

Project Overview:

To confirm the capacity of the Lakeshore WPCP with the intent of re-rating the plant as an interim measure. The project was initiated in response accelerated development pressures in advance of a larger planned expansion.

Deliverables:

Desktop capacity assessment to evaluate hydraulic and process capacity of each unit treatment process, the development and execution of stress testing of potentially capacity-limiting unit treatment processes, and the preparation and submission of the application for an updated Environmental Compliance Approval (ECA).

Approach:

Blue Sky EEC (in association with another firm) led the assessment of existing treatment process capacity at the Lakeshore WPCP to confirm its optimized capacity and have it re-rated to accommodate near-term proposed developments.

Our methodology:

- Review of the facility's historic performance at an individual unit treatment process level
- Engagement of the MECP to obtain their input and support for the re-rating early in the study process
- Developing projections for future raw sewage flows, concentrations, and loadings to the facility to be used as inputs to the desktop capacity assessment to evaluate the hydraulic capacity of each unit treatment process
- Attaining approval of a stress testing protocol from the MECP and conducting stress testing to demonstrate the hydraulic and/or treatment capacity of unit processes that may be limiting the facility's overall capacity
- Preparing and submitting the documentation required for the updated ECA

Results:

The initial desktop analysis suggested the WPCP tertiary treatment (filtration) and UV disinfection may not have had sufficient peak flow capacity to accommodate a facility re-rating. Stress testing results confirmed that these processes had sufficient capacity to treat flows up to the anticipated re-rated capacity.

The desktop analysis and stress testing both indicated the Lakeshore WPCP has the capacity to treat flows up to 18% higher than the current rated capacity, allowing the facility to meet the anticipated near-term growth pressures. An ECA application for the Schedule A Class EA activity was submitted to the MECP and ultimately approved, allowing the WPCP to increase its effluent discharge volume while maintaining receiver loading limits.

