FD#5

Connecticut
Department of Energy &
Environmental Protection

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep/dams Affirmative Action/Equal Opportunity Employer

DAM SAFETY PROGRAM
DAM INSPECTION REPORT FORM – FOR REGULATORY INSPECTION

Please complete this form in accordance with the instructions (DEEP-DAM-INST-002). Please note that a separate inspection report is required for each individual structure (i.e., a dam and dike on the same waterbody would require two reports, one for the dam and one for the dike).

Part I: Summary of Dam Inspection

Dam Name:	**Pine Swamp Brook Pond Dam**	Inspection Date(s):	**December 18, 2024**
Alternate Dam Name(s):	**none**	CT Dam ID #:	**7212**
Location (Municipality):	**Ledyard**	Temperature / Weather:	**±32°, Clear, calm**
Registered? Yes or No If yes, provide the 9 digit registration number found on the notification letter.	**Y, not available**	Pool Level: See Instructions	**±1-inch**
Emergency Action Plan? Yes or No If Yes, see instructions	**No**	Impoundment Use: use options listed in instructions	**Recreation**
Hydraulic and Hydrologic Analysis? Yes or No If Yes, see instructions	**No**	Stability Analysis? Yes or No If Yes, see instructions	**No**
Overall Condition of Dam: (refer to Appendix A located at the end of this form) **Fair**			

Persons present at the inspection *(select the tab button in the last cell to the right to create another row)*		
Name	**Title/Position**	**Representing**
Michael E. Fanning, P.E.	**Senior Engineer**	**WMC Consulting Engineers**
Zachary Nesdale	**Inspector**	**WMC Consulting Engineers**

Owners and Operators: If there is more than one owner or operator, copy the empty table below for each owner or operator and paste right below the previous table, then complete the information for each

*By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject report. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes by email via deep.damsafety@ct.gov.

Indicate if Owner or Operator: Owner/Operator

Name: **Town of Ledyard**

Mailing Address: **741 Colonel Ledyard Highway**

City/Town: **Ledyard** State: **CT** Zip Code: **06339**

Phone: **680-464-3238** ext.:

Emergency Phone: **860-464-8705**

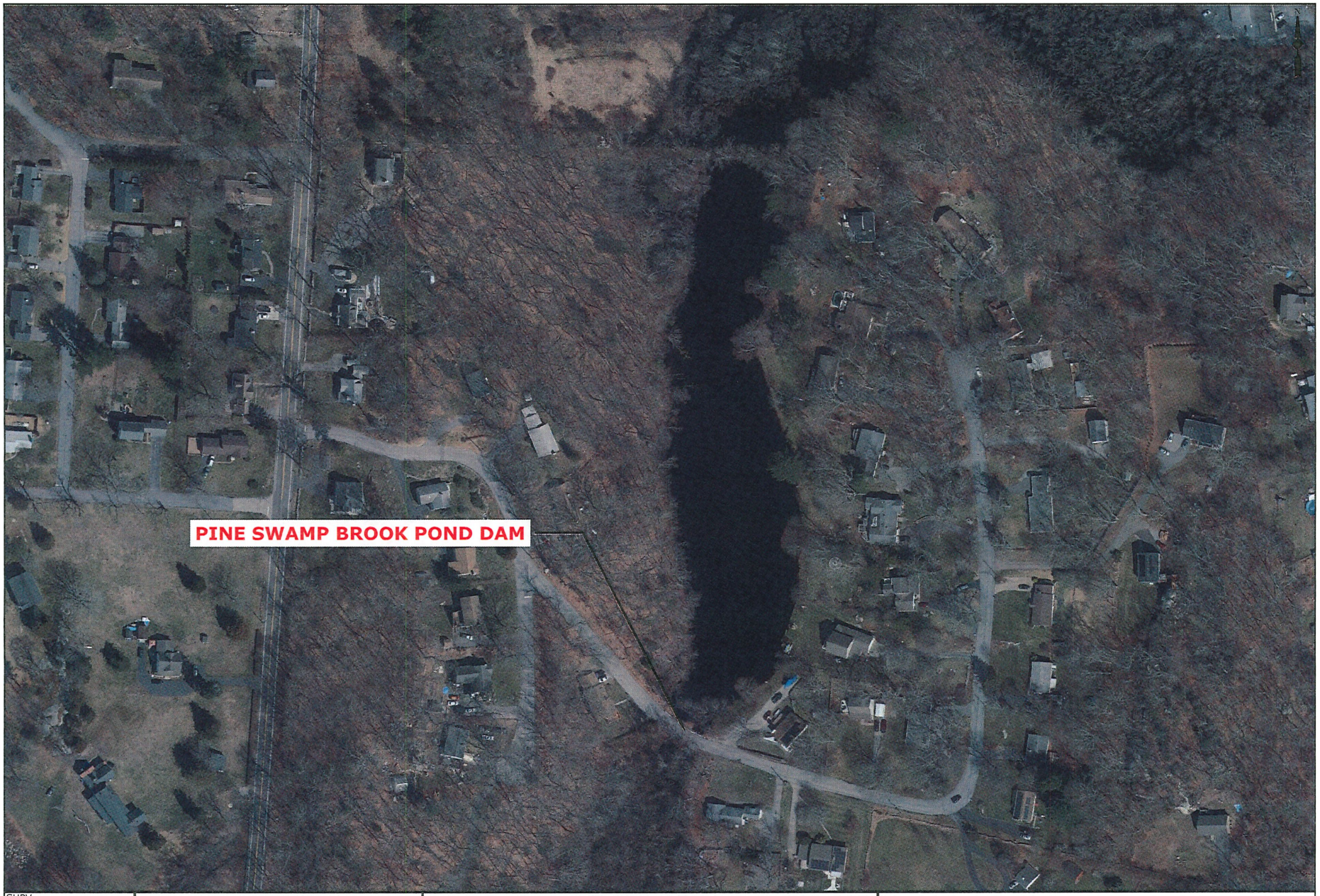
*E-mail: **pwd@ledyardct.org**

Part II: General Dam Information

General Description: Pine Swamp Brook Pond Dam is an earthen embankment with a local road (Harvard Terrace) crossing the dam. The embankment has a principal and auxiliary spillway. The principal spillway has a riser structure at the inlet that functions as a drop inlet. There is a solid cover over the drop inlet structure. Flow is conveyed to an outlet via a bottomless culvert with grouted stone masonry walls and a concrete slab top. The auxiliary spillway is a corrugated metal pipe with an invert slightly higher than the crest of the principal spillway invert.			
Hazard Classification:	A	**Dam Height (ft):**	8
Dam Length (ft):	95	**Spillway Length (ft):**	10
Spillway Type:	Rectangular concrete drop inlet	**Normal Freeboard (ft):**	5
Drainage Area (square miles):	1.9	**Impoundment Area (at principal spillway crest, in acres):**	2.85
Watercourse(s): Pine Swamp Brook (3000-06-2-L1)			

OTHER INFORMATION: (see instructions) Location (41.422588°, -72.085202°) Dam was apparently constructed as part of subdivision development. Several single-family residences abut the pond, and there are driveways located near both dam abutments. The local road is used to convey a potable water supply system across the dam. Valves are located near each abutment and at a fire hydrant located at the right abutment. There is also a dry hydrant with a connection adjacent to the auxiliary spillway.

Part III: Aerial Photo/Location Map (insert the aerial photo and location map under this Part. See instructions for details.)



SUPV.	S.R.M.
DESIGN	
DRAWN	M.E.F.
CHECKED	
DATE	11/13/24

WMC CONSULTING ENGINEERS

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87 HOLMES ROAD
NEWINGTON, CT 06111
(860) 667-9624

PREPARED FOR:

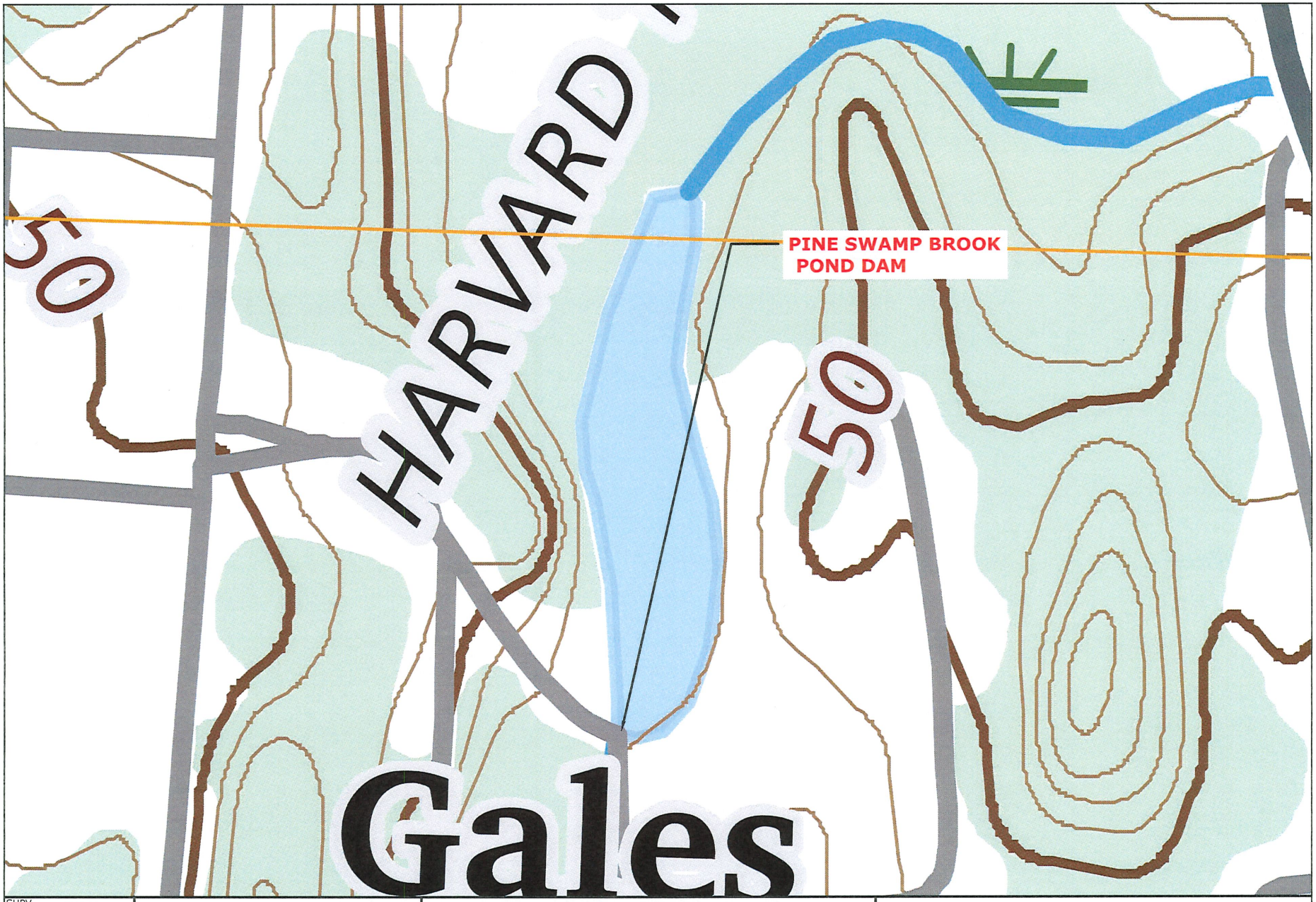
TOWN OF LEDYARD

741 COLONEL LEDYARD HIGHWAY

LEDYARD, CT 06339

PINE SWAMP BROOK POND DAM - #7212
AERIAL MAP
SCALE - 1:200

LEDYARD DAM INSPECTIONS				SHEET	1
– DAM INSPECTION –	AERIAL –	24097 –	0		
PROJECT	FILE NAME	NUMBER	REV.	OF	1



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LEDYARD, CT 06339

PINE SWAMP BROOK POND DAM - #7212
LOCATION MAP - UNCASVILLE QUAD
SCALE - 1:200

PROJECT	FILE NAME	NUMBER	REV.	SHEET	
PINE SWAMP BROOK POND DAM INSPECTION	DAM INSPECTION	LOCATION	24097	0	1
				OF	1

Part IV: Dam Information

Dam Name (see instructions): Pine Swamp Brook Pond Dam
General Description: Earthen embankment dam with a local road crossing on the dam.
General Condition: Good
Concrete Condition: N/A
Stone Masonry: Some missing grout, but no structural concerns
Settlement/Alignment/Movement: None observed
Seepage/Foundation Drainage: None observed
Riprap: N/A
Erosion/Burrows: None observed
Vegetative Cover: Heavy growth of trees and brush on dam embankment
Other: Potable water pipe crosses dam, hydrant located adjacent to right abutment
Photos/Graphics/Sketches (insert either below this Part or in Parts XIII and XIV, refer to the instructions under Parts XIII and XIV for additional details)

Photo 1: Upstream face of embankment

Photo 2: Downstream face of embankment

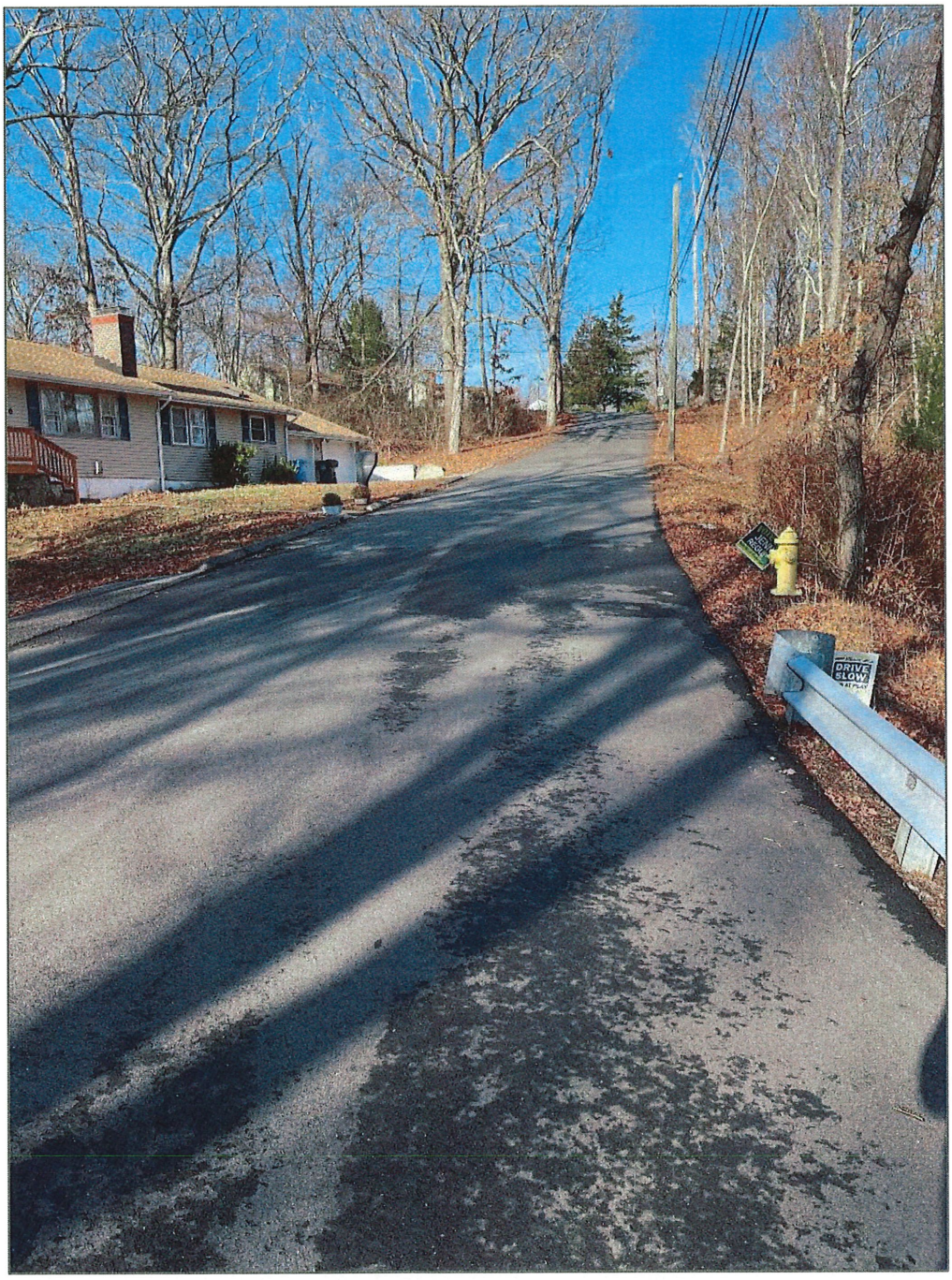

Photo 3: Roadway approach to right abutment and hydrant position

Photo 4: Roadway across dam embankment and beyond left abutment

Photo 5: Water shut-off for hydrant and pipe crossing dam.
Similar arrangement at left abutment

Part V: Principal Spillway, Training Walls, Apron

Number of Principal Spillways: 1 *(if there is more than one principal spillway, reproduce this section and paste right below the previous section)*

Spillway Type (see instructions): Rectangular concrete drop inlet

General Description: Drop inlet located near left abutment, connecting to stone masonry culvert through embankment. Inlet has a removable wood cover, to prevent vegetation and other obstructions from entering the inlet.

General Condition: Good

Concrete Condition: Not observed

Stone Masonry: Some grout missing near outlet end of culvert

Settlement/Alignment/Movement: None observed

Cracks: None observed

Scouring/Undermining: None observed

Seepage/Foundation Drainage: None observed

Other: Culvert has flared exit walls and cantilevered concrete slab over outlet

Photos/Graphics/Sketches (insert either below this Part or in Parts XIII and XIV, refer to the instructions under Parts XIII and XIV for additional details)

Photo 6: Principal spillway inlet with cover

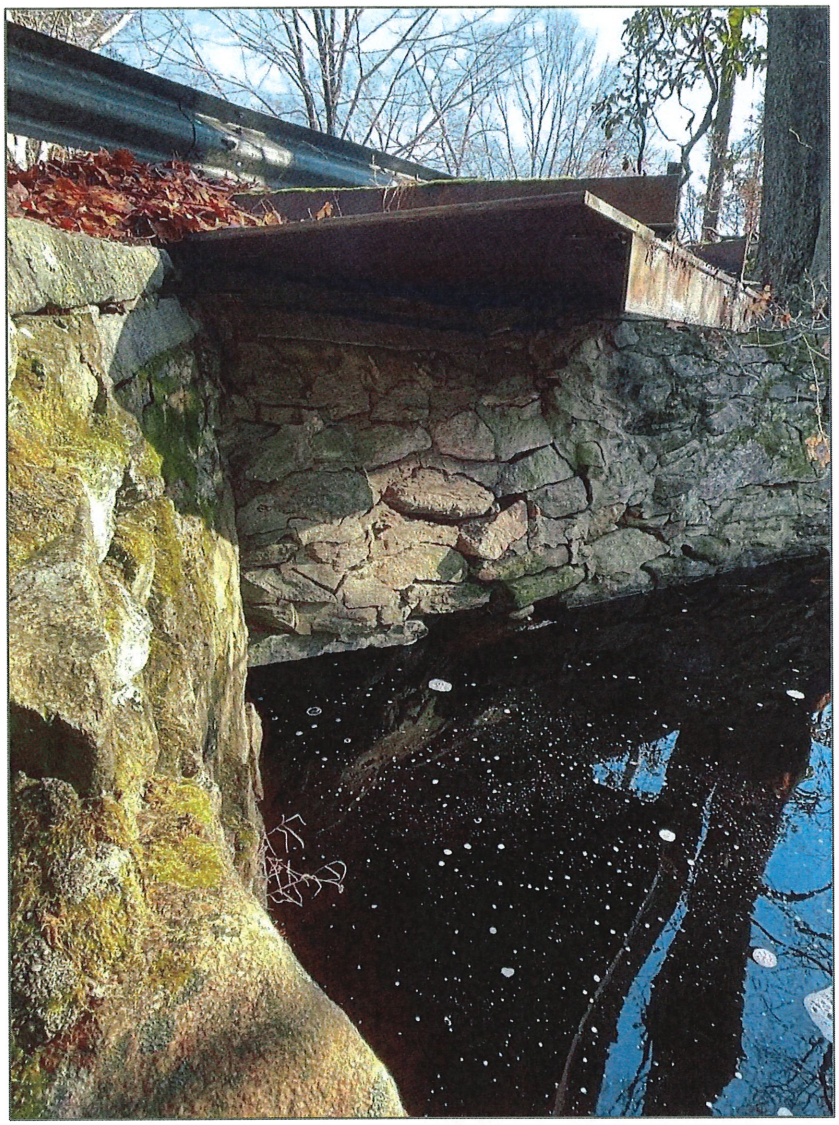

Photo 7: Principal spillway outlet

Part VI: Auxiliary Spillway, Training Walls, Apron

Number of Auxiliary Spillways: 1 *(if there is more than one auxiliary spillway, reproduce this section and paste right below the previous section)*

Auxiliary Spillway Type (see instructions): Corrugated metal pipe

General Description: 2-foot diameter corrugated metal pipe. Inlet and outlet end project beyond the dam embankment

General Condition: Poor

Concrete Condition: N/A

Stone Masonry: N/A

Settlement/Alignment/Movement: None observed

Cracks: N/A

Scouring/Undermining: Scouring on downstream embankment

Vegetative Cover: N/A

Riprap: None observed

Seepage/Foundation Drainage: None observed

Other: Downstream invert of CMP has rotted through and flow spills out onto dam embankment before it exits at the outlet. Also, there is no scour protection at outlet.

Photos/Graphics/Sketches (insert either below this Part or in Parts XIII and XIV, refer to the instructions under Parts XIII and XIV for additional details)

Photo 8: Auxiliary spillway inlet

Photo 9: Auxiliary spillway outlet

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Part VII: Downstream Channel

Number of Downstream Channels: 1 *(if there is more than one downstream channel, reproduce this section and paste right below the previous section)*

Channel Name (see instructions), include Watercourse Name: Pine Swamp Brook

General Description: Natural stream channel with dense vegetation on banks, sand-cobble bottom

General Condition: Good

Scouring: Minimal

Debris: None observed

Riprap: None observed

Other: Short reach just downstream is two channels for the two spillways of dam before merge

Photos/Graphics/Sketches (insert either below this Part or in Parts XIII and XIV, refer to the instructions under Parts XIII and XIV for additional details)

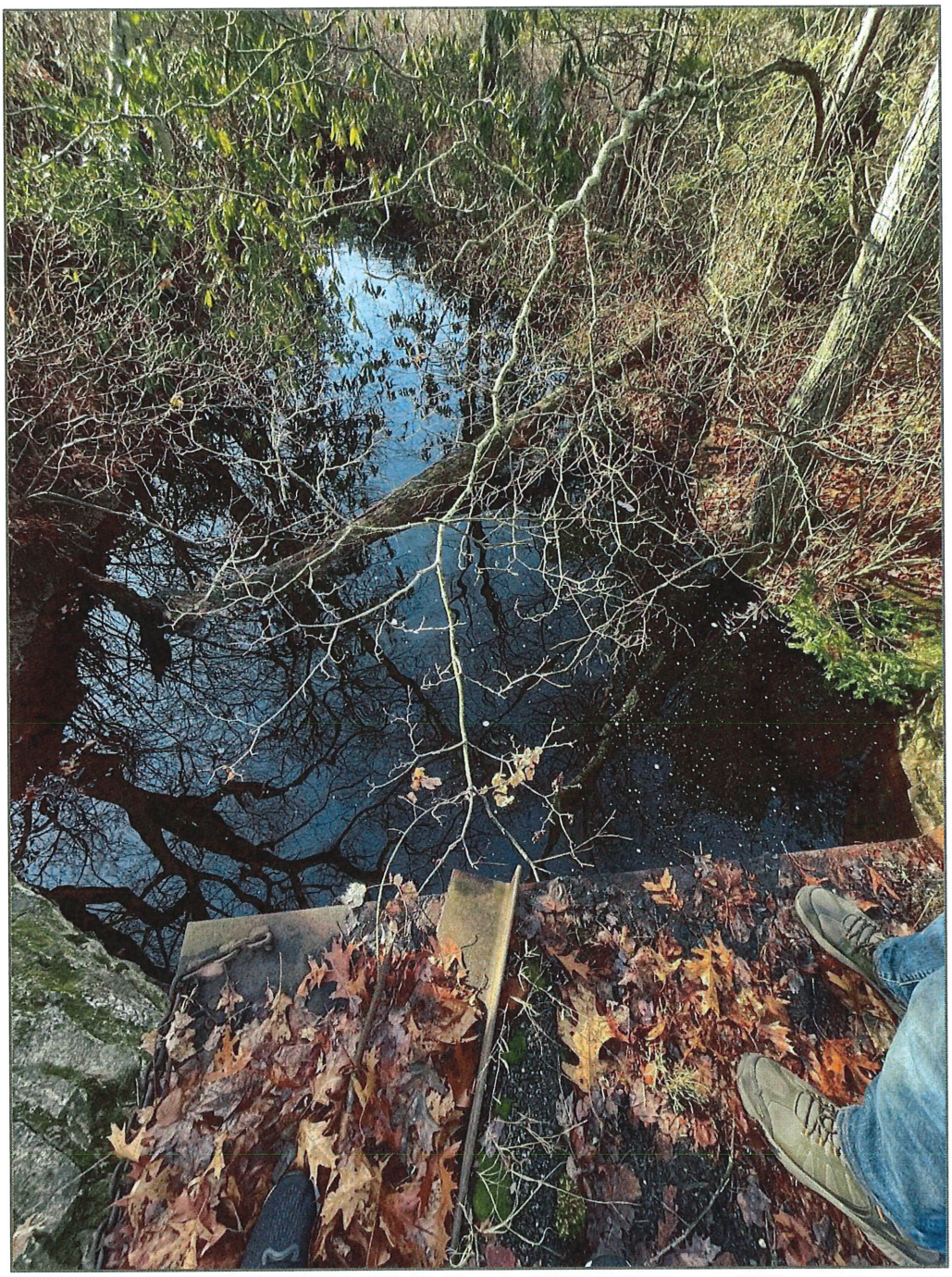

Photo 10: Downstream channel of Pine Swamp Brook

Part VIII: Intake Structure(s)

Number of Intake Structures: 0 *(if there is* more *than one intake structure, reproduce this section and paste right below the previous section)*

Intake Structure Type (see instructions):
General Description:
General Condition:
Concrete Condition:
Stone Masonry:
Settlement/Alignment/Movement:
Cracks:
Other:
Photos/Graphics/Sketches (insert either below this Part or in Parts XIII and XIV, refer to the instructions under Parts XIII and XIV for additional details)

Part IX: Outlet Structure(s)

Number of Outlet Structures: 0 *(if there is* more *than one outlet structure, reproduce this section and paste right below the previous section)*

Outlet Structure Type (see instructions):
General Description:
General Condition:
Concrete Condition:
Stone Masonry:
Settlement/Alignment/Movement:
Scouring/Undermining:
Other:
Photos/Graphics/Sketches (insert either below this Part or in Parts XIII and XIV, refer to the instructions under Parts XIII and XIV for additional details)

Part X: Miscellaneous Features

List miscellaneous features: (e.g., access roads, bridges, etc.):

- Road over dam;
- Potable water pipe crosses dam, with isolation valves near each abutment and for hydrant located near right abutment;
- Dry hydrant siphon connection on embankment

Photos/Graphics/Sketches (insert either below this Part or in Parts XIII and XIV, refer to the instructions under Parts XIII and XIV for additional details)

Part XI: Downstream Hazard Classification Reassessment

Downstream Hazard Classification: *(provide recommendation for the hazard class based on the Dam Safety regulation. See Instructions and Appendix B.)*

Current classification is adequate. Only a few downstream structures on larger pond before confluence of brook with Thames River

Part XII: Recommendations *(See instructions for identifying recommendations)*

Recommendations: *(Each item should be numbered)*

1. Clear vegetation from dam and ±25 beyond. Grubbing of trees requires Dam Safety permit.
2. Replace or repair failing auxiliary spillway pipe.
3. Monitor principal spillway grouted stone walls, and repoint grout as needed.
4. Monitor principal spillway inlet for blockage

Part XIII: Photographs/Graphics *(see instructions and Appendix C)*

[insert photos/graphics here if not included in each part above]

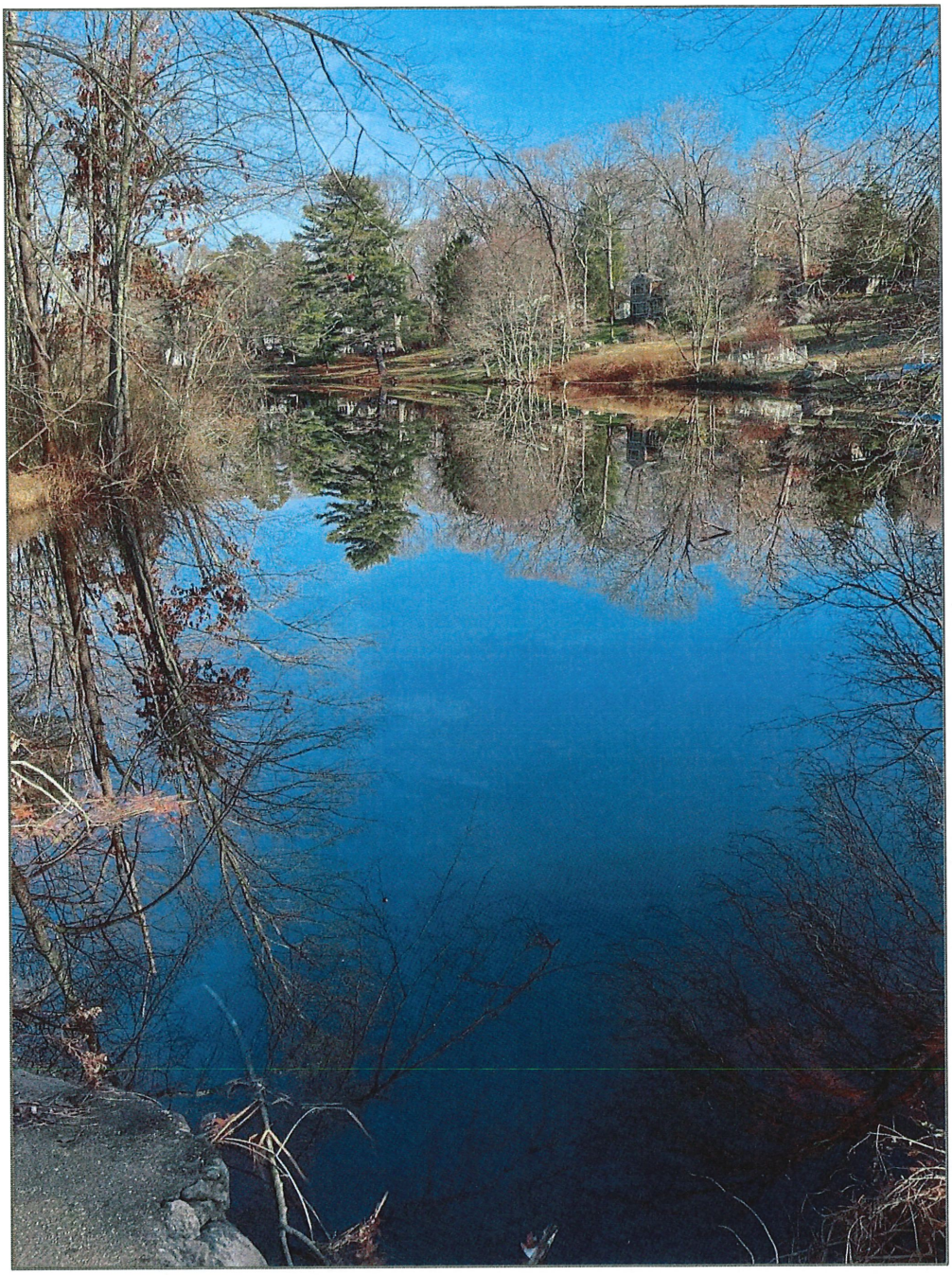

Photo 11: Pine Swamp Brook Pond

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Photo 12: Dry hydrant and potable water hydrants

Part XIV: Sketches

This completed report must include a sketch of the plan view of the dam to aid in the description of its condition. Refer to the instructions for more detail and an example.

[insert sketches here if not included in each part above].

SUPV.	S.R.M.
DESIGN	
DRAWN	M.E.F.
CHECKED	
DATE	12/19/24

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PINE SWAMP BROOK POND DAM - #7212
SKETCH MAP
SCALE - 1:50

PINE SWAMP BROOK POND DAM INSPECTION				SHEET	1
– DAM INSPECTION	– SKETCH MAP–	24097	– 0		
PROJECT	FILE NAME	NUMBER	REV.	OF	1

SUPV.	S.R.M.
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PINE SWAMP BROOK POND DAM - #7212
PHOTO LOG MAP
SCALE - 1:50

PROJECT	FILE NAME	NUMBER	REV.
PINE SWAMP BROOK POND DAM INSPECTION	DAM INSPECTION – SKETCH MAP –	24097	0

SHEET 1 OF 1

Part XV: Professional Engineer Certification

The following certification must be signed by a Professional Engineer

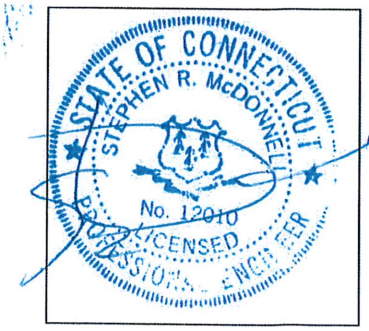
"I hereby certify that the information provided in this report has been examined by me and found to be true and correct in my professional judgment."

Signature of Professional Engineer

4/3/25
Date

Stephen R. McDonnell	Vice President	12010
Printed Name of Professional Engineer	Title	CT P.E. Number

WMC Consulting Engineers
Name of Firm



Affix P.E. Stamp Here

Part XVI: Owner Signature

The following statement must be signed by the Owner(s) of the subject Dam.

"The information provided in this report has been examined by me."

Signature of Owner	Date: 3/12/25
Fred B. Allyn III (Name of Owner (print or type))	**Mayor** (Title (if applicable))
Signature of Owner	Date
Name of Owner (print or type)	Title (if applicable)
Signature of Owner	Date
Name of Owner (print or type)	Title (if applicable)
Signature of Owner	Date
Name of Owner (print or type)	Title (if applicable)

Note: Please send the completed report converted to Adobe portable document format (pdf) to DEEP.DamSafety@ct.gov with signature pages signed.

Appendix A: Overall Dam Condition Selection Standards

Condition	Definition
Good	Through file research and after a thorough visual inspection it has been determined that the dam is well maintained and no existing dam safety deficiencies are recognized. Only continued routine maintenance is required.
Satisfactory	Through file research and after a thorough visual inspection it has been determined that no significant deficiencies are recognized. Only minor maintenance is required and only minor flaws are noted.
Fair	Through file research and after a thorough visual inspection it has been determined that there are no critical deficiencies with the dam that would require engineering analysis with the following exception: the engineer may recommend that a hydrologic and hydraulic analysis be conducted due to the lack of adequate freeboard and/or the lack of spillway capacity documentation. A condition exists at the dam that may require some sort of additional monitoring.
Poor	Through file research and after a thorough visual inspection it has been determined that deficiencies are recognized that require engineering analysis and/or remedial action.
Unsatisfactory	Through file research and after a thorough visual inspection it has been determined that a deficiency is recognized that requires immediate or emergency action. Administrative/Enforcement action may be required as determined by the Dam Safety Program. Reservoir level restrictions may be necessary until the problem is resolved.

Appendix B - Hazard Classification of Dams

I. A Class AA dam is a negligible hazard potential dam which, if it were to fail, would result in the following:

(i) no measurable damage to roadways;
(ii) no measurable damage to land and structures;
(iii) negligible economic loss.

II. A Class A dam is a low hazard potential dam which, if it were to fail, would result in any of the following:

(i) damage to agricultural land;
(ii) damage to unimproved roadways (less than 100 ADT);
(iii) minimal economic loss.

III. A Class BB dam is a moderate hazard potential dam which, if it were to fail, would result in any of the following:

(i) damage to normally unoccupied storage structures;
(ii) damage to low volume roadways (less than 500 ADT);
(iii) moderate economic loss.

IV. A Class B dam is a significant hazard potential dam which, if it were to fail, would result in any of the following:

(i) possible loss of life;
(ii) minor damage to habitable structures, residences, hospitals, convalescent homes, schools, etc;
(iii) damage to or interruption of the use of service of utilities;
(iv) damage to primary roadways (less than 1500 ADT) and railroads;
(v) significant economic loss.

V. A Class C dam is a high hazard potential dam which, if it were to fail, would result in any of the following:

(i) probable loss of life;
(ii) major damage to habitable structures, residences, hospitals, convalescent homes, schools, etc;
(iii) damage to main highways (greater than 1500 ADT);
(iv) great economic loss.

Appendix C - PHOTOGRAPH INSTRUCTIONS

All photographs shall be color photographs. Photographs shall be clear and include scale references where applicable. Photographs shall include, but not be limited to the following:

1. Overview of dam/dike from upstream
2. Overview of dam/dike from downstream
3. Overview of upstream face from right abutment
4. Overview of upstream face from left abutment
5. Overview of dam crest from right abutment
6. Overview of dam crest from left abutment
7. Overview of downstream face from right abutment
8. Overview of downstream face from left abutment
9. Overview of spillway(s) from upstream
10. Overview of spillway(s) from downstream (tailrace or channel area)
11. Overview of right training wall(s)
12. Overview of left training wall(s)
13. Overview of weir
14. Overview of stilling basin
15. Overview of downstream channel
16. Overview of gatehouse exterior
17. Overview of gatehouse interior
18. Overview of operators
19. Outlet inlets and discharge points
20. Overview of reservoir area
21. Areas of specific deficiencies (e.g., cracks, erosion, displacement, seeps, deterioration, etc.)