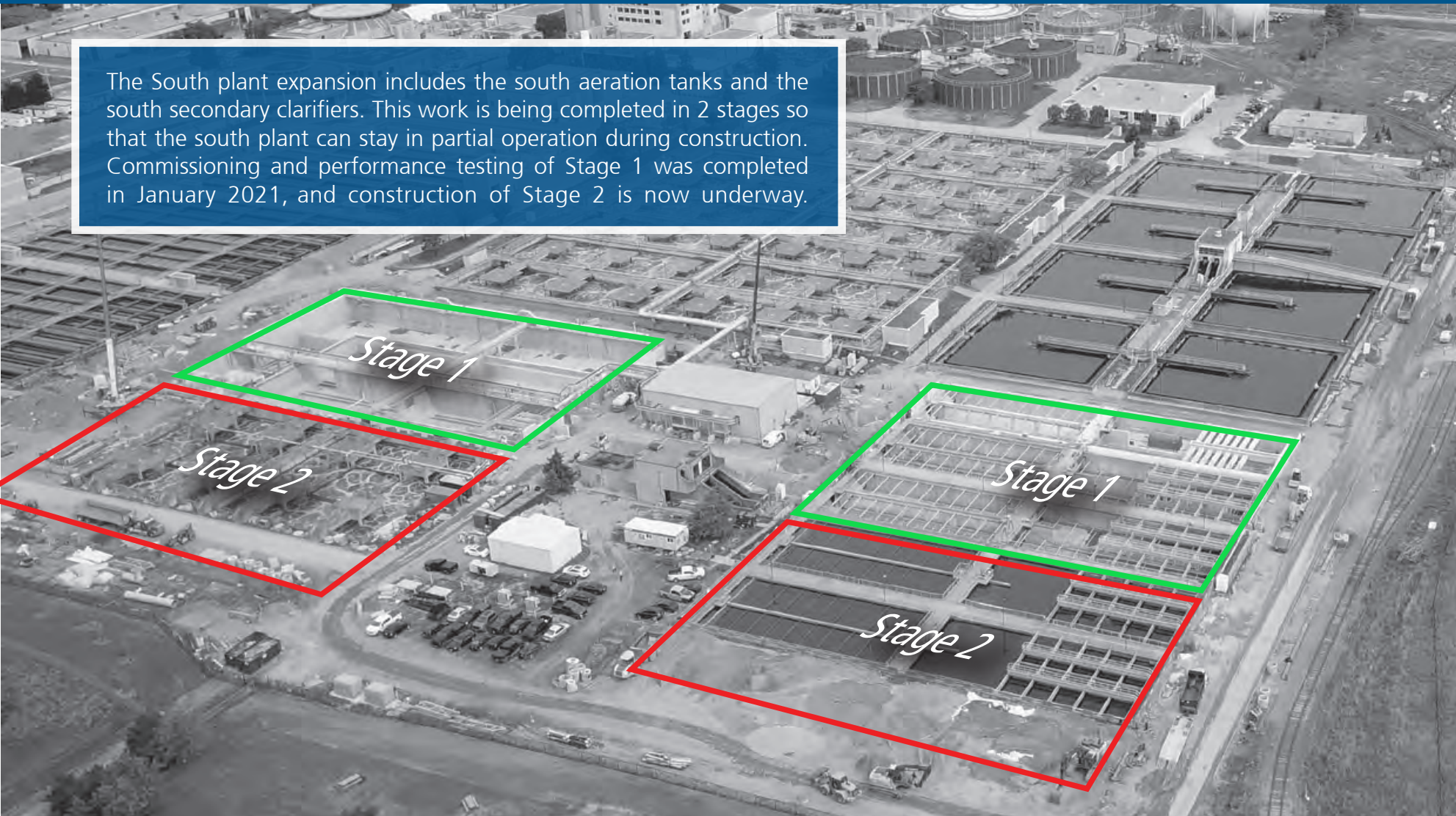


March 2021

A part of the Clean Harbour Program

The South plant expansion includes the south aeration tanks and the south secondary clarifiers. This work is being completed in 2 stages so that the south plant can stay in partial operation during construction. Commissioning and performance testing of Stage 1 was completed in January 2021, and construction of Stage 2 is now underway.



Benefits of the South Plant Expansion

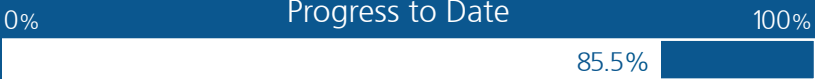
- The secondary aeration process is being converted to a plug flow system, meaning the flow moves in one direction with no dispersion or back-mixing
- The aeration process upgrades will provide enhanced year-round nitrification and ammonia removal to achieve less than 2.0 mg/l total ammonia into receiving streams
- The aeration tank volumes are being expanded to double their capacity from 22,000 m³ to over 41,000 m³. Greater aeration volume improves stability and biomass quality and allows the wastewater more time in the tanks, giving the bacteria a longer reaction time
- The new aeration process tanks provide step feed capability to reduce and/or prevent solids washout during storm events
- Two new clarifier tanks are being added, increasing the total surface area from 4,860 m² to 7,290 m²

The aeration tanks and secondary clarifiers play an important part in the treatment of wastewater. Here's how:

- 1) When wastewater is received at the plant, it contains high levels of ammonia which is harmful to aquatic life.
- 2) Nitrification converts the ammonia into nitrate (nitrogen), and our aeration tanks speed up the process by providing lots of oxygen and time for the autotrophic bacteria to work more quickly.
- 3) Secondary clarifiers allow for settleable solids, which are full of beneficial bacteria, to be removed from the treated effluent and returned to the aeration tanks.
- 4) As a result, the wastewater is made much safer for eventual discharge into Hamilton Harbour and enables us to achieve our HHRAP targets for ammonia removal.

Project Updates

Main Pumping Station



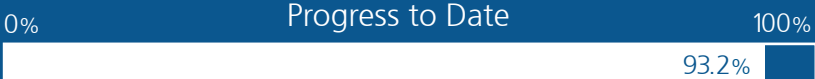
Installation of electrical, plumbing, and mechanical works are ongoing, while architectural finishes are nearing completion. Commissioning works continue; installation of the bulkhead in the inlet chamber by divers completed and tie-in of the inlet tunnel and West Headworks channel is occurring soon. Due to unforeseen circumstances the substantial completion date has slipped from June 2021 to February 2022.



New Outfall Dissipation Zone

The new outfall dissipation zone is complete and will allow treated water to be released into the Red Hill Creek via a wider channel. This wider channel is essential in ensuring that the water does not damage the opposite river bank and will allow us to accommodate future peak flow capacity of 1000MLD.

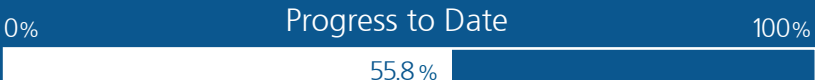
Electrical and Chlorination Upgrades



All WTP electrical loads and the 2nd Alectra Utility feed have been transferred to the new EPC system with focus shifting now to the WWTP. Testing of the new systems has continued with SCADA and Operations staff being actively involved. Ongoing work at the chlorine facility includes the installation of the new chlorine railcar tanker weigh scales. Substantial Performance of the project is anticipated in June this year.



Tertiary Treatment Upgrades



Commissioning of Phase 1 of the South plant is complete, with excavation underway for Phase 2 construction. The new outfall dissipation zone is complete, and excavation continues for the new CCT. Structural and mechanical works continue at the Tertiary Facility with mechanical and electrical work ongoing in the blower building. Due to unforeseen circumstances the substantial completion date has slipped from December 2021 to September 2022.

