

11/1/22 County RT51 (the Burden Lake Road) remains closed for now.

Definitions for this article:

Dam – the structure built in 1863 at the north end of the First Burden Lake was designed to hold back the waters of the new reservoir they intended to make. Approximately 250' long, constructed of hand stacked stones and filled with clay. This structure originally had a dirt road on top of it which was sufficient for horse & buggy traffic allowing easier travel to Averill Park. Today it has a busy Rensselaer County RT. 51 (the Burden Lake Road) on top of it. There is some question as to the ownership of the dam. In 2021 we did extensive title work resulting in an Abstract of Title proving the BLPC owned the bottoms (up to the high water mark) of the three Burden Lakes. It also proved we owned a 3-acre parcel at the south end of Burden Lake. It does leave to question if the BLPC actually purchased the Dam itself since their purchase was based solely on tax maps. In addition, there are other legal questions centered around years of use by the County and Town as to who currently owns the DAM.

Outlet Pipe & Valve – A 28" pipe that was installed at the bottom of the Dam. It allowed water to flow out of Burden Lake thru a large valve on the lake side of the dam, and flow down the Wynantskill Creek to provide waterpower to the Mills downstream. The valve control was inside a small shack on the lake side of the dam directly above the actual valve. The valve was damaged around 1990 and the shack fell down and was removed. The pipe was leaking and had a steel plate bolted to its flange on the west side of the dam stopping the leak.

Canal – A 900' channel hand dug to and thru Carmichael's pond in 1863 that leads from Burden Lake to the Wynantskill Creek. The BLPC currently owns about ½ of the canal The other ½ is on private property. The BLPC Hopes to have ownership of the rest of the Canal by the end of November 2022.

Levee – often referred to as the Berm. The levee was constructed in 1863 on the west side of the canal to hold in the water of the canal. The levee is about 12' tall and 12' wide on the top and about 900' long. The BLPC currently owns about ½ of the Levee. The other ½ is on private property. The BLPC Hopes to have ownership of the rest of the Levee by the end of November 2022.

Weir – Originally called a Diversion Dam (looks like a small waterfall) installed in the Wynantskill Creek in 1863 about 900' north of the First Burden Lake near Gardner Road. The Weir is about 5' tall on the downstream side and the full width of the Kill. Approximately 60' wide at that point. It was constructed slightly south of the Patroon's "water privilege site" #13 which was originally allowed by the Patroon for Tompkins Mill located on Gardner Road. The purpose of the weir was to divert water coming down the Wynantskill Creek, thru the Canal, and into the new reservoir, now known as Burden Lake. The original Engineer, Burton Thomas, had done a water shed study and determined that the water shed alone, around the original Martins Lake, and along the natural valley they wanted to flood, was insufficient to fill the new reservoir. In a genius plan, they harnessed the excess water shed from Crooked, Glass and Crystal Lakes. The excess water from these lakes flows out of Glass Lake at what is the beginning of the Wynantskill Creek only a few miles from Martins Lake. The water from Crystal Lake meets the Creek in Averill Park. Then, that water makes it way to the Weir. At the Weir, if the reservoir is low, the water flows into the reservoir until it is full. Once it is full, (we would say reached its equilibrium) the water coming down the Wynantskill would stop filling the reservoir and flow over the Weir and head down stream to power the mills. In addition to this, the Weir had a mechanism of boards on top of the cap stones that when raised, could fill the reservoir with an additional 2' of water. This was called the high-

water mark of the reservoir. While the Wier is in bad shape and the top is sandbagged today, it is still providing the same function some 160 years later. The BLPC does not currently own the property that the Weir is on. It is on private property owned by two private individuals, half on one lot and half on the other. The BLPC is in the final stages of acquiring the land the Weir is located on from the two individuals

The above components make up what the DEC is calling a “Dam System”

BLPC – Burden Lake Preservation Corporation- Formed in 2001 to assume ownership of the bottom of Burden Lake up to the high-water mark. The last standing member of the Wynantskill Improvement Association, Portec, was failing and needed to divest itself of real estate holdings it no longer needed. The BLPC was formed to assume that function. The BLPC is a very small 501C3 corporation. It has 6 permanent members and 6 additional members from the two Lake Associations making a 12 member volunteer Board.

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The road remains closed today because the BLPC is concerned about the physical condition of the Burden Lake Dam that lies under the road. The concern came about when the BLPC noticed some movement of the stones in the dam face and fractures in the macadam due to stress from the traffic and the sewer lines which had been installed in the dam. The BLPC believes the 150 years of County Rt. 51 traffic (on a road designed for horse & buggy traffic) and the Town of Sand Lake installing a sewer in the full length of the dam has taken a toll on the integrity of dam structure itself. The DEC also has concerns with the “Dam System”. The Canal needs to be cleaned and the Levee needs to be cleared of trees & brush and built up higher, and the Weir needs to be completely replaced. We’re not certain what the Dam itself might require yet. The BLPC wants to comply with any DEC requests and more importantly, **the BLPC wants to do the right things to the DAM System in order to preserve Burden Lake for generations to come.**

Complying with DEC requests, certifying the dam as “safe”, providing a complete Engineering Study for the DEC, and identifying who owns, and will pay for Engineering and all the repairs/replacements are some of the issues.

BLPC actions taken so far (as of October 2022) to address the longevity of the Dam System, and NYS DEC concerns with the Burden Lake Dam System.

Dam Inspections

While not a formalized process yet, members of the BLPC have been inspecting the Dam proper, the berm along the canal, and the weir (spillway) on a regular basis. We take photographs and forward them to the President of the BLPC. We also report any findings at our meetings to all members. That is why the County closed the road. We reported that we were concerned about the stone face of the dam and felt the weight of all the vehicles traveling over the dam was having a negative impact on the structure. The road has been closed for a little more than one year now.

One of the things the DEC wanted from the BLPC was an Emergency Action Plan which was developed and sent to all parties in July 2021.

While we haven't been able to completely comply with all the DEC requests yet, we haven't been sitting idle either. Below is a list of actions we have already taken:

- 1 Removed the large tree that was resting on top of the Weir.
- 2 We visually check the level of the stagnant water on the west side of the levee toe. Earlier this year it was all but gone because of the drought early in the summer.
- 3 We requested engineering proposals from three firms during COVID. It was difficult at best to get anyone to make a site visit to develop a quotation at that time. Nevertheless, three quotations were finally received in October of 2021.
- 4 We are in the final stages of acquiring portions of the lands owned by the Densmore's and Alger's so we will own the land the weir (Spillway) is actually on. This will hopefully provide us with enough land to facilitate building a road to the weir and allow us to completely replace the badly damaged weir. This will take the Densmore's & Alger's out of the equation. We anticipate completion of this transaction in November 2022.
- 5 We did extensive title work in 2021 resulting in an Abstract of Title.
- 6 After a meeting in 2021 with the Rensselaer County Executive, when the BLPC expressed their concerns about the integrity of the Dam, the County closed the road over the dam and has not reopened it. In fact, they had an engineer look at it who recommended leaving it closed until a complete Engineering report could be done. The BLPC feels closing the road has given all parties some time to sort out the ownership issues and is allowing time to put together all the plans with the involved entities and finding funding to have engineering studies done and funding to actually make the necessary repairs and improvements. We feel the absence of traffic on the dam right now is actually preserving the Dam for the time being.
- 7 We have researched the history of the Wynantskill and the water privilege sites allowed by the Patroon in the 1800's. We have the book, The Wynants Kill by Robert Lilly, written in 2005 which explains everything about the history of the Wynantskill and the associated lakes and dams beginning in 1646 all the way to 2005. In addition, we have researched and examined the original plans by Burton Thomas, who designed the dam system in 1863. We have also researched and examined the plans by David Maxon Green who was hired to re-vamp and up-grade the system in 1889. Almost all the improvements he suggested were implemented and constructed right away. Two years later, Averill Park had a 100 year storm, and while the storm caused mass destruction along the Wynantskill down to Troy, the Burden Lake Dam system held in place! His plans and structures are the ones we still have today which are now in need of replacing and or upgrading again.
- 8 In the winter of 2021 – 2022 we took detailed elevation measurements using the latest GPS technology (NAD83 New York State Plane, East Zone, US Foot, Trans Mercator Projection, Vertical Datum NAD83). We took elevation readings of the Dam, Levee and Weir, and also the pin indicating the high-water mark of the lake along with elevations of the ice in various

places around the lake including the First & Second Dyke Roads where the water passes through.

- 9 We have documented the conditions of the system with many photographs over the last 10 + years. Including during the 5" rain event that occurred in July 2021. During that event we identified a low spot in the berm along the canal which we now know needs to be raised. We know the elevation that the top of the new weir needs to be set at. We have photographed the changes in the stone face of the dam proper over the last 10 years. We took photos earlier this summer at the height of the drought which shows the Wynantskill completely empty and mostly dry and a weir with absolutely no water around it. These photos reveal the severity of the condition of the weir which must be replaced.
- 10 In June of this year, 2022, the BLPC applied for a NYS Homeland Security Hazard mitigation Grant in the amount of almost 6 million dollars. This is a complicated process which they were not familiar with. They received a letter (10/5/22) requesting additional information which they needed to submit by 10/20/22. We were able to answer all the questions on time, making modifications to the original application and our grant request now lays in the hands of a board of NYS reviewers. If it makes it past them, it will go to FEMA for another round of questions.
- 11 On 10/12/22 we met with John Keller of **WM. J Keller & Sons Construction** and requested quotes to construct a road on the west side of the levee (berm) to allow access to the weir, prices to replace the weir which incorporates a FISH LADDER, Prices to remove the trees from, and build up the levee an additional 24", and prices to shore up the DAM proper to insure it can continue to hold back the waters of Burden Lake, and incorporating a stand pipe to help regulate the height of the water in the lakes. We received Keller's project estimates and used these to help us perfect our Grant application.
- 12 We are just now starting the process to again have meetings with the County & Town & hopefully the DEC, to try to come up with ways to resolve the ownership and financial challenges we face. We met with Scott Gallerie (Sand Lake Supervisor) in October 2022 to begin formulating our next steps.

To be clear, The BLPC is a tiny 501c3 corporation with no money. This dam/county road has existed for 150 years plus. We have only had ownership of the bottom of Burden Lake since 2001 (which might include ownership of the dam). Sometimes we feel like the last man standing. We didn't even own the land the weir is on. We want to comply with DEC requests and more importantly, we want to do the right things to preserve Burden Lake for generations to come. We are in a situation of what comes first, the chicken or the egg? The engineering proposals we received are all around 70k. And they all read differently. We aren't engineers, and we don't have any money to pay engineers. At this point we don't know what the DEC will require or allow as far as construction, replacement, or repair of the dam system. In applying for these grants, it is evident that you need detailed estimates to substantiate project costs and to come up with accurate Benefit Cost Analysis in order to be considered. How can we do this accurately with no money. We think applying for grants will

help us. In reading the grant applications it looks to us like we already need to have money in order to apply for more money thru grants.