

## Witches Woods Dam Inspection Summary

The overall condition of the dam is **satisfactory**. Please see the Dam Condition Standards listed below. There are no immediate fixes needed as opposed to the prior inspection in 2015 whereby the dam was rated in **poor** condition. The 2015 inspection required the installation of toe drains at the base of the dam.

### Dam Condition Standards based on conditions stated in the Dam Report

**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.

**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.

### Summary of Dam Conditions from The Dam Report

Both the Witches Woods Lake Dam and Witches Looks Lake Dike are in **satisfactory** condition.

The general condition of the principal Spillway is **good**, with all areas sound and stable.

The downstream channel leading from the Spillway is in **satisfactory** condition.

The riprap stilling basin at the low level outlet discharge is in stable condition.

The structure surrounding the Intake valve that is used to control the lake level is in **good** condition. The valve itself was evaluated by the Rodney Hunt Company on February 26, 2021. The inspection did not reveal anything in need of repair or replacement. The outlet pipe that is used when the lake level is lowered was determined to be in **satisfactory** condition. All access points to the spillway were determined to be in **good** condition.

The dam is currently rated as a “**B**” **hazard dam** and, based on a visual inspection of available information with respect to downstream roads and structures; it is recommended that the rating remain as is, pending any newly available data since the original assessment was completed. 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.

### Recommendations taken directly from the report

**1. Vegetation** – The site is overall well maintained. There are, however, several areas which are susceptible to encroachment by vegetation that are and should continue to be monitored and maintained. These will typically include all areas within 25 feet of the dam and its base and side perimeters and, in this case, specifically the downstream toe areas, where fringe brush tends to encroach toward the dam and dike if left unchecked; the stilling basin discharge area at the low level outlet pipe; the vicinity of each of the toe drain discharge points along the downstream toe; and the downstream spillway discharge channel. Establishment of a strong grass growth is highly encouraged for all embankment and toe areas, and barren spots should be reseeded when and where found. Riprap areas should be maintained clear of vegetation growing up from between stones. The steeper sections of the downstream embankment (in the main section immediately left of the spillway) which are too steep to be mowed with a riding lawn mower should be weed-whacked at the same intervals at which mowing of the rest of the embankment is performed.

**2. Downstream Spillway Training Walls** – The downstream ends of the two concrete spillway training walls have minor deterioration at their ends, and appear as though they may possibly be caps over previously existing stone masonry. The deterioration of the concrete should be patched and the areas monitored during regular inspections.

**3. Sluice Gate** – In accordance with the recommendations during the inspection of the sluice gate, the gate should be exercised on a minimum semiannual basis to ensure operability during an emergency situation and to forestall bowing or distending of the hoist stem mechanism.

**4. Wet Areas at Dike** – Wet areas were noted along the downstream toe areas of the dike on the far left side of the dam, particularly toward the center-right downstream portion of the dike. These areas should be monitored regularly, and any significant changes in quantity of seepage or quality of outflow (i.e., discoloration and possible sediment infiltration) should be brought to the attention of an engineer.