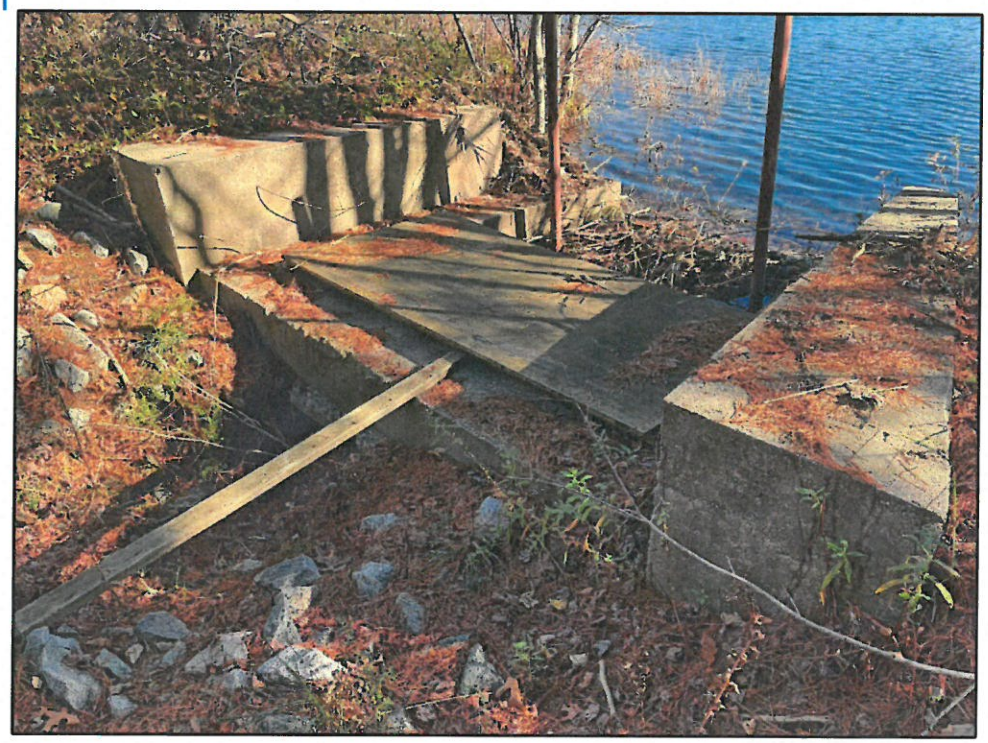
RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
BUREAU OF ENVIRONMENTAL PROTECTION
OFFICE OF COMPLIANCE AND INSPECTION
DAM SAFETY PROGRAM

Dam Visual Inspection/Evaluation Report

Cherry Valley Pond Dam

Glocester, Rhode Island



Dam Name:	*Cherry Valley Pond Dam*
State Dam ID#:	*021*
Town:	*Glocester*
Hazard Classification:	***Significant***
Owner:	*Unknown*
Inspector:	*Thomas Fitzpatrick (DEM)*
Date of Inspection:	*November 9, 2022*

INSPECTION SUMMARY

Embankment	Unsafe
Primary Spillway	Unsafe
Low Level Outlet	Not Present

Based on the findings in the report, the condition has been rated good, fair, poor, unsafe or may be unsafe. *Good* is defined as meeting minimum guidelines, where no irregularities are observed, and the component appears to be maintained properly. *Fair* is defined as a component that requires maintenance. *Poor* is defined as a component that has deteriorated beyond a maintenance issue and requires repair; the component no longer functions as it was originally intended. *Unsafe* is defined as an unreasonable risk of failure exists that will result in a probable loss of human life or major economic loss. If insufficient information is available to assign a condition rating and the DEM believes that a circumstance is present that may affect the safety of the dam, the rating is *May Be Unsafe*.

When describing the dam, "left" and "right" refer to the respective sides of the dam as viewed when facing downstream (with the normal flow of water).

INSPECTION FINDINGS

IMPOUNDMENT ELEVATION

Approximately an inch over spillway. The impoundment elevation is raised slightly due to debris accumulated on the weir.

EMBANKMENT

UPSTREAM

- The upstream embankment consists of an earthen slope partially overgrown with vegetation, leaf litter, and large trees (Photos 2-6).
    - Vegetation, reed growth, saplings, and pine/leaf litter were thick in some areas.
    - Large trees (>30 inches in diameter) are growing between the impoundment and drainage swale.
- The slope is irregular, with variable alignment.
- There is no waterline erosion protection. Minor scarping is typical along the waterline.
    - Scarping has resulted in 12 inch vertical faces along the waterline.
    - Scarping on the right side of the spillway training wall has cut approximately 8 inches into the embankment (Photo 12).
- No animal burrows, sinkholes, or slumps were noted.

Irregularities Noted: The upstream embankment has irregular alignment, minor scarping at the waterline, vegetation, leaf/pine litter, and large trees on the embankment.

CREST

- The dam crest spans from the guardrail on the downstream side of Chompmist Hill Road (RI Route 102) to the primary spillway. Chompmist Hill Road is a roughly 28-foot-wide paved roadway that is generally in good condition (Photos 7-8).
    - The road is bisected by the primary spillway culvert at a local low point (Photo 7).
- The roadway has good vertical and horizontal alignment and makes good contact with the right and left abutments. No cracks, depressions, or signs of movement were observed on the road surface.
- The upstream shoulder of the roadway consists of an irregular swale. Road runoff is channeled to the spillway's drop inlet (Photo 4). Minor rutting is present along the shoulder.
- The downstream shoulder of the roadway carries guardrail. The guardrail is in good condition, and good alignment.

Irregularities Noted: The upstream shoulder of the road is an irregular swale that flows into the primary spillway drop inlet. Minor rutting is present near the swale.

DOWNSTREAM

- The downstream embankment consists of a steep, irregular earthen embankment supporting Chompmist Hill Road (Photo 9).
    - The slope is overgrown with vegetation, tall grasses, briars, and leaf litter preventing access for a complete inspection.
- Several medium trees are growing within 15 feet of the downstream embankment's toe of slope.
- No animal burrows, seeps, sinkholes, depressions, or slumps were observed.

Irregularities Noted: The downstream embankment has a steep, irregular surface overgrown with vegetation and leaf litter preventing access for a visual inspection of the area. Medium trees are growing within 15 feet of the toe of slope.

APPURTENANT STRUCTURES

PRIMARY SPILLWAY

- The spillway consists of a concrete drop inlet that leads to a box culvert which conveys water under Chompmist Hill Road and daylights to the downstream toe of slope.
- The drop inlet has good horizontal and vertical alignment. No major cracks or scouring was noted.
    - The spillway approach area is generally clear of debris or encroaching vegetation.
    - Woody debris is accumulating on the weir and within the drop chamber which may impact spillway capacity.
    - The concrete weir is in fair condition.
- The culvert looked to be aged and scoured, but generally in sound condition.
    - Minor spalls and cracks were noted along the sides of the culvert.

  - Where the culvert meets the right downstream wingwall, the bottom section of the culvert has scoured/broken away (Photos 15-16).
- The downstream headwall and wingwalls have good alignment.
  - The right wingwall is undermined at least one foot but shows no signs of movement at this time.
- The discharge channel is overgrown with trees, briars, and vegetation which will impact capacity.
  - No energy dissipaters were noted in the downstream channel.
  - Roughly 50 feet downstream of the primary spillway discharge headwall the channel leads to a stone masonry culvert which exits under a private road (Photo 14).
  - Debris in the channel may block this channel in the event of a significant flood event.

Irregularities Noted: Some debris is accumulating on the weir, in the culvert, and in the spillway discharge channel. Vegetation in the discharge channel would reduce spillway discharge capacity.

RECOMMENDATIONS

1. Remove the trees from the upstream embankment and downstream toe of slope in accordance with Rule 10(A) (1) of the Rules and Regulations for Dam Safety.
2. Remove the vegetation and leaf litter along the upstream and downstream embankments and within the discharge channel to 15 feet beyond toe of slope. Inspect these areas for any deficiencies and refer to a professional engineer for appropriate corrective measures.
3. Install erosion protection/armoring along the upstream embankment to prevent future scarping at the waterline.
4. Have owners remove all debris accumulating on the spillway weir, within the drop inlet, and in the culvert. Have owner regularly schedule debris clearing to prevent blockages.
5. Have owner's engineer assess the condition of the undermined section of culvert/wingwall and make recommendations.

UNSAFE FOR THE FOLLOWING REASONS

1. Vegetation, debris, and leaf litter prevented access for a complete inspection.
2. Woody debris impacting spillway capacity.
3. Vegetation impacting spillway discharge capacity.

RESOLUTION

1. Clear vegetation and have owner's engineer inspect areas.
2. Remove debris impacting the capacity at the spillway drop chamber and culvert.
3. Remove vegetation at the spillway discharge channel to 15 feet beyond the toe of slope.

INSPECTOR'S INITIALS C.f.

REPORT SUBMITTED 12/1/22

Photo 1: View of the impoundment from the primary spillway. Note the sticks/debris accumulating on the weir (circled in red).

Photo 2: Upstream embankment as viewed from the left abutment looking right. Note the leaf litter and developing vegetation.

These photos accurately represent the conditions observed.

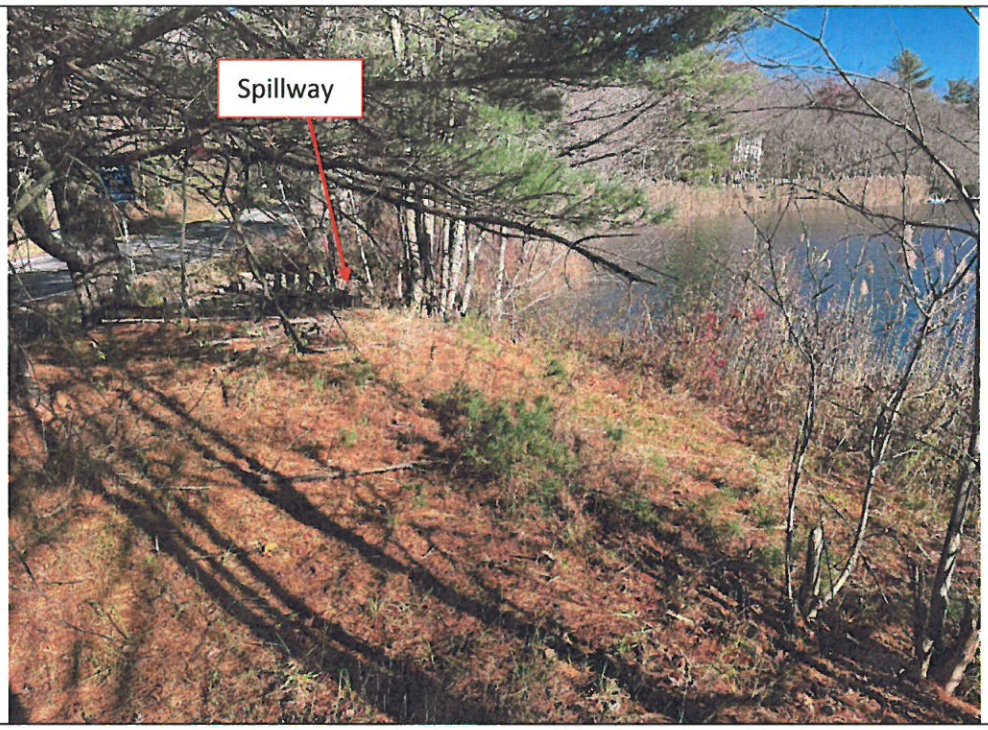


Photo 3: Upstream embankment and crest as viewed from left of the primary spillway looking right.

Photo 4: View of the dam crest and embankment from the primary spillway looking right. Note the drainage swale slopes into the back of the primary spillway (blue).

These photos accurately represent the conditions observed.

Photo 5: View of the right drainage swale looking left (blue). Some tire rutting is also noted near the roadway.

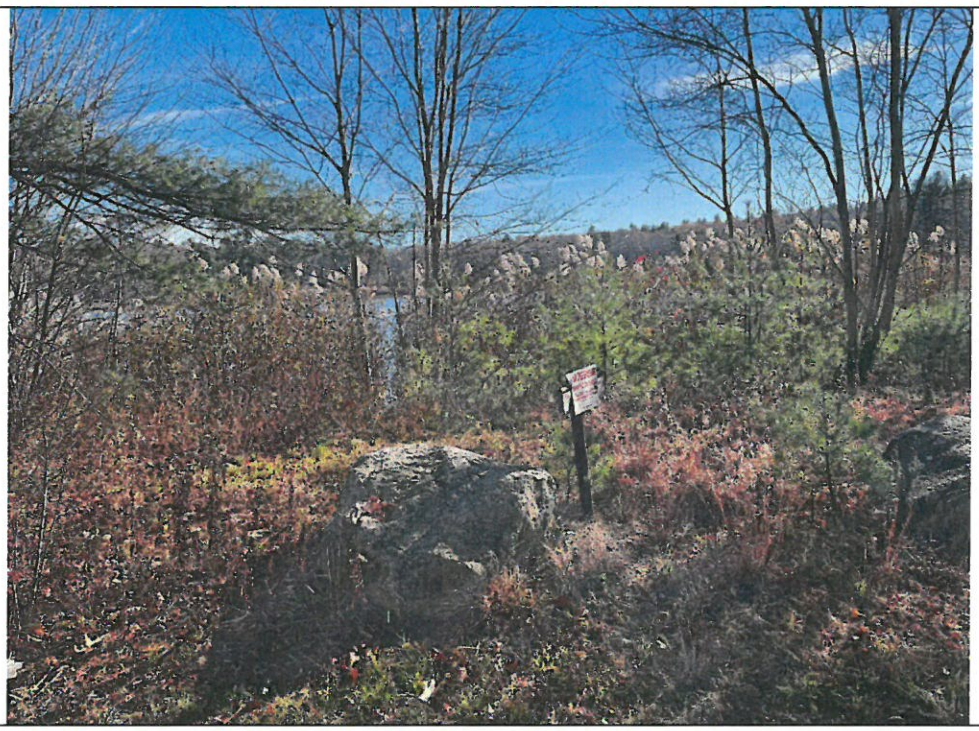


Photo 6: View of the dam upstream embankment and boulder line as viewed near the right abutment looking upstream.

These photos accurately represent the conditions observed.

Photo 7: View of the crest and embankment from the right abutment looking left. Note the location of the primary spillway culvert (red).

Photo 8: View of the crest and embankment from the left abutment looking right.

These photos accurately represent the conditions observed.

Photo 9: View of the downstream embankment from the right abutment looking downstream and left. Note the dense vegetation.

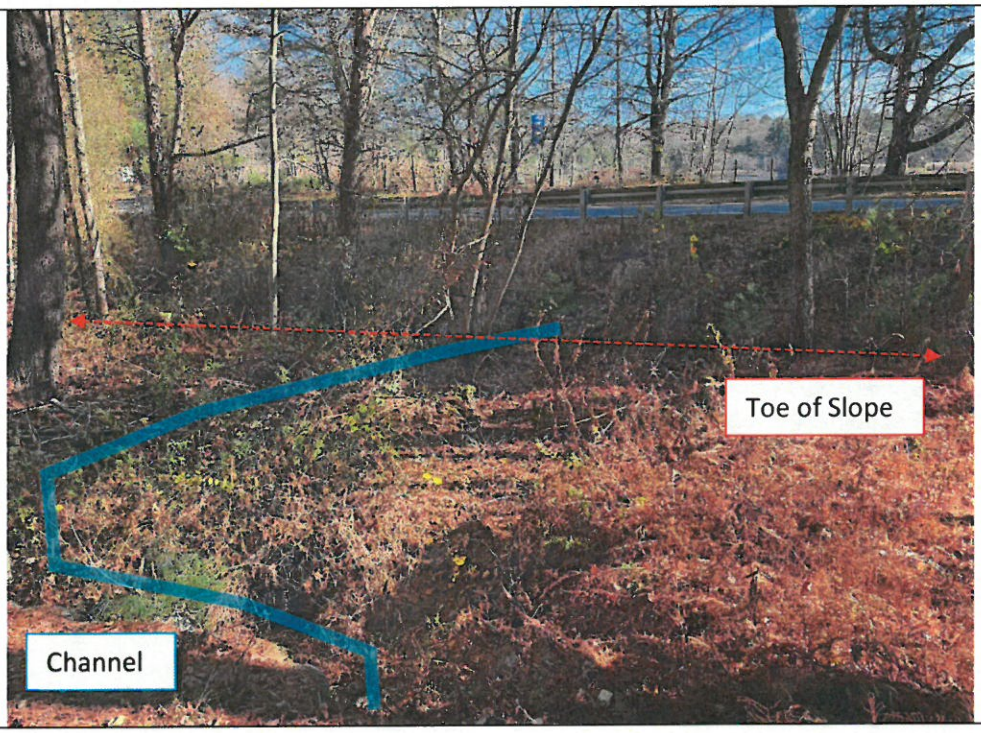


Photo 10: View of the spillway discharge channel (blue) from atop the downstream private road looking upstream. The downstream toe of slope is shown in red.

These photos accurately represent the conditions observed.

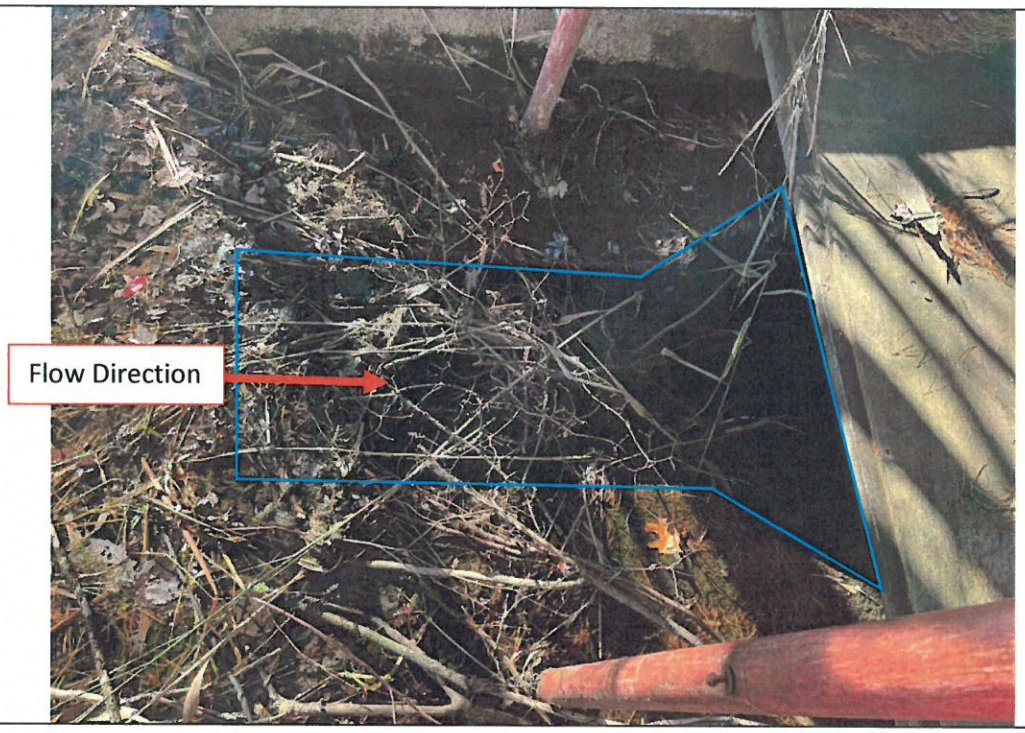


Photo 11: View of primary spillway drop inlet from its right training wall looking left. Note the accumulating debris within the drop inlet cross section (blue) and in the chamber below.

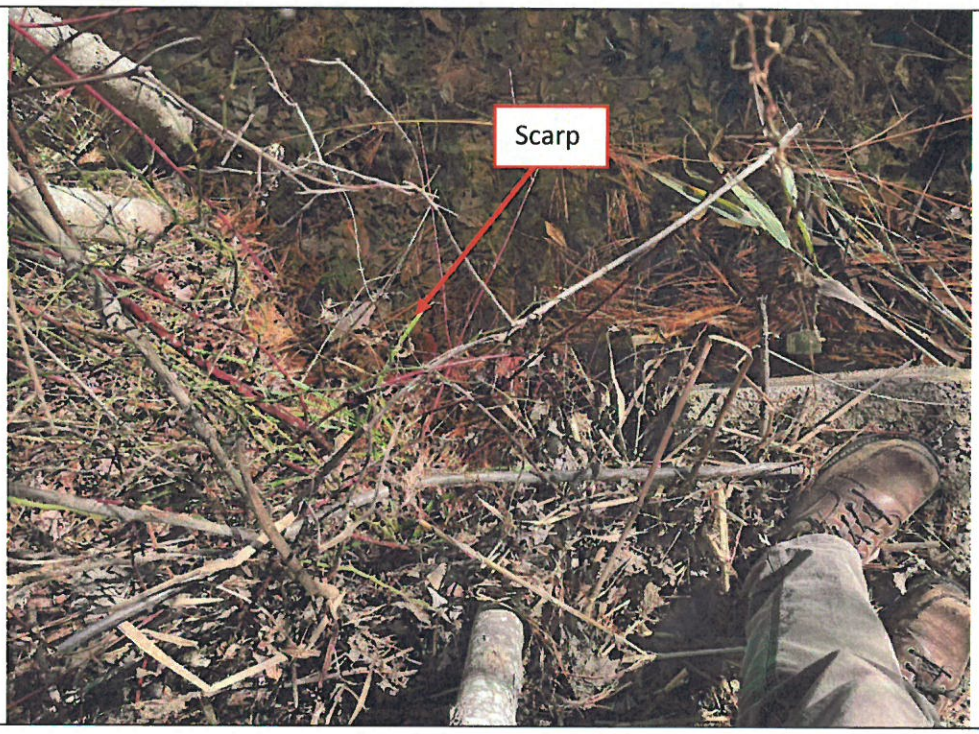


Photo 12: Minor scarping behind the right training wall.

These photos accurately represent the conditions observed.

Photo 13: View of the primary spillway from the roadway looking upstream and left.

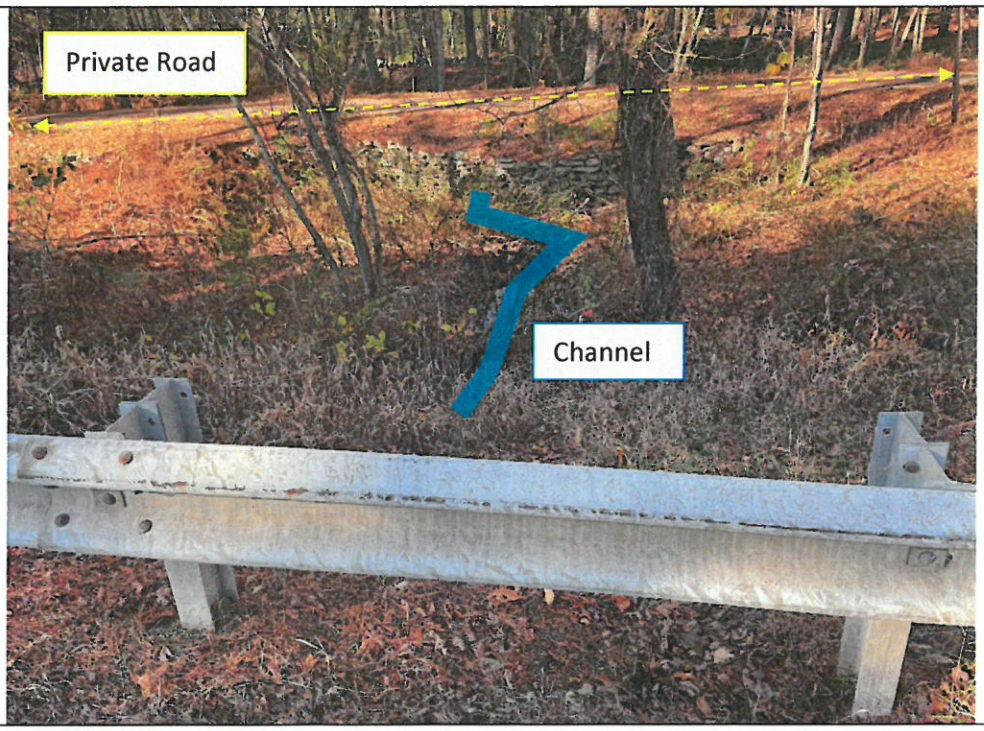


Photo 14: View of the primary spillway's discharge channel from the roadway looking downstream. Note the private road and stone masonry wall/culvert supporting it.

These photos accurately represent the conditions observed.

Photo 15: View of the primary spillway discharge outlet and wingwalls. Note the encroaching vegetation that would reduce spillway discharge capacity.

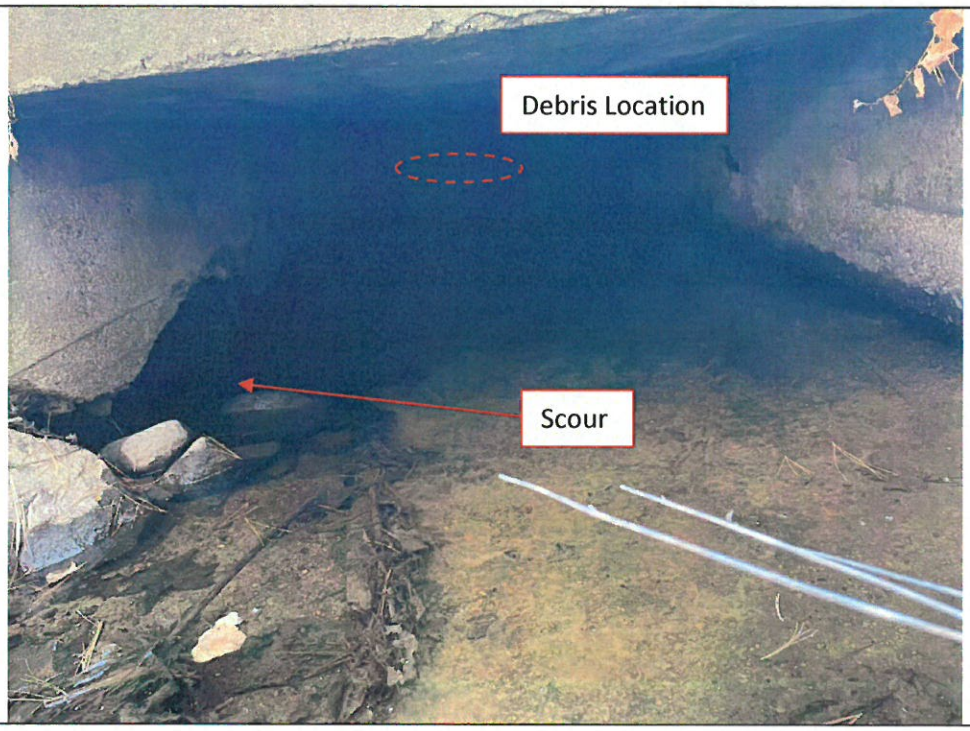
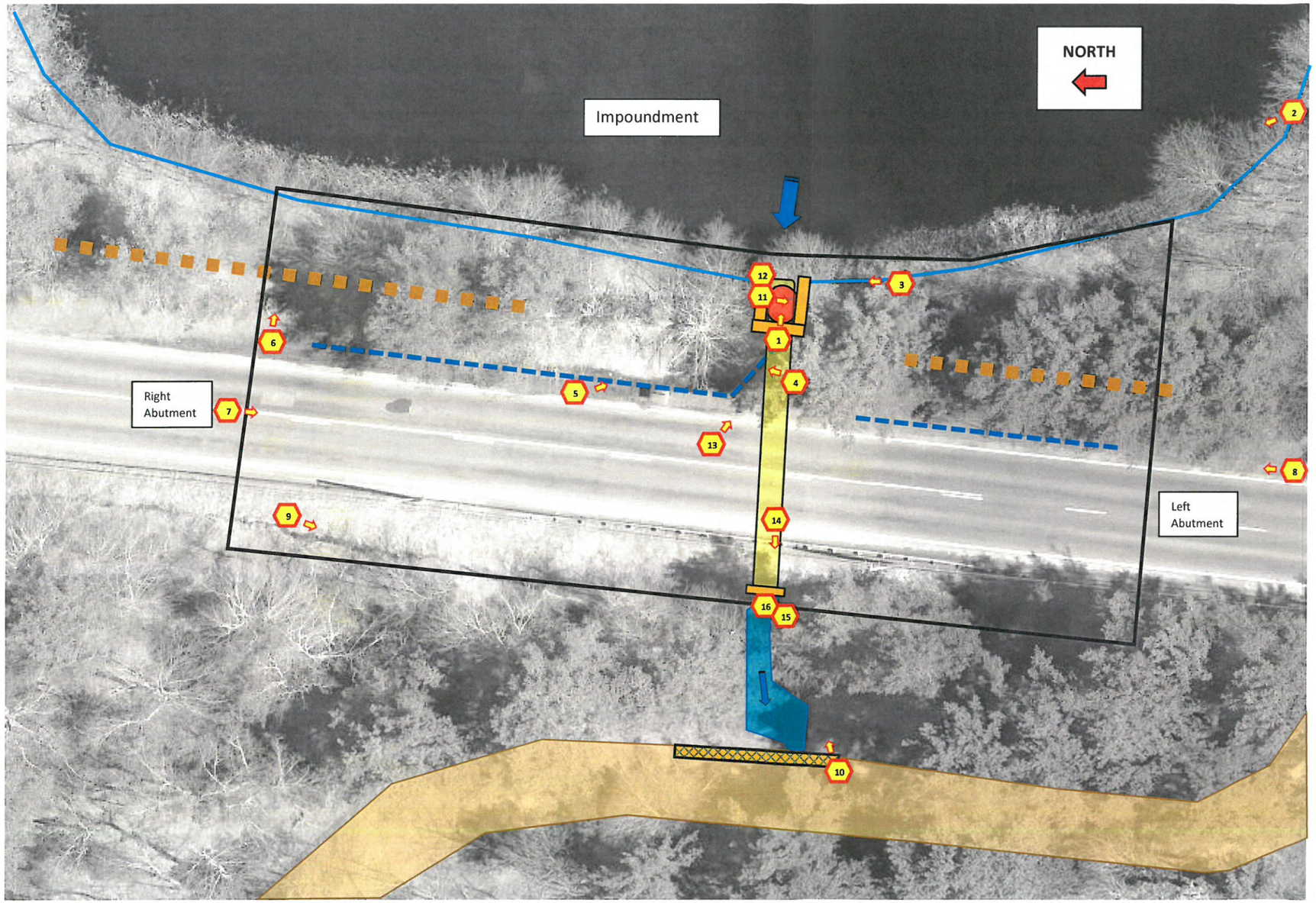


Photo 16: View from the inside of the primary spillway's discharge culvert looking upstream. Note the right wingwall/culvert is deeply scoured, and the debris in the drop inlet.

These photos accurately represent the conditions observed.

SITE SKETCH: CHERRY VALLEY POND DAM – State ID # 021



LEGEND

- Photograph and Direction (#)
- Approximate Limits of Dam
- Primary Spillway/Culvert
- Concrete Structure/ Wall
- Masonry Wall
- Private Road
- Primary Discharge Channel
- Debris
- Impoundment Water Line
- Line of Boulders
- Drainage Swales
- Direction of Flow

Sketch is Not to Scale