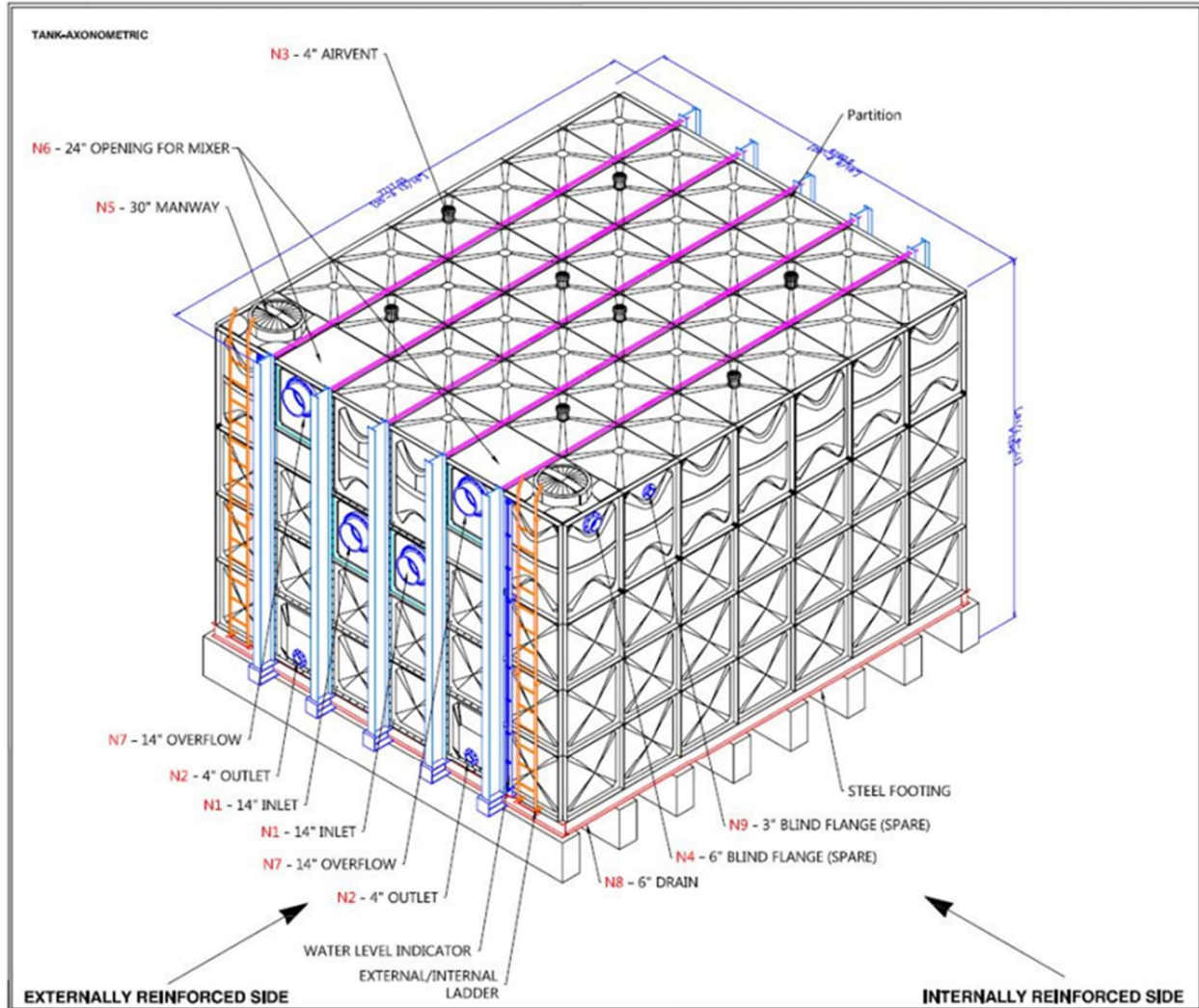


## Innovative Wastewater Storage Solution for the Town of Inuvik Water Treatment Plant



## INTRODUCTION

In 2016, the Town of Inuvik in northern Canada required a wastewater storage solution that addressed both logistical and operational challenges. Due to the remote location and extreme climate, the project needed a design that minimized transportation costs while maximizing efficiency. FTC Tanks provided a custom-designed, modular rectangular tank that not only met the client's specific technical requirements but also significantly reduced shipping volume and installation time. This project earned the Town of Inuvik the **Willis Award for Innovation**, recognizing its groundbreaking approach to wastewater management.

## THE CHALLENGE

The Town of Inuvik Water Treatment Plant faced several key challenges:

**Remote Location and Shipping Constraints:** Transportation costs and logistics posed significant challenges due to the plant's remote northern location.

**Custom Reinforcement for Mixers:** The client required the tank to accommodate propeller mixers installed inside the tank, necessitating external reinforcement on one side and internal reinforcement on the other to ensure structural integrity while allowing for the mixers' operation.

**Installation Efficiency:** The tank needed to be installed in an indoor facility, within a tight timeline and with minimal disruption to ongoing operations.

**High Storage Capacity:** The solution had to provide a large wastewater storage capacity while fitting within the designated indoor space.

## THE SOLUTION

FTC Tanks delivered a custom-designed, modular rectangular tank tailored to the unique needs of the Inuvik Water Treatment Plant:

## **Custom Design and Reinforcement for Mixers:**

The tank was designed with dimensions of **(3 + 3) x 7 x 4.5 meters (9.84 + 9.84) x 22.96 x 14.76 feet**, offering a **double-compartment** configuration. This design allowed for operational flexibility and ensured that the wastewater treatment process could continue even if one compartment required maintenance.

The tank was specially reinforced with **external reinforcement on one side** and **internal reinforcement on the other** to accommodate the propeller mixers installed inside the tank. These mixers, with their shafts and propellers passing through the side wall panels, ensured efficient mixing of wastewater while maintaining the tank's structural integrity.

## **Modular, Space-Efficient Design:**

The tank's modular design made it ideal for transportation to Inuvik's remote location. The components were shipped on **13 pallets and 9 packages**, with a total shipping volume of **33 cubic meters**, which is less than 20% of the tank's total capacity of **189 cubic meters**. This drastically reduced transportation costs while ensuring the tank arrived safely and efficiently.

## **Innovative Mixer Integration:**

Two mixers were installed outside the tank, with the shaft and propeller passing through the side wall panels. This design ensured efficient mixing of wastewater while maintaining the tank's structural integrity.

## **Fast Installation with Minimal Disruption:**

The efficient installation process minimized disruption to the plant's operations and ensured that the tank was fully operational within a short timeframe.

## **AWARD-WINNING INNOVATION**

The [Willis Award for Innovation](#), which recognizes exceptional innovation or meritorious initiative, was awarded to the Town of Inuvik for this project. The award highlighted the use of modular rectangular wastewater storage tanks,

which was a first for northern Canada, and praised the cost savings achieved through reduced transportation and construction expenses.

## RESULTS

FTC Tanks successfully delivered a wastewater storage solution that met the Town of Inuvik's requirements for durability, efficiency, and **cost savings**. The **modular design** allowed for easy transportation and installation in a remote location, while the custom reinforcement and double-compartment design ensured that the tank would provide reliable wastewater storage for years to come. The project not only solved the town's immediate wastewater storage needs but also set a new standard for innovation in northern Canada's water treatment infrastructure.

## CONCLUSION

The **Town of Inuvik Water Treatment Plant** project demonstrated FTC Tanks' ability to deliver innovative, customized solutions that address the unique challenges of remote locations and harsh climates. By providing a modular, space-efficient tank that was easy to transport and install, **FTC Tanks** helped the municipality achieve its goals of improving wastewater management while minimizing costs. The recognition from the Willis Award for Innovation further underscored the success of this groundbreaking project.