INSPECTION REPORT
FOR THE SILVER LAKE DAM, BUCKSPORT #718

On December 15, 1977, Everett Barnard, MDOT Assistant Bridge Maintenance Engineer an. Philip J. Libby, MDOT Structural Project Design Engineer assigned to Dam Inspection, met Preston Robinson, Senior Project Engineer for Saint Regis Paper Company at 9:30 a.m., at the security gate of the mill, to prepare for the inspection of Silver Lake Dam with the U.S. Army Corps of Engineer. As none of the other members had appeared by 10:00 a.m., Larry Roberts, Assistant Bridge Design Engineer, in Augusta, was contacted by phone to determine the status Corps of Engineer men. It was determined that they had been delayed the day before by the severe storm and would meet on the site at 11:30 a.m.

Mr. Preston Robinson, took Mr. Barnard and Mr. Libby to the entrance road leading to Silver Lake Dam. As there were no other members there, Mr. Robinson returned to his work at the mill and Mr. Barnard and Mr. Libby stayed at the entrance road. After a short wait they decided to walk to the Dam site, on the way there was evidence that another party had visited the site earlier, this proved to have been Mr. Norburg, MDOT Geologist and Mr. Baker, MDOT Assistant Soils Engineer. At the site pictures of the Dam were taken and are in the file.

Mr. Norburg and Mr. Baker of MDOT returned to the site followed by Mr. Hart, Mr. Mattson, Mr. Katz Hyman of Corps of Engineer and a visual inspection was made, noting that snow cover hindered enough to prevent final conclusions. However from the evidence at the site there was no dangerous condition at the Dam.

The concrete spillway showed evidence of shrinkage cracks and that gunite had been used to repair spalled areas but the entire structure was sound. The spillway consisted of a 50'± in length which was 9'± below the crest of the Dam and 20' above the streambed. Two sections of the spillway were closed with fixed Metal Plate gates, each 20'6" long and approximately 6' high. Between the above mentioned gates was a sluice which was 4' lower the general sluice section. This, too, was closed by a metal gate which crested about 2' below the fixed metal gates. There was very little flow thru either the fixed gates or sluice, though the water elevation was 2' above the sluice.

Plans indicate that a concrete core was built in the dike to an elevation 8' above the spillway. There is no indication that the core was extended to ledge but rather, at least 4' into a subsoil strata.

The snow had melted at the toe of slope of both the east and the west earth dike, and there was small quantities of water flowing in the melted spots. There was one spot on the west dike that looked like a spring, this spot had considerable deposit of brown sediment. The spots could have been the result of runoff from the previous days rain storm or a minimal seepage thru the dam.

There were trees and bushes growing on the back slope of the dikes, the largest of which was a 6"± pine. The front slopes of the dike had stones showing thru the snow. Mr. Hart noted that tree growth was not a desirable situation for dams as the root system could make ducts thru the dike to increase seepage flow.

Upon completing the inspection of the Dam site, the party returned to the road and were met by Mr. Robinson who observed that he had wished to accompany us as we made the site inspection and requested that we meet at 2:00 p.m. with the Plant Engineer, in his office.

The Corps of Engineer and MDOT Personnel then drove around the Lake noting the characteristics at the watershed above the Dam and also the pipe that discharges into the Lake from the pumping station located at Alamoosook Lake.

The inspection of the stream below the Dam noted a fairly broad wooded plain from the Dam to Silver Lake Stream Bridge, has a drop of about 20' in 3/4 mile. The bridge has an opening of 15'6", however, the next two town ways, Pond Street and Franklin Street, each have two pipes one 60" and one 42", this distance is relatively flat; the estimated drop 5' in 1/4 mile. There are a number of dwellings and a school on the broad area described between Silver Lake Bridge and Franklin Street. From Franklin Street to the River there is a steep narrow ravine, under Maine Street Bridge. The topography of the area would not restrict extreme flow thru the narrow ravine mentioned above, but spread it over a much wider flooded area.

At the meeting at 2:00 p.m. with Mr. Richard Jordan and Mr. Robinson, the included lists noted those present, a general description of the proposed Dam Inspection Program was given to him. (Copies of the plans for the Dam construction were supplied to MDOT and Corps of Engineer) and their description of Silver Lake Dam is as follows:

It serves to increase volume of Silver Lake, as a reservoir for process water used by Saint Regis Mill with a water supply for the citizens of Bucksport Village. The reservoir is principally supplied by pumps at Alamoosook Lake which can supply up to 20 million gallons a day. This is used to maintain a head from spillway height to spillway height plus 3' with levels maintained to use anticipated runoffs.

With this control of water level and a very small watershed above the Dam, it seems there is no danger of storm conditions applying extreme heads to endanger the structure and with continued surveillance by the owner and his desire to keep seepage losses at a minimum assures that this Dam does not impose any danger to those living below it.

Reported by Philip S. Libby

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