HANCOCK LAKE DAM MAINTENANCE AND OPERATION PLAN

Description of Dam

The Hancock Lake Dam is located approximately 14 miles west of Rhinelander, Wisconsin. Rice creek and Trout Creek flow into Hancock lake and Little Rice Creek flows out of the lake. The Hancock Lake dam was built in 1929 of reinforced concrete and the Oneida Lake Road went over it at that time. The dam went through a rehabilitation project in 1989. It is a fixed crest, run of the river dam with no gates. Since then Oneida Lake road has been moved just south west of the dam and two large culverts were installed under the road. The dam is owned by the Town of Woodboro.

OPERATION PLAN

Dam Name: Hancock Lake Dam

Date: May 1,2010

Owner Name: Town Of Woodboro

WHO

1. Who operates the dam? (Owner or other agent/employee)

   Address: Town of Woodboro
   Kurt Zalewski (chairman)
   8672 Old Highway K
   Harshaw, Wi 54529

   Telephone:715 282 6889

2. Who is the backup operator?

   Address: Lois Haese (Town Supervisor)
   8672 Old Highway K
   Harshaw, Wi 54529

   Telephone: 715 282 5603

3. Who maintains the dam?

   Address: Town Of Woodboro
   8672 Old Highway K
   Harshaw, Wi 54529

   Telephone:715 282 5607

4. Who must be called in an emergency?

   Address: Town Of Woodboro
   8672 Old Highway K
   Harshaw, Wi 54529
   Telephone:715 282 5607

WHAT

1. What downstream structures would be affected by a flood? none

2. What minimum flow. if any. is required for downstream users?
The minimum flow release for the dam is the statutory minimum flow from Chapter 31.34, Wisconsin State Statutes. The dam must pass at least 25% of the stream's natural low flow at all times.

3. What impoundment levels are required to protect upstream users?
There is no authorized operating range for the dam.

WHEN

1. When are gates operated during storm events? No Gates

2. When are gates operated during normal conditions? N/A

WHERE

1. Where is emergency power? N/A

2. Where is engineering assistance?
The Town should consult with an engineering firm, and the Wisconsin DNR is also a source of technical assistance.

HOW

1. How are gates operated? No Gates

2. How often is mechanical equipment operated? N/A

HANCOCK LAKE DAM
MAINTENANCE PLAN

Includes periodic inspections

I. INSPECTION - conduct semi-annual routine inspections of dam and post flood event inspections utilizing owners inspection checklist

II. MOWING/DEBRUSHING - keep embankment free of trees and brush

III. DEBRIS REMOVAL - inlets, spillways, trash screens
remove any debris from primary and overflow spillways

IV. PRINCIPAL FLOW STRUCTURE - repair cracks or damaged areas, seal seepage cracks

V. DIKE REPAIR, rodent holes, cracks, settling, tree removal, riprap replacement

VI. SPILLWAY REPAIR/MAINTENANCE - replace lost riprap, repair any erosion

INSPECTION OUTLINE

NOTE: Inspection should be part of maintenance plan

I. WHEN

A. Inspections must be made continuously throughout the life of a dam
Semi-annual inspections are to be conducted as a minimum during the Spring and Fall

II. TYPES OF INSPECTIONS

A. Owner - utilize attached check list for embankment, erosion overflow structure and spillway.

B. Engineering -
Hire engineering firm at 10 year inspection intervals or after major flood event

III. WHAT

A. Spillway Outlet Works

1. Principal Spillway

2. Emergency Spillway N/A

3. Intake/Outlet Works

a) gates - N/A
b) valves - N/A
c) logs - N/A

4. Trash Racks – N/A

B. Appurtenant Works

1. Drawdown Facility - N/A

C. Earth Embankments

1. Seepage - check embankment for wet areas that could indicate seepage, repair if found.

2. Cracks - check embankment for earth cracking which could indicate potential failure areas.

3. Settlement - check top and sides of embankment for settlement areas which could indicate soil loss from within embankment.

4. Slumps - check embankment for areas of slumped soil which could indicate slipage planes or wet areas.

5. Erosion - check and repair embankment for eroded areas

6. Scour - check spillways for scour and eroded soils,

7. Vegetative Cover - maintain vegetative cover on embankment cut and remove brush and trees.

8. Animal Burrows - check for animal burrows, holes. Fill holes, eliminate burrowing animals.

D. Abutments

1. Seepage - check for seepage around concrete structure, repair if found

2. Cracks - check concrete for cracking and or damage, repair if necessary

3. Erosion - check and repair eroded areas around structures

OWNER'S INSPECTION CHECKLIST

Dam Name:

Date of Inspection:

Owner's Name:

Any rapid or great change in the condition of your dam should be immediately reported to the State Dam Safety Engineer, (608) 266-1925 or the State Warning Center (608) 266-3232.

	NO	YES	IF YES
Surface Cracks?	☐	☐	Monitor[1]
Slumping or cracking on the upstream or downstream side?	☐	☐	Contact state agency or engineer
Erosion from runoff, wave action or pedestrian/vehicle traffic?	☐	☐	Repair and stabilize
Embankment/spillway seepage?	☐	☐	Monitor[2]
Seepage water muddy? Boils?	☐	☐	Contact state agency or engineer
Top of the dam settled?	☐	☐	Monitor[3]
Loss of riprap?	☐	☐	Replace and maintain
Trees, brush or burrows on dike?	☐	☐	Clear trees, brush, fill holes and seed bare dike
Spillways blocked?	☐	☐	Clear spillway immediately
Exposed metal rusty?	☐	☐	Clean and paint
Concrete deterioration or cracks?	☐	☐	Monitor[4]
Cracks or uneven movement?	☐	☐	Monitor[5]
Scour?	☐	☐	Monitor[6]
Pipe joint separation?	☐	☐	Repair
Gates non-operation?	☐	☐	Repair and make operational
Trash racks blocked?	☐	☐	Clean out debris

[1]Monitoring surface cracks in the embankment includes tracking the speed with which the cracks widen, and documenting this development through the use of photographs or instrumentation records. Any rapid development requires immediate notification of the State Dam Safety Engineer.

[2]Monitoring seepage involves determining the quality and quantity of flow through the embankment/dike/spillway. Measure the quantity per unit time, if possible. and note any solid materials carried in the flow, such as sand or other fines. Excessive flows and/or turbid flows require immediate notification of the State Dam Safety Engineer.

[3]Settlement of the top of the dam can be caused by surface erosion or by internal compaction. Rapid settlement requires immediate notification of the State Dam Safety Engineer.

[4]Concrete deterioration may be patched through routine maintenance procedures. Extreme deterioration should be examined by an engineer. Severe cracking or rapid changes require immediate notification of the State Dam Safety Engineer.

[5]Cracks or displacement of the abutments may occur over time. Monitoring includes determining the rate of change. Rapid separation requires immediate notification of the State Dam Safety Engineer.

[6]Scour can be determined by probing the streambed. Abrupt changes or rapid erosion of the streambed requires immediate notification of the State Dam Safety Engineer.