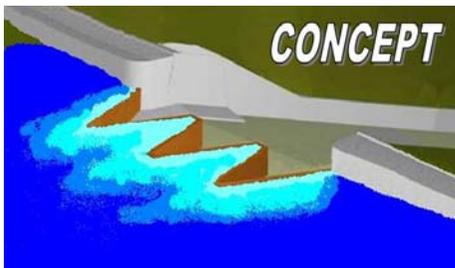


Moeckel Pond Restoration (Spring 2014 Update)

Seems like forever since the pond was ordered drained in 2010, but we have made a lot of progress. In 2011 we were able to establish critical agreements with the Town of Windham, supporting organizations and the then current owners of the property. This resulted in the creation of the Moeckel Pond Village District (for long term maintenance of the dam) and the Friends of Moeckel Pond (a 501.c.3 non-profit to reconstruct the dam and restore the pond).

2012 was the year we legally acquired the property, subdivided it to place the pond proper in conservation hands, and gain our initial funding through the sale of property.

2013 was a significant year in which we obtained the information necessary to design for the restoration. We completed an archeological survey of the 235 year old site, established the location of bedrock upon which the dam could be anchored, defined the historic impoundment level at elevation 146.6, and most significantly completed a hydrologic study of the Windham watershed as it applies to Moeckel Pond. When we began this project it was with the understanding that a 50 year storm event would push 1000 cubic feet/second (cfs) of water over the Moeckel Dam. The highly detailed hydrologic analysis performed by The Turner Group, coupled with update rainfall data required by the NH Dam Bureau changed this to nearly 1500 cfs. Nearly half of the water that falls in the town of Windham during such a storm flows through Moeckel Dam. To protect people and property both upstream and downstream of the dam would require a major change to the dam.



After exploring all possible spillway alternatives our engineering firm HTENortheast proposed a 75 foot long "labyrinth" spillway as the only alternative that would meet the NH Dam Bureau requirement to pass a 50 year storm event with a foot of freeboard without manual intervention. This design creates 180 foot spillway by folding it like an accordion, compressing the length in order to conform to the natural stream bed and current dam footprint. The dam reconstruction will have limited

impact on the surrounding wetland while preserving as much as possible the downstream historic dam structure. This design has the additional benefit of being able to pass even more robust storm events without overtopping and creating flood damage to the structure or surrounding areas. The downside to this design is that it requires additional forms and concrete which adds to the expense of the structure. It takes our initial project cost estimate done in 2010 from \$344,000 to about \$450,000. An actual cost won't be known until final design work is completed and the construction work is contracted.

2014 is the year in which the final design work will be completed and submitted to the State of New Hampshire Dam Bureau and DES Wetlands for approval. We must then obtain a reconstruction permit, a wetlands permit as well approval from Windham Conservation Commission and Planning Board. While it seems easy to say, it will involve presentations, applications and waiting at multiple levels. The ideal time to perform construction work will be in the July through October timeframe due to reduction in water flows. It is doubtful that all of the design and permitting can be completed in time for a 2014 build so we are likely to begin building in July 2015. By the end of 2015, Moeckel Pond should once again be a vibrant place for water life, a source of food and rest for migrating waterfowl, and a supply of water for the abundant wildlife in the surrounding woods. It will again help restore clean water to the aquifer below and remove carbon from the atmosphere.

