



WASTEWATER INTEGRATED RESOURCE PLAN



STRATEGIC OBJECTIVES



Support future growth and redevelopment of the city as it grows to 2 million people

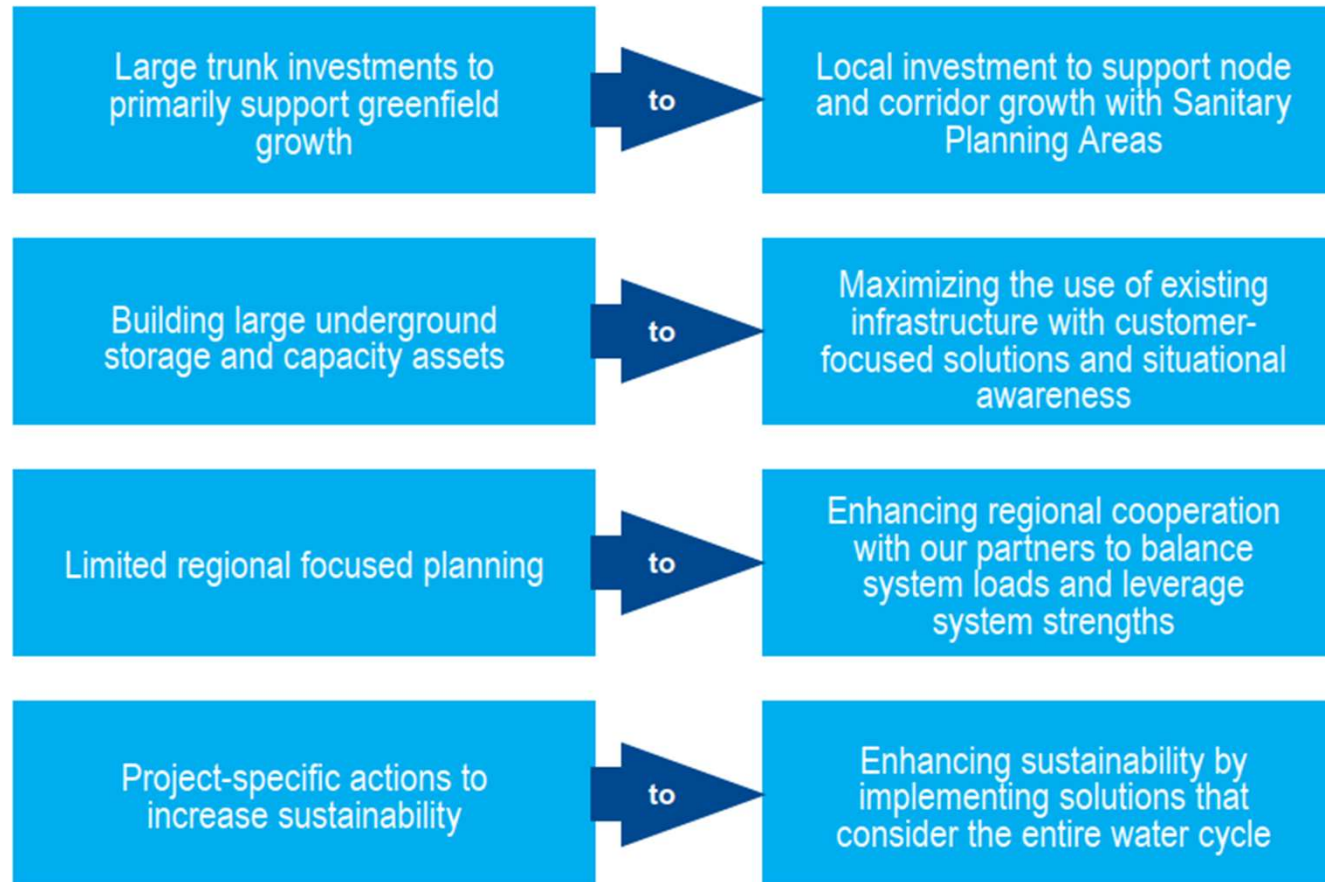


Build a financially and environmentally sustainable wastewater system

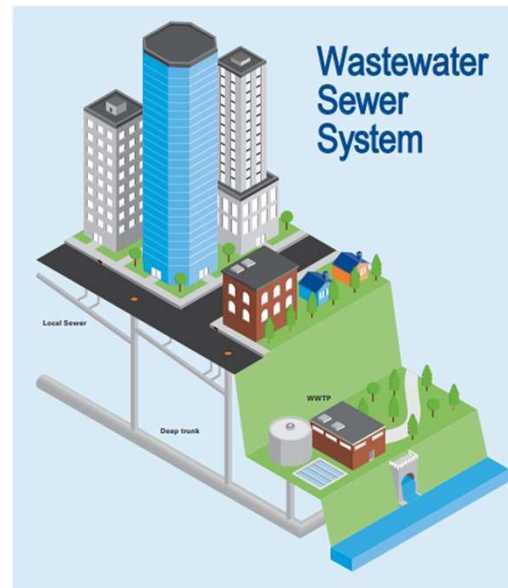
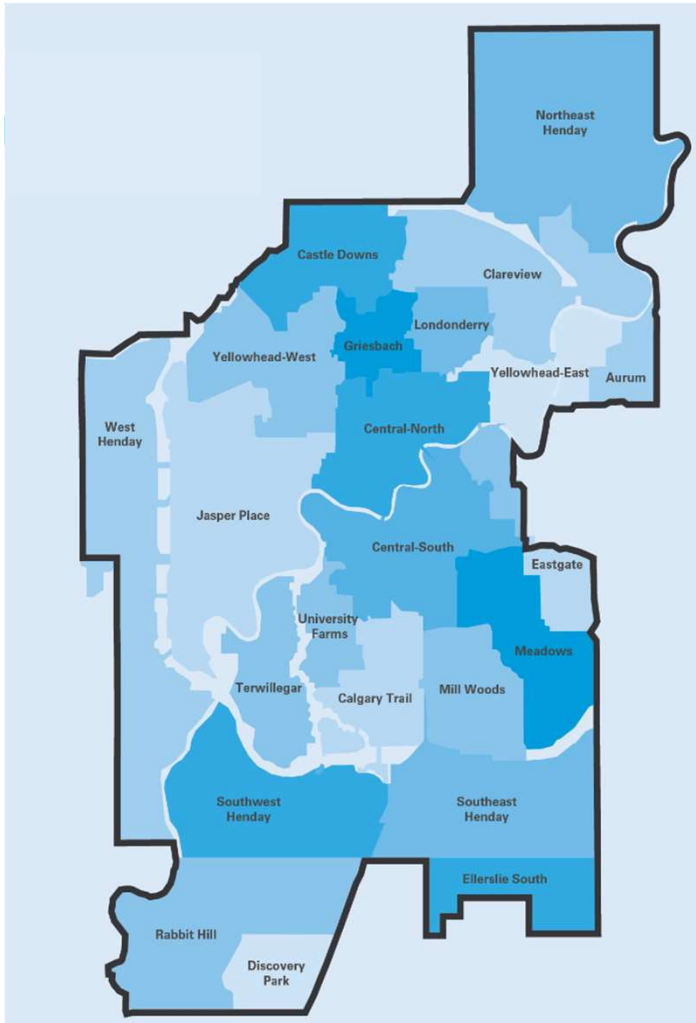


Provide resilient wastewater services

Wastewater IRP - Thinking Differently



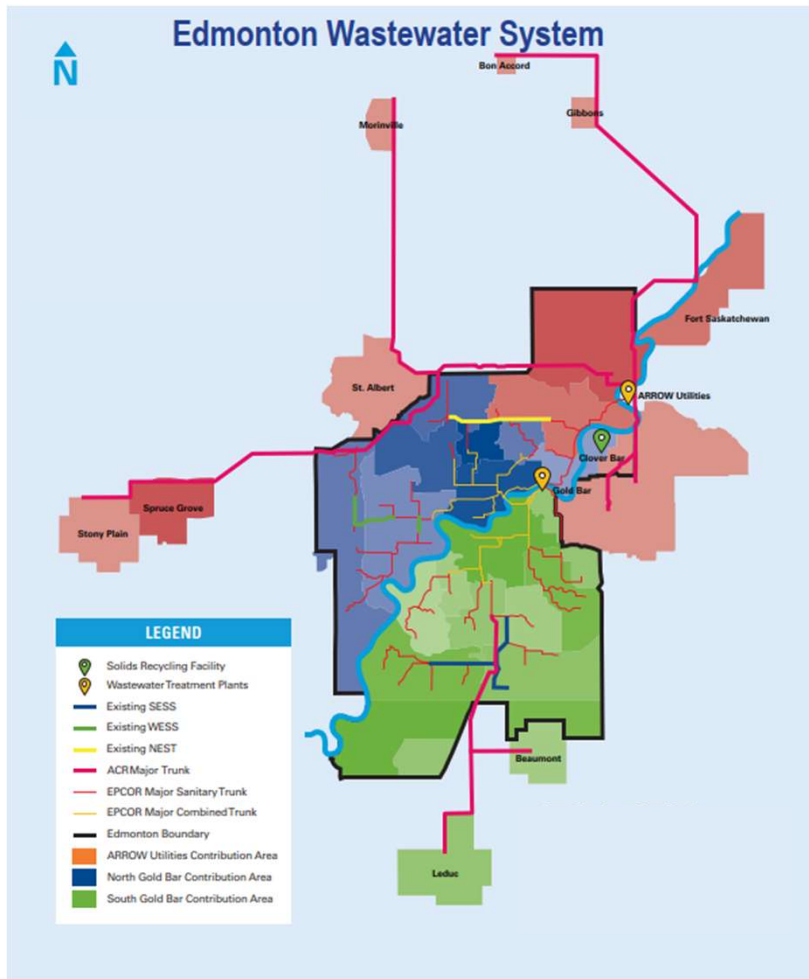
Sanitary Planning Areas



23 SPA boundaries aligned with the local sewer catchment regions that drop into the trunk network

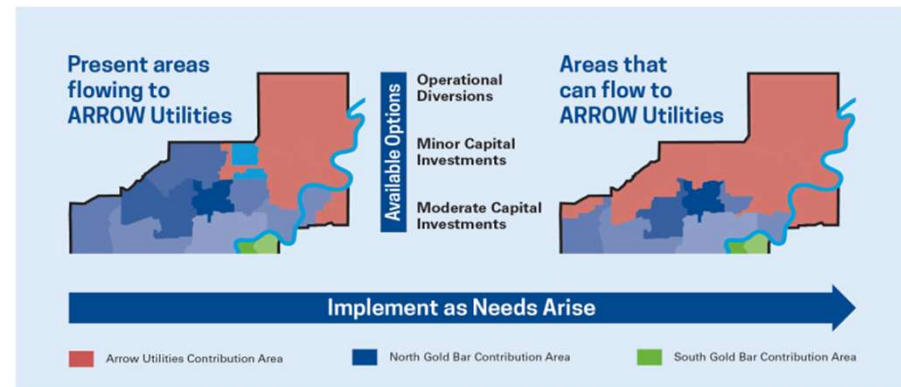
Capital and Operational investment plans for each SPA considering:

- Growth
- System Reliability
- Odour reduction
- Inflow/Infiltration reduction

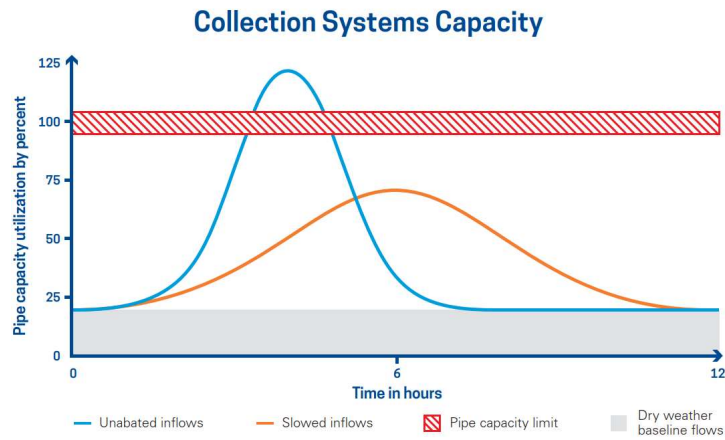
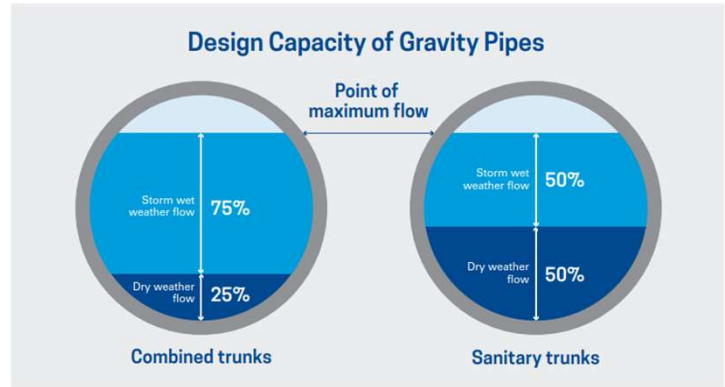
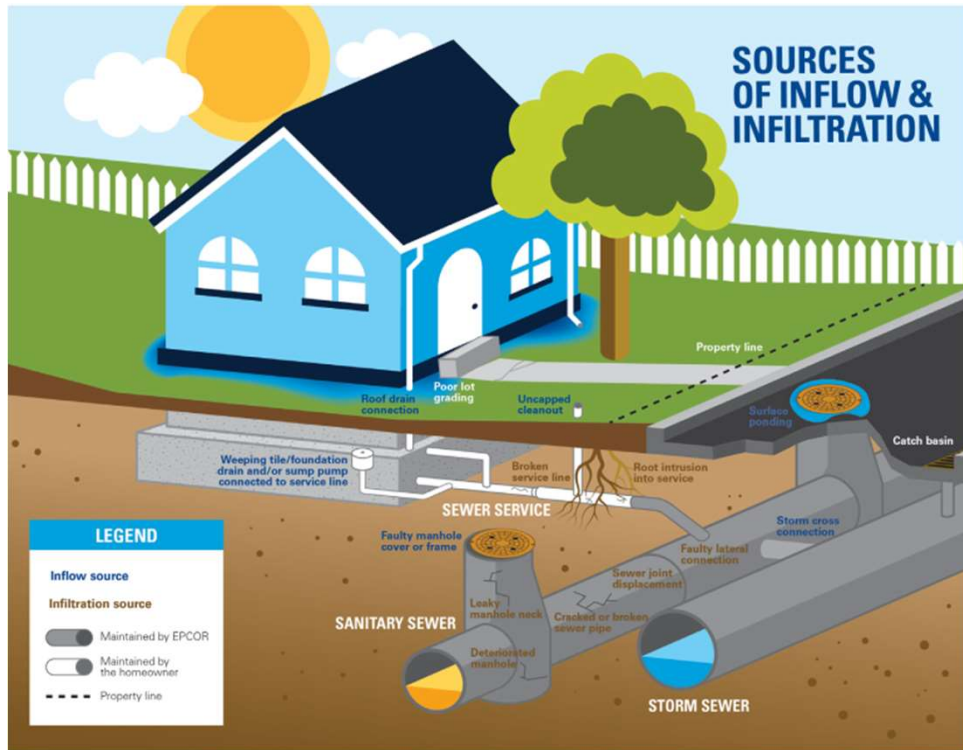


Balanced Approach

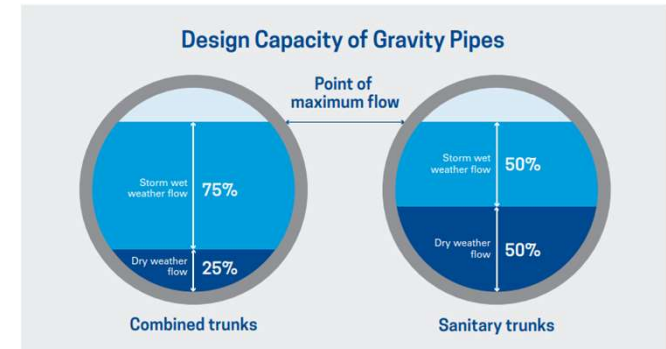
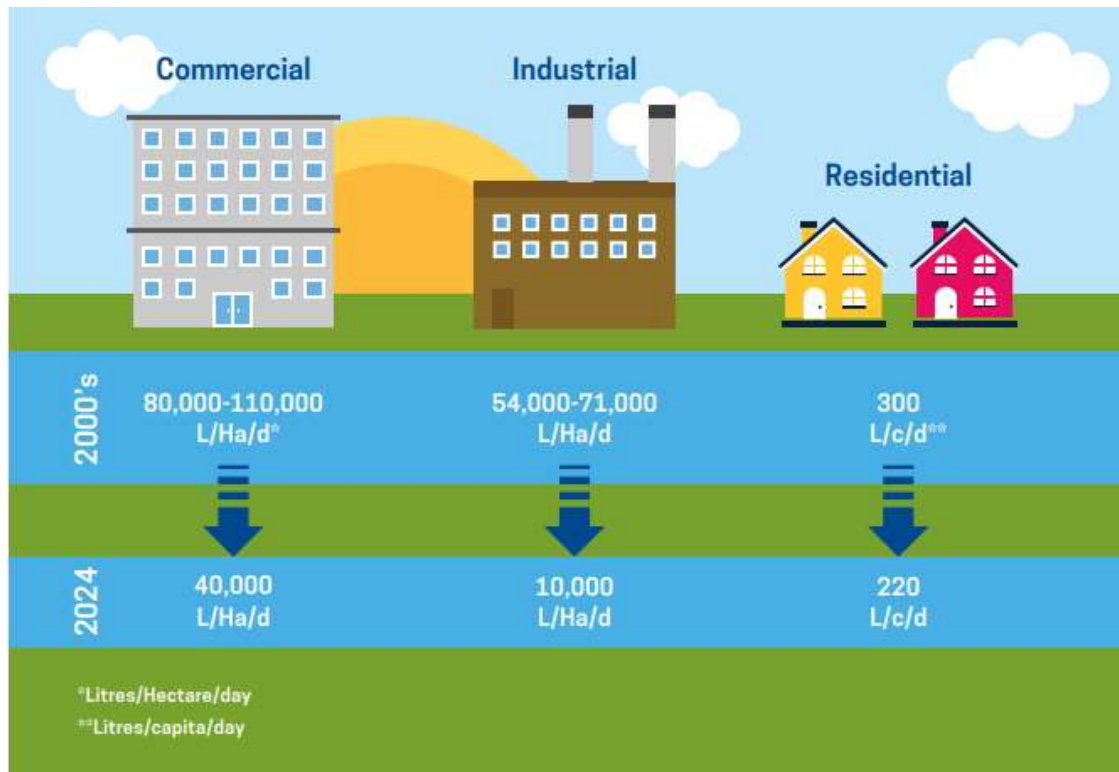
- ARROW sends wastewater from Leduc and Beaumont to EPCOR, and EPCOR sends wastewater from northeast Edmonton to ARROW.
- Timing for shifting aligned with growth patterns from City Plan and Regional growth



Inflow and Infiltration Reduction and Green Infrastructure investments reduces Wet Weather Flow Volumes and Peaks



Water Conservation Reduces Dry Weather flow Component



Reducing both Wet and Dry Weather flows creates capacity for growth within existing infrastructure investments

Nodes and Corridors and District Planning allow for optimization of placement of new infrastructure if required

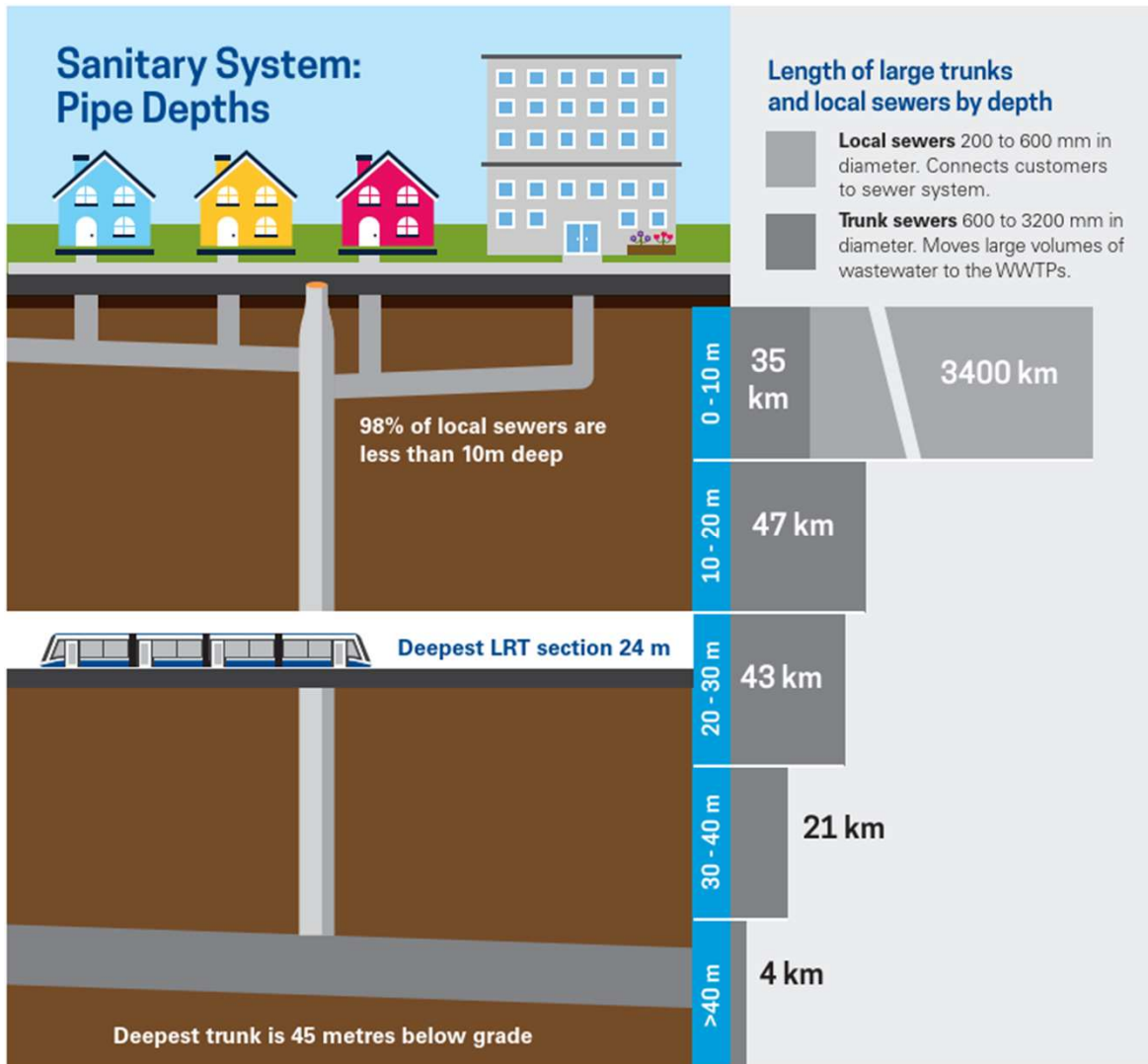
RISK MANAGEMENT

		Likelihood					
		1	2	3	4	5	6
		Remote	Rarely	Very Likely	Unlikely	Likely	Almost Certain
Consequence	1 Severe						
	2 Major	Maintenance		Proactive Management	Priority Rehabilitation/ Replacement/By-pass		
	3 Significant						
	4 Moderate				Rehabilitation/ Replacement		
	5 Minor	Monitoring					
	6 Slight						

Risk rankings help prioritize expenditures and allocation of resources.

Actions that can reduce risk include:

- Inspections
- Cleaning
- Preventative and Predictive Maintenance
- Rehabilitation and Repairs
- Enabling Asset Bypassing
- Emergency Response Plans



Local Sewers

- Collect wastewater at the street level.
- Make up the majority of the collection network.
- Shallow, smaller, and easier to inspect, clean and rehabilitate.

Trunk Sewers

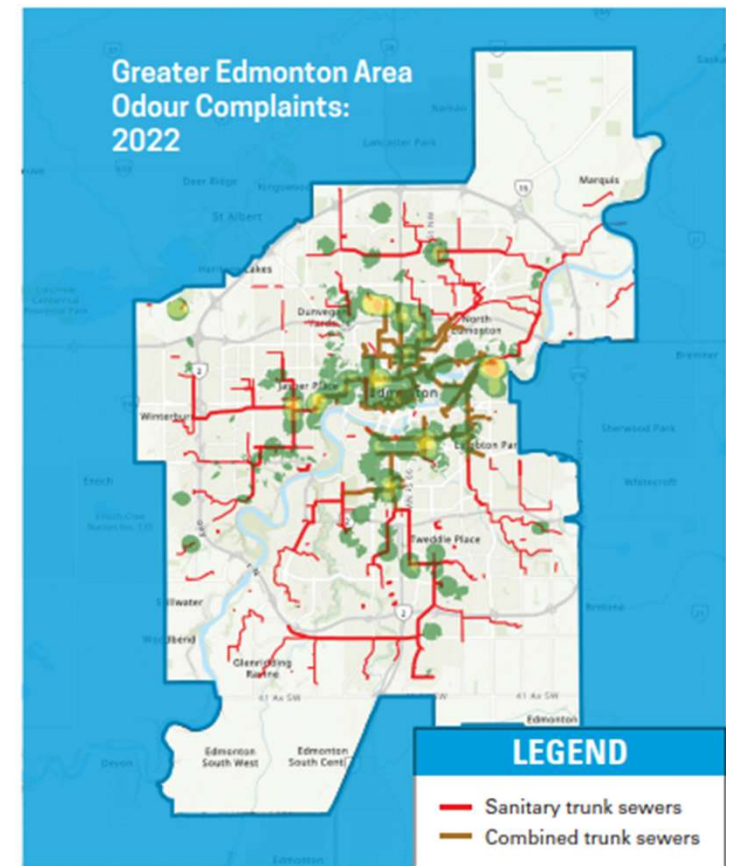
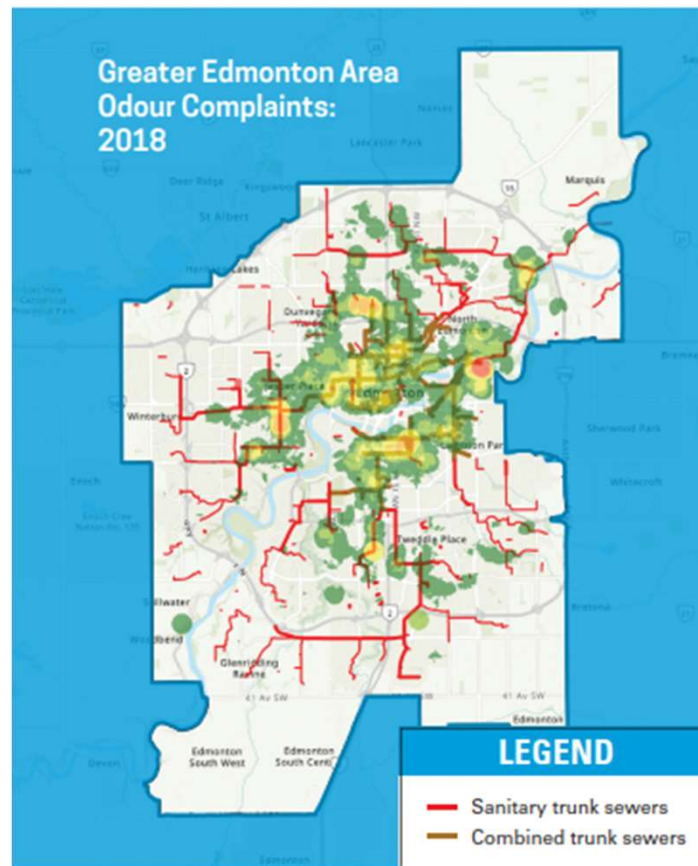
- Collect and convey wastewater received from local sewers.
- Larger, deeper and more challenging to inspect, clean, bypass and rehabilitate.
- Majority of odours originate from the deep trunk network

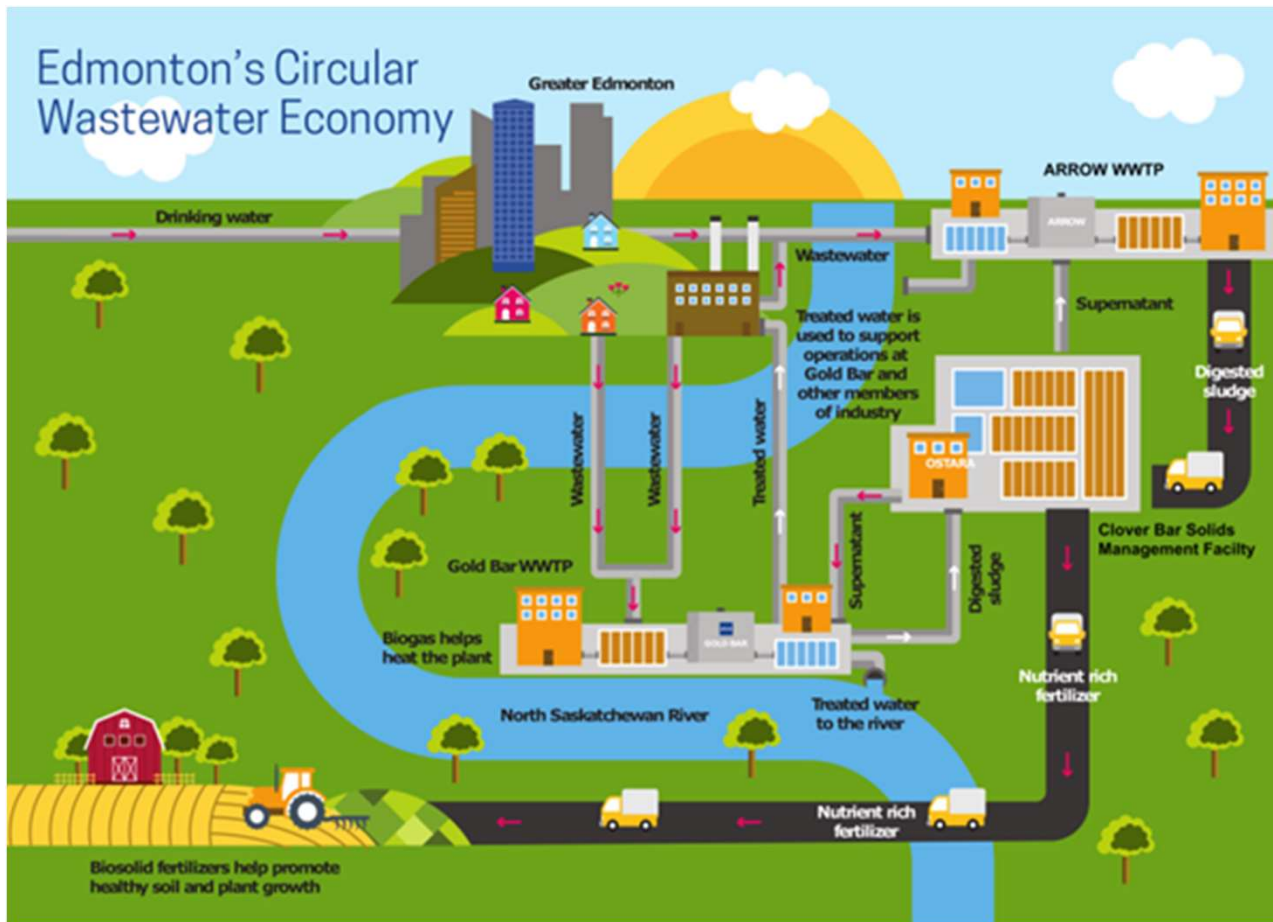
CORe Program



Reports of odour nuisance have decreased by 52% since 2018, corresponding with CORe investments.

Aligning CORe within the Wastewater IRP will help ensure continued decrease in odour nuisance reports, while further reducing corrosion of assets.





Balanced Approach

- Sludge from both Gold Bar and ARROW is processed at Clover Bar, where it is separated into biosolids and liquid fractions.
- The liquid supernatant is returned to both Gold Bar and ARROW contributing to the nutrient load at both WWTPs

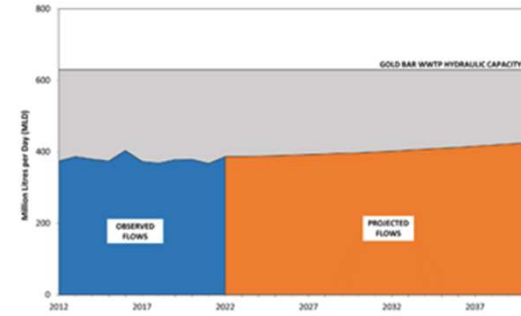
Gold Bar - WWTP



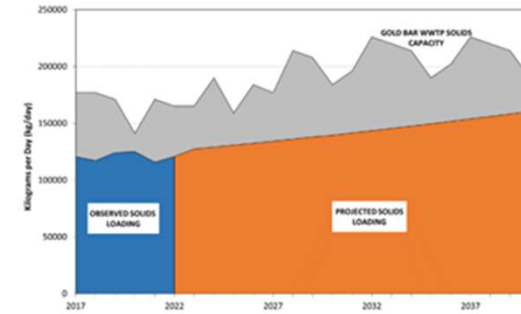
Maximizing use of existing infrastructure through treatment upgrades to optimize solids and nutrients removal is key priority to meet treatment requirements within the existing footprint

Asset Reliability also remains a focus in particular for Electrical systems and concrete channels to ensure plant resiliency

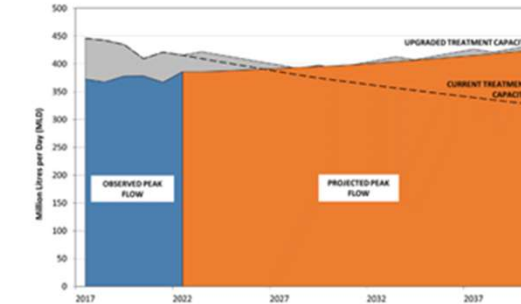
Liquid



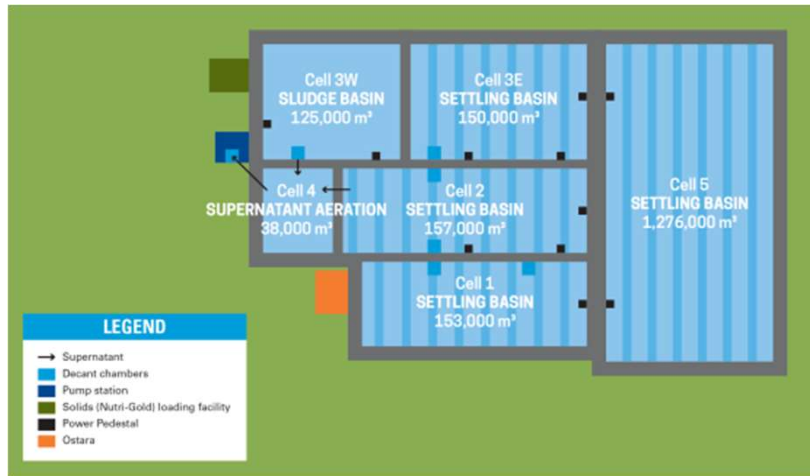
Solids



Nutrients



Clover Bar Solids Management Facility



Nutrients from Wastewater Treatment at Gold Bar and ARROW are recovered for beneficial reuse at the Clover Bar Facility

Mechanical Equipment and Lagoon reliability are a key focus for Clover Bar investments



Over 20,000 dry tonnes of biosolids are processed each year and applied to more than 4,500 acres of farmland through our Nutri-Gold program.

OSTARA recovers phosphorus and ammonia from the liquid fractions, which are also used to create fertilizer.



We're committed to building and operating infrastructure in a way that aligns with the interests and priorities of community members and Indigenous Peoples, and ensuring decisions and actions are guided by the values we share.

This includes operating within the current fenceline at Gold Bar and continuing to implement odour management strategies.

ALIGNING INTERESTS AND VALUES

Engagement efforts:

- Meet or exceed all regulatory requirements.
- Are designed in a way that takes into account how stakeholders wish to be engaged.
- Consider potential impacts and possible adaptive measures or alternatives.
- Ensure public input is incorporated into project design.

Shared outcomes:

1. Quality of life
2. Safety
3. Relationships
4. Environment
5. Reliable, Responsible & Sustainable

CONCLUSION

Integrated Resource Planning provides for greater flexibility, adaptability, and environmentally-friendly innovations; and maximizes the use of existing infrastructure to help keep costs reasonable and reduce impacts on our customers.

The Wastewater Integrated Resource Plan will guide our upcoming PBR application

QUESTIONS?

