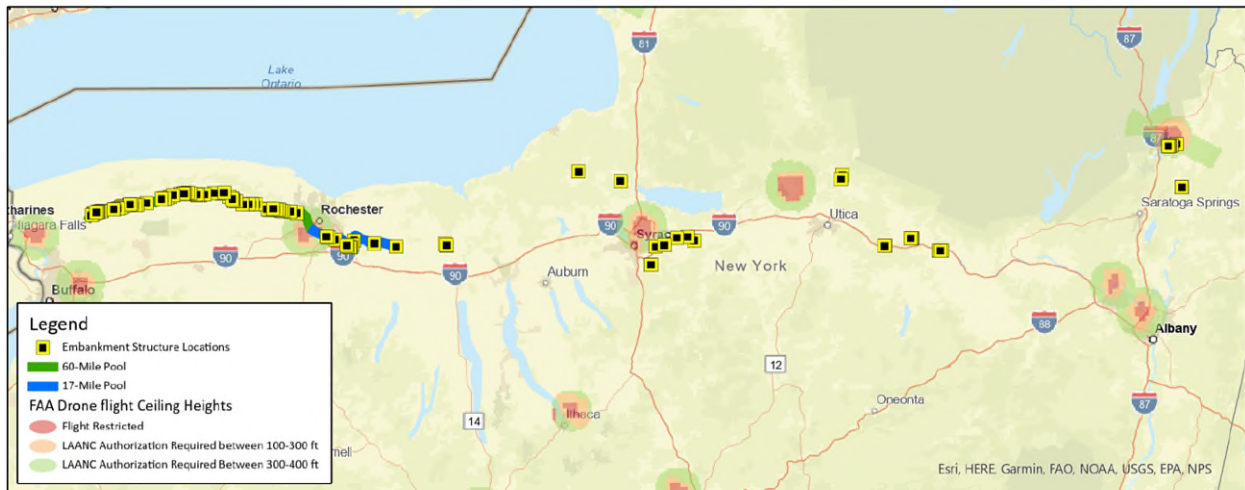


FAQ Canals Drone-Enabled Embankment Assessment Project



CANAL DRONE-ENABLED EMBANKMENT ASSESSMENT PROJECT

Q: WHAT IS AN EARTHEN EMBANKMENT?

A: An earthen embankment is an engineered structure or dam wall of the canal, which is made from soil, rock, clay, and other “earthen material” and impounds (holds) water for a prolonged period above the adjacent land surface elevation.

Q: WHAT IS THE DRONE-ENABLED ASSESSMENT PROJECT?

A: The New York State Canal Corporation owns and maintains approximately 130 miles of currently mapped water impounding earthen embankments within the New York State Canal System. The purpose of the drone-enabled field data collection and site visits is to perform a routine inspection of the embankments, including collection of geometric and terrain data. The primary focus of the embankment assessment work will be in Western New York between Macedon and Pittsford, known as the 17-mile pool, and between Brighton and Lockport, known as the 60-mile pool. See project embankment locations that are noted as yellow and black squares in the map above.

Q: WHY IS THE PROJECT NECESSARY?

A: The Canal Corporation uses a range of tactics to perform assessments of earthen embankments including bank walk inspections, soil borings, thermal imaging, and the drone imaging specific to this effort. Drone imaging provides unique data points including aerial photos, topography, and terrain. This data is used to create three-dimensional maps of the embankment and surrounding terrain that are used internally as part of the Canal Corporation Dam Safety and Maintenance programs. In addition to mapping and imaging, the data is also used to create computer models to better plan for emergencies. The models inform the hazard ratings of the earthen embankments based on the potential impacts to downstream communities in the event of an embankment failure.

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Q: WHAT CAN I EXPECT TO SEE DURING THIS EFFORT?

A: The Canal Corporation, with the assistance engineering consultant Schnabel Engineering, will perform site reviews and data collections of the Canal embankment locations. You may notice crew members wearing high-visibility vests using drone equipment and technology to complete the data collection and survey. The drone survey will require operating a drone flying approximately 400 feet overhead near the Canal embankments and structures, and approximately 350 feet beyond the base of the embankment slope. A photo of a typical drone used for this function is provided below. The information will be used to aid planning for upcoming field inspections and survey collection that would involve crew members using measurement equipment, like tripods and levels, in areas adjacent to the Canal. Late fall and early winter are the optimal times to collect drone survey data because the vegetation, like ground cover and the tree canopy, present fewer obstructions. Weather conditions like wind and precipitation can interfere with drone operation and may lead to changes in the data collection schedule.

Q: HOW LONG WILL THE PROJECT TAKE TO COMPLETE?

A: The drone survey is anticipated in the following areas beginning the week of December 5, 2022, and will be completed by June 30, 2023. The progress of the survey activities are weather dependent and regular updates will be provided.

Segment 1 – from Rochester to Macedon

Segment 2 – from Lockport to Ridgeway

Segment 3 – from Ridgeway to Sweden

Segment 4 – from Sweden to Rochester

Segment 5 – from Palmyra to Lyons

Segment 6 – Fulton/Clay Areas

Segment 7 – LaFayette/Sullivan Areas

Segment 8 – Trenton/Minden Areas

Segment 9 – Glen Falls/Fort Edwards Areas

Q: WHO REGULATES DRONE FLIGHTS?

A: Schnabel Engineering flies its inspection drones in accordance with Federal Aviation Administration (FAA) Part 107 Rules and Regulations: <https://www.ecfr.gov/current/title-14/chapter-I/subchapter-F/part-107#107.25>

Q: WHO CAN I CONTACT IF I HAVE QUESTIONS?

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A: Contact Michael Sullivan at Michael.Sullivan@canals.ny.gov or (518) 424-3447.



Typical Drone Image 1



Typical Drone Image 2

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Example photo of drone inspection