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Moving the Cornell Hill fire tower to Wilton, NY

by Bill Starr

A few miles south and east of Saratoga Springs, NY, straddling the town line between Malta and Stillwater is the 7,000-acre Luther Forest. In 1898 with the purchase of 110 acres of land, Thomas C. Luther, a pioneer of modern day silviculture, started the Luther Forest to demonstrate that barren land can be reclaimed, gaining him notoriety and recognition for reforestation. Mr. Luther was a visionary in realizing the importance of replanting trees and planning future reforestation projects. He was known to have planted up to one million trees annually. The Luther Forest was the first of its kind in New York with the implementation of forestry management practices, long before the State of New York initiated their first programs. Mr. Luther was followed by his son Thomas F. Luther, his granddaughter Carol Luther-Mackay and his great-grandson Alex Mackay in the management of the forest.

As the Luther Forest is a major watershed providing drinking water to several local municipalities, the risk of forest fires was of great concern. In 1924, the New York State Conservation Commission erected and operated a 60-foot Aermotor model LS-40 fire tower in the forest on Cornell Hill.



A post card image of Cornell Hill circa 1940

The first forest fire observer to staff the fire tower was Noah LaCasse (1924 - 1935). As a young man, Mr. LaCasse was a guide in the Adirondack Mountains and was often in the employ of Theodore Roosevelt. Mr. LaCasse was with Roosevelt's party hiking up Mount Marcy in 1901 when President McKinley was shot in Buffalo, NY.



Noah LaCasse heading in to Cornell Hill circa 1928

The Cornell Hill fire tower was operated by the State of New York, via an easement with the Luther Forest, until the end of the 1970 fire season, at which time the fire tower was decommissioned and subsequently sold to the Luther Forest for a nominal fee. Since that time the fire tower had been subject to vandalism

and decay, all of which took their toll. The Luther Forest was forced to remove the bottom three flights of stairs to keep people from climbing on the wood plank steps and landing boards as they continued to rot away.

With growth from housing developments, and the creation of the Luther Forest Technology Park, the fire tower was becoming a tremendous liability risk.



The rundown Cornell Hill fire tower in 1983

In the late 1920s, Luther's son Thomas F. Luther was a charter member of the Saratoga County Boy Scout council and was their first Commissioner. He was instrumental in the founding of the Boy Scout's Camp Saratoga in Wilton, NY.

The Twin Rivers Boy Scout council closed Camp Saratoga in 2000 and sold the camp to the Nature Conservancy, who in turn, sold 24 acres to the Town of Wilton and the remainder to the NYS-DEC.

Today the buildings at Camp Saratoga are maintained by the Town of Wilton and the land parcel is preserved as a town park with hiking trails that are integrated with the trail system of the adjacent Saratoga Sand Plains Wildlife Management Area, which is owned by the NYS-DEC.

In 2005, Town Councilman Larry Gordon and Wilton Wildlife Park & Preserve member Bob Rice advocated the need to obtain a fire tower to be erected at Camp Saratoga to depict the history and role of forest fire control in the protection of our woodlands.

In approaching Mr. Mackay of the Luther Forest, they explained that moving the Cornell Hill fire tower to Camp Saratoga would be a legacy of his grandfather, Thomas F. Luther. Mr. Mackay agreed and graciously donated the fire tower for this purpose.



FFLA member Mark Haughwout (l) and Larry Gordon (r)

Before the fire tower could be dismantled and re-erected at Camp Saratoga, the four years between 2006 and 2010

were spent going through the planning and permitting procedures with the town. As the proposed site was within feet of the boundary between state and town land, the NYS-DEC was also involved with the planning.

Work soon began by first dismantling the fire tower at Cornell Hill while the site at Camp Saratoga was being prepared. FFLA-NY member Dave Vana, owner of Davana, LLC - Fire Tower Restorations of Bloomingdale, NY, was commissioned to dismantle, restore and re-erect the fire tower.



FFLA-NY member and Fire Tower Restorations owner Dave Vana

Dave and his crew, Mike Vilegi, Mark Hall, Mark Hodgson, Tom Stewart and Tony Cosentino, began dismantling the fire tower at Cornell Hill in August 2010. Once the fire tower was in pieces it was shipped to Bloomingdale for cleaning and evaluation. In the meantime, new concrete footings were being poured.

Beginning at the Mohawk River in Clifton Park, NY, a great plain of sand runs north up through the Luther Forest, Saratoga Springs, and Camp Saratoga, ending in the Town of Moreau. Because of this geologic feature, the footings for the fire tower required some special engineering. The site was



Larry Gordon stands next to one of the 6-foot tall footings

first dug out and then two feet of crushed stone was compacted into the earth over the entire footprint of the fire tower. Mr. Gordon then placed the location for each footing using the 1917 assembly blue print from Aermotor for a 60-foot LS-40 fire tower. Once the reinforced concrete footings dried, the entire area was backfilled and graded.

Meanwhile, Dave Vana was preparing the fire tower pieces to be sent out for hot-dip galvanizing. The end folds on several of the diagonal "X" braces had succumbed to the effects of pack rust and could not be salvaged. As necessity is the root of invention, Mr. Vana consulted with a metallurgist, an engineer and the staff at the new Aermotor Company to formulate how to make new end folds on the "X" braces. Pressing the folds cold resulted in the fold splitting down the spine. Aermotor told Mr. Vana that the steel must be heated to prevent this splitting, but heating up the metal was thought to be damaging, causing the steel to weaken and become brittle. In consulting with the metallurgist, it was discovered that the angle iron used on the fire tower was cold drawn, therefore heating it up to the necessary 2,700 degrees would have no ill effect on the metal's integrity and strength.

After several attempts in making a press, Mr. Vana finally had the right combination and was soon re-manufacturing the end folds on the "X" braces. The result was an end fold identical to what Aermotor manufactured over 86 years ago.



Davana, LLC re-manufactured "X" brace end folds

As shown in this picture, the 90-degree edge of the angle iron twists slightly as it is heated and folded. This same twist is also seen on any original end fold made by Aermotor. To prevent future pack rust from forming inside the folds, Mr. Vana placed a spacer in between the metal leaving a slight opening on the reverse side, allowing for new galvanizing to penetrate the entire surface on the inside of the fold. Once the new "X" braces were made, all of the tower pieces were sent out for hot-dip galvanizing.



The slight opening between the folded metal

The original concrete footings at Cornell Hill were also oversized due to the sandy conditions. As a result, the original

anchor plates holding the fire tower legs in place were imbedded into the concrete. This forced Mr. Vana to come up with a way of anchoring the fire tower at Camp Saratoga. New fire tower anchoring pieces were made, fashioned similar to those found on any model 1933 or 1937 International Derrick or Aermotor model MC-39 fire tower, (right).



Another new feature added to the fire tower was the elimination of the wood steps and wood landings. A steel substitute called "Grip-Strut" was chosen to replace the wood planks and stair treads (right).



Construction of the fire tower commenced in early December, and even though Mother Nature threw unusually cold temperatures, snow, sleet and rain at them, the project was virtually completed within two weeks, although the finer details are being completed over the winter.

Due to the town's liability insurance coverage, the fire tower will not be open to public access 24 hours a day. FFLA-NY state director Bill Starr is developing a program to train volunteers in the history of the fire tower system in New York so that volunteers may intelligently answer the questions of the public about the state's fire towers.

Following a May 14, 2011 dedication ceremony, the town anticipates opening the fire tower to the public every other weekend through the fall with the help of volunteers.

Anyone is welcome to volunteer by contacting Bill Starr at beebe.hill@yahoo.com.



Everything was in place on December 8



December 9



December 10



December 11



December 15



December 16



December 17



December 18



Bill Starr and Dave Vana after a trip up for the birds-eye view (left)