

EXECUTIVE SUMMARY

City of Breezy Point
Wastewater Treatment Facility

August, 2025

Introduction

This Executive Summary provides a brief of the Wastewater Facility Plan for the City of Breezy Point. This is an abstract of the full report which should be referenced as necessary for the full context of the subject matter.

Background

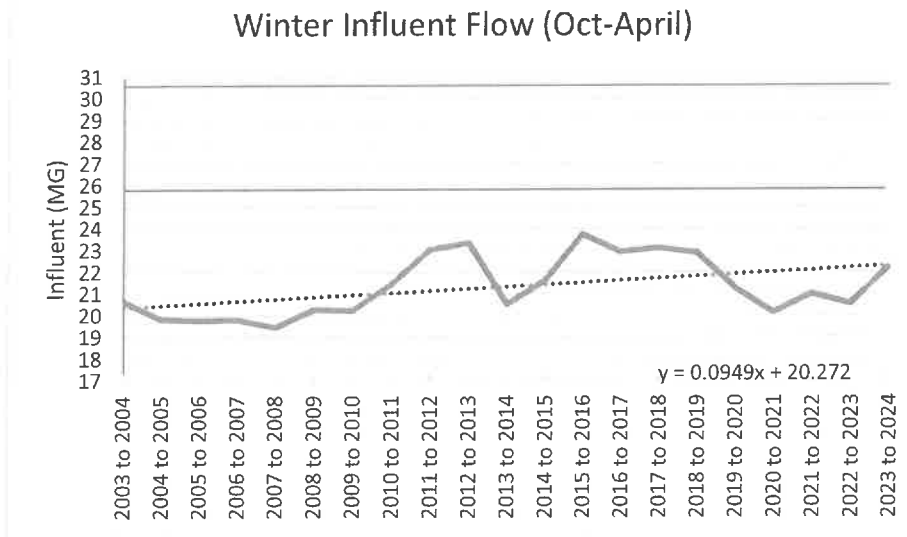
WIDSETH prepared a Wastewater Facility Plan to proactively assess the City's wastewater flows, treatment (pond) and spray irrigation capacity, and condition of the treatment facility infrastructure. The report analyzed population growth, facility loading, spray irrigation limits, and estimated population growth in terms of Equivalent Residential Units (ERU's). The data collected in the Facility Plan comes from City staff observations, elevations of ponds and water levels by Widseth surveyors, and recorded flow data reported by City staff and submitted to the MPCA in the City's monthly Discharge Monitoring Reports (DMRs).

Summary

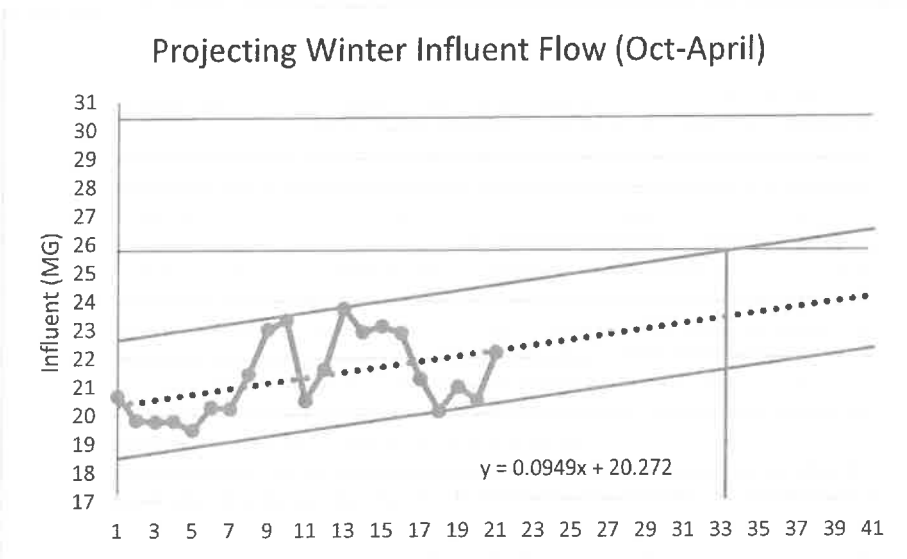
The City's sanitary collection system consists of approximately 83,000 feet of 8" and 10" diameter PVC gravity sewer piping, and about 27,000 feet of 4", 6", 8" and 10" diameter forcemain. The oldest of the collection system was installed in 1978 and, while it is approaching 50 years old, the City has not had any major issues with the collection system. The primary concern from City staff is the amount of winter storage remaining as flow rates have been observed by City staff to be increasing.

Field data was collected for the primary and secondary treatment ponds in the winter of 2024 and spring of 2025. This data yielded a total storage volume of 35.27 MG (85% - 29.98 MG) and a winter storage volume of 30.43 MG (85% - 25.87 MG). The winter storage volume is calculated using only ponds 2-4, the secondary pond storage volumes. These values are lower than the MPCA permit values of 41.83 MG total storage volume, which means there is some discrepancy between what the agency understands the City has for Capacity and what we have measured as actual capacity in the ponds as constructed.

Using the City's reported DMR data, we have plotted reported winter flows from October through April, seen below.



The top orange line represents the total amount of winter storage in the secondary treatment ponds (30.43 MG), and the bottom orange line represent 85% of the winter storage (25.87 MG). Expansion is typically recommended at the 85% threshold.



The above chart forecasts the winter storage for 20 years into the future. The data in the horizontal axis correlates to the first chart. Number 1 correlates to the winter of 2003 to 2004, 2 correlates to the winter of 2004 to 2005, 3 correlates to the winter of 2005 to 2006 and so on. The model shows an upper and lower range of influent, with the upper range reaching 85% of winter storage volume in 2036.

The City has requested the ERU capacity of the wastewater treatment facility. Widseth reviewed ERU information and DMR reports provided by the City to look for trends. The City has reported an annual growth of 22 ERU's per year since 2010. Comparing the amount of ERU's reported against the reported influent volume results in a Gallons/ERU/Day flow rate that is lower than expected. Furthermore, the growth of ERUs in the last 15 years has not resulted in an equivalent increase in influent to the treatment facility. Due to these conditions, we do not recommend using ERU's as a forecasting method for capacity at the treatment facility. Based on the information provided, the conservative estimated range for the current ERU capacity is 60 to 80 remaining ERU's before reaching 85% capacity.

Recommendations

Based on the influent data provided by the City and the surveyed pond volumes, it appears that the treatment facility has sufficient capacity for several years. Historical flow data over the past 20 years indicates a gradual positive trend in influent, suggesting that capacity improvements will eventually be necessary. To better predict when improvements will be required, we recommend collecting precise influent data over the next two to three years. This can be achieved through the installation of electromagnetic flow meters on the facility's two influent lines. These meters provide accurate flow measurements and can export data electronically. Installing two mag meters, associated manholes to house them and restoration is estimated to cost approximately \$70,000 to \$90,000 including survey, design and construction services. If the flows measured by this method indicate a more rapid growth rate over the next two to three years, the timeline for executing an expansion plan for the wastewater facility can be accelerated; however, we do not anticipate the need for expansion sooner than the 2030 timeframe we have previously provided to the City Council. The City should also be aware that due to the age of some of the components of the facility, some items may need replacement prior to the expected timeframe of reaching 85% capacity. The aerators in Pond 1 are not functioning properly and could require replacement if future data suggests the expansion is a decade from now. Additionally, surveyed benchmarks should be installed on all ponds to assist City staff with pond measuring. We recommend proceeding with installation of the mag meters, sharing the collected mag meter data with Widseth which would allow us to annually update capacity estimates and finalize the facility plan before submitting it to the MPCA.