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What is Vegetation Management?

Vegetation Management is a program to:

- Restore the integrity of the Canal embankments to their design condition by removing trees and brush.
- Improve the Canal Corporation’s ability to properly monitor and maintain the Canal embankments.
- Keep the communities that surround the Canal safe from potential floods.
- The work will take place at 56 locations covering 145 acres along elevated embankment sections of the Erie Canal in Orleans and Monroe Counties.
Why is the Canal Corporation performing Vegetation Management Work?

NYPA and the Canal Corporation are taking proactive, appropriate measures to:

• Ensure the Canal embankments are restored to their design condition free of vegetation and roots.
• To allow Canal staff and other inspectors to have unobstructed access to thoroughly monitor the integrity of the Canal embankments.
• Preserve the ability of communities along and near the Canal to enjoy use without interruption from embankment-related closures.
How will the work be completed?

The project will be completed in phases. The Canal Corporation is currently engaged in Phase 1 of the project.

Phase 1 work which consists of the felling and removal of trees and mowing of brush off the Canal embankments. This work began in October and will continue through the 2017-2018 winter season.

Phase 2 of the work will consist of the removal of stumps, filling the voids left by the stump removal operations with suitable material and seeding of the embankments to establish an appropriate vegetative cover. It is anticipated that Phase 2 of the work will commence in the Fall of 2018.
When will work happen in the Pittsford-Perinton community?

Work is scheduled to begin in the Pittsford-Perinton area starting mid January. Tree felling work is scheduled for completion by the end of February 2018, weather permitting.
What will the work look like?

Before:
What will the work look like?

During Phase 1 Tree Felling and Removal:
What will the work look like?

After Phase 2 Stump Removal and Restoration:
Where will the work be completed? Who will be impacted?

Vegetation Management work is taking place at 56 locations covering 145 acres in the following municipalities located in Orleans and Monroe counties: Medina, Albion, Brockport, Spencerport and Pittsford. Tree felling and removal work has already been completed in Medina, Albion and Brockport. Tree felling work is ongoing in Spencerport.

Work will take place on Canal Corporation owned property. All canal permit holders who have access to the impacted Canal property, have been notified in advance of the work.
What are the concerns of leaving the Canal embankments vegetated?

The consensus among dam safety engineers, including the Army Corps of Engineers and Federal Emergency Management Agency, is that the presence of trees and woody plants on earthen dams:

• hinders safety inspections, as it prevents effective dam safety monitoring, inspection and maintenance for seepage, cracking, sinkholes, slumping, settlement, deflection and other signs of stress,
• masks current conditions due to view obstruction,
• interferes with safe operations, and
• increases the risk of dam failure due to inability to detect and correct weaknesses in the structure.
Why does Vegetation need to be managed on Canal embankments?

According to the US Army Corp of Engineers Guidelines for Vegetation Management, ETL 1110-2-583 April 2014, Vegetation on earthen water impounding structures must be controlled:

• To allow proper inspection, surveillance, and monitoring of all structures and adjacent areas for seepage, cracking, sinkholes, settlement, displacement, and other signs of distress.
• To allow access for normal and emergency Operations and Maintenance (O&M) activities.
• To prevent root-related damage to structures, such as shortened seepage paths through embankments and/or foundations; voids in embankments and/or foundations due to decayed roots or fallen trees; clogged seepage collector systems; and expansion of cracks or joints in concrete walls, spillway floors, and canal linings.
• To limit those habitat characteristics that encourage the creation of animal burrows.
What are the risks of leaving the Canal embankments vegetated?

The following is a brief list of dam safety problems caused by trees and woody vegetation growth on earthen embankments:

• Uprooted trees can produce large voids and or reduced cross-section for maintaining stability.
• Decaying roots can create seepage paths and internal erosion
• Trees hinder desirable vegetative cover and cause embankment erosion
• Vegetation can cause obstructions to emergency spillway capacity
• Falling trees can cause damage to spillways and outlet facilities
• Vegetation can clog embankment underdrain systems
• Vegetation can crack, uplift or displace concrete structures and other facilities
• Trees and woody vegetation provide cover for burrowing animals
• Root structures loosen compacted soils
• There are numerous active seepage locations along our embankments between Buffalo and Rochester that are being monitored.
How were the locations for Vegetation Management selected?

A hazard classification was completed to evaluate the potential consequences of a failure of the Canal embankment. This information along with the embankment height and structural condition was used to prioritize location to be cleared first. Embankments were classified as being low, intermediate or high hazard. Generally, the Canal Corporation selected the highest hazard consequence embankment sections to clear vegetation first. If a high hazard embankment were to fail it could result in loss of human life, widespread property damage, and environmental/economic impacts.
What are the consequences of an embankment failure?

A canal embankment failed in 1974 near Bushnell’s Basin. The resulting flood wave destroyed or severely damaged 69 homes on nine streets costing over $1.2 million. It took over a year to rebuild the Canal and restore the impacted homes. The photo to the right shows some of the resulting devastation. Miraculously no lives were lost.

“I watched from a window as trees, cars, and pieces of my neighbors’ home swept by my house.” – Betty Lou Commerton

Source: “After the Flood”, Sunday Democrat and Chronicle, November 1, 1981
What are the consequences of an embankment failure?

The consequences of an embankment failure would be catastrophic. The uncontrolled release of water would be at a very high rate; equivalent to the Genesee River at the City of Rochester during a high flow event discharging through the backyards of properties below the embankment.

A Canal embankment failure would also result in high flows lasting for a long duration, estimated between 6 – 8 hours, while the stored water in the Canal drained.

A Canal embankment failure in the area of Pittsford-Perinton would result in an uncontrolled release of water from the Canal that would quickly inundate downstream areas. The adjacent figure shows potential flow paths in blue and areas that may be impacted by a Canal embankment breach are shown shaded Orange.
What are the consequences of an embankment failure?
What efforts has the Canal Corporation taken to communicate with the community?

The Canal Corporation has implemented a comprehensive Education and Community Outreach program to inform and educate the local communities in advance of the Vegetation Management Program. To date we have:

- held 3 regional public information sessions;
- directly reached out to all local and state elected officials and stakeholders in the impacted areas;
- collaborated with a variety of media outlets to help spread the word about the work;
- established a webpage devoted to the project;
- utilized social media to keep residents and other members of the public informed; and,
- personally met with dozens of residents and other individuals.
What efforts has the Canal Corporation taken to communicate with the community?

The Canal Corporation will revisit communities where Phase 1 tree felling and removal work has been completed prior to the start of Phase 2 restoration work.

This outreach will allow for input from the public and other stakeholder organizations to ensure impacted communities and properties are provided a full understanding of the scope of Phase 2 work.

Phase 2 outreach will also afford the community an opportunity to partner with the Canal Corporation on the restoration work.
Who can I contact if I have concerns or would like additional information?

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