SILVER LAKE DAM (No. 105)

PREPARED FOR:

BUCKSPORT MILL LLC
P.O. BOX 1874
BUCKSPORT, MAINE 04416

PREPARED BY:

HALEY WARD, INC.
ONE MERCHANTS PLAZA, SUITE 701
BANGOR, MAINE 04401

October 2024 – Revision 1
JN: 11299.023

REVISION SHEET
OPERATION AND MAINTENANCE MANUAL

FOR
SILVER LAKE DAM NO. 105

NO.	DESCRIPTION OF REVISION MADE	BY	DATE
0	O&M Manual	By Haley Ward, Inc.	2023
1	Ownership update	By Haley Ward, Inc.	2024

DISTRIBUTION LIST
OPERATION AND MAINTENANCE MANUAL

FOR
SILVER LAKE DAM NO. 105

COPY NO.	LOCATION
1	Dam Owner/Operator
2	MEMA

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SILVER LAKE DAM
PROJECT DATA SHEET

General

Dam Name:	Silver Lake Dam
NID ID No.:	105
Owner & Operator:	Bucksport Mill LLC
Location:	Lat: 44°35´14" N; Long: 68°47´23" W
	Mill Stream outlet, Town of Bucksport, Hancock County, Maine
Purpose of Project:	Regulate lake levels in Silver Lake, which serves as water supply for the Town of Bucksport
Construction History:	Original construction in 1930, initially for St. Regis Paper Co. to supply water to the paper mill as well as the Town of Bucksport; Extensive repairs made in 1984
Downstream Hazard Class:	High Hazard
Project Datum:	National Geodetic Vertical Datum of 1929 (NGVD_29) Note: Elevations are based on mill datum and may not correspond with other recognized or published elevations, per 1984 repair plans.

Reservoir

Watershed:	Located on Mill/Tannery Stream from Silver Lake			
Drainage Area:	5.0 square miles			
	ELEVATION (FT)	**SURFACE AREA (AC)**	**TOTAL STORAGE (AF)**	**ACTIVE STORAGE (AF)**
Minimum Operating Pool:				
Normal Full Pool:	128.0	700.0	8,447.0	7,900.0
Maximum Flood Pool:				
Maximum Reservoir Contour:	133.0	776.0	11,600.0	

Dam

Dam Type:	Zoned earth embankment dam with concrete core wall	
Height:	Structural: 30.0 ft	Hydraulic: 25.0 ft at normal pool
Crest Elevation:	133.0 ft	
Crest Length:	450.0 ft	Crest Width: 8.0 ft
Upstream Slope:	2.5 H : 1 V	
Downstream Slope:	2.5 H : 1 V	

Outlet Works

Conduit:	
Control Gate (s)	6.0 wide x 5.5 feet high stop-log gate with sill elevation of 120.0 feet

Spillway

The stoplog gate is abutted to the east and west by ogee-shaped concrete spillways. The spillways are each 20.5 feet in length with permanent crest elevations of 124.0 feet. The spillways are both topped with 4.0 foot high fixed steel bulkheads that bring the normal pond elevation to 128.0 feet. Earth embankments flank the spillway on the east and west. The elevation of both embankment crests is 133.0 feet.

1.0 GENERAL INFORMATION

1.1 Operation and Maintenance Manual

This document is the Operation and Maintenance (O&M) Manual for Silver Lake Dam. The O&M Manual provides procedures and guidance for the normal operation and maintenance of the Silver Lake Dam. The purpose of the O&M Manual is to ensure adherence to approved operating procedures over long periods of time and through changes in operating personnel. The O&M Manual will also permit personnel, knowledgeable in dam/reservoir operations, but unfamiliar with the conditions at a particular dam, to operate the dam and reservoir at times when regular operating personnel cannot perform their normal duties.

NOTE: For unusual and emergency conditions, the procedures set forth in the Silver Lake Dam Emergency Action Plan (EAP) should be followed.

1.2 Purpose and Description of Project

The Silver Lake Dam (ID No. 105) is a high potential hazard, zoned earth-embankment dam with concrete core wall, located at the Mill Stream outlet of Silver Lake in the Town of Bucksport, Maine. The dam is 30.0 feet high and 450.0 feet long, with two spillways topped with steel bulkheads and a stoplog spillway. The dam is used to regulate lake levels in Silver Lake, which currently serves as the water supply reservoir for the Town of Bucksport and Ironclad Energy Partners, LLC. Photographs of the dam are included in **Appendix A**. Location Map, Schematic Plans, and Aerial Map are included in **Appendix D**.

The Silver Lake Dam is owned by Bucksport Mill LLC. The dam previously belonged to the Verso Paper Corporation which, apart from its electric generator, has been demolished. The dam was built by St. Regis Paper Co. in 1930 to supply water to the paper mill as well as the Town of Bucksport. The dam underwent major repairs in 1984 including dewatering, resealing the foundation, refacing exposed surfaces of the concrete spillway and channel, and the construction of a new spillway bridge. The dam is 91 years old.

The dam consists of one 6.0-foot stoplog gate between two 25.0-foot high, 20.5-foot long, ogee spillways, between vertical, mass gravity training walls. Permanent steel bulkheads are affixed to the top of each ogee spillway section, with crest elevations of 128.0 feet. The training walls follow the shape of the embankments and connect to a large junction block and the steel bulkhead. Between the spillways is one 6.0-foot wide by 5.5-foot high stoplog gate with a crest elevation of 128.0-feet. The reservoir level can be controlled by adding or removing stoplogs. If the stoplogs were removed from the gate, discharge at normal pool level would be 232.0 cubic feet per second (cfs). While the stoplog gate is closed, there is no through flow apart from leakage and it functions as a weir. The dam has two abandoned cast iron pipes through the foundation of the right embankment but no dewatering outlet. The dam has no other controllable outlets.

This O&M Manual provides the necessary information and procedures for successful operation and maintenance of the Silver Lake Dam. Implementation of the O&M Manual will address public safety for residents and properties located both upstream and downstream of the dam, monitor existing deterioration, and extend the useful life of the dam and associated structures. Implementation of the O&M Manual also enhances the function of Silver Lake, the local ecosystem including fisheries, wildlife, and water quality, provides a stable water level, protects the lake waterfront properties, and reduces the risk and liability associated with dam ownership.

The O&M Manual includes background information, a description of the dam associated hydrology and hydraulics inspection guidelines, and operation and maintenance procedures including lake water level management.

1.3 Location and Access to the Dam and Facilities

The Silver Lake Dam is located at the Mill Stream outlet of Silver Lake in the Town of Bucksport, Maine. The dam is accessed via Catspaw Lane from the east and Silver Lake Road from the west. There is overland access from the end of Catspaw Lane and through Silver Lake Cemetery from Silver Lake Road.

1.4 Assignment of Responsibility

Bucksport Mill LLC maintains ownership of the Silver Lake Dam under the name of Bucksport Mill LLC, and has final authority and responsibility for the safety, operation, and maintenance of Silver Lake Dam.

1.5 Attendance and Communications

1.5.1 Attendance

The Silver Lake Dam is unattended with site visits and site inspections performed on behalf of Bucksport Mill LLC by contracted personnel. The dam is an approximately five to ten minute drive from where the contracted personal who operate the water system for Bucksport Mill LLC are located.

1.5.2 Communication

There is no phone or radio at the Silver Lake Dam. Contact Bucksport Mill LLC for questions or to arrange access. Bucksport Mill LLC may be reached by phone at (630) 986-1972.

1.6 Public Safety and Health

Safety of the public and all personnel is a primary concern. Access to the dam is to be coordinated with the Owner. Access to the spillways is restricted by a chain-link fence and bollards are present at each entrance. The dam is accessible to the public.

1.7 Restricted Areas

Access to the dam is to be coordinated with the Owner. Access to the spillways is restricted by a chain-link fence and bollards are present at each entrance. The dam is accessible to the public.

2.0 OPERATION PROCEDURES

2.1 Reservoir Operations

Bucksport Mill LLC uses contracted personnel to maintain water levels in the lake in accordance with an established rule curve. Typically, flows out of the lake vary.

Little data exists on Silver Lake and Mill/Tannery Stream regarding watershed hydrology, lake levels, and historic flows. From lake level records provided by Champion International for the period January 1960 through August 1998, a peak lake level of 130.5 feet occurred in December 1969 (estimated U.S. Geological Survey datum). The flow in Mill/Tannery Stream was unknown. For the present Silver Lake Dam configuration, a lake level of 130.5 feet would result in a calculated 607.0 cfs of flow, or 2.5 feet over the spillway bulkheads and stoplogs. Typically, Silver Lake levels range between elevations 124.0 feet and 128.0 feet, with the lowest levels occurring during late summer and early fall.

Silver Lake has a drainage basin of 5.0 square miles. Maine watershed's average annual flows are approximately 2.0 cubic feet per second per square mile (cfs/mi^2) according to gauged basin records. The average unregulated annual flow for Silver Lake is, therefore, estimated to be 10.0 cfs/mi^2. Typically, Mill/Tannery Stream only receives a small amount of leakage from the dam. Flow in Mill/Tannery Stream is primarily due to runoff and base flow contributions from the portion of the watershed downstream of the Silver Lake Dam.

Mill/Tannery Stream flows approximately 1.4 miles from Silver Lake to the Penobscot River. Immediately downstream of the Silver Lake Dam, the stream is characterized by a narrow channel less than ten feet wide and heavily vegetated overbank areas, including dense scrub-shrub, grasses, and mature trees. Approximately 0.4 miles downstream of the Silver Lake Dam, the stream widens entering a marsh where it fills with aquatic vegetation. The marsh is approximately 0.3 miles long.

2.2 Filling Schedule

There is no filling schedule for Silver Lake. Historically, the majority of Silver Lake's inflow was supplied through an overland pipeline from Alamoosook Lake to augment water supply to the Bucksport paper mill. Now that the mill is gone, water is no longer pumped into Silver Lake.

2.3 Release Schedule

There is no release schedule for Silver Lake. A decision is made to release water based on the rainfall, moisture conditions, and water demand. The outlet structure is inspected and cleaned of debris and sediment if present, and the gate is adjusted based on demand. When the lake elevation is below the crest of the steel bulkheads (elevation 128.0 feet) and the stoplogs are in place, only leakage is passed from the dam.

2.4 Flood Operation

At a declared flood warning in the Mill/Tannery Stream basin, the dam tender should station themselves at the dam and open the outlet to its full capacity.

2.5 Control Gates

When the lake elevation is below the crest of the steel bulkheads (elevation 128.0 feet) and the stoplogs are in place, only leakage is passed from the dam. In flood flow conditions, significant amounts of water will pass over the spillway and/or through the discharge gate. If all stoplogs were removed from the outlet gate, the discharge would be approximately 232.0 cfs at normal pool.

2.6 Spring Startup Procedure

Each spring (April – May), an inspection of the dam will be performed by the Owner or Owner's representative.

2.7 Fall Shutdown Procedure

Each fall (October – November), an inspection of the dam will be performed by the Owner or Owner's representative.

3.0 MONITORING AND INSPECTION

3.1 General

This section describes the methods and frequency of data collection, transmittal of data, and procedures to evaluate the data.

Bucksport Mill LLC is primarily responsible for collecting and reporting readings which consist of monitoring lake water levels at the dam. Periodic Owner Inspections should be performed by Bucksport Mill LLC. Bucksport Mill LLC contracts to have these functions performed but maintains responsibility for them and is responsible to review and file the inspection records.

Twice a year, in the spring (April – May) and the fall (October – November), an inspection of the following areas will be performed by the Owner or Owner's representative. Each item has one or more specific items to observe and note. The specific items are listed on the dam Inspection Checklist, which must be filled out completely at the time of each inspection, and include:

1. Access
2. Crest
3. Upstream/Downstream Slopes
4. Abutment Contact
5. Appurtenances/Structures
6. Reservoir
7. Downstream Channel
8. Level
9. Gate

Additional dam and water level inspections will be performed as needed and after critical events including severe rain or windstorms, earthquakes, or periods of extremely high storage. During inspections, debris will be removed as needed from in and around the weirs to prevent clogging.

3.2 Monitoring Wells

There are no monitoring wells at or associated with the Silver Lake Dam.

3.3 Drains and Seepage

Find all toe drains and sumps, monitor and record their flows and lake elevation twice a year at the beginning of May.

Locate and map all leaks. Monitor and record leakage of both the right and left embankment (see zones A and B on **Figure 2**) twice per year in May and November. Correlate seepage rates to lake elevation and document. Monitor settlement of the embankments.

Monitor efflorescence and loss of material and strength in the spillway channel walls which retain the embankments and other concrete work in the dam.

3.4 Operational Inspections

Bucksport Mill LLC will assign or contract for personnel to conduct the inspections as needed. Inspections should include the use of the Inspection Checklist. Any unusual conditions should be reported to Bucksport Mill LLC immediately for further investigation or repair.

3.5 Periodic Owner Inspections

A formal Owner Inspection should be performed twice each year (fall and spring). The inspection should include a systematic review of the conditions of the dam and its associated features, including the outlet works as outlined on the forms included in **Appendix B**. The inspection forms should be completed and maintained in the project record files. Digital photographic records of project features should be included with the inspection files.

3.6 Periodic Engineer Inspections

A high hazard dam is required by the Maine Emergency Management Agency (MEMA) Dam Safety Program, per State Law Title 37B MRSA , Chapter 24 (mainelegislature.org), to have a periodic inspection completed by a qualified engineer every six years. Inspections by a qualified engineer should also be performed if unusual conditions occur or after critical events, such as earthquakes or extremely high reservoir storage levels.

3.7 Critical Event Inspections

The dam should be inspected during or immediately following the occurrence of critical events which raise the water level more than one foot, such as severe rain, or earthquakes. If emergency conditions are observed, the responses outlined in the EAP should be implemented. Emergency conditions include erosion threatening the integrity of the dam, seepage that is cloudy or excessive, and/or extremely high water surfaces. Inspection by a qualified engineer should be performed to evaluate the impact of critical events on the dam.

Even if the water surface level is not at a high elevation at the time of an earthquake, it is possible that the dam could suffer negative effects from the earthquake (associated with seepage performance) that may not become evident until higher reservoir elevations are reached. Therefore, heightened awareness and possible monitoring would be appropriate following an earthquake whenever the reservoir is rising to elevations that have not been previously experienced since the occurrence of the earthquake. Specific changes to monitoring schedules would need to be established on a case-by-case basis in light of the magnitude of the earthquake, reservoir elevation at the time of the earthquake, and apparent damage sustained by the dam as a result of the earthquake.

4.0 MAINTENANCE

4.1 Critical Conditions

The following conditions are considered to be critical and require immediate repair or maintenance be completed under the direction of a qualified engineer. The critical repairs or maintenance needed to address the specific conditions encountered are not covered in this O&M Manual. Critical conditions should also trigger a response as outlined in the EAP.

- Erosion, slope failure, or other conditions which are endangering the integrity of the dam.
- Piping or internal erosion as evidenced by increasingly cloudy seepage or other symptoms.
- Spillway blockage or restriction.
- Excessive or rapidly increasing seepage appearing anywhere near the dam site.

4.2 Periodic Maintenance

The following items should be noted in the operations log and added to the work schedule whenever they are noted during Operation Inspections or Periodic Inspections. The following maintenance items should be completed as soon as possible after identification (at least annually):

- Removal of bushes and trees from the embankment and abutments (see **Section 4.3**).
- Repair erosion gullies.
- Repair defective gates.
- Repair deteriorated concrete or metal components.
- Maintenance of riprap or other erosion protection.

Continued maintenance should also be performed for the following items:

- Testing and cleaning gates.
- Inspecting and maintaining gaging equipment.
- Removal of debris from embankment face and from areas around the intake structures.

4.3 Embankment Maintenance

1. Fill erosion gullies with properly compacted cohesive soil material. Seed or riprap repaired area to stabilize from future erosion.
2. Fill rodent burrows with a slurry of soil, cement, and water. Remove the rodents.
3. Maintain grass cover by spraying weeds, fertilizing, and watering as needed.
4. Remove brush, bushes, and trees from embankment and from within 25 feet of the groins and 50 feet of the toe of embankment. Remove tree roots and fill resultant depressions with compacted soil and re-seed area.
5. Mow embankment at least twice per year.

6. Add or repair riprap where displacement or other damage occurs or has occurred.
7. Maintain grading of the embankment crests to prevent potholes, rutting, or other potential for standing water to accumulate.
8. Maintain fences to provide site security and to exclude wildlife from the embankments. Repair and re-vegetate damaged embankment surfaces.
9. Perform regular inspections of the embankments and abutments to identify potential maintenance items.

4.4 Outlet Maintenance

1. Test gates semi-annually or as needed.
2. Repair defective gates to ensure smooth operation and prevent leakage.
3. Repair deteriorated concrete or metalwork.
4. Remove debris from the outlet channels annually, inspect and repair erosion protection.

Maintenance Log and Schedule forms are located in **Appendix C**.

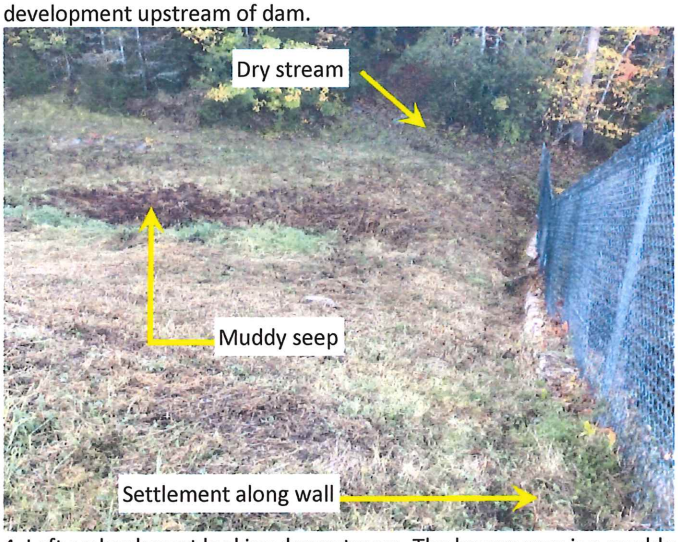
APPENDIX A

PHOTO LOG

1. Left abutment from top of dam (TOD). Brush recently cut, bank well grassed. Some settlement along TOD. Downstrream slope has significant settlement in place.

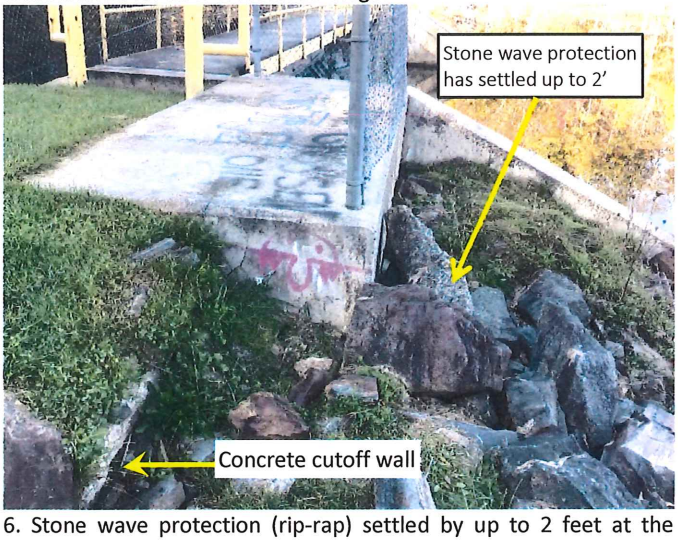
2. Uneven TOD & stone wave protection. Waters edge not straight indicating settlement and/or riprap slippage. No new shorefront development upstream of dam.

3. Left embankment downstream recently cleared of brush. Both the inclined & level surfaces show uneveness indicating embankment or local slippage.



4. Left embankment looking downstream. The brown area is a muddy seep which must be inspected after spring runoff & around labor day & monitored for flow & reservoir stage.

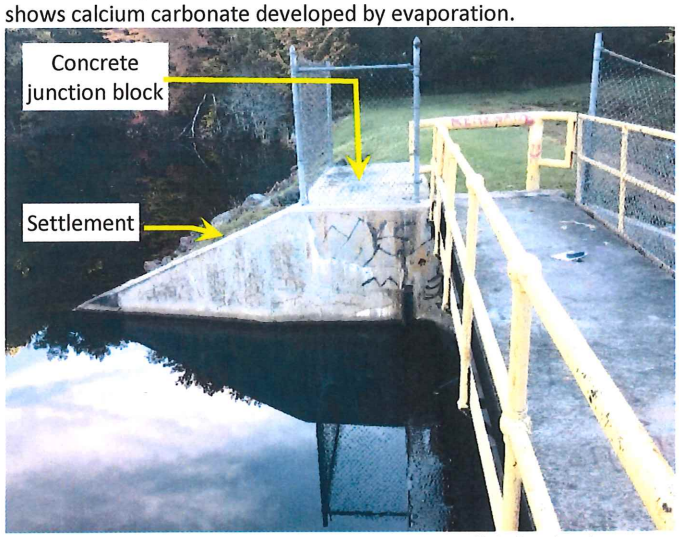
5. Settlement, random boulders & uneven earthwork surface. Concrete cracked but surfaces are plain. This concrete block is connected to the reinforced concrete cutoff wall.



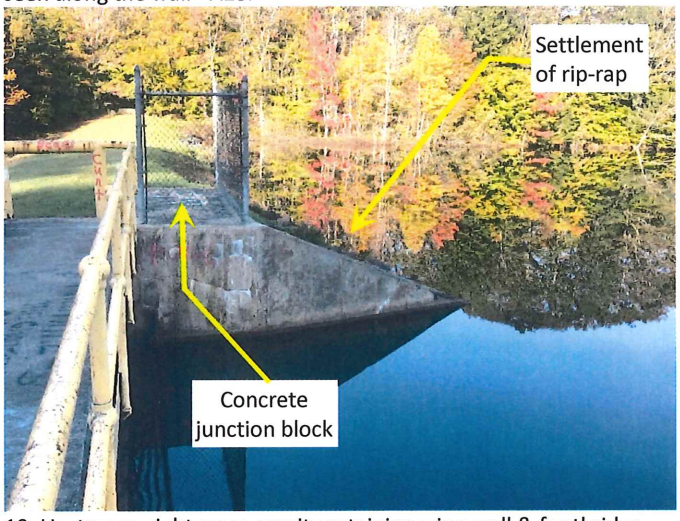
6. Stone wave protection (rip-rap) settled by up to 2 feet at the concrete connecting block - arrow. No visible distress in concrete.

7. Left downstream mass gravity channel. Built 1930, re-faced 1984, with Gunite. Photos show similar cracks & efflorescence reported by the Army Corps of Engineers (COE) in 1978, A3&A6. Efflorescence shows calcium carbonate developed by evaporation.

8. Same as A7. Craze cracks & a lift joint can be seen. Efflorescence caused by dissolved free lime in the leak dissolved within the mass gravity concrete wall. No inward deflection or iron oxide from rebar seen along the wall - A18.



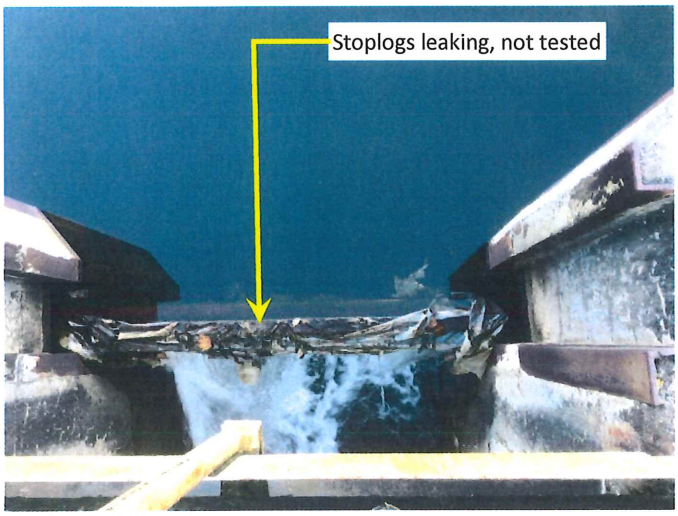
9. Upstream, left mass-gravity retaining wing wall & footbridge. Minor cracking & efflorescence at junction with block. Note graffiti.



10. Upstream, right mass-gravity retaining wing wall & footbridge.

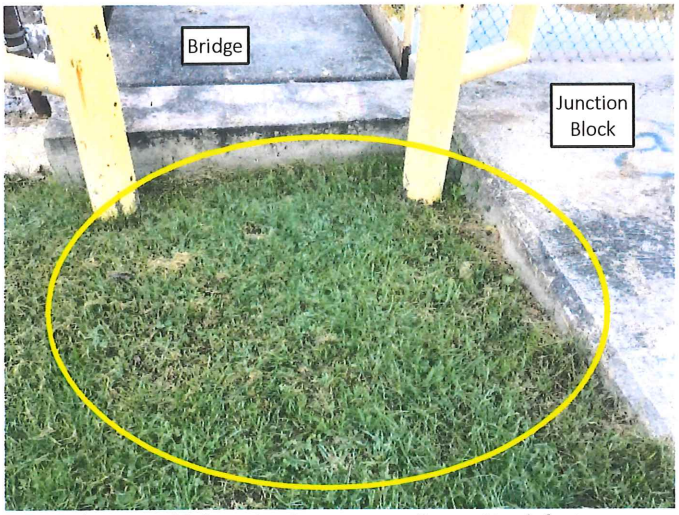
11. Spillway downstream channel between left & right wingwalls silted. Note flattened grass from recent storm.

12. Spillway & stoplog weirs. Note the right bulkhead overtopping considerably more that the left & leaking stoplogs leaking. Note difficult access to stoplogs.

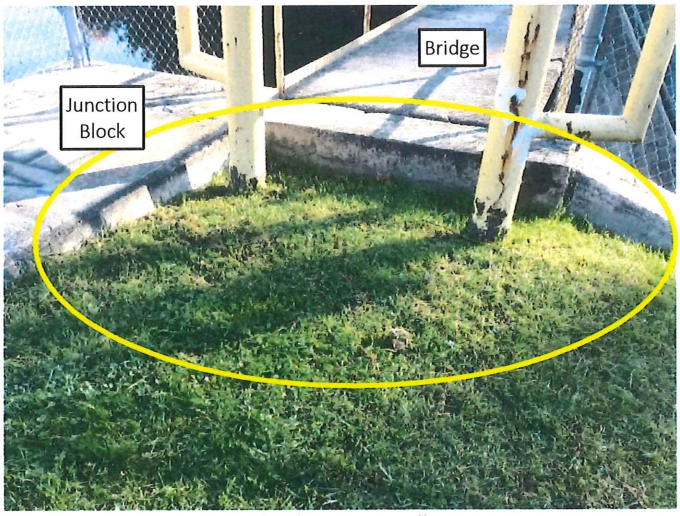


13. One 8' X 6' wide stoplog gate.

14. Stoplog gate guides.



15. Settlement of left embankment at walkway. No defects seen on the concrete junction.

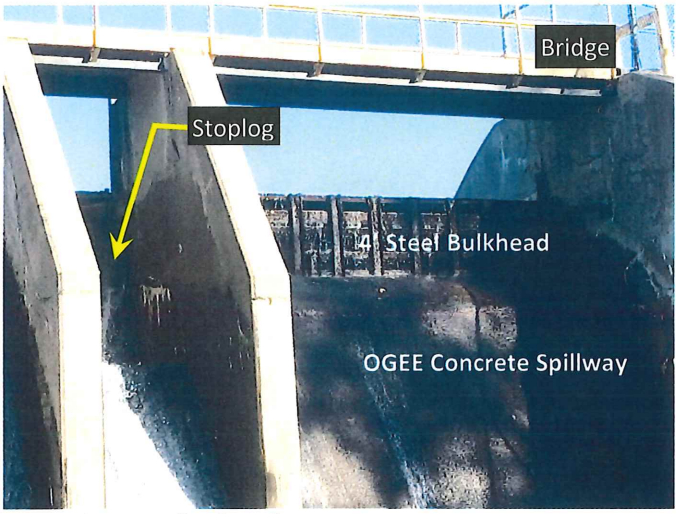


16. Settlement of right embankment at walkway. No movement seen on the concrete junction block.

17. Left embankment/wing-wall abutment. Swamp from seepage in the area where the brush has been cut.

18. Right embankment/wing-wall abutment. Note either settlement or erosion along wall

19. Right Spillway. The reason for overflow is that the top of the bulkhead is lower than the lrft bulkhead.



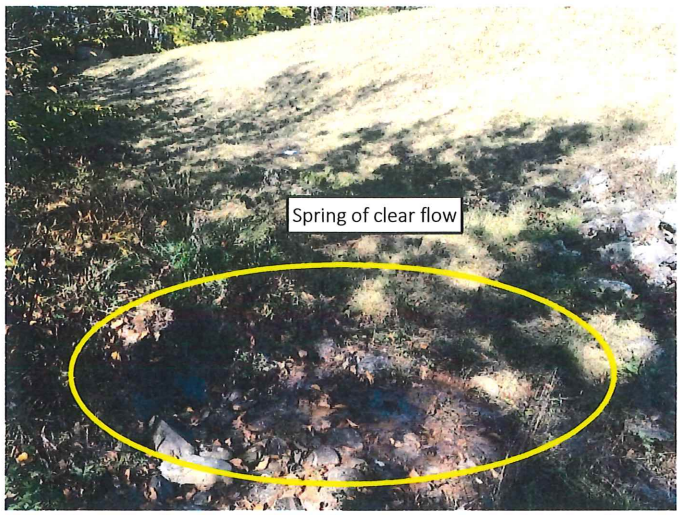
20. Stoplog Gate & Left Spillway.

21. Spillway Bridge from left embankment.

22. Right embankment stone wave protection (rip-rap). Remove brush & rearrange riprap to correct slope. Place new riprap where embakment is exposed.

23. Top of Right embankment & downstream face – mostly covered by grass. Downstream face of dam uneven due to local settlement and/or small slips.

24. Right embankment plane recently cut & uneven. Soil surface could not be seen, however, sporadic settlement, erosion & cracks seen.



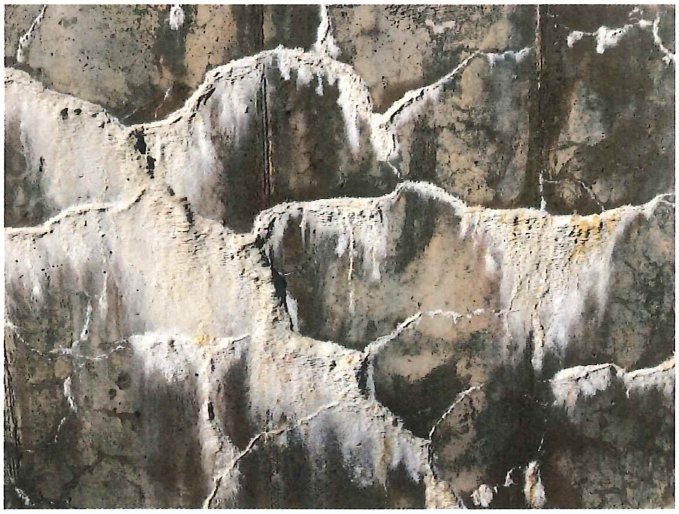
25. Right embankment seepage clear, possibly a toe drain outlet.

26. View down right embankment toe. Yellow elipse is area where at least 6 seperate marches have formed. No seepage carried silt or was discoloured.

27. View down embankment toward seepage. A28 is in the middle of the photo.

28. Typical low flow marsh showing seepage. This spot is located about 150 feet from the left spillway wall.

29. Silver Lake reservoir. Rural watershed. no shoreline development.



30. Efflorescence (calcium carbonate) caused by evaporation of water seeping through cracks in the channel wall.

APPENDIX B

INSPECTION CHECKLIST

DAM INSPECTION CHECKLIST DATE:

DAM: INSPECTED BY:

Item	Satisfactory	Unsatisfactory	Corrective Actions
1. Access			
2. Crest			
a. Settlement			
b. Misalignment			
c. Cracks			
d. Trees and Brush			
3. Upstream/Downstream Slopes			
a. Slope Protection			
b. Erosion/Beaching			
c. Trees and Brush			
d. Visual Settlements			
e. Sinkholes			
f. Animal Burrows			
g. Seepage			
h. Toe Drains			
i. Relief Wells			
j. Slides/Slumps			
4. Abutment Contact			
a. Erosion			
b. Seeping			
c. Boils			
d. Springs			
5. Appurtenances/Structures			
a. Concrete Condition:			
- Spalling			
- Cracking			
- Exposed Reinforcement			
- Loss of Joint Filler			
- Scaling			
b. Drains/Weepholes			
c. Stone			
d. Gates/Sluices Serviceable			
e. Spillway Obstructed/Bypassed			
6. Reservoir			
a. Signs of Shoreline Instability			
b. Sedimentation			
c. Excessive Debris			
d. Ice Related Problems			
e. Environmental Concerns			
f. Other			
7. Downstream Channel			
a. Eroding/Back cutting			
b. Sloughing			
c. Obstruction			
8. Fishways			
a. Baffles			
b. Obstructions			
c. Structural Condition			
9, Level			
a. Lake / Pond Level			
10.Gate			
a. Position			
11.Notes:			

Inspection Continued:

Seepage Monitoring

EMBANKMENT	ZONE	VOLUME (GALLONS)	TIME (MINUTES)	RATE (GAL/MIN)	RESERVOIR LEVEL

APPENDIX C

DAM MAINTENANCE LOG AND SCHEDULE

DAM MAINTENANCE LOG

DATE	STRUCTURE[1]	FEATURE[2]	TYPE[3] OF REPAIR/ MAINTENANCE	REPAIR/MAINTENANCE CONDUCTED BY	REPAIR/ MAINTENANCE COST	COMMENTS

NOTES: _____

_____

_____

[1]Stoplog gate, east spillway, west spillway, etc.

[2]Top, upstream/downstream slope or face, apron, trash racks, handrail, etc.

[3]Concrete, earthwork, stone masonry, rock riprap, grass mowing, vegetation control, debris removal, etc.

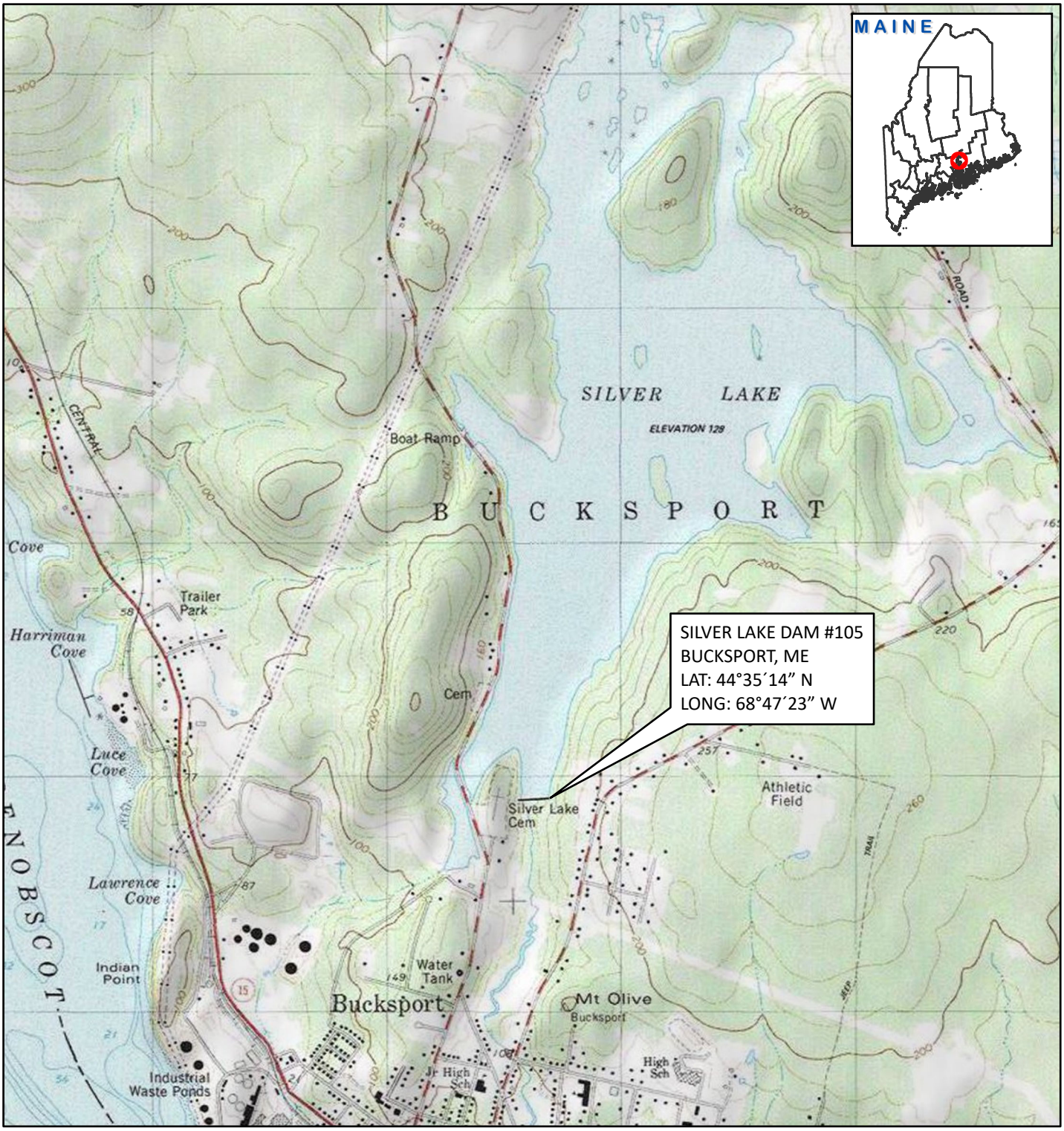
MAINTENANCE SUMMARY AND SCHEDULE TABLE

This maintenance summary and schedule is intended to provide the owner with a quick reference of the recommended frequency intervals for inspecting and performing routine maintenance on the components of a dam.

Component	**Maintenance Activity**	**Frequency**
Embankment	Vegetation control Rodent control Minor earthwork, erosion repair Erosion protection	Twice per year, minimum Check once per year, perform as required Check once per year, perform as required As required
Principal Spillway	Vegetation control Minor earthwork, erosion repair Erosion protection Concrete repair	Twice per year Check twice per year, perform as required Check twice per year, perform as required As required
Emergency Spillway	Vegetation control Minor earthwork, erosion repair Erosion protection Concrete repair	Twice per year Check twice per year Check twice per year As required
Intake/Outlet Structures	Trashrack cleaning Mechanical operation Internal conduit inspection Concrete features inspection	After every major storm Once per year Once per year Once per year
Masonry Walls	Vegetation control Missing stones	Twice per year As required
Miscellaneous Safety and Access Features	Vehicle/pedestrian access route(s) maintenance Fences, locks, signs inspection	Once per year Once per year

APPENDIX D

PROJECT DRAWINGS



0 500 1,000 2,000 Feet

MAP NOTES:

1. MAP IS PROJECTED USING UTM ZONE 19N COORDINATES, AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).

2. NORTH ARROW IS ORIENTED TO GRID NORTH IN ALL MAP EXTENTS DEPICTED HEREIN.

3. SITE FEATURES ARE APPROXIMATE.

4. BASE MAP CREDITS:

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
1 Merchants Plaza, Suite 701
Bangor, ME 04401
WWW.HALEYWARD.COM 207-989-4824

CLIENT: AIM DEVELOPMENT (USA) LLC

PROJECT: SILVER LAKE DAM #105
OPERATIONS & MAINTENANCE PLAN
BUCKSPORT, ME

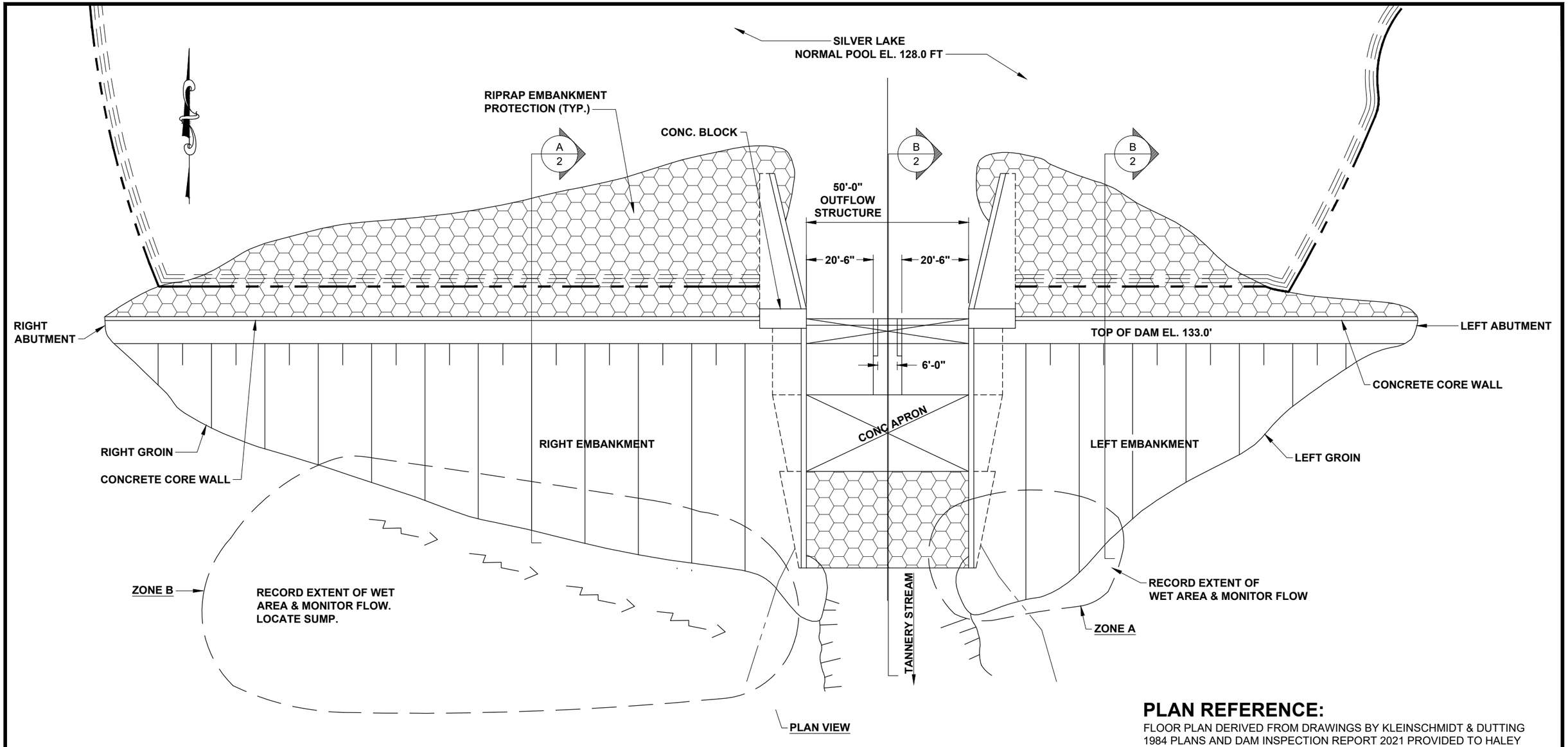
TITLE: FIGURE 1 - LOCATION MAP

DATE: 2/27/2023

PROJECT No. 11299.023

DRAWN BY: SWEATHERBEE

SCALE: 1" = 2,000 '



PLAN REFERENCE:

FLOOR PLAN DERIVED FROM DRAWINGS BY KLEINSCHMIDT & DUTTING 1984 PLANS AND DAM INSPECTION REPORT 2021 PROVIDED TO HALEY WARD, INC AND ARE NOT WARRANTED AS TO ACCURACY AND ARE INTENDED TO BE SCHEMATIC.

PLAN VIEW

SCALE: 1"=30'

PROJECT: **#105 SILVER LAKE DAM** BUCKSPORT, MAINE	DWG No. 1	BY MEB	DRAWING STATUS: **NOT FOR CONSTRUCTION**
		DATE 2023.03.23	
TITLE: **FIGURE 2: SITE PLAN**	JN 11299.023	REV.	
	SCALE 1"=30'	REV. DATE	

HALEY WARD
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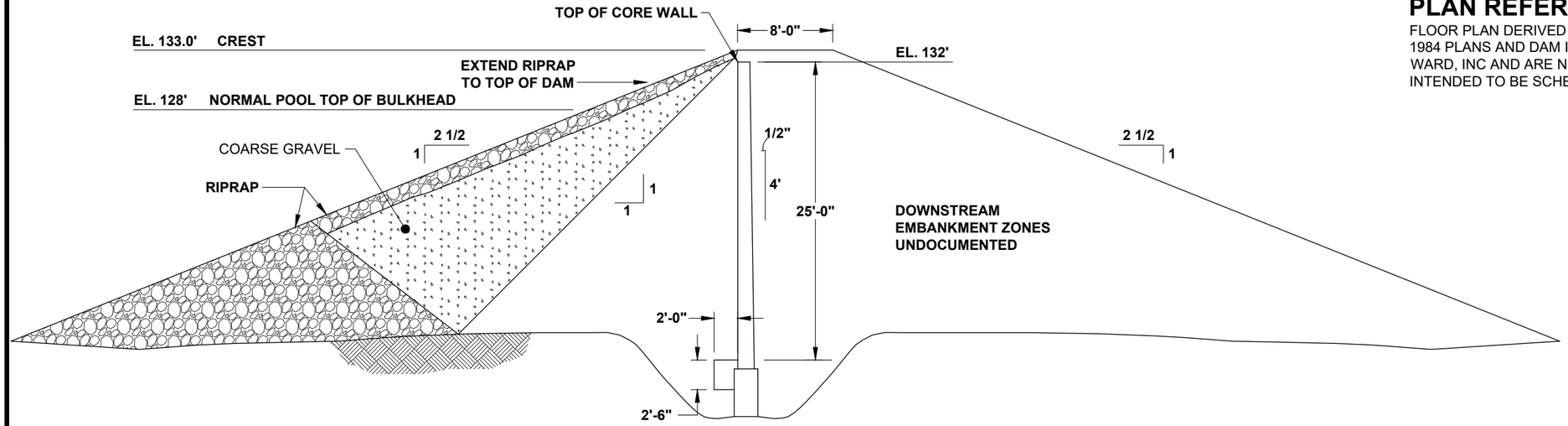
P:\11299-AIM_DEVELOPMENT\023-RIVER RD BUCKSPORT EAP UPDATES 3 DAMS-DBK\02-CAD_DRAWINGS\CIVIL\105 SILVER LAKE DAM\11299.023 FIGURE 2.DWG

PLAN REFERENCE:

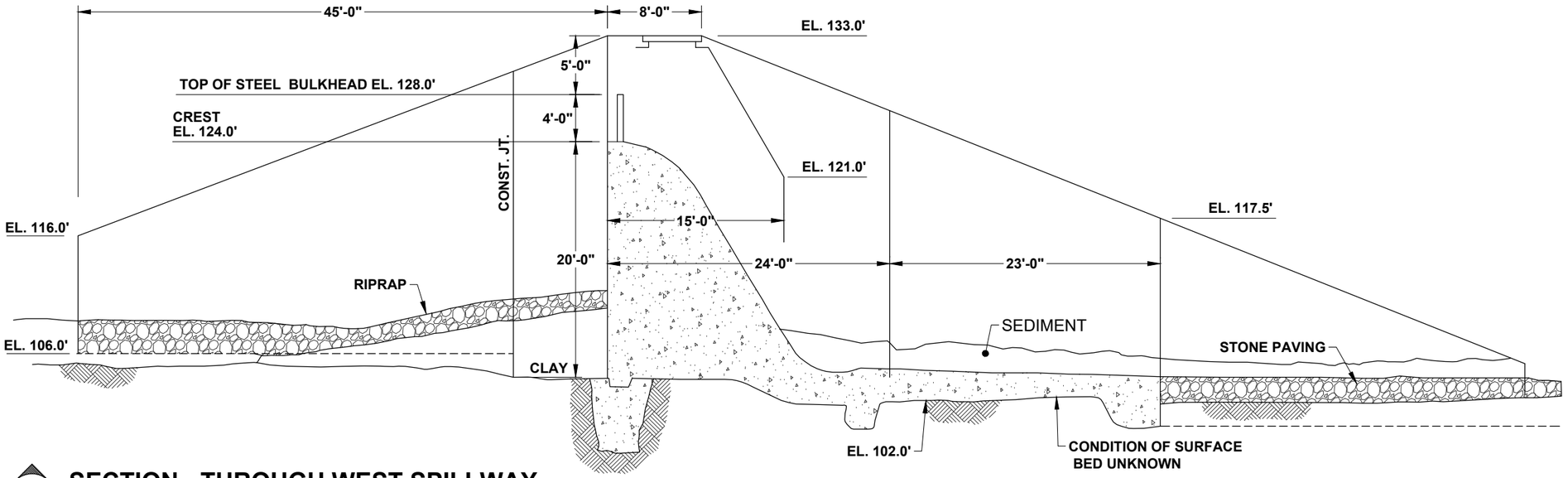
FLOOR PLAN DERIVED FROM DRAWINGS BY KLEINSCHMIDT & DUTTING 1984 PLANS AND DAM INSPECTION REPORT 2021 PROVIDED TO HALEY WARD, INC AND ARE NOT WARRANTED AS TO ACCURACY AND ARE INTENDED TO BE SCHEMATIC.



A 1

SECTION - THROUGH RIGHT EMBANKMENT

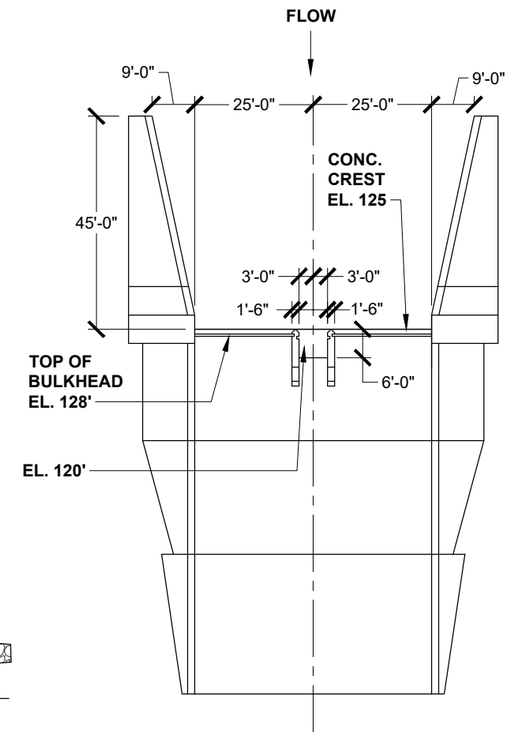
SCALE: 3/32"=1'-0"



B 1

SECTION - THROUGH WEST SPILLWAY

SCALE: 3/32"=1'-0"



SPILLWAY PLAN

SCALE: 1/32"=1'-0"

PROJECT: #105 SILVER LAKE DAM, BUCKSPORT, MAINE	DWG No. 3	BY MEB	DRAWING STATUS: NOT FOR CONSTRUCTION
		DATE 2023.03.23	
TITLE: FIGURE 3: DETAILS	JN 11299.023	REV.	
	SCALE 3/32"=1'-0"	REV. DATE	

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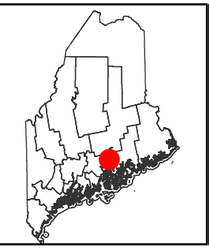
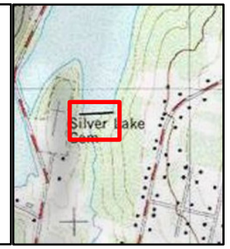
P:\11299-AIM_DEVELOPMENT\023-RIVER RD BUCKSPORT EAP UPDATES 3 DAMS-DBK\02-CAD_DRAWINGS\CIVIL\105 SILVER LAKE DAM\11299.023 FIGURE 3.DWG





Legend

MAP NOTES:

1. MAP IS PROJECTED USING UTM ZONE19 COORDINATES, AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).

2. NORTH ARROW IS ORIENTED TO GRID NORTH IN ALL MAP EXTENTS DEPICTED HEREIN.

3. BASE MAP COURTESY OF GOOGLE MAPS.

0 12.5 25 50
Feet

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CLIENT
AIM DEVELOPMENT (USA) LLC

PROJECT
SILVER LAKE DAM #105
OPERATIONS & MAINTENANCE PLAN
BUCKSPORT, ME

TITLE
FIGURE 4 - AERIAL

DATE 2/28/2023
PROJECT No. 11299.023

DRAWN BY SWEATHERBEE
SCALE 1" = 50 '