



TOWN OF LEDYARD
CONNECTICUT
PUBLIC WORKS DEPARTMENT

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February 25, 2026

Pine Swamp Brook Pond Drainage Remediation (IWWC#26-3SITE)

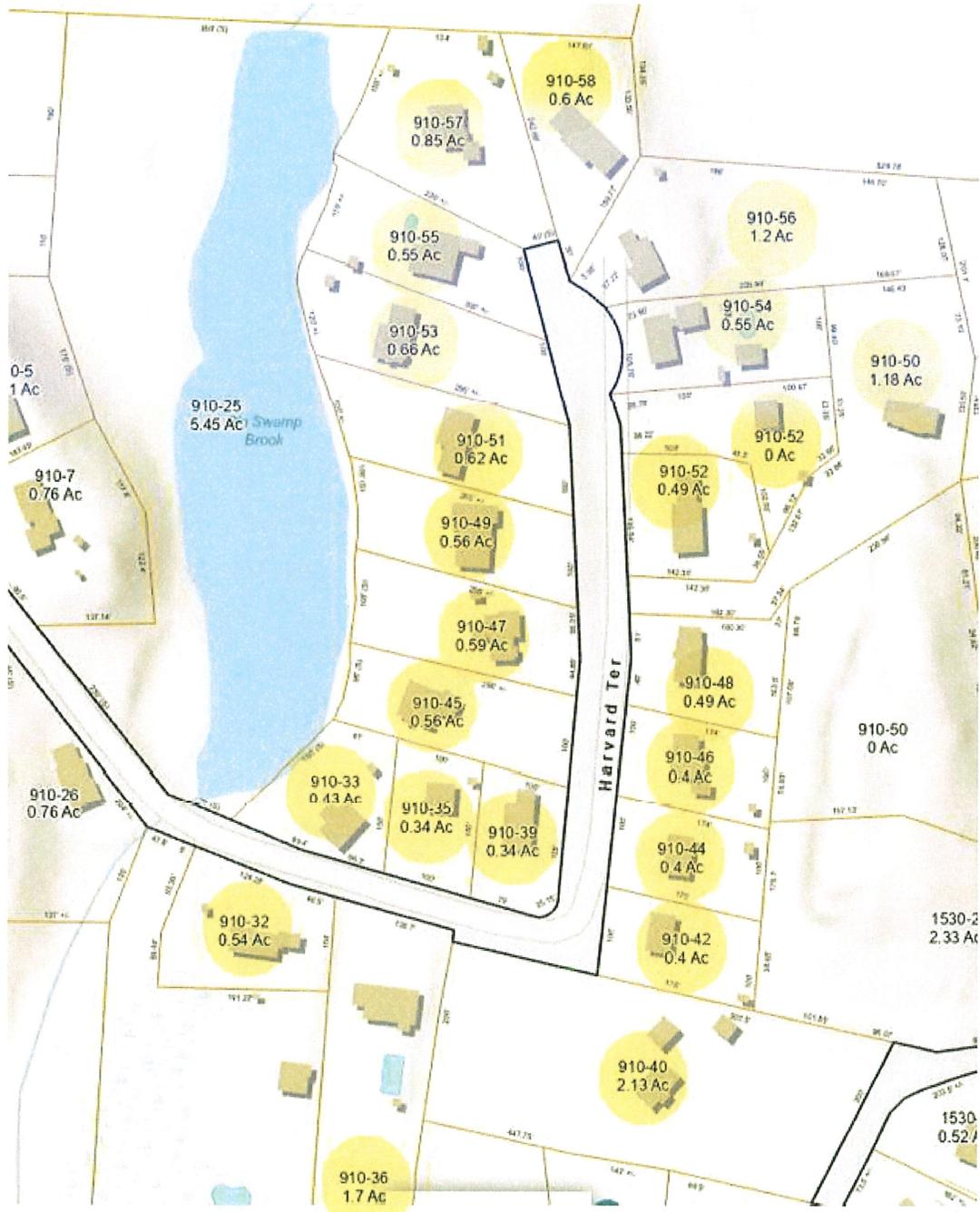
Background

The proposed work associated with this project is follow-up to emergency measures that were taken last summer and approved as of right according through application IWWC#25-27AR. The actions taken that were the subject of this previous application centered around immediate relief within the watershed of impacts caused by a beaver dam in Pine Swamp Brook at the inlet to the pond. The beaver activity was also dealt with, but the beaver dam itself was not readily accessible for removal and remains.

This application addresses this and other needs to provide further flooding protection at the Pine Swamp Brook Pond dam at Harvard Terrace. One of the outlets of the pond has been at least partially obstructed by an earthen berm, which was further reinforced by unauthorized activity last summer. This has only exacerbated a condition of inadequate capacity of discharge flow, leaving the dam further vulnerable to overtopping. This is not a hypothetical concern; flooding has occurred in at least two instances, one in May 1989 and the most recent (photos below) in March 2010.



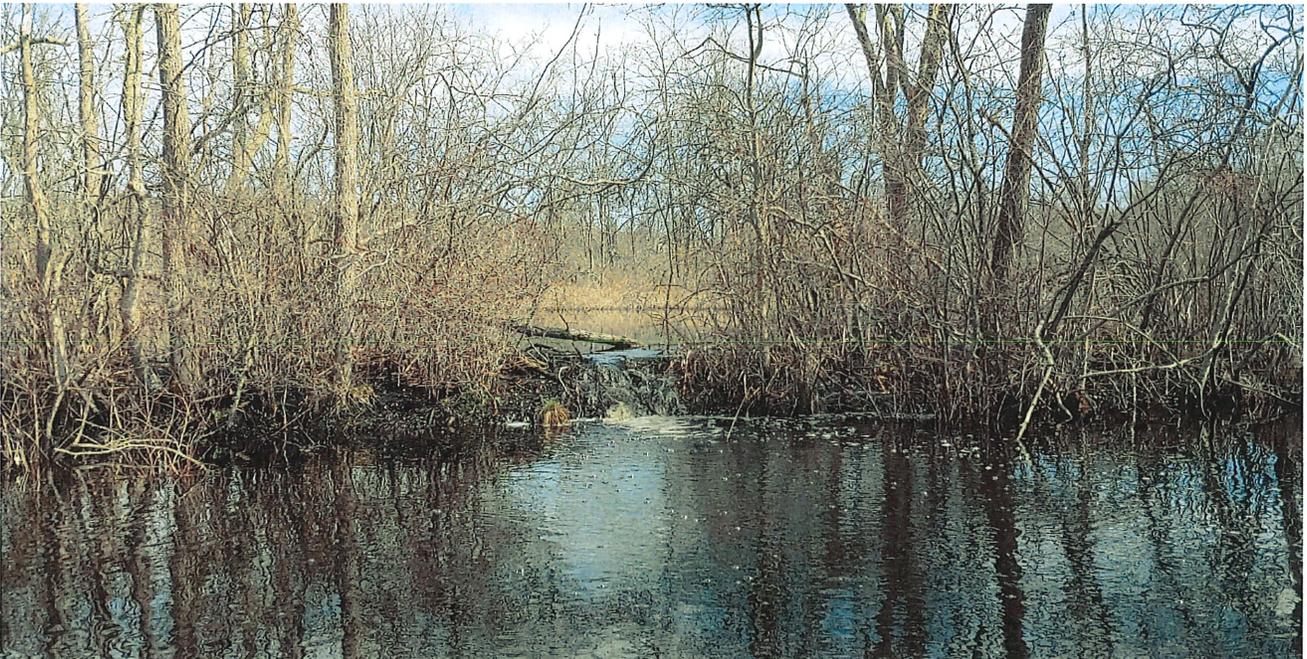
The overtopping of Harvard Terrace at the Pine Brook Swamp Pond dam poses particular threat to several properties on Harvard Terrace that would be effectively isolated by a dam failure leading to road washout (see below). Additionally, a dam failure could sever public water supply provided to these (and other homes) on Harvard Terrace.



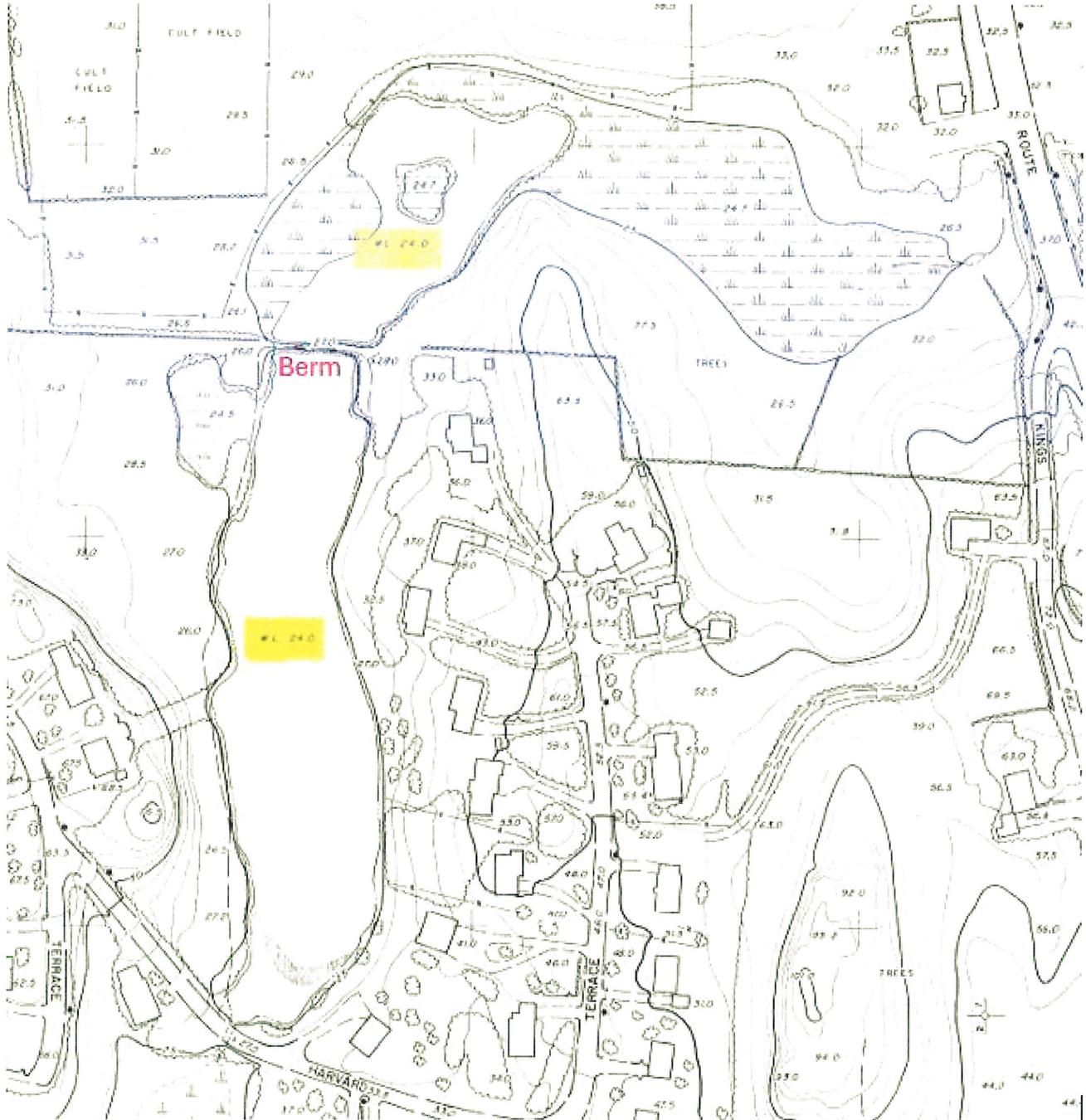
Most recently, even apart from extreme flooding situations, beaver activity (see below photo) had compromised the flow capacity in the vicinity of the pond to the point that water was backing up all the way beyond the brook crossing at Route 12 to properties north of Christy Hill Road. This was a primary basis for immediate rectification.



After the beavers were removed, because the beaver dam itself was inaccessible, Public Works Personnel were dispatched to relieve the flooding by cutting two trenches through a berm that separated the pond proper from the wetlands area in the watershed above it that was flooded by the beaver activity. The trenches were cut in two locations of additional activity (see photo below for one of these).



This restored the historical equalized water level in the area, as depicted below from the Town Assessor's Topographic Map 91 (circa 1971).



An application was subsequently submitted to the Inland Wetlands and Watercourses Commission to consideration and approval of this activity as an appropriate emergency measure. Authorization was granted:

IWWC#25-27AR- 25 Harvard Terrace & 39 Military HWY, Gales Ferry CT- Applicant/Agent, Town of Ledyard - Property Owner: Avalonia Land Conservancy Inc. & C.R Klewin LLC for an after the fact as of right determination for emergent work to cut a trench into an existing berm topped with a beaver dam to immediately alleviate flooding along CT Route 12 & Christy Hill Rd. **APPROVED**

Also, in advance of any further work in the watershed, the Town secured the services of an engineering consultant to provide a detailed analysis of the prevailing hydraulic conditions and assessment of inherent flooding vulnerability. The results of this are submitted as a attachment 2.

For additional context, a 2023 study by Save the Sound (attachment 3) includes both culvert crossings under Harvard Terrace as safety concerns with “crossing condition” as poor and “constriction severity” as severe. And a December 12, 2024, Dam Inspection Report (attachment 4) rendered an overall condition assessment of fair.

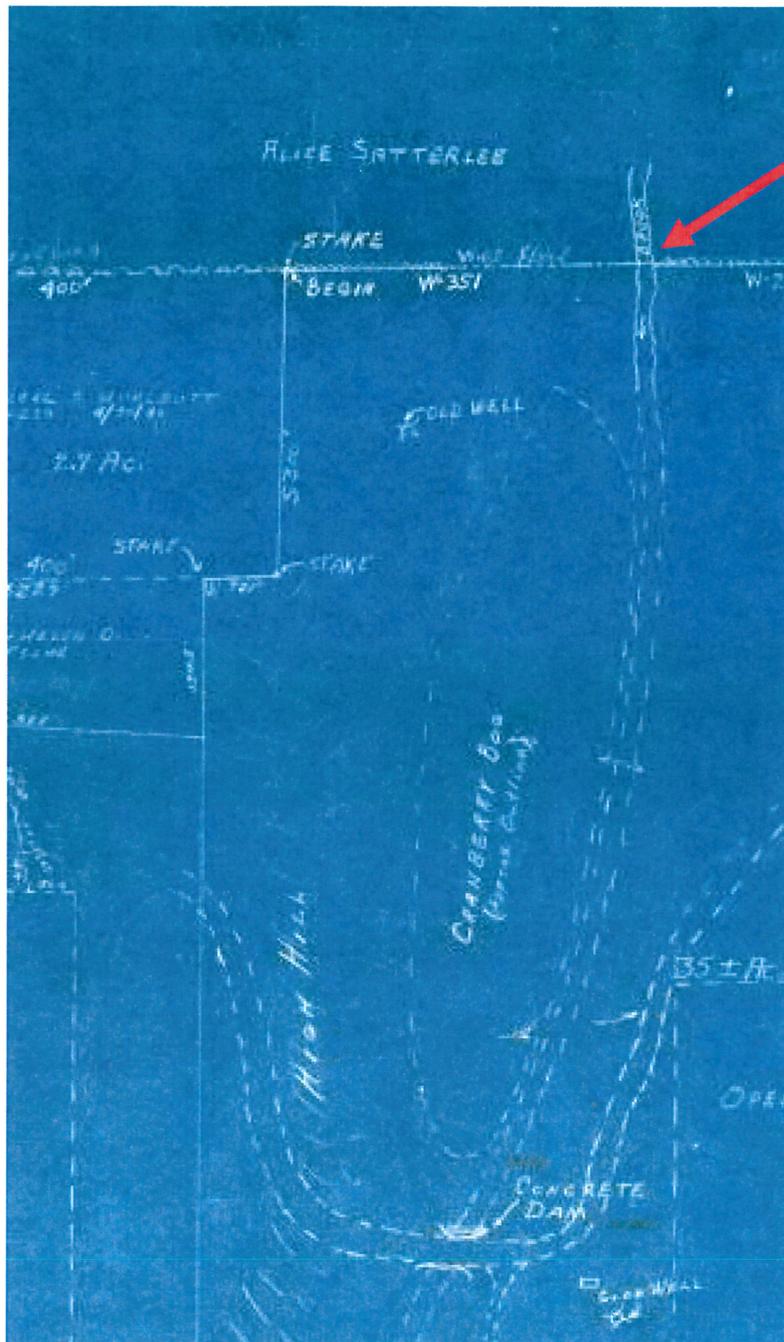
There are a number of implications of these analyses that must be considered for extensive repair and/or replacement activity, but this application seeks to take actions at the inlet and outlet areas of the pond to appropriately mitigate flooding in the watershed that may be undertaken in advance of this.

Present Conditions

There are two remaining issues of primary present concern, one at the inlet and one at the outlet of the pond. At the inlet, the beaver dam remains as an obstruction in Pine Swamp Brook (see below).



We do not know how long the beaver dam had been in place and altered the flow path over the berm, but the historic flow path to the pond has been through the brook at the east edge of the pond. This is confirmed by map #27A filed in the Town’s records that shows conditions as recorded in June 1948. (Excerpt below)



On the outlet side, the drop inlet (one of the two pond discharges) has been effectively blocked off by a berm for some indeterminate time, by actions that do not appear to be by the Town. During routine maintenance, in addressing one of the safety concerns cited in the Save the Sound report, Town forces replaced a homemade wooden cover over the concrete vault with a tailored metal grate that would also allow greater flow.

Concurrently, the crew removed what appeared to be a blow down over a gap in the berm to improve discharge flow according to obvious original intent. Subsequently, local

residents without due authority or permission filled this gap. The photo below shows the berm in its present condition with this “plug.”



As detailed in attachment 2, this berm compromises the discharge capacity at the dam, which in its unhindered state is already inadequate.

Proposal

The Town proposes targeted actions at the two locations cited above, as depicted below:



Inlet: In order to remove the beaver dam, suitable equipment will be needed. Access is presently expected to be through 39 Military Highway and across the berm from west to east. This will require a small track excavator that would be able to navigate the narrow berm. The Town would also have to conduct brush and tree (several already dead) removal to clear an adequate path.

Outlet: The Town will remove the illicit “plug” and an additional section of the berm to open the drop inlet to normal pond flows. The total length of removal (including and in immediate proximity to the “plug”) will be about fifteen to twenty feet. The Town will conduct repair work at each of the two outlet structures to ensure maximum function.

With the relief trenches in place, barring any further beaver activity, and though presenting somewhat of a vulnerability to high storm-related flows, there is no present urgency. Thus, the proposed actions will contemplate prevailing and seasonal conditions to mitigate wetlands impacts as much as possible.

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Public Works Director