

# Project News

June 2023

## Project Status

The Biological Process Improvements project has been completed ahead of schedule and within budget. All five treatment trains are operational, the new 66" pipeline is installed, the new mechanical/electrical building has been equipped, and landscaping and fencing along Marine Drive have been restored. LOTT staff will finalize project documentation including record drawings and operation & maintenance manuals over the coming months.

## Optimizing the Wastewater Treatment Process

The Biological Process Improvements project optimizes the treatment process that removes nutrients from wastewater. The biological process is critical to effectively treat the wastewater, ensure LOTT complies with strict permit limits, and protect water quality in Budd Inlet. The original biological process was brought online in 1994. This second generation upgrade greatly improves process control and system performance.

## Timeline

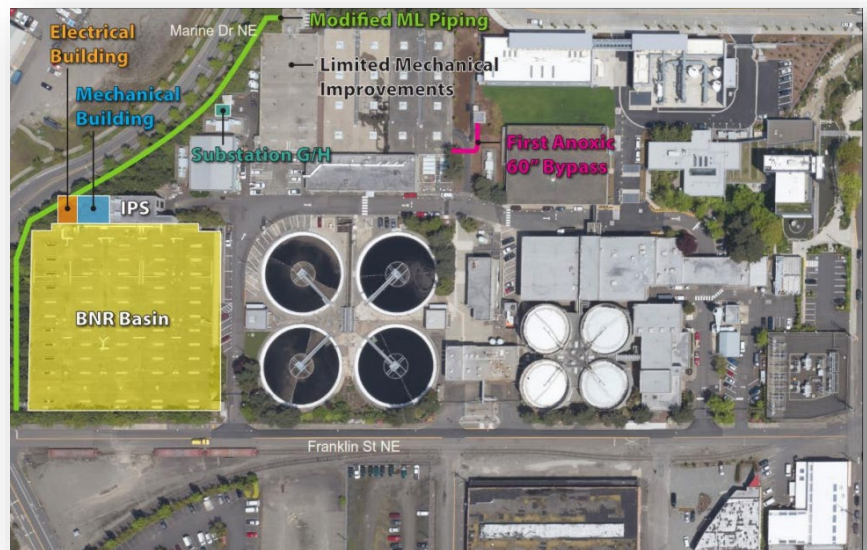
Due to the scale and complexity of the project, construction occurred in stages, beginning November 2, 2020 and completed on March 30, 2023.

## Location

Construction occurred on the north end of the Budd Inlet Treatment Plant just south of Marine Drive.

## Project Benefits

The Biological Process Improvements project replaces aging equipment, enhances operational control and flexibility, and increases process reliability. It also greatly improves energy efficiency by employing new technologies and reducing pumping requirements. Energy savings are anticipated to be greater than 20% of total plant energy use. Consolidating several processes allows for valuable space within the plant footprint to be repurposed for flow equalization and future process expansion.



## System Performance

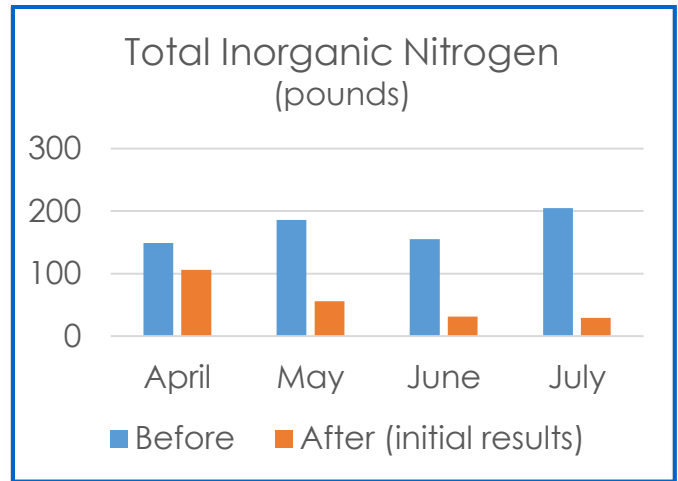
The first two treatment trains were started up in March 2022, the third in July 2022, and the remaining two trains came online in March 2023. Preliminary performance data shows that the new nutrient removal process is highly effective. The new system has achieved an average monthly total inorganic nitrogen (TIN) level as low as 0.38 mg/L and has performed well even in the cooler months, when nutrient removal is more of a challenge. Average performance has been well below our most stringent permit limit of 3 mg/L, in effect during the summer season, June-September.

## Costs and Funding

The construction cost was approximately \$29 million. The project was funded by LOTT's capital budget and low interest loans through the Department of Ecology Water Quality Program and Department of Commerce Public Works Board.

## Design and Construction Contractors

Parametrix was the lead design engineer and Prospect Construction was the general construction contractor. Numerous subcontractors were also involved in construction, all contributing to project success.



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**BIOLOGICAL PROCESS IMPROVEMENTS PROJECT**

**PROJECT COST: \$28,941,672**

This project has been funded in part by the Environmental Protection Agency, the Washington State Department of Ecology's State Revolving Fund, and the Washington State Public Works Board

   WASHINGTON STATE PUBLIC WORKS BOARD  
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