

# Fish Creek Wastewater Treatment Plant New Diesel Standby Generators

Information Booklet

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# Fish Creek Wastewater Treatment Plant – New Diesel Standby Generators

## Background

The Fish Creek Wastewater Treatment Plant (FCWWTP) is one of three wastewater treatment plants which serve Calgary and its surrounding communities. Built in 1960, the FCWWTP, in conjunction with the Pine Creek Wastewater Treatment Plant (PCWWTP), treat sewage for the southern communities of Calgary. The FCWWTP has gradually expanded over the following decades with the addition of secondary and tertiary treatment processes in the 1980s and 1990s.

The existing FCWWTP electrical power distribution system is supplied by a single 13,200 Volt service from the local electric utility (ENMAX) and supported by two diesel standby generators, rated at 1,090 kilowatts (kW) and 1,200 kilowatts (kW). The generators were installed in the 1970s and are assessed to have reached the end of their expected reliable life. The generators also do not have sufficient capacity to supply the plant's forecasted future electrical load.

As part of Phase 1 of the FCWWTP Upgrades project - electrical upgrades, The City of Calgary ("The City") is applying to the Alberta Utilities Commission (AUC) for approval to install and operate two new 2,500 kW, 4,160 V diesel standby generators to replace the plant's two existing 600 V diesel standby generators.

The City is committed to providing information and consulting with interested parties in the communities adjacent to the FCWWTP throughout the upgrades. You are receiving this booklet because you have been identified as an interested party for the Participant Involvement Program (PIP) required for the AUC's approval of new diesel standby generators at the FCWWTP. Please refer to page 10 for details of the PIP and contact information.

In addition to required upgrades to the electrical infrastructure (Phase 1), the plant also requires other facility upgrades to enhance the treatment processes for regulatory compliance and to improve operational capacity. These upgrades (Phase 2) will consist of both new construction and upgrades to existing infrastructure which is planned to begin in 2025 until 2031. The City will be hosting an open house in February 2025 to provide more details on this second phase of upgrades.

## Planned Use of New Standby Generators

The City currently plans to utilize the new standby generators for backup power purposes as follows:

- **Primary Purpose:** The primary role of the new standby generators over their useful life will be to serve as a backup electrical power source for the FCWWTP if the plant's normal power supply is unavailable. This will also be their only role immediately following installation and commissioning.

The City is considering utilizing the new standby generators in the future for non-backup power purposes, as follows:

- **Future (Secondary) Purpose:** The City may elect to utilize the new standby generators to produce electrical power for use within the FCWWTP when the plant's normal power supply is available (i.e., for non-backup purposes). This may be done for a variety of reasons, including but not necessarily limited to participating in the Alberta Electric System Operator (AESO) "operating reserve" program: Participants in this program assist the AESO in maintaining reliability of the Alberta Interconnected Electric System (AIES) when there is an

unexpected imbalance between supply and demand within the AIES. Should The City decide to participate in this program, it would comply with AESO dispatch requests by using the new standby generators to reduce the amount of the plant's electrical load being supplied from the AIES.

The City has not yet committed to joining the AESO operating reserve program and initially plans to operate the new standby generators for backup power purposes only.

## **Benefits**

The City is strongly committed to protecting the environment and public health. Providing reliable wastewater treatment infrastructure is a critical part of these values and objectives. The new standby generators at the FCWWTP will improve the plant's power distribution system, ensuring that the most critical treatment processes have a reliable source of standby power while optimizing the sizing and configuration of standby power for future upgrades. Meanwhile, the second phase of upgrades enables The City to meet regulatory requirements, support community growth projections, and ensures protection of freshwater life. By investing in this critical infrastructure, The City is reinforcing its dedication to protecting both the environment and public health.

## **Scope of Work (Phase 1)**

The following items will be included as part of the electrical upgrades (Phase 1) :

- Construction of a new, single-story, climate-controlled, dedicated electrical building to house the new standby generators and associated power distribution equipment.
- Installation of two new 2,500 kW, 4,160 V diesel standby generators to replace the plant's two existing 600 V diesel standby generators.
- Installation of new power transformers and power distribution equipment.

## **Location (Phase 1)**

All work for Phase 1 will fit entirely within the current fence line of the FCWWTP.

Figures 1 to 3 show the location of the FCWWTP within The City, the location of the new electrical building at the FCWWTP, and an isometric view of the building.

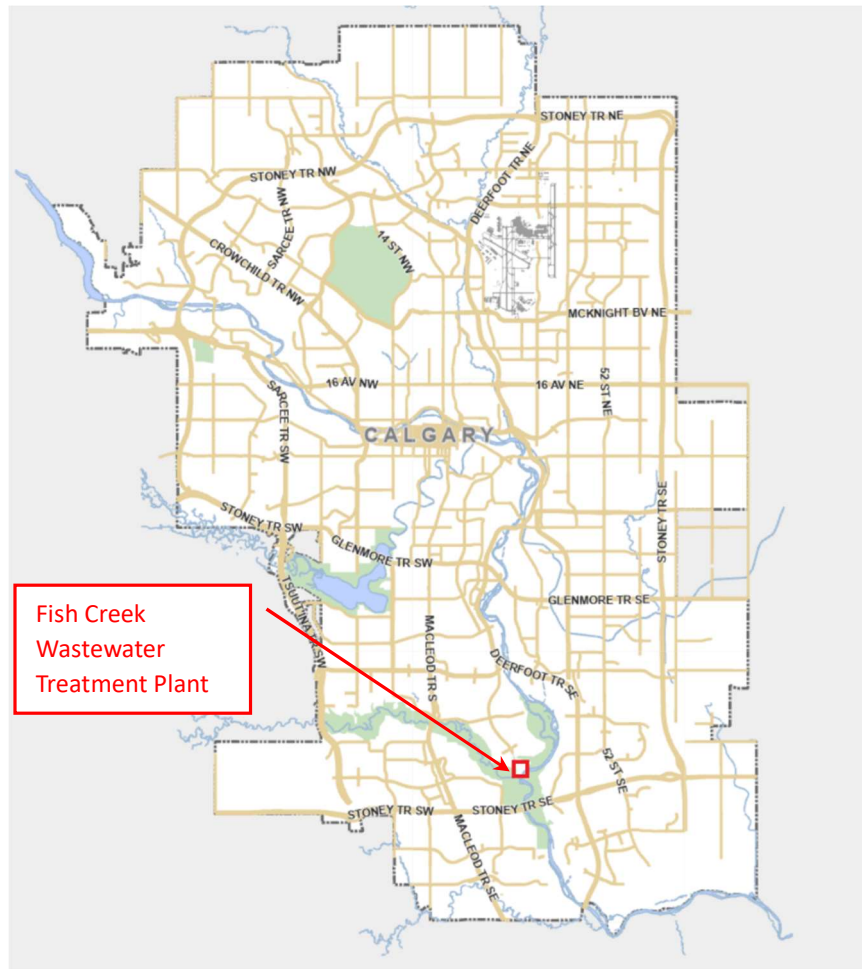


Figure 1: Location of the Fish Creek Wastewater Treatment Plant within The City of Calgary (north is at the top of the figure)

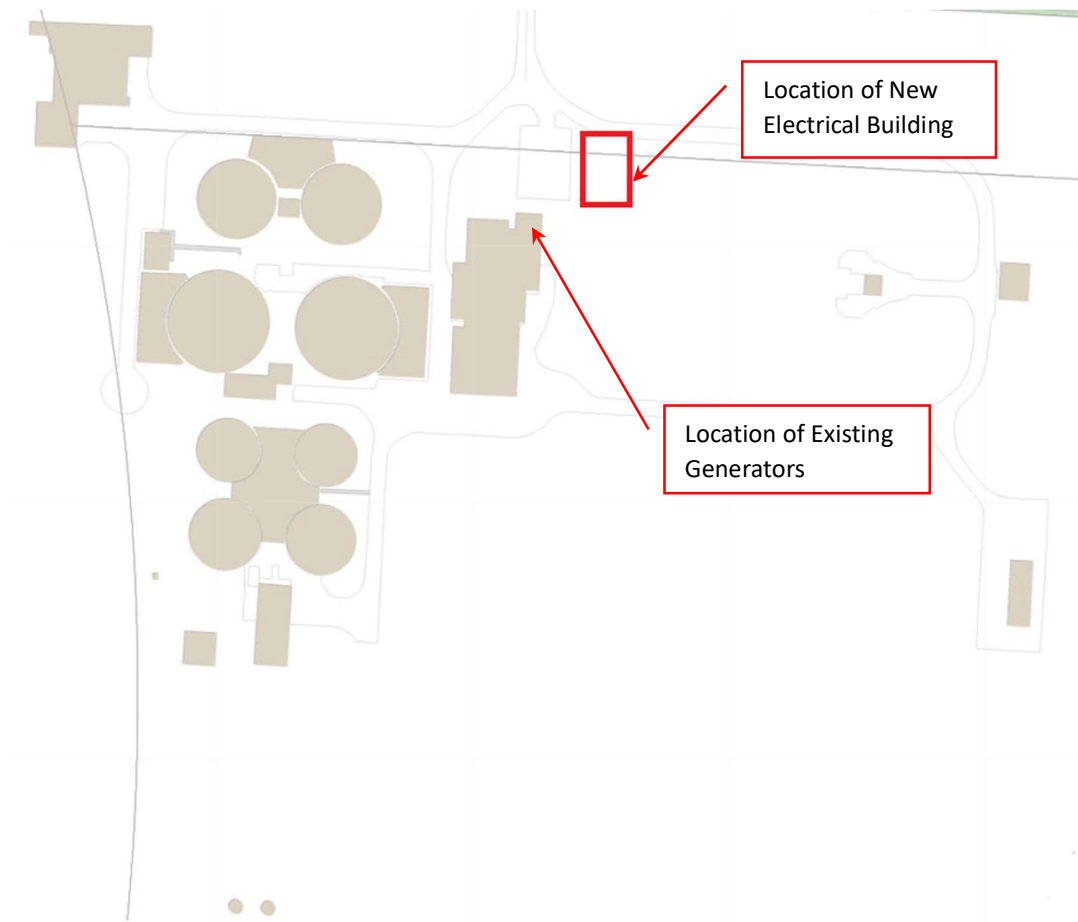
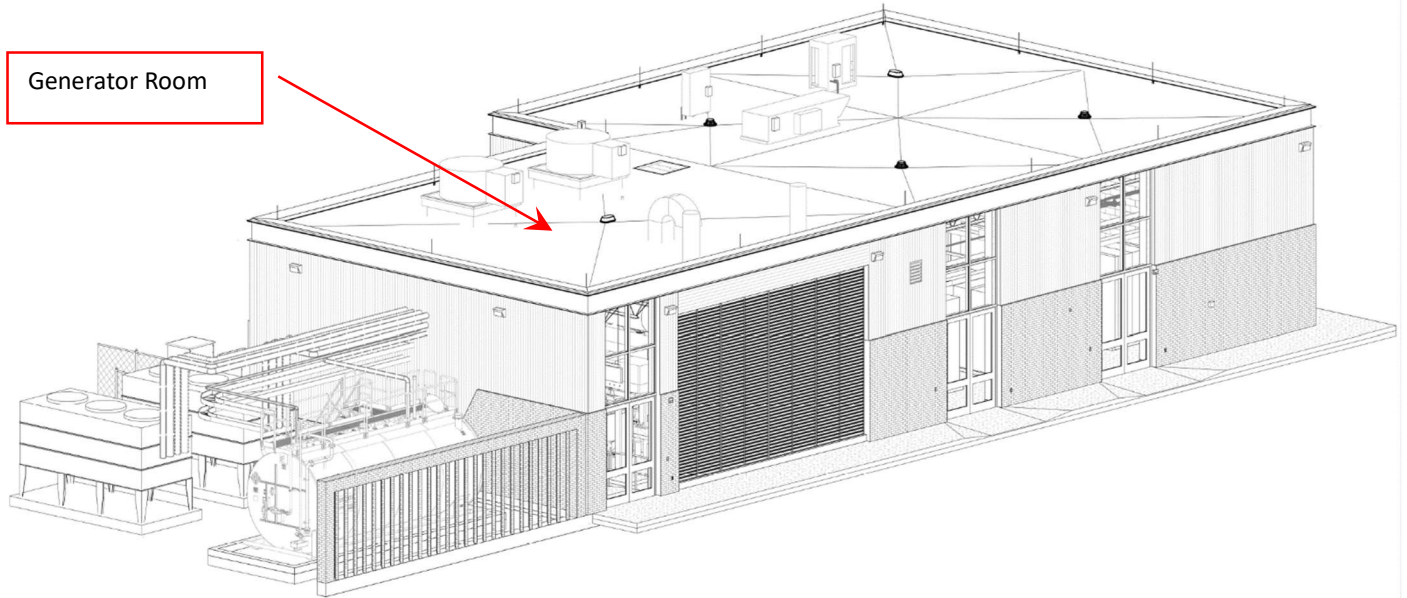


Figure 2: Location of the new electrical building at the Fish Creek Wastewater Treatment Plant (north is at the top of the figure)





*Figure 3: An isometric view of the new electrical building housing the new standby generators and associated power distribution equipment (subject to change pending the completion of detailed design)*

# Project Schedule (Phase 1)

The following is an estimated schedule for the design, AUC application, construction, and operation of the new standby generators at the FCWWTP. Please note that these dates are estimates and may be subject to change based on regulatory approvals, contractor availability, equipment delivery, and other factors.

Project Phase	Activity	Date
Design	Preliminary design complete	December 2022
	Detailed design complete	Q4 2024
AUC Application	Participant Involvement Program in accordance with AUC Rule 007	Q4 2024 to Q1 2025
	Application filed with AUC	Q1 2025
Construction and Operation	Site preparation	Q2 2025
	Construction phase	Q3 2025 to Q4 2026
	Start of normal operation	Q2 2027

## Construction Phase Effects

Construction is expected to take approximately two years, beginning in Q2 2025. Residents and occupants around the FCWWTP may notice the following temporary construction impacts:

- Minor increases in noise and dust during certain phases of the construction.
- Minor increases in traffic for certain periods during construction, as contractors, equipment and materials are brought onto the site.
- No temporary or permanent closures of roads or pathways are anticipated.

## Environmental Features and Protection

The new building, standby generators, and associated major electrical equipment will be designed to meet applicable municipal, provincial, and federal environmental guidelines, resulting in no significant effects on air, land, or noise compared to the current facility.

### Air

The new standby generators will be certified to the US Environmental Protection Agency (EPA) Tier 4 emissions levels, which represent some of the strictest air quality standards in both the United States and Canada. Compared to the



existing generators installed in the 1970s, the new standby generators will significantly reduce the release of harmful pollutants into the air, such as nitrogen oxides (NOx), particulate matter (PM), and other toxins.

## **Land**

While all project activities will be contained within the existing fence line of the FCWWTP, an Environmental Construction Operations Plan (ECO Plan) will be developed and implemented to minimize impacts on these environmental features and protect the environment.

## **Noise**

A Noise Impact Assessment (NIA) will be completed to evaluate noise levels during the operation of the new standby generators and ensure compliance with the permissible limits outlined in AUC Rule 012: Noise Control. The assessment will involve detailed noise modeling and monitoring to predict the impact of the new standby generators on the surrounding areas. If necessary, noise mitigation measures will be recommended to reduce noise emissions and minimize disturbances to nearby communities.

## **Visual Design**

The new electrical building will have minimal visual impact due to its low height and scale, and it is architecturally designed to blend in with the existing buildings at the FCWWTP and the surrounding environment.

# **Regulatory Requirements**

Regulatory requirements are legally binding rules established by government authorities or delegated bodies to ensure that activities such as construction, emissions, and utility operations are conducted safely and responsibly. The installation and operation of the new standby generators will comply with these regulations to protect the environment, public health, and safety.

## **Federal**

Emissions from stationary diesel generators are federally regulated in Canada under the “Off-road Compression-Ignition (Mobile and Stationary) and Large Spark-Ignition Engine Emission Regulation” (SOR/2020-258). The new standby generators will be certified to the US Environmental Protection Agency (EPA) Tier 4 emissions levels, which allow them to operate under non-emergency conditions in Canada. Please note that the Tier 4 certification exceeds the requirements of SOR/2020-258 for emergency and backup use, which is the primary intended operation of the new standby generators at the FCWWTP.

## **Provincial**

The operation of the new standby generators under emergency conditions will require authorization from Alberta Environment and Protected Areas (AEPA) under the Alberta Environmental Protection and Enhancement Act (EPEA). An application for an amendment to the existing operating approval is required by AEPA for operating the new standby generators under non-emergency conditions. The application review will assess whether the new standby generators will have environmental impacts and if any identified impacts can be mitigated.

The new standby generators will also require approval from the Alberta Utilities Commission (AUC) pursuant to Section 11 of the Hydro Electric Energy Act, under Rule 007. As Alberta's independent utilities regulator, the AUC

regulates the utilities, natural gas, and electricity sectors to protect social, economic, and environmental interests of the province.

## **Municipal**

An application for a Development Permit from the Planning and Development department at The City for the FCWWTP Upgrades project is being prepared. This application will include the new electrical building to house the new standby generators and associated power distribution equipment.

The City will also submit a generator interconnection application to ENMAX for operating the new standby generators in a parallel non-export arrangement.

## **Participant Involvement Program**

In accordance with AUC Rule 007 - Appendix A1 (Participant Involvement Program Guidelines), The City will mail this information booklet to occupants, residents, and landowners within the first row of occupied properties surrounding the FCWWTP as a personal notification to initiate the Participant Involvement Program (PIP). The PIP for the new standby generators at the FCWWTP will be completed before an application is submitted to the AUC, with the goal of:

- Informing all persons whose rights may be directly and adversely affected by the proposed project.
- Giving all persons an opportunity to voice their concerns and be heard, as well as to be involved in finding mitigating solutions for these issues.
- Ensuring all records of engagement are documented, including responses, follow-up actions and commitments.

## **Contact The City of Calgary**

Please contact 311 with any questions or concerns about the FCWWTP Upgrades project.

## **Contact the AUC**

This information booklet includes a copy of the AUC pamphlet, “Public Involvement in a Proposed Utility Development,” which provides an overview of the AUC application process.

Please contact the AUC directly at their Calgary office listed below regarding the approval of the new standby generators at the FCWWTP:

Alberta Utilities Commission  
Eau Claire Tower  
1400, 600 Third Avenue S.W.  
Calgary, Alberta T2P 0G5  
Phone: 403-592-4500  
[info@auc.ab.ca](mailto:info@auc.ab.ca)