

SECTION 1

1.0 DESCRIPTION OF PROJECT

1.1 General

1.1.1 Authority

The Town of Waitsfield, Vermont (Town) retained Weston & Sampson to perform a visual inspection and develop a report of conditions for the dam at the Town Pond Dam in Waitsfield, Vermont. This inspection and report were performed in accordance with the order 10 V.S.A., Section 1272 of the Vermont Statutes, presented to the Town April 11, 2008.

1.1.2 Purpose of Work

The purpose of this investigation was to inspect and evaluate the present condition of the dam and appurtenant structures to provide information that will assist in both prioritizing dam repair needs and planning/conducting maintenance and operation.

The investigation was divided into three parts: 1) obtain and review all available information pertaining to the dam and appurtenant structures; 2) perform a visual inspection of the site; 3) prepare and submit a final report presenting the evaluation of the structure, including recommendations and remedial actions, and opinion of probable costs.

1.1.3 Definitions

To provide the reader with a better understanding of the report, definitions of commonly used terms associated with dams are provided in Appendix D. Many of these terms may be included in this report. The terms are presented under common categories associated with dams which include: 1) orientation; 2) dam components; 3) size classification; 4) hazard classification; and 5) miscellaneous.

1.2 Description of Project

1.2.1 Location

Waitsfield Town Pond Dam is located in Waitsfield in Washington County, Vermont. The dam impounds the Town Pond. The dam is located at the following coordinates in the NAD 1983 system:

Latitude: 44.1882 N
Longitude: 72.8322 W

Beginning at the Waitsfield Town offices travel south on Vermont Route 100 for approximately ½ mile. The dam is directly on the right adjacent to the roadway.

See Figure 1 – Locus Plan.

1.2.2 Owner/Operator

	Dam Owner	Dam Caretaker
Name	Town of Waitsfield	Town Select Board
Mailing Address	9 Bridge Street	
Town	Waitsfield, Vermont 05673	
Daytime Phone	(802) 496-2218	
Emergency Phone		
Email Address	townadmin@madriver.com	

1.2.3 Purpose of the Dam

Waitsfield Town Pond Dam impounds Town Pond, which is a fire protection source for the Town.

1.2.4 Description of the Dam and Appurtenances

A 10-foot high, 165-foot long earthen embankment dam impounds the Town Pond. The dam was built approximately 30 years ago. The design resembles a common design provided by the US Natural Resources Conservation Service, formerly the Soil Conservation Service (SCS) for agricultural ponds. The dam is an earthen embankment, consisting of a silty gravel material. This embankment is not believed to be zoned or contain an impervious core. A mineral toe drain or chimney drain is also not believed to be included in the design. The embankment crest approximately 20 feet wide. The upstream and downstream slopes of the dam form an approximate 2 Horizontal to 1 Vertical (2H:1V) slope. The earthen embankment is grassed over the entire surface.

The primary spillway at the dam consists of a 54 inch corrugated metal pipe (CMP) riser mated to a 42 inch CMP outlet pipe. The water level is controlled by the top elevation of the riser. Flow is then discharged through the outlet pipe. An 8-inch low-level outlet (LLO) pipe is reportedly connected to the riser. This was confirmed during the visual inspection. LLO pipe has a flap gate at the upstream end.

An auxiliary spillway is located on the left abutment. This spillway consists of a 10-foot earthen notch that discharges toward the toe of the embankment.

1.2.5 Operations and Maintenance

The dam generally does not have any formal operations and maintenance procedures. The grassed surface is mowed on a regular basis throughout the summer. Maintenance on the embankment and spillway occurs on an as needed basis.

1.2.6 Dam Safety Size & Hazard Classification

Town Pond Dam has a structural height of approximately **10 feet** and a maximum storage capacity of **5 acre-feet** acre-feet. Therefore, in accordance with Vermont Dam Safety classification, the Town Pond falls below the classification threshold. The Waitsfield Town Pond Dam is a **Non-Jurisdictional Dam**.

1.3 Pertinent Engineering Data

1.3.1 Drainage Area

The drainage area for Town Pond Dam is approximately 0.41 square miles and extends from the Bragg Hill area down to the pond. There are three (3) culverts that drain to the pond. These culverts drain the Winter Common development area, Route 100, and the Irasville business district.

1.3.2 Reservoir

	Length (feet)	Width (feet)	Surface Area (acres)	Storage Volume (acre-feet)
Maximum Pool	300	100	0.75	5.0

1.3.3 Discharges at the Dam Site

Flow from Town is discharged through the riser structure into the downstream wetland. A LLO also exists at the dam. The capacity of the LLO has not been previously reported.

1.3.4 General Elevations (feet)

A topographic survey was beyond the scope of this report. The crest of the primary spillway is approximately 3 feet below the top of dam. The auxiliary spillway crest is approximately 1.5 feet below the top of dam elevation. The upstream invert of the riser is 7 feet below the crest of the primary spillway.

1.3.5 Primary Spillway

- A. Type: 54 inch Corrugated Metal Pipe Riser
- B. Length: 14 feet (circumference of riser pipe)
- C. Invert Elevation: N/A
- D. Downstream Channel: Wetland Complex

1.3.6 Design and Construction Records

The design and construction record were not available at the time of this report.

1.3.7 Operating Records

There are no formal operating procedures for this dam. No operating records were available at the time of this report.