

GOLD BAR COMMUNITY NEWSLETTER

FEBRUARY 2022



Craig Bonneville

Director, Edmonton
Wastewater Treatment Plant

A NOTE FROM CRAIG

I hope you've been able to enjoy the great outdoors and stay active over the winter months. Winter in the river valley can be one of the most beautiful and spectacular times of year. As long as the snow lasts, I plan to cross-country ski at Gold Bar Park, go skating, and, as always,

enjoy long walks with my dog, Oscar. All of us at EPCOR hope you and your family are keeping happy and healthy.

The Gold Bar Wastewater Treatment Plant continued to operate reliably through another year of the COVID-19 pandemic. Here are some of our accomplishments over the past year:

- We maintained safe, reliable operations while keeping our workforce healthy during the COVID pandemic.
- We re-used over 30,000 tonnes of biosolids in our agricultural land application and mine reclamation programs.
- We met and surpassed provincial wastewater effluent quality limits for all parameters.
- We provided data for provincial and national wastewater COVID monitoring programs.
- We invested over \$45 million in projects such as structural rehabilitation of critical systems, building hygiene facilities, and odour control improvement.
- We submitted and received City Council approval for over \$170 million in capital investments to maintain infrastructure and improve the performance of Gold Bar over the next 3 years.

WORKING TOGETHER IN 2022

We believe in the importance of working with the communities surrounding the Gold Bar plant. In 2022, we will continue to seek your feedback to guide operations and planning for our plant. We will also continue to strive to achieve the Gold Bar plant shared outcome statements that were created with the community, and each of our projects at the Gold Bar plant is designed to align with the following shared outcomes:

Shared Outcomes



Quality of life: The Gold Bar wastewater treatment facility is operated, maintained and updated in a way that reduces impacts to stakeholders and improves quality of life regarding odour, noise and enjoyment of parks and recreation.



Safety: Community, public and worker safety and health are protected.



Relationship: An honest, transparent, trusting and respectful long-term relationship is developed between EPCOR and Gold Bar Wastewater Treatment Plant stakeholders.



Environment: Pollution is prevented. The impact of the Gold Bar Wastewater Treatment Plant on air, land, water, climate and ecosystems is reduced.



Reliable, responsible and sustainable:

The Gold Bar Wastewater Treatment Plant is designed, maintained and operated in a prudent and responsible manner.

SOLVING CHALLENGES AT GOLD BAR

Gold Bar is located just 200 meters away from residences in a parkland area that is used for many different recreational purposes. We continue to strive to reduce the impact of the plant on residents and recreational users while considering the process and operational requirements of wastewater treatment. Here are some answers to common questions about the challenges we face.

HOW DO WE MITIGATE ODOUR ISSUES WHEN THE PLANT IS IN AN URBAN SETTING?

Odours sometimes occur at Gold Bar and are a normal part of the treatment process due to the raw wastewater that flows through the plant. Most of these odours are related to hydrogen sulphide gas (H₂S). Odour levels around Gold Bar can vary based on plant activities, such as maintenance work, or from changes in wastewater flow due to melting snow or rain. Most odours at Gold Bar come from the primary treatment buildings, with some odour coming from the solids treatment buildings.

We're taking steps to ensure odour levels consistently meet current standards and are safe for health and recreation. When it comes to reducing odours, we are continually investing in changes at the facility. Some activities include:

Ongoing maintenance activities and cleaning of tanks

The Gold Bar plant has large basins that require periodic cleaning. Cleaning and other maintenance activities have the potential to create odour emission when tanks are drained. However, these activities are scheduled and carried out in a planned way to minimize odour emissions. Tanks are diluted while draining and a water cap is maintained over solids unless complete draining is required. In addition, odour neutralizing agents are applied using sprayers or misters to dilute and mitigate potential odour emissions.

Diversion Structure Structural Rehab

We are doing a structural rehabilitation of the underground chambers near the plant's main gate that receive and distribute sanitary flows. The third and final phase of the project started in October 2021. Rehabilitation of all sections is expected to be completed in 2022.

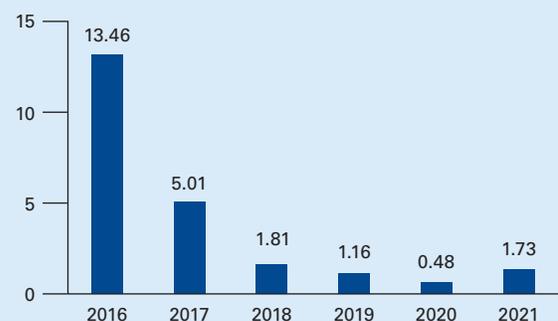
Enhanced Primary Treatment (EPT) Scrubber Building

We have redesigned the current EPT scrubber system and added two additional scrubbers to address odours emitted from the Enhanced Primary Treatment building. Scrubbers reduce odours by treating the air collected from the EPT Building using a chemical solution to remove odour causing compounds. The additional scrubbers will improve the system's performance by adding redundancy, providing more stable operations and reliability, and increasing the ease of maintenance of these facilities. A new building will be constructed to house the additional scrubbers. Construction has started on this project and we anticipate that the building will be in place by the end of 2022.



Gold Bar Fence Line H₂S Monitoring

(Annual Average of All Spot Samples, in parts per billion)



Our investments in odour management are showing results, and there has been a significant reduction in odours since 2017. Note that slight increases in the annual average of odour readings for 2021 can be attributed to a short-term increase in odours during some drainage work that was required on the south-west side of the plant, which was completed in September 2021.

WHAT STEPS ARE WE TAKING TO ENSURE ODOUR LEVELS CONSISTENTLY MEET CURRENT STANDARDS AND ARE SAFE FOR HEALTH AND RECREATION?

Fenceline monitoring

EPCOR consistently monitors 8 locations around the Gold Bar plant fenceline for H₂S levels (numbered in the illustration). The readings at these stations are spot readings which may only exist for a moment in time, so these results are not compared to standards that are quantified in 1-hour, 8-hour or 24-hour averages.

Monthly reporting

Data from the previous month is posted by the 15th of the following month.



Ambient Air Quality Monitoring

EPCOR has started installing an air quality monitoring station south of the Gold Bar plant, adjacent to Gold Bar Park Road and close to 50 Street.

Ambient air quality in Edmonton and throughout Alberta is monitored through a network of air quality monitoring stations. Currently, EPCOR tracks average hourly and average daily H₂S levels captured by the Beverly Air Quality Monitoring Station (1 km northeast of the plant) and the Gold Bar Air Quality Monitoring Station (1 km south of the plant). These stations are part of the Strathcona Industrial Association air monitoring network.

In alignment with public engagement input, and EPCOR's long-term plans and commitment to odour reduction, we are installing an additional ambient air quality monitoring station (AAQMS) much closer to the Gold Bar Wastewater Treatment Plant.

The new Ambient Air Quality Monitoring Station will allow us to:

- Continuously monitor and collect air quality data, meteorological information like wind speed, wind direction, and temperature.
- Use the data measured to make future changes at the site to further improve odour control.

Construction on the air monitoring station is in progress. We are working to have the station operational by June 2022, and fully reporting information by Fall 2022, pending supply chain performance. In support of recognizing important Indigenous ties to this area, EPCOR will adorn the site with Indigenous art.

WHAT TO DO IF YOU SMELL AN ODOUR

- Check our water [outages and alerts page](#) to see if EPCOR has issued any notices about odour in your neighbourhood.
- If you have concerns about an odour in your neighbourhood, you can contact our 24/7 phone line at (780) 412-4500.



Artist's rendering of AAQMS



Construction started on the AAQMS



Construction started on the AAQMS



Construction started on the AAQMS

HOW DO WE OPTIMIZE THE USE OF RESOURCES IN WASTEWATER?

No resource is overlooked at Gold Bar, as we strive to meet our environmental targets. We think about wastewater as a beneficial resource instead of a waste product and we have developed innovative approaches to wastewater treatment that create a circular economy solution.

For more than 40 years, Edmonton's wastewater has been used to produce a product called Nutri-Gold. It's a biosolid fertilizer that is supplied to nearly 50 local farmers for free. We produce more than 30,000 dry tonnes of the product each year, helping grow over 4,500 acres of oil seed crop.

Through the years, we have found new uses for biosolids. In 2019, we partnered with Sylvis, a leading Canadian environmental consulting firm, to support a three-year partnership with Paintearth Mine. EPCOR is supplying the biosolids for soil reclamation at the mine site near the Village of Forestburg.

Gold Bar is also able to produce biogas as a byproduct from the wastewater anaerobic digestion process. The biogas is being used to supply half of the required heat for the buildings and anaerobic digesters at the Gold Bar Wastewater Treatment Plant.

Lastly, thanks to an advanced membrane filtration system at Gold Bar, we supply large industrial sites with treated wastewater for use in their operations, such as the Suncor refinery in nearby Strathcona County. This is significantly reducing industry's fresh water needs.

2022 MAJOR PROJECTS



LOOKING FORWARD IN 2022

EPCOR Water's Performance Based Regulation (PBR) application for the Gold Bar plant was approved by the City of Edmonton in 2021. It included the Gold Bar capital plan and performance requirements for the 2022-24 period. In alignment with our Shared Outcomes, Design Principles and Community Engagement Framework, created by EPCOR and the communities around the Gold Bar plant, we wanted to provide you with some information about our planned activities at the Gold Bar plant. Although we may have some temporary construction activities outside of our fenceline this year, we remain committed to keeping our ongoing operations within the existing footprint of the Gold Bar Wastewater Treatment Plant.

Here is a high-level summary of the work we currently have planned:

- To address odour emissions from the diversion structure (large chambers that receive and distribute sanitary flows), we will be designing a capture and routing system to treat odours. In 2022, we will focus on the design of the system, with construction occurring in 2023-2024.
- We will be rehabilitating and upgrading digester #4. This digester is one of the original structures at the plant, and is used to treat and stabilize the solids from the primary treatment process.
- We will be improving our flare capacity to increase the reliability of our system during regular maintenance that sometimes involves shutting one of the flares down.
- We will be rehabilitating and upgrading a part of the primary effluent (PE) channel system, a key conduit between the primary and secondary sides of the plant. This will include restoring degraded concrete and adding isolation points to manage flows within the PE system.
- We are designing and installing a system called inDense that will improve performance and treatment capacity in our secondary clarifiers by increasing the density and settling of the sludge. Any new infrastructure will be developed without expanding beyond the current footprint and fenceline.
- To contribute to EPCOR's commitment to net zero emissions by 2050, we are continuing to reduce greenhouse gas emissions and energy consumption at the plant.
- We will be constructing a new dewatering facility at the Clover Bar Biosolids Recycling Facility to replace the City of Edmonton facility. The facility will process biosolids produced in the wastewater treatment process at the Gold Bar plant and the Alberta Capital Region Wastewater Treatment Plant.

THE GOLD BAR WASTEWATER TREATMENT PLANT WEBPAGE

Did you know that we regularly share facility updates about the Gold Bar plant information about odours, and advertise future engagement activities on our website? Check it out at www.epcor.com/goldbar. We've also been advertising engagement opportunities on our EPCOR Canada Facebook page.

 twitter.com/EPCOR

 facebook.com/EPCOR

 [@EPCOR](https://instagram.com/EPCOR)

We believe in listening to and engaging with the community. Community input and involvement is an important part of our decision making and we want to hear what you think about our initiatives.

LET'S TALK

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