



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND AND WATER MANAGEMENT DIVISION
DAM INSPECTION REPORT**

This form is to be used for inspection reports required by Part 307, Inland Lake Levels, for those dams that do not meet the size criteria as defined by Part 315, Dam Safety, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Dams six (6) feet or more in height, as defined by Part 315, and impounding five (5) acres or more at the design flood elevation, must meet the inspection report format as outlined in Section 31518 of Part 315.

A person failing to comply, or falsely representing dam conditions, is guilty of misconduct in office.

DAM NAME Duck Lake Dam		DAM ID 1952	COUNTY Grand Traverse
DATE OF INSPECTION December 4, 2012	NAME OF WATERBODY Duck Lake	SECTION, TOWN, RANGE Sec. <u>22</u> T. <u>26N</u> R. <u>12W</u>	LEVEL THIS DATE
DATE ELEVATION SET BY COURT June 18, 1959	LEGAL LEVEL 837.3	DRAWDOWN LEVEL 835.00	HIGH WATER MARK ELEVATION

EARTH EMBANKMENTS LEFT EMBANKMENT _____ FT. RIGHT EMBANKMENT _____ FT. TOTAL LENGTH _____ FT.
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATIVE COVER	Grass and small brush	Grass, Small brush and trees	Grass
EROSION	None	None	None
SEEPAGE			None
SLIDES, SLUMPS & CRACKS	None	None	None
ANIMAL BURROWS	None	None	None
WAVE ACTION PROTECTION	Rip-Rap		Rip-Rap
REMARKS*	The earth embankment is not a functional part of the dam. The original grade is higher than the water surface at both abutments	The outlet stream flows to within 18 feet of the edge of the lake and there are animal trails present at the narrow portions. (see map) No erosion present	

CONTROL STRUCTURE

TYPE Stop log	YEAR CONSTRUCTED 1960	STRUCTURAL HEIGHT (top of dam elevation minus stream invert)
LENGTH OF SPILLWAY 20	FREEBOARD	HYDRAULIC HEIGHT (design flood elevation minus stream invert) 8.2 ft (Former Lake level)
VERTICAL PIPE SIZE NA	HORIZONTAL PIPE SIZE NA	HEAD (normal headwater minus normal tailwater)

DESCRIBE CONDITION OF THE FOLLOWING ITEMS.

<p>STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates. Stop logs are 3"x5' Oak and in generally good condition.</p>
<p>OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating.</p>
NA

CONTROL STRUCTURE (continued)

CONCRETE STRUCTURE: Check for erosion; location of cracking or spalling. If old or new; settlement; need for crack repairs.	
The concrete structure is in good condition. There is no indication of major structural cracking or settlement. There some slight surface spalling and effervescence.	
WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided. Walkway railing is in place and in good condition. The railing is constructed of pipe and is only present on the upstream side of the walkway. Chain link gates with locks have been placed on each side of the dam to limit pedestrian access to the structure.	TRASHRACK OR LOG BOOM: Check if operable. NA
EMERGENCY SPILLWAY: Size, type, and condition.	
NA	

INLET & OUTLET CHANNELS

	INLET	OUTLET
SIZE	21 feet wide	21 feet wide
EXISTING CONDITION	Good	Good
EROSION	None	None
DEBRIS & OBSTRUCTIONS	None	None
RIPRAP PROTECTION	Present and in good condition	Present and in good condition
REMARKS*	None	None

RECOMMENDATIONS

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

Tree Removal

Inspection Ordered By: Grand Traverse County Drain Commissioner

Kevin McElyea County Delegated Agent

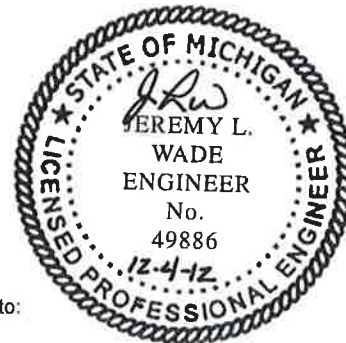
 INSPECTOR'S NAME (PRINTED)

 SIGNATURE

 49886

 P.E. REGISTRATION NO.

Gourdie-Fraser
123 West Front Street
Traverse City, MI 49684
(231) 946-5874



Please submit this completed report and photographs of the dam, downstream channel, and deficiencies cited in the report to:
DAM SAFETY PROGRAM
LAND AND WATER MANAGEMENT DIVISION
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 30458
LANSING MI 48909-7958

***NOTE:** If space is inadequate for remarks, attach additional sheets as needed.



2012 aerial photo

Site photos Dec 4, 2012





Narrows South of Structure



Old Beaver landing on south side of berm



Trees on west side of berm, south of structure

