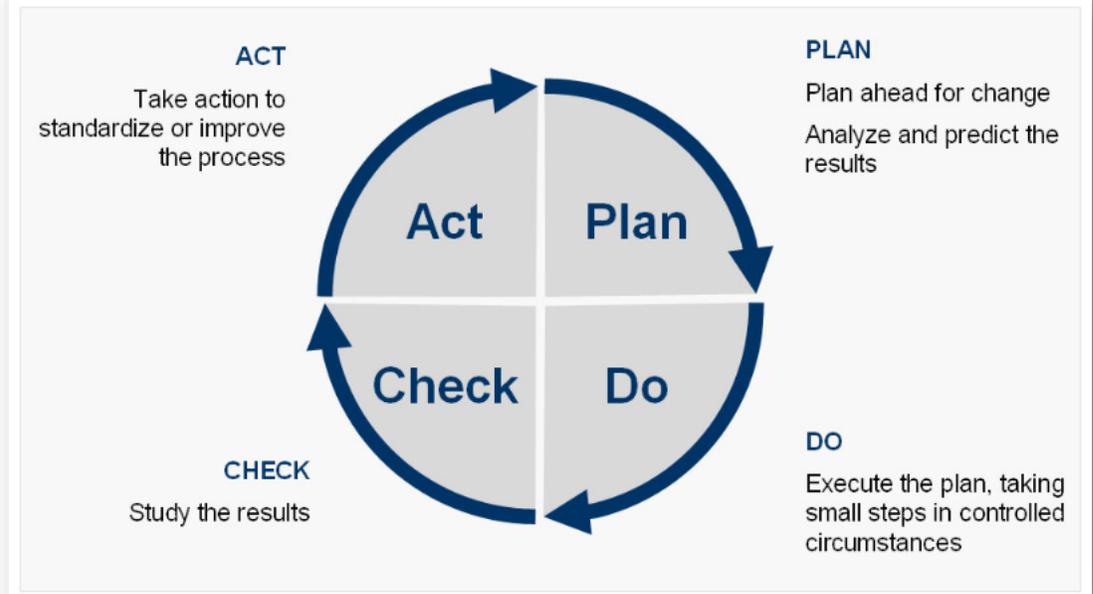
# PWO Themes

- Quality Management & Continuous Improvement
- Say what you do... do what you say ... prove it
- Risk management
- Effective and efficient organization
- Awesome culture
- Ultimate goal is exceptional customer service

**“I have always believed that the way you treat your employees is the way they will treat your customers”**

*Richard Branson*

Deming Cycle



# PWO Themes

## Haldimand PWO – QMS

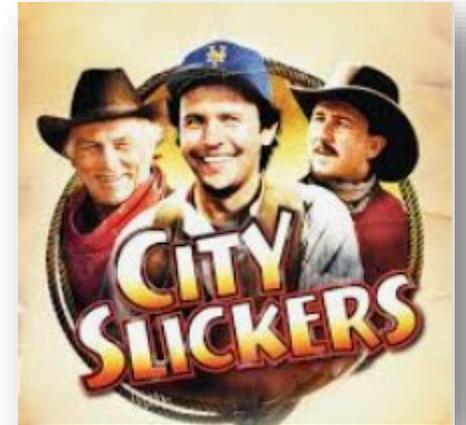
1. QMS Representatives
2. Document Control
3. Risk Assessment
4. Org Structure, R&R
5. Continual Improvement
6. Audit/Annual Review



# PWO Themes

## Growth and Development

- Refining process for assumption and acceptance of new infrastructure
- Establishing service levels for new facilities
- Welcoming new residents and new expectations

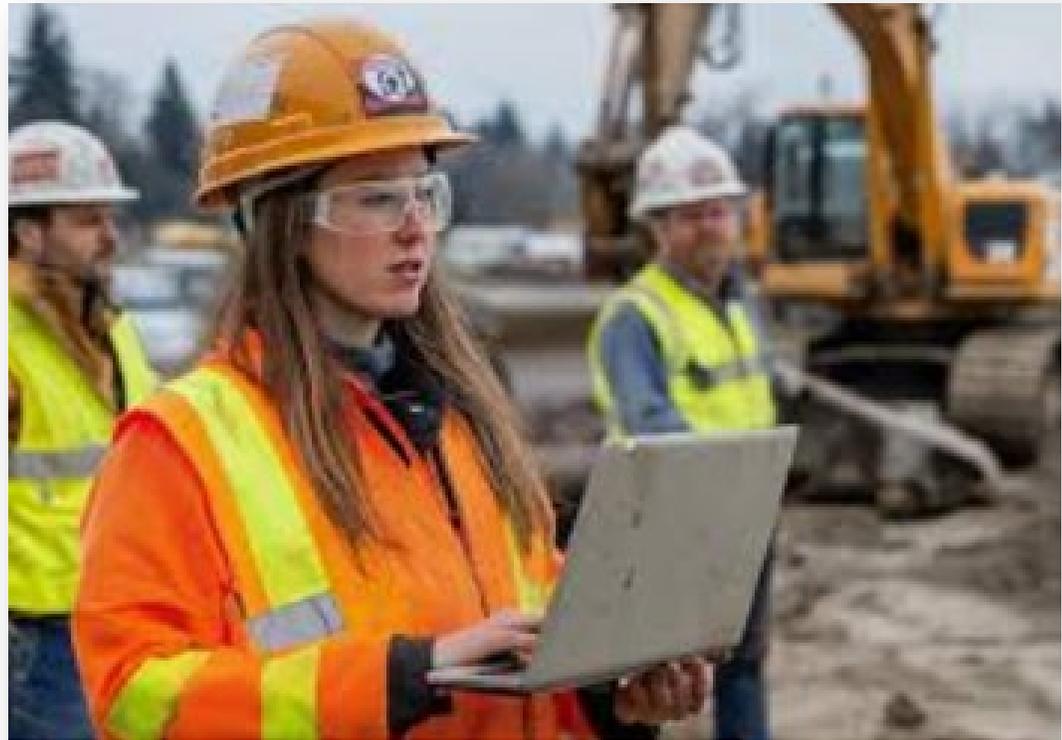


# PWO Themes

- Technology in the field
- Work Order System

**In God we trust;  
all others must bring data.**

*- William Edwards Deming -*



# PWO Themes

- Document Control
- Process Control
- Risk Management



# PWO Themes

DRAFT: ROW Responsibility Matrix									
Task/Responsibility	Description	MMS Yes/No	Asset Owner	Process Owner	Delivery	Account	Current	Comments	
Bridges >3.0M	Inspection & Capital Rehab	Y	Roads	Engineering	Contracted			ENG manages OSIM inspections and reviews all bridges with capital projects and reoccur if necessary <b>Maintenance (deck cleaning, deck drain cleanout, pathbars &amp; line painting)</b>	
Bridges <3.0M	Maintenance	N	Roads	Roads	Hybrid		Yes	Greater than 3m included in OSIM inspection Included in Capital project	
Catch Basins	Capital replacement/Neulintall	N	Roads	Engineering	Contracted		Yes	Not adequately funded based on volume	Roads need to clean all OB ramps on a 2 year rotation, down around like that happens more variability due to demand
Catch Basins	Inspection/Maintenance	N	Roads	Roads	Hybrid		No		It is included in the capital budget under Other Roadwork: Pavement Preservation Inspections are completed during regular Road Patrols. Road Operations completes immediate repairs.
Crack Sealing		N	Roads	Engineering	Contracted	Eng	Yes		Road Operations completes reactive inspection, Close when necessary.
Crack Sealing		Y	Roads	Roads	In House				
Culverts <3.0M	Maintenance	N	Roads	Roads	Hybrid			Like for Like	Road operations replace like for like. In scenarios where a project is not like for like a consultation with ENG is required. When an Engineering capacity assessment is required and/or a RFO/RFI is required Engineering will deliver. Depending on size or material Road may deliver.
Culverts >3.0M	Replacement	N	Roads	Roads	Hybrid		Yes	Greater than 3m included in OSIM inspection	Capital replacement of existing culverts is included in road reconstruction and urban paving capital program
Curbs	Capital replacement/Neulintall	N	Roads	Engineering	Contracted		Yes	included in Capital program	
Curbs	Inspection/Maintenance	N	Roads	Roads	Hybrid		Yes		
Ditches		Y	Roads	Roads	In House				
Ditches	Grading/Cleanout	N	Roads	Roads	Hybrid				Impact of sewerfall management re-evaluation on ditching program. Roads is also responsible for farmwater outlets and ditching from end pipe to adequate outlet
Hot Mix Patching	Maintenance/Rehab	N	Roads	Roads	Hybrid			Patching repair completed by the crew that completed the damage	
Line Painting	Capital replacement/Neulintall	N	Roads	Engineering	Contracted	Eng & Road	Yes	Contract to inspect line quality on Capital projects	This work is typically included in a capital project. Road may observe the condition monitor - Markers in new development are completed as part of the sub-division
Line Painting	Inspection/Maintenance	N	Roads	Roads	Hybrid		Yes	Operations use a consultant to identify need and project manage the Line Painting Contractor	Roads has annual tree & long line painting program
Municipal Parking Lots/On Street	Capital replacement/Neulintall	N	Roads	Engineering	Contracted	Eng	No	Not adequately funded	The county does not have a capital replacement program for municipal facility parking lots. Needs are identified & budgeted in individual division capital program and often Engineering is in a risk to assist with the capital project
Municipal Parking Lots/On Street	Inspection/Maintenance	N	Roads	Roads	Hybrid				
Parking Lots/On Street	Engineering Writer and Own the By-Law. Road install the signage	N	Roads	Engineering	In House		No	Need to consolidate bylaw and handle signage requests	Process through Engineering, Road install
Permits	Road Occupancy	N	Roads	Roads	In House		Yes	Need central authority to review, process and inspect	
Permits	Road Out	N	Roads	Roads	Hybrid		No	Need central authority to review, process and inspect - Road	
Permits	Entrance Permit	N	Roads	Roads	In House			Need central authority to review, process and inspect - Road	
Potholes	Inspection & Patching	Y	Roads	Roads	In House		Yes		
Road Out Restoration	Restoring a road out back to original and separate	N	Roads	Roads	Hybrid		No	Need central authority to review, process and inspect - Road	
Roadside Housing	Inspection/Maintenance	N	Roads	Roads	Contracted		Yes		Some in-house roadside housing introduced in 2023
Roadside Safety Device (Guardrails)	Capital replacement/Neulintall	N	Roads	Engineering	Contracted	Eng	Yes	RSD up grade or included in Capital Project	Need to confirm funding, roads need to install up grade based on Roadside Safety Audit. May have changed - RSA schedule to be updated in 2025 - Safety device replace/installed as part of capital project
Roadside Safety Device (Guardrails)	Inspection/Maintenance	Y	Roads	Roads	Hybrid		No	Not adequately funded based on risk and risk	Roads has a roadside barrier program in capital budget (339002 of 1076)
Rural Repairs/Paving	Capital	N	Roads	Engineering	Contracted			Not adequately funded	Roads responsible for maintenance Engineering for capital included in Hot Mix
Rural Surface Treatment	Capital	N	Roads	Engineering	Contracted	Eng		Not adequately funded	Roads responsible for maintenance Engineering Capital included in Surface
Shoulder Drop Off		Y	Roads	Roads	In House		Yes		
Sidewalk	Capital replacement/Neulintall	N	Roads	Engineering	Contracted		Yes	included in Capital program	Capital replacement is completed under urban paving/road reconstruction capital program, county does not have program to expand sidewalk inventory - done or individual requests through councillor
Sidewalk	Inspection/Maintenance	Y	Roads	Roads	Hybrid		Yes		Inspection in house, replacement contracted
Signs	Capital replacement/Neulintall	N	Roads	Engineering	In House	Eng	Yes	Engineering provide list of signs to be replaced in Capital project	Engineering replace all signs on capital projects, via contractor. Engineering engineering to ensure all signage is installed
Signs	Inspection/Maintenance	Y	Roads	Roads	In House		Yes	Need for overall inventory of assets	Bar coding and auditing in process? I believe that this was completed check GIS under road operations - Road Signs
Stormwater Retention	Inspection	N	FOFP	Engineering	In House	Eng	No		Was completed by PWO Student Assistant

**Title:** Road Patrol Inspection and Compliance Procedure  
**Document #:** PWO-RDS-P-77  
**Document Level:** 3  
**Issue #:**   
**Issue date:**

### 1 PURPOSE

To establish a Standard Operating Procedure (SOP) for conducting road patrol inspections and collection/distribution of road patrol data.

### 2 SCOPE

This procedure applies to staff within the Roads Operations Division of the Public Works Operations Department who may handle or distribute information collected under the Road Patrol program.

### 3 DEFINITIONS

Term	Definition
<b>Class of Highway</b>	Highway hierarchy based on number of vehicles and designated speed limit.
<b>Highway</b>	Any municipally owned / maintained roadway within Haldimand County.
<b>LO 8</b>	Stands for level of service – the minimum level of service prescribed by the province of Ontario or enhanced level of service for municipal services created and approved by municipalities.
<b>MM 8</b>	Minimum Maintenance Standards, O. Reg 366/18.
<b>MM 8 Pothole</b>	A pothole that <u>meets or exceeds</u> the specified measurements for a defined Highway class (see Appendix A).
<b>Non-M 8 Pothole</b>	A pothole that <u>does not</u> meet the specified measurements for a

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Page 1 of 4

**Title:** Road Patrol Inspection and Compliance Procedure  
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# PWO Themes

- Succession planning
- Leadership Development
- SOPs – retain corporate knowledge



# Public Works Culture



# PWO Metrics

***“You cant manage what you don’t measure”***

Peter Drucker – “the father of modern management”

***“Not everything of value can be quantified... leadership, culture, and intrinsic motivation—factors that aren't always easy to measure but are critical to success”***

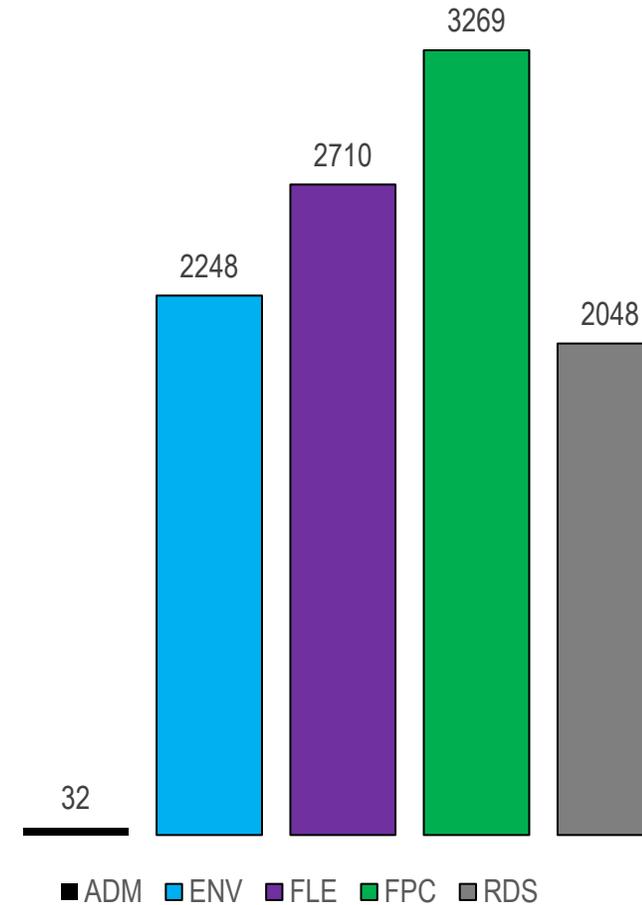
Attributed to Edwards Deming – the creator of quality management theory



# PWO Metrics

- Issued over 10, 000 cheque requisitions in 2024
- Managed operating contracts valued in excess of \$21 Million

2024 Cheque Requisitions Processed



# ENV Metrics

- Canborough - 2,703 MT received, 1,415 MT processed, remainder was diverted ... 45% diversion rate at site
- Overall 14,682 MT landfilled, 1,945 MT, overall diversion rate is approximately 12%.
- 4.4 Billion litres of wastewater was treated (4 plants plus Jarvis and Townsend Lagoons)
- 5 Billion litres of drinking water was treated (2 WTPs and the Caledonia reservoir)
- 10,380 water meter readings completed on the 1st of the month, using the drive-by system in just half a day.



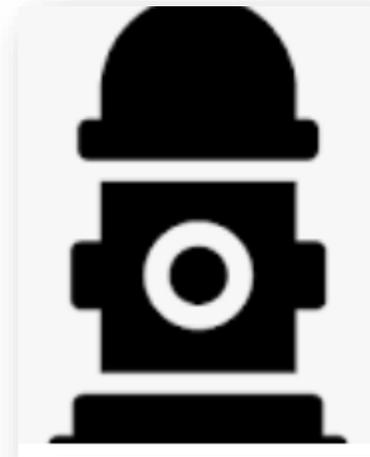
# Water Bypass and Overflow Data

WWTP/ PS	SAC Reference #	Date	Duration	Volume	Bypass / Overflow	Reason
Hagersville WPCP	1-4KQOWB	9-Jan-24	2 hrs 17 min	328 m3	secondary by-pass	large rainfall event
Caledonia WWC	1-4KPI68	9-Jan-24	10 hours	1800 m3	overflow	large rainfall event
Hagersville WPCP	1-4KQOVK	9-Jan-24	9 hrs 15 min	1351 m3	tertiary by-pass	large rainfall event
Hagersville WPCP	1-4M8A82	26-Jan-24	5 hrs	693.07 m3	tertiary by-pass	large rainfall event
Caledonia WWC	1-4M8CXP	26-Jan-24	1 hr	120 m3	overflow	large rainfall event

WWTP/ PS	SAC Reference #	Date	Duration	Volume (m3)	Bypass/ Overflow	Reason
Caledonia/ Nairne	1-3RUCJN	25-Aug-23	8 hrs	1440	overflow	weather infiltration
Caledonia/ Nairne	1-34WF93	5-Apr-23	4.5 hrs	810	overflow	weather infiltration
Caledonia/ Nairne	1-30TAUG	31-Jul-23	2 hrs	360	overflow	weather infiltration
Hagersville WPCP	1-346MLH	1-Apr-23	10 hrs	815	by-pass	weather infiltration
Hagersville WPCP	1-34LZKE	5-Apr-23	24 hr 20 min	3120	by-pass	weather infiltration
Hagersville WPCP	1-2FX7NG	4-Jan-23	1.25 hrs	232.2	by-pass	weather infiltration
Hagersville WPCP	1-3QWHCP	29-Jul-23	4.30 hrs	1143.1	by-pass	weather infiltration
Hagersville WPCP	1-2FX7NG	4-Jan-23	1.25 hrs	233.2	by-pass	weather infiltration
Hagersville WPCP	1-30PW66	29-Jul-23	5.50 hrs	1409.8	by-pass	weather infiltration
Hagersville WPCP	1-3NUJQR	23-Jul-23	2 hrs	421.9	by-pass	weather infiltration
Hagersville WPCP	1-3NW8ZU	23-Jul-23	1.15 hrs	205.6	by-pass	weather infiltration
Jarvis PS	1-3467GY	1-Apr-23	2 hrs	168	overflow	weather infiltration
Jarvis PS	1-2FVIZ6	4-Jan-23	3.45 hrs	540	overflow	weather infiltration
Jarvis PS	1-34LZJH	5-Apr-23	3 hrs	432	overflow	weather infiltration
Jarvis PS	1-3073FX	25-Jul-23	.5hr	72	overflow	weather infiltration
Caledonia/ Nairne	1-30SNCV	31-Jul-23	25 hr	1700	by-pass	weather infiltration
				13102.8		

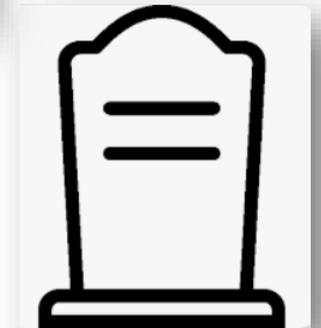
# ENV Metrics

- 2,532 Sanitary Manholes inspected annually
- 1,117 Hydrants flushed and Code inspected annually
- 2,013 Mainline water valves operated annually
- 2,500 Utility locates performed per year



# FPC Metrics

- 66 County owned parks
- 249 hectares of parkland and open space
- 35 km of off-road trails
- 43 cemeteries across the County
- 2024 - 118 cremations, 55 full burials across the County's 19 active sites.





# RDS Metrics

## Winter 2024...

- Salt 8,000 tonnes.
- Treated salt 1,400 tonnes.
- Sand 3,000 tonnes.
- In house plows 115,000 kms
- Contracted plows 33,000 kms



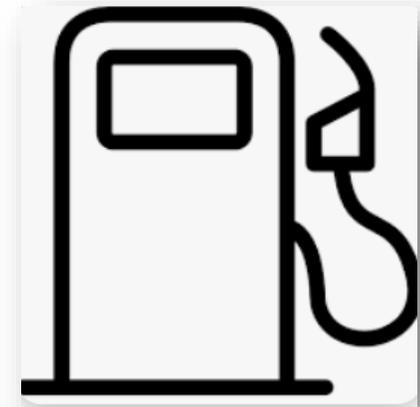
## To date 2025...

- Salt 14,000 tonnes. (75% increase over 2024)
- Treated salt 1,500 tonnes.
- Sand 5,800 tonnes. (93% increase over 2024)
- In house plows 192,000 lane kms. (67% increase over 2024)
- Contracted plows 81,000 lane kms. (145% increase over 2024)



# FLE Metrics

- 2024 – County CVOR vehicles logged 540,660 kms (Roads – FPC – Water) – this is reported to MTO annually, does not include Fire or Ambulance
- 2024 Total fuel costs - \$927,108
- 2024 Total fuel consumption 690,900 litres (Unleaded gasoline + clear/coloured diesel)



# Questions

