THE NORTHEAST GEORGIA HYDROELECTRIC PLANTS

by

NANCY ELIZABETH KELLY

(Under the Direction of Wayde Brown)

ABSTRACT

The Northeast Georgia hydroelectric plants are important cultural resources to the state of Georgia and the communities immediately adjacent. If the early technology of these hydroelectric plants becomes obsolete, what is to become of these massive structures? This thesis evaluates the past, present, and future of these hydroelectric plants and their impact on the surrounding communities. It looks to other industrial structures to determine the best preservation strategies for the future protection of large unique resources. The thesis then applies these strategies to the protection of the hydroelectric plants.

INDEX WORDS: Northeast Georgia hydroelectric plants, Historic Preservation, Tallulah Falls, Industrial Structures

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INTRODUCTION

When Historic Preservation is mentioned, images of stately, grandiose homes are often brought to mind; however, there is much more to historic preservation. The high style house is definitely important, but so are the vernacular homes, the commercial buildings, and even the industrial buildings. By definition historic preservation is

> "the practice of recognizing, protecting, using and appreciating our nation's diverse cultural resources so that generations to come may benefit from them. Encompassing a wide range of resources—including houses, neighborhoods, commercial buildings, downtowns, bridges, churches, schools and battlefields—historic preservation is also an economic development tool that has proven to be an effective way to revitalize neighborhoods and downtowns."[1]

It is the abundant diverse cultural resources that are more often than not over looked by the general public and even those in the preservation field. These resources are disappearing yearly and no one even realizes it until it is too late.

It is the intention of this thesis to examine a specific type of historic cultural resource, industrial structures, specifically hydroelectric plants, by focusing on the past, present, and future of the six Northeast Georgia hydroelectric plants along the Tallulah River, the Chattooga River, and the Tugalo River. These plants are still operating using the machinery and technology from

[1] georgiatrust.org/preservation_resources/faqs.htm

eighty five years ago; however, the Georgia Power Company only receives 4% of its total electric output from these plants[2].

The Northeast Georgia hydroelectric plants are large buildings ranging between three thousand, one hundred and fifty four square feet and twenty one thousand, three hundred and twenty six square feet per story. It takes copious amounts of money to keep modern buildings this size in optimum working condition. The age of these plants and the damp conditions they are always facing increases the amount of money needed for annual maintenance. Their technology is no longer cost effective and therefore; it does not make financial sense for the Georgia Power Company to continue to keep these plants operational. What is to become of these plants and other industrial structures like them when the industry for which they were built abandons them?

This thesis analyzes and defines several methods and uses for the protection of historic industrial resources and more specifically the Northeast Georgia hydroelectric plants. The basic protection of industrial structures consists of recognizing the importance of research and documentation, through historic resource surveys, the recognition and prestige of listing on the National Register, the importance of cultural routes, and the historic marker program. After the basic protection tools for historic preservation have been explored in reference to the Northeast Georgia hydroelectric plants than a broad design for the organization of a governing authority will be examined. The specific protection of industrial structures is defined by adaptive reuse. This thesis looks into the conversion of the resource into a cultural resource management firm and training center as well as four different types of museums. The museums are as follows: (A) a working industrial museum, (B) a history museum, (C) a contemporary art museum, and (D) a

[2] Branch, Harlee.

nature museum. It briefly discusses the benefit of opening the resources to the public during restorations, and linking a series of associated industrial structures by means of a bus system. The thesis concludes with recommendations and conclusions for the protection of the Northeast Georgia hydroelectric plants.

Chapter 2

TALLULAH GORGE

At the southern point of the Appalachian Mountains on Standing Indian Mountain, near the Georgia-North Carolina border, the "terrible"[3] Tallulah River begins its journey. Fed by Tiger Creek and other small tributaries it flows approximately seventeen miles before beginning its majestic plunge into the Tallulah Gorge. Here it forms the impressive Tallulah Falls within Habersham and Rabun Counties in the state of Georgia. The river then merges with the Chattooga River, which begins in an area of Northern Georgia, where it touches both North and South Carolina. It flows approximately twenty-five miles, forming the boundary line between Georgia and South Carolina along the way. The Tallulah River and The Chattooga River merge, forming the Tugalo River; which is approximately twenty-five miles in length. The Tugalo River, like the Chattooga forms a section of the boundary between Georgia and South Carolina. However, unlike the Tallulah and Chattooga Rivers, (which empty into the Savannah River) the Tugalo empties into a lake.

Illustration 1

[3] Georgia Conservancy, p.163.

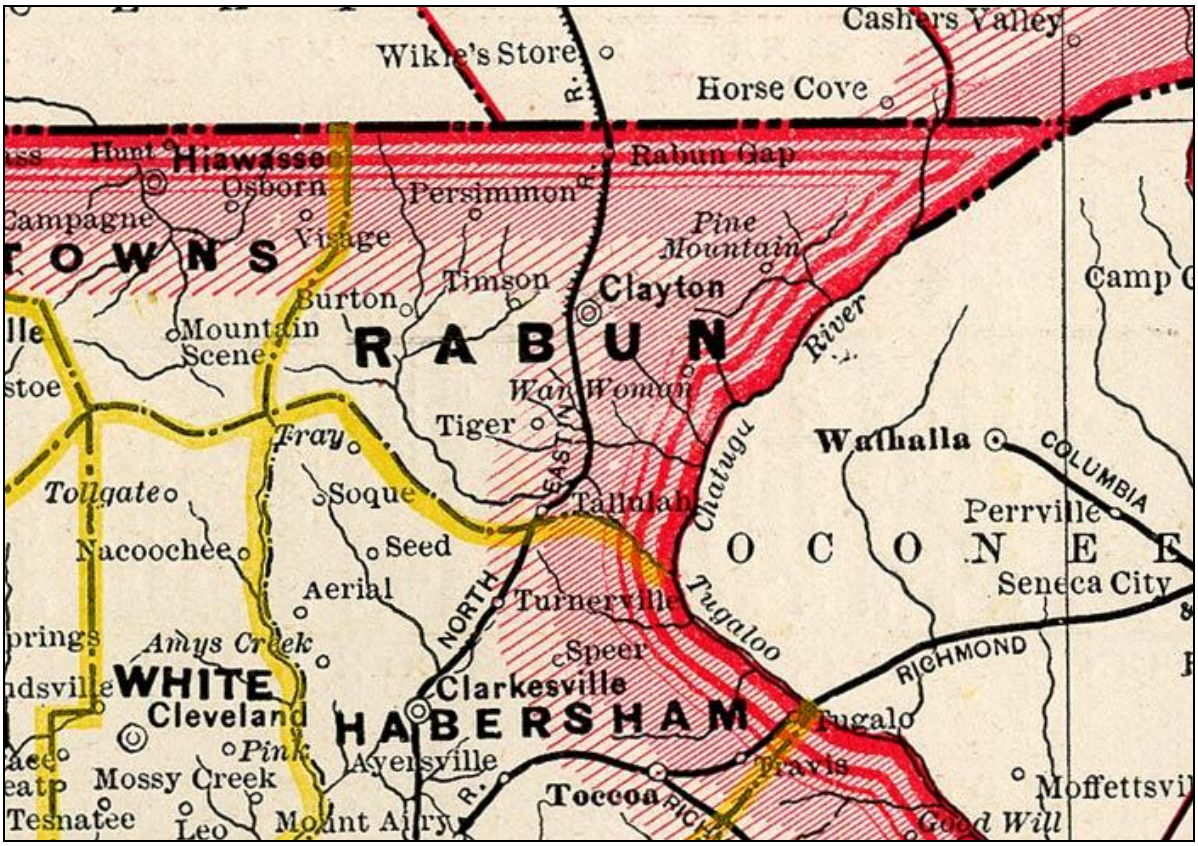

Illustration 2

The Tallulah Gorge is approximately three miles long and six hundred feet deep. Within the gorge is Tallulah Falls which is made up of five major falls and several minor cascades. Indian Arrow Rapids is located at the head of the gorge. It derived its name for "the arrow like swiftness of the water flying over the rocks." Within the gorge above Indian Arrow Rapids is a distinctive rock formation called Witches head. It was given its name because it has the profile of the classic character of a witch. The first waterfall was originally called L'Eau d'Or Falls, however, the name was changed to Landore Falls. This waterfall descends forty-six feet with a twenty-five degree incline. Hawthorne's pool can be found at the top of Tempesta Falls. It derived its name from Reverend Hawthorne, of Athens, Georgia. In 1837 Reverend Hawthorne took a group of his congregation to Tallulah Gorge. While swimming in the pool he was swept

over Tempesta Falls.[4] Tempesta Falls is the second of the waterfalls in Tallulah Gorge. It is made up of a seventy-six foot perpendicular drop. The largest of the five major waterfalls is Hurricane Falls. This waterfall has a high perpendicular cliff and a narrow channel. It plunges a distance of ninety-six feet with a very high velocity. It received its name from a visitor who stated that because of the loud roar of the fall one could not hear an "approaching hurricane." The next waterfall in the gorge is Oceana Falls; it has an inclined fifty-foot rock ledge. This fall "tossed and tumbled, like the foam-capped waves of the ocean." Hence the name Oceana Falls. Then, with a length that extends one mile, is the Grand Chasm. The width of the chasm ranges from a quarter of a mile to three hundred feet wide. The last of the five major waterfalls is Bridal Veil. Bridal Veil is located at the end of the Grand Chasm. This is the most gentle of all the waterfalls. It was given its name because "the misty spray of water reminds the observer of the lacy beauty of a bridal veil." According to Harry Stilwell Edwards,

> "The sum of these plunges amounts to something like four hundred feet in a single mile and the force of these waters, estimate at twenty thousand horse power."[5]

[4] Tallulah Gorge quotes from Boyd, Brian A. p. 12-15. and Calhoon, Margaret and Speno, Lynn. P. 9-16
[5] Edwards, Harry Stilwell.

Illustration 3

Illustration 4

Illustration 5

Illustration 6

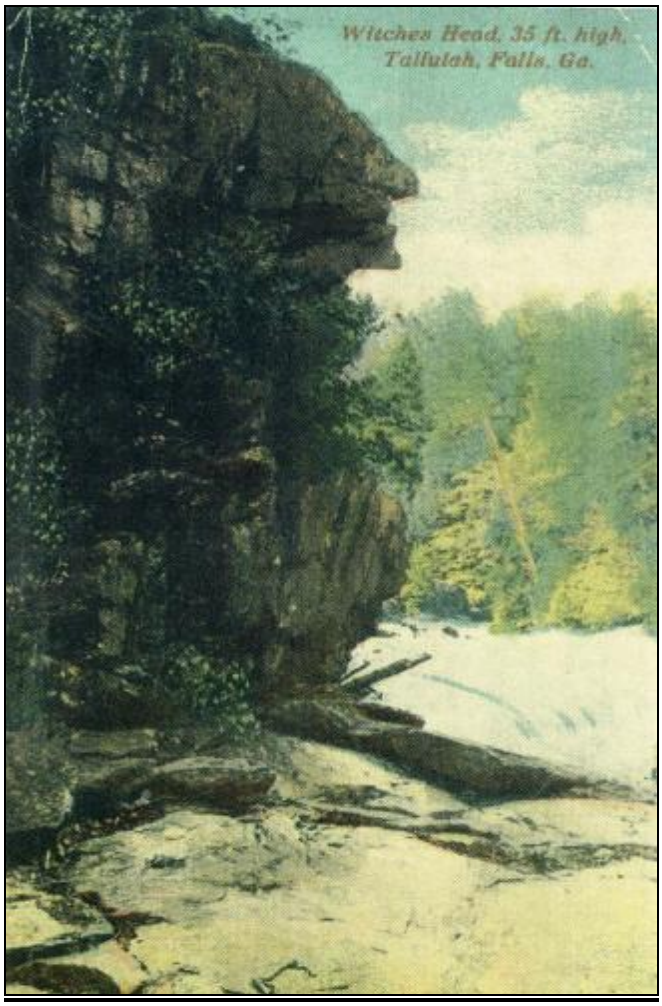

Illustration 7

THE RISE AND FALL OF TALLULAH FALLS

The first documented account of the area was found in the *Georgia Journal* in 1819. It read,

> "The character of Niagara and its great whirlpool and banks, is the only superior natural curiosity to the rapids of Tallulah, that I have ever seen"[6],

This quote lead to Tallulah being nicknamed "Niagara of the South". The unmatched beauty of this gorge and all of its waterfalls would be the reason this region was to eventually be developed into a vacation retreat. Hundreds would flock to see the beauty, absorb the inspiration, and experience the grandeur of this natural wonder.

The Native Americans inhabited this region of northeast Georgia long before the settlers or the tourist moved in. These people were part of the tribe we know as Cherokees. It is speculated that these inhabitants bestowed the name Tallulah on the area. Interestingly, the Native Americans shunned the gorge out of fear of a threatening presence. This presence was thought to be a race of small people, whom they referred to as the Yunwi Tsundi. It was believed that these people lived in the waterfalls and caves in the Tallulah Gorge. The Native Americans blamed the Yunwi Tsundi for the abduction of women and children. The Cherokees also believed the gorge to be the home of the opening to another world; it was thought that after entering, an Indian would never leave.

Following the removal of the Native Americans by the Cherokee land cession in 1817 – 1819, English, German, Scots-Irish, and French Huguenot immigrants settled in the region. Only three thousand six hundred people were shown residing in Habersham and Rabun counties in the 1820's census. These immigrants lived a very self-sufficient life by harvesting their own food

[6] Calhoon, Margaret and Speno, Lynn. Introduction.

and raising their own livestock. At this point in Tallulah Falls' history, the residents virtually had no contact with those in other parts of the state, due to the rural isolation of the area.

In the 1830s and 1840s the unincorporated town of Tallulah Falls began to see a change in population as permanent residents were pushed out by seasonal settlers. Tales began to circulate about the natural wonder that is the Northeast Georgia Mountains. A few wealthy businessmen and coastal planters built summer getaways in the area, allowing them to escape the summer heat of the city and coast. The first homes built were situated a mere twelve miles from the falls themselves. Soon thereafter more tourists began to flock to this cooler region, though there were no hotels and the roads were almost impassable. The only way to reach Tallulah Falls was by horse and buggy. Yet, this did not deter the elite from visiting. Songwriter Howard Payne and statesman John C. Calhoun were both reported to have visited in 1835. The southern author William Gilmore Simms and John Muir, the Sierra Club founder, were said to have visited in the late 1840s. It is also speculated that Confederate General Robert Toombs, Cabinet member of the Confederate States of America, hid out in the Tallulah Gorge to elude imprisonment by the Union army[7].

Illustration 8

[7] Boyd, Brian A.

The development of the town of Tallulah Falls can not be analyzed without reference to the railroad. In 1882, the short line railroad ran from Cornelia, Georgia to Tallulah Falls. Prior to the rail, the directions to Rabun County were as follows;

> "Go one day by railroad, the next day by horse and buggy, a third day on horse back, a fourth day on foot, and then on all fours until you climbed a tree, and when you fell out, you'd be in Rabun County."[8]

The Tallulah Falls rail line provided accessibility to this region; therefore, both the wealthy and the working class took advantage of the opportunities this area had to offer.

Following the rails, came the hotels and businesses.

> "Tallulah is destined to be the resort of the south. Southerners will spend the summer here and northerners the winter. It is going to be the best place for hotels in the United States."[9]

The "Grand Era" of Tallulah Falls started in 1882 and lasted well into the 1920s. Twenty hotels and boarding houses were welcoming visitors by the turn of the century. The tourists flocked to the gorge to view the natural wonders that lay within it. During this time period, in 1885, the town of Tallulah Falls was incorporated. It was the natural beauty of the region that drew people, thus forming a significant commercial industry in a sleepy portion of Georgia.

The permanent residents were hired to staff the hotels and provide food for them. This sudden influx of commercial industry provided the residents in the town with a steady income. Up to this point in this region's development, there were little if any places for people to work outside of the home. With the addition of the hotels, little boutiques and restaurants sprang up as

[8] Ritchie, Andrew Jackson, p. 309.
[9] Athens Banner-Watchman, April 9, 1882.

well, providing more jobs for the residents. Tourism acted as a vital tool for the developmental economy of Tallulah Falls.

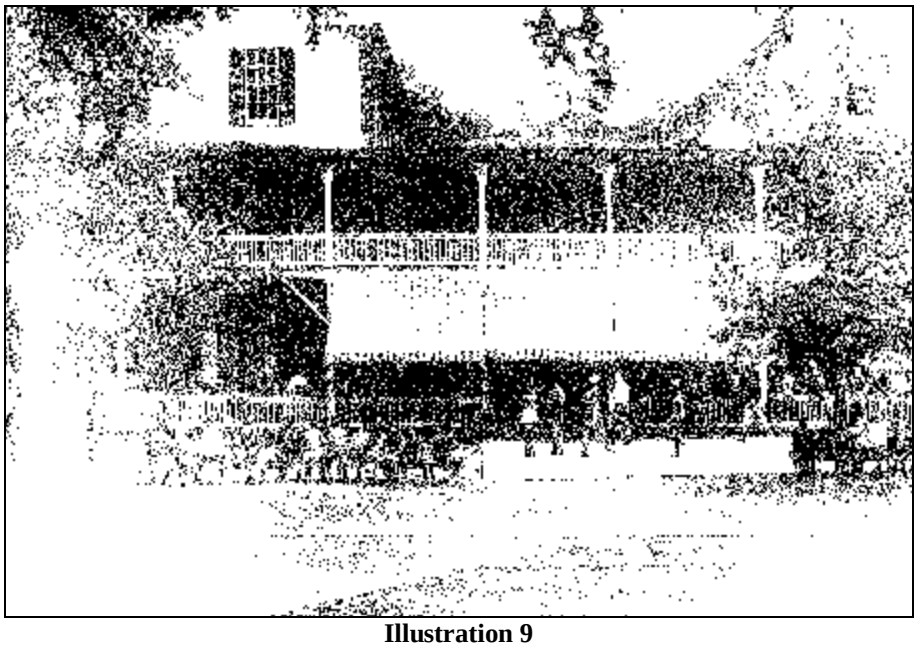

Illustration 9

Curiously the same thing that made the Town of Tallulah Falls a destination spot would be the same thing that eventually made it a ghost town. By the early 1900s, the rail line was extended north to North Carolina and a majority of tourists moved north as well. Tourism was replaced by lumbering as the region's largest industry. Around this same time a power company from Atlanta stated its interest in the raw power of the water flowing through the gorge. With the decline of interest in the natural wonder of the gorge, the power company was given little heed. The Tallulah Gorge was purchased by what is now the Georgia Power Company and dammed, in 1913, forever slowing the majestic plunge of the many waterfalls through the gorge. In the winter of 1921, a large fire broke out in town. It destroyed the majority of businesses, hotels, and train trestles. The only things rebuilt were the train trestles. With the arrival of the automobile, tourists easily traveled to new regions in the Southeast. In 1924, Highway 441 was

constructed, bypassing the town center of Tallulah. Without places of lodging or dinning tourist stopped staying the night in town. The gorge was still a curiosity, people would stop to look at it, but after it was dammed it lost much of its former appeal. Tallulah Falls became just another pit stop while on the way to a place with more grandeur.

A place of business was built in the early 1920s to capitalize on Tallulah's new tourist market. It was the Tallulah Point Overlook located on the side of Highway 441 at the edge of the Gorge. The Tallulah Point Overlook had a two story covered porch that looked out over the gorge and a general store. It provided the travelers a place to get out of the car and take in the vista. While there, they could run to the general store for a quick lunch. Some version of the Tallulah Point Overlook has been in business from the 1920s to today. The store has seen many owners, but the general concept of any overlook and store has remained.

Illustration 10

Due to lack of passengers the rail line terminated its expedition after fifty four years. On March 25, 1961 the Tallulah Falls Railroad made its last trip.

> "The last trip the train ran was pitiful. It looked like all of them was wipin' their eyes. Everybody that could, got in the caboose to ride the last trip. We didn't tell nobody they couldn't ride. Anybody that wanted to ride, they just got on."[10]

In the 1970s a plan began to revitalize the town of Tallulah Falls. It was the intention of the county commissioners to attract tourists back to the town. As a promotional stunt sixty five year old Karl Wallenda was asked to cross the gorge on a tightrope. Born in Germany in 1905 Wallenda became famous for his stunts on a high wire. After moving to the United States Wallenda and his family started working for Ringling Brothers, Barnum & Bailey Circus. There they built a name for themselves, "The Flying Wallendas". Karl Wallenda left Ringling Brothers and opened his own circus, where the flying Wallendas became infamous for the harrowing stunts on the high wire. On July 18, 1970 Karl Wallenda crossed the gorge on a one thousand, two hundred foot long two inch in diameter steel cable over seven hundred feet above the floor of the gorge. Wallenda crossed it in over three minutes while performing two headstands.[11] While this stunt reportedly attracted over thirty thousand viewers it was not enough to revitalize the tourist trade in Tallulah Falls.

Illustration 11

[10]Carver, Kaye and Queen, Myra, p. 12.
[11] www.wallenda.com

In the 1980s the Georgia Department of Transportation began the improvement of Highway 441. The highway was moved from the gorges edge back towards the center of Tallulah Falls. Old 441 is now known as scenic overlook road, it is from here that the Tallulah Point Overlook can be accessed.

In 1992 the Georgia Power Company and the State of Georgia formed the Tallulah Gorge State Park. By 1996 the Jane Hurt Yarn interpretive Center was built for the park. This interpretive center provides for a brief explanation of the history and ecosystem of Tallulah Falls. From here hikers obtain a day pass to allow them to proceed to the bottom of the gorge, this is also the starting point for many of the trails around the rim of the gorge. The state has recently paved 1.7 miles of the old rail bed for a bike path. This project is part of the "Rails to Trails" movement in the state of Georgia. Both the state and the Georgia Power Company maintain the park and interruptive center.

In the mid 1990s it was once again time for the Georgia Power Hydroelectric Projects to apply for re-licensing from the Federal Energy Regulatory Commission (FERC). After much opposition the Georgia Power Hydroelectric Projects license was renewed; however, Georgia Power was required to look into alternate uses for this dammed river. This is how the Whitewater Aesthetic Releases came to fruition. For several weekends in the spring and fall of every year Georgia Power releases copious amounts of water from the dams. This provides visitors a glimpse at how mighty the Tallulah River and its falls were. It also provides for swift water flow for adventure kayakers and canoeists.

All of the endeavors between the Georgia Department of Natural Resources and the Georgia Power Company in the 1990s and early part of the twenty first century have helped develop the tourist industry in Tallulah Falls once again. Tourists are again coming to Tallulah

Falls to enjoy the natural beauty of the region. However, People are now enjoying physically enjoying the region. People come up for the day to hike, bike, swim, canoe, or Kayak in the gorge.

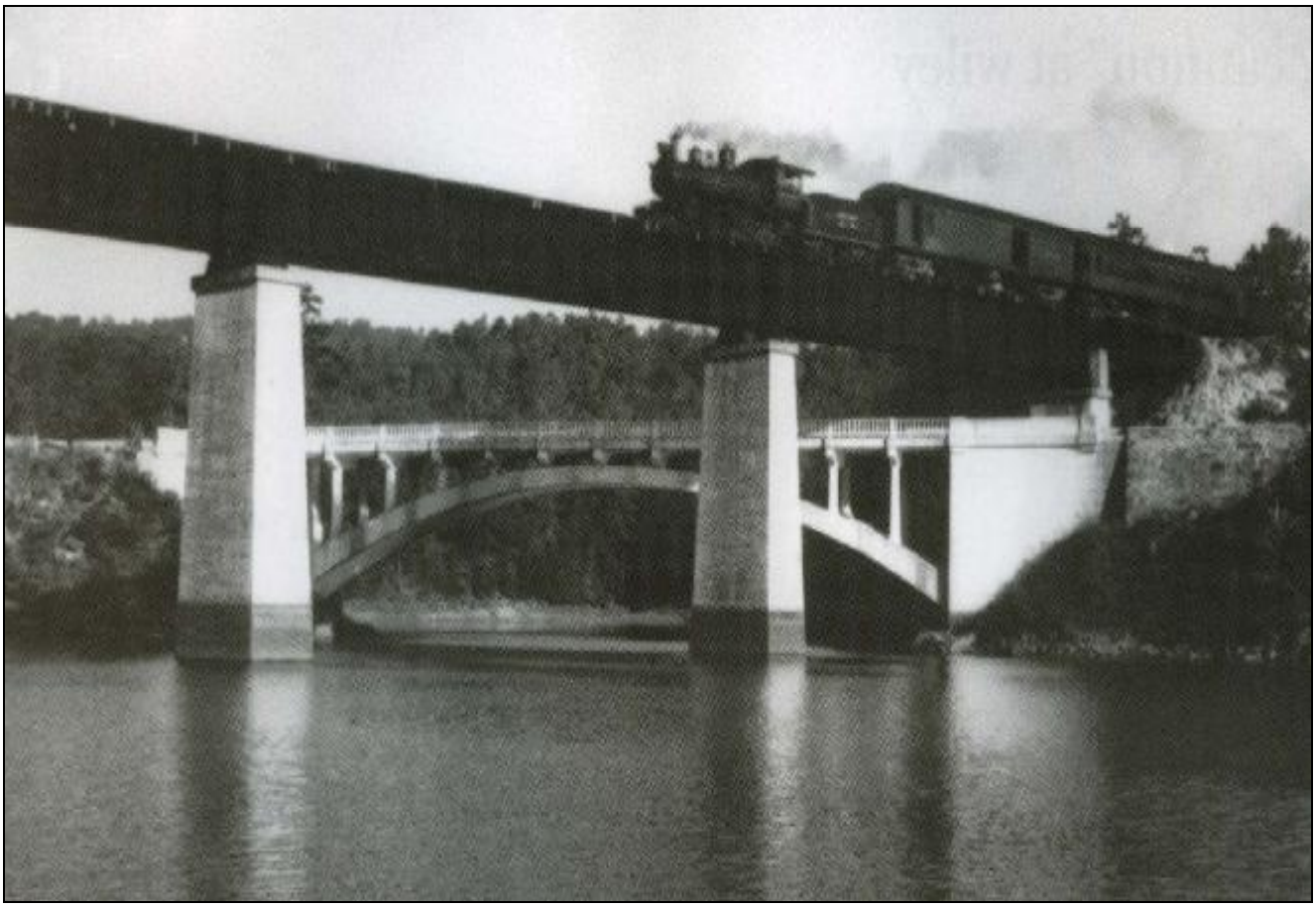

Illustration 12

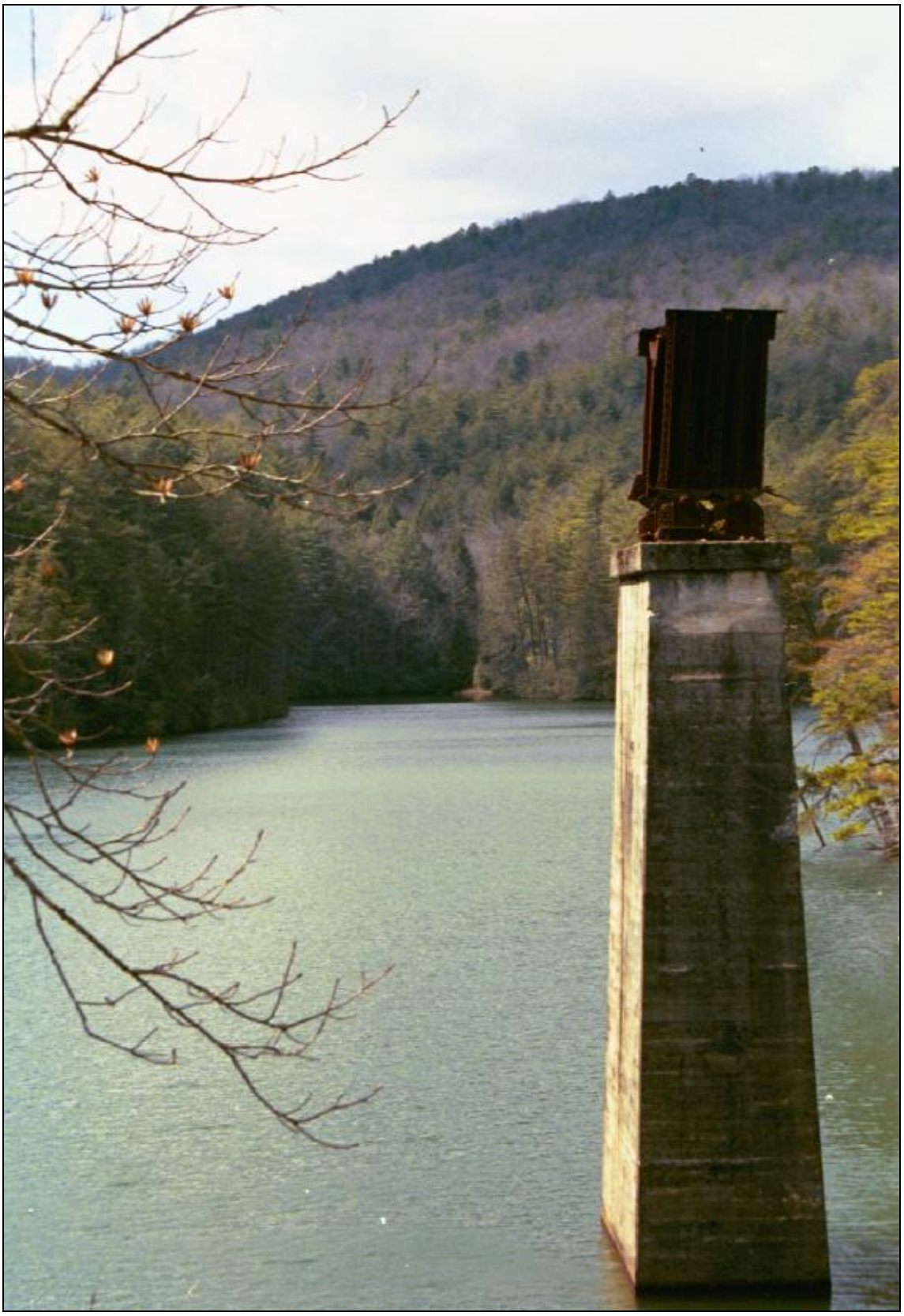

Illustration 13

Chapter 3

HISTORY OF HYDROELECTRICITY IN GEORGIA

S. Morgan Smith was one of Georgia's first hydroelectric pioneers; he also established the Atlanta Water and Electric Power Company. In his younger years, Smith invented one of the first American made washing machines. Shortly following the washing machine, he invented a water turbine. These turbines were first used in grist mills. Around 1890 the water turbine was combined with an electric generator, making hydroelectric power an actuality. Power plants that were within a reasonable distance to large water bodies could now feasibly generate more power than once thought possible. Seeing the potential in his invention Smith desired to relocate to a city that was rapidly growing and within a reasonable distance to a water power site. When an optimal site on which to construct a hydroelectric plant was established north of Atlanta along the Chattahoochee River, Smith bought it.

With a group of powerful men, S. Morgan Smith formed the Atlanta Water and Electric Power Company, which merged with the Georgia Railway and Power Company. Upon his death in 1903 S. Morgan Smith was succeeded by his son C. Elmer Smith.

A second hydroelectric pioneer in the state of Georgia was a General A. J. Warner. General Warner was the founder of the North Georgia Electric Company. Unfortunately for General Warner, due to legal complications about ownership, the North Georgia Electric Company was unable to produce electricity for the city of Atlanta.

After General Warner left the company, the men who took control contacted hydroelectric pioneers, C. Elmer Smith, owner of the Atlanta Water and Electric Power

Company, and Eugene L. Ashley from a successful plant in Glen Falls, New York. Mr. Ashley and Mr. Smith organized The Georgia Power Company (this was the first of five companies to make the current Georgia Power Company) and then the Atlanta Power Company to try and provide the North Georgia Electric Company with a way to bestow the City of Atlanta with their power. They were unable to help the North Georgia Electric Company, which had to shut its doors in May of 1910. Mr. Ashley and Mr. Smith wanted to purchase the company for the Georgia Power Company but did not have the collateral. They found two investors, Mr. George C. Moore and Mr. Elliott G. Stevenson, but the investors did not believe these plants could produce enough profit to make the investment a worthwhile venture. Mr. Ashley and Mr. Smith had to locate another money making site for a power plant to interest the investors.

In 1909, Ashley and Smith went to Tallulah Falls to see if it was suitable for the production of a hydroelectric power plant. On this trip, Smith imagined a plant more powerful than the world had yet seen. If they could harness the falls of the Tallulah Gorge then the city of Atlanta could have power twice over. However, in order to do this they would have to purchase the Gorge for water power purposes.

Under a charter granted by the Superior Court of Hall County the Blue Ridge Electric Company was formed in 1910. Unfortunately for the Georgia Power Company, S. Fahs Smith, a trustee of the Blue Ridge Electric Company, saw potential for profit in the North Georgia Electric Company and the Etowah Power Company. He bought them at a judicial sale. The contract for the North Georgia Electric Company and the Etowah Power Company was given to the Blue Ridge Electric Company. The Blue Ridge Electric Company sold the Tallulah Falls property to the Georgia Power Company. In 1911, they leased all of their properties to the Georgia Power Company with the option to buy. The Georgia Power Company bought these

properties five months later. In February of 1912 it was decided that the Tallulah Falls plant was to have additional generating units, making a grand total of five, (in 1919 a sixth was added) with a generating capacity of sixty thousand kilowatts.

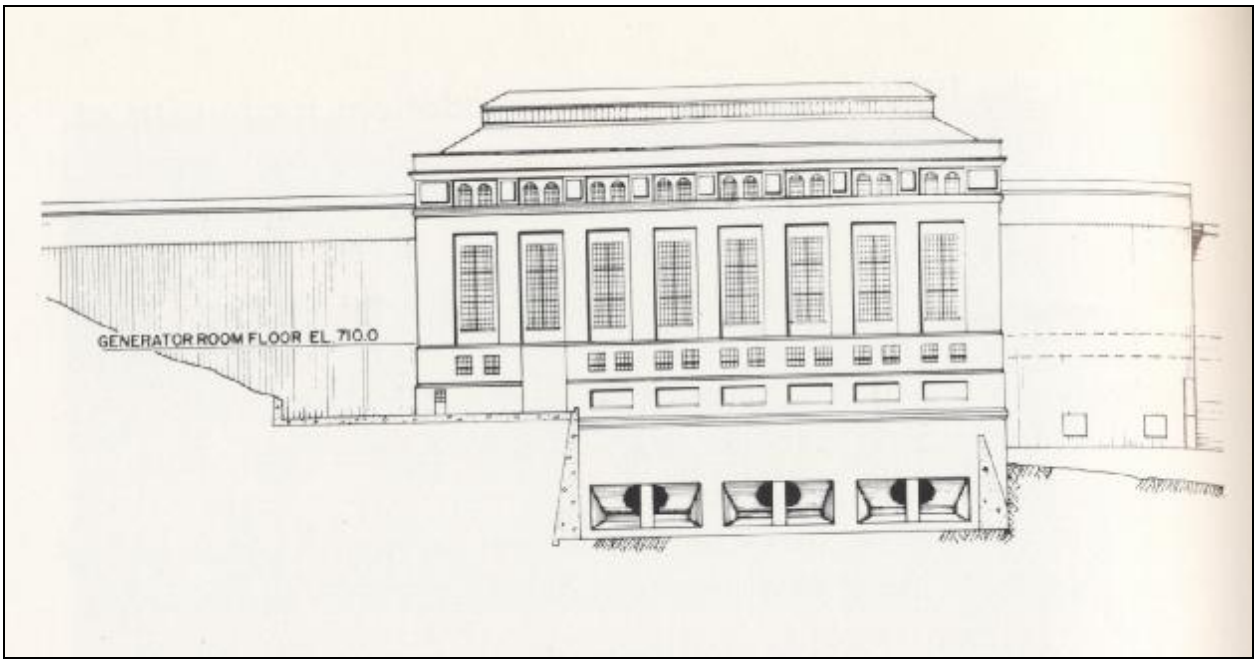

Illustration 14

Chapter 4

THE NORTHEAST GEORGIA HYDROELECTRIC PLANTS

It was soon realized by the Georgia Power Company that there was not yet a demand in Atlanta for the amount of power this plant would be generating.

> "Tallulah Falls was built to a great extent of faith. For not only was a power contract non-existent, the market for this amount of power was not yet created."[12]

At the same time the Georgia Railway and Electric Company had greatly increased its activities and was in need of additional sources of electricity. An agreement between the Georgia Railway and Electric Company and the Tallulah Falls development was met; the GREC would buy the power from the Tallulah Falls development.

During these negotiations Smith proposed the organization of a new company, the Georgia Railway and Power Company. This Company was to acquire the properties of the Georgia Power Company, the Savannah River Power Company, and other water power companies; it was then to lease the properties of the Georgia Railway and Electric Company. The promoters of the Georgia Railway and Power Company realized that the Tallulah Falls development would never come to fruition if this company was not formed. After much debate with the state commissioners, the Georgia Railway and Power Company was formed in March of 1912.

[12] Wright, Wade H., p 115.

Several citizens were unhappy about the eminent destruction of the scenic Tallulah Falls that would result from the development of the Tallulah Falls Plants. This led to the state's first large environmental battle, headed by General James Longstreet's widow, Helen D. Longstreet, The Tallulah Falls Conservation Association was formed. They were fighting the destruction of Georgia's most popular natural wonder on the grounds that the state still owned the Tallulah Gorge and therefore, the Georgia Railway and Power Company could not develop it. Longstreet appealed to Governor Joseph M. Brown, the Georgia Supreme Court, the state legislature and even President William H. Taft. A suite was brought against the Georgia Railway and Power Company in 1912 claiming that they did not have a valid title to the two hundred and fifty eight point five acres.[13] The companies title was found valid by the Superior Court of Rabun County in May of 1913, and confirmed by the by the State Superior Court in December of 1913. During this process, the Georgia Railway and Power Company promoted the benefits of the Tallulah Falls Development. Six lakes were to be formed by the company; the beauty of these lakes was advertised as unparalleled to any other in the southeast. Not only were these lakes going to be beautiful but they were going to bring money to the state when utilized for their recreational value. The taxable value of the plants would also bring money to Rabun and Habersham counties. After this campaign, opposition to the development dissolved.

Hydroelectric power uses the natural falling or flowing energy of water to generate electricity. These plants were constructed in a stair-step manner so that the lakes of each dam backs water up to the next dam forming reservoirs.

[13] Branch, Harllee, P. 212.

> "Falling water from the reservoir passes through the penstock to enter the power house. The flowing water turns the propeller-like water wheel or turbine, which is connected by a shaft to the generator, which spins and produces electricity. The same water that flowed through the turbine is then discharged through the draft tube, where it enters the tailrace and returns unaltered to the river below the dam. The electricity produced by the spinning generator is conducted to the power transformer, where the voltage is increased. The high voltage electricity is then fed into Georgia Power's transmissions lines for distribution throughout the state to its electricity customers."[14]

The process is slightly different at the Tallulah Falls and Terrora plants. At these plants water flows from the reservoirs through tunnels to the penstocks.

This hydroelectric development utilized a continuous twenty eight mile expanse of the Chattooga, Tallulah, and Tugalo Rivers. Engineers from places such as Spain, Cuba and Hawaii traveled to North Georgia to see this development, as did engineers from across the United States.[15] It was the only continuously developed stretch of river in the United States.

The years in which the Northeast Georgia Hydroelectric Plants were built span from 1914 to 1927. The architect for these structures is unknown; however, it obvious that the form and style of the first plants built influenced the form and style for the later plants. The Burton Plant and the Nacoochee Plant, the last two plants built, have a simpler style than the other plants. All of the plants have the appearance of a piano nobile. This probably has more to do with the daily conditions they are exposed to rather than architectural style at the time of their construction. All of these plants reside in the old rivers, in lakes. This was a time when style for all man made

[14] southerncompany.com/gapower.
[15] *:Quite a Number of Visitors at the Tallulah Falls Power Plant*. September 16, 1926.

structures was important, therefore, brick veneer was utilized so the facades of the structures would have an appealing appearance. However, if the veneer is continually exposed to water than there is a risk of the veneer separating from the structure. This was solved by not putting the brick on the lower stories of the power plants. It is evident by the high water marks on the plants that even when the area is flooded the water does not come up to the brick veneer. The same reasoning was utilized by the lack of windows on the lower stories. There are small windows just bellow the brick veneer. These windows allow light in yet are rarely subject to hazardous flooding conditions. Each of the hydroelectric plants and the lakes they formed are discussed in the following pages in a geographical sequence.

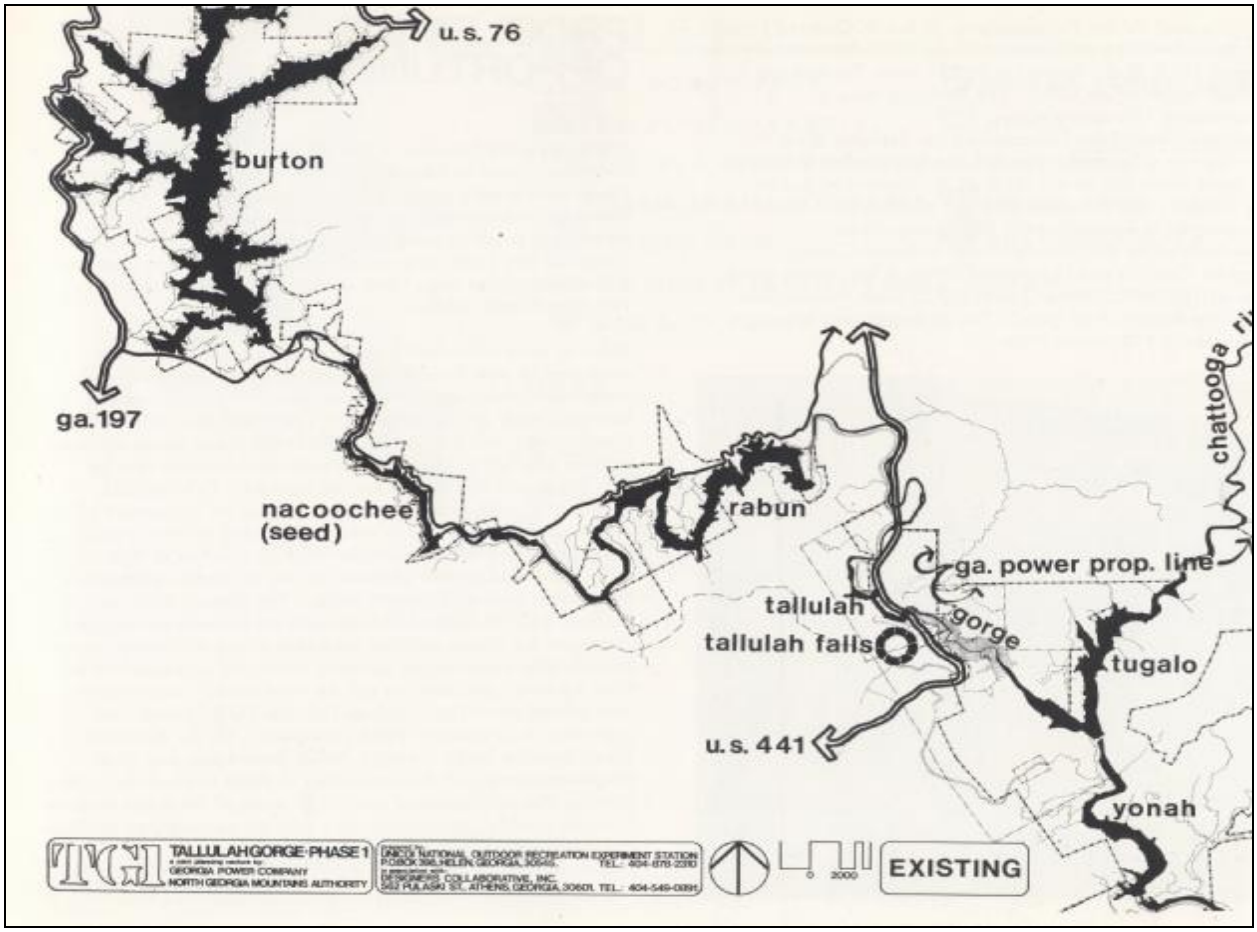

Illustration 15

THE BURTON PLANT

This plant is the uppermost plant in the line of the six Northeast Georgia Hydroelectric plants. The Burton Hydroelectric Plant and dam are located in the headwaters of Lake Seed, forming Lake Burton. When full, Lake Burton holds over five billion cubic feet of water. At the Tallulah Falls Plant this reservoir can theoretically produce fifty five million kilowatt-hours of electricity. The Dam is one hundred and sixteen feet high and one thousand, two hundred and fifty feet long; it was completed in December of 1919. The construction of the Burton Hydroelectric plant was not completed until 1927.

The Burton Hydroelectric plant is a four story building made of solid concrete, steel, and brick. This structure has a flat roof hidden behind a parapet wall. Only the stretcher of the brick is visible on this building; it would be correct to assume that the brick is not load bearing and is therefore a veneer. The appearance of a piano nobile has been created with the brick. The basement and main floor are concrete; while the rest of the building boasts the brick veneer. A decorative belt course has been created with the brick where the concrete meets the veneer. To the left of the main body of the building is a small two story wing. This wing carries the same fenestration as the main mass of the plant; based on this fact it is assumed that the wing was built at the same time. The top of the building is finished with a simple cornice that is carried to the top of the left wing. This structure has three rows of paired casement windows that are recessed on the front and left sides. The main body of the building has two sets of paired windows, one on top of the other, in each row. There is a span of brick, still in keeping with the rows of windows, followed by one set of paired casement windows. Below the belt course, in the concrete portion of the building, is a set of paired windows in line with the rows above. The windows are hinged to open upward. Six lights from the nine light window open up while the

other three remain fixed at the bottom. This plant currently only has one interior floor; it was built to house the numerous massive turbines. Not taking into account the height of the building, simply analyzing the amount of floor space in the structure, it is a three thousand, eight hundred and four square foot building.

Illustration 16

Illustration 17

Illustration 18

THE NACOOCHEE PLANT

The Nacoochee plant is the second in the succession of the six hydroelectric plants, forming Lake Seed. It is located between the Lake Burton Dam and the head of Lake Rabun. This plant was designed to utilize the Tallulah River's sixty foot drop between the backwater from the Mathis Dam, (Lake Rabun) and the Burton Dam. Completed in 1926, this sixty foot dam produces four thousand and eight hundred kilowatts of power. Its construction, as is the construction of all the plants, is of concrete with steel reinforcements and brick veneer. It has a flat roof concealed by a parapet wall. The appearance of a piano nobile has been created with the brick. The basement and main floor are concrete; the rest of the building is covered with the brick veneer. A decorative belt course has been created with the brick where the concrete meets the veneer. This structure also has three rows of paired recessed casement windows topped by a blind arch. The main body of the building has three sets of paired windows, one on top of the other, in each row. Below the belt course in the concrete portion of the building is a set of paired windows, still in line with the rows above. The windows are hinged to open upward. This four story plant is the smallest of the six with three thousand, one hundred and fifty four square feet.

Illustration 19

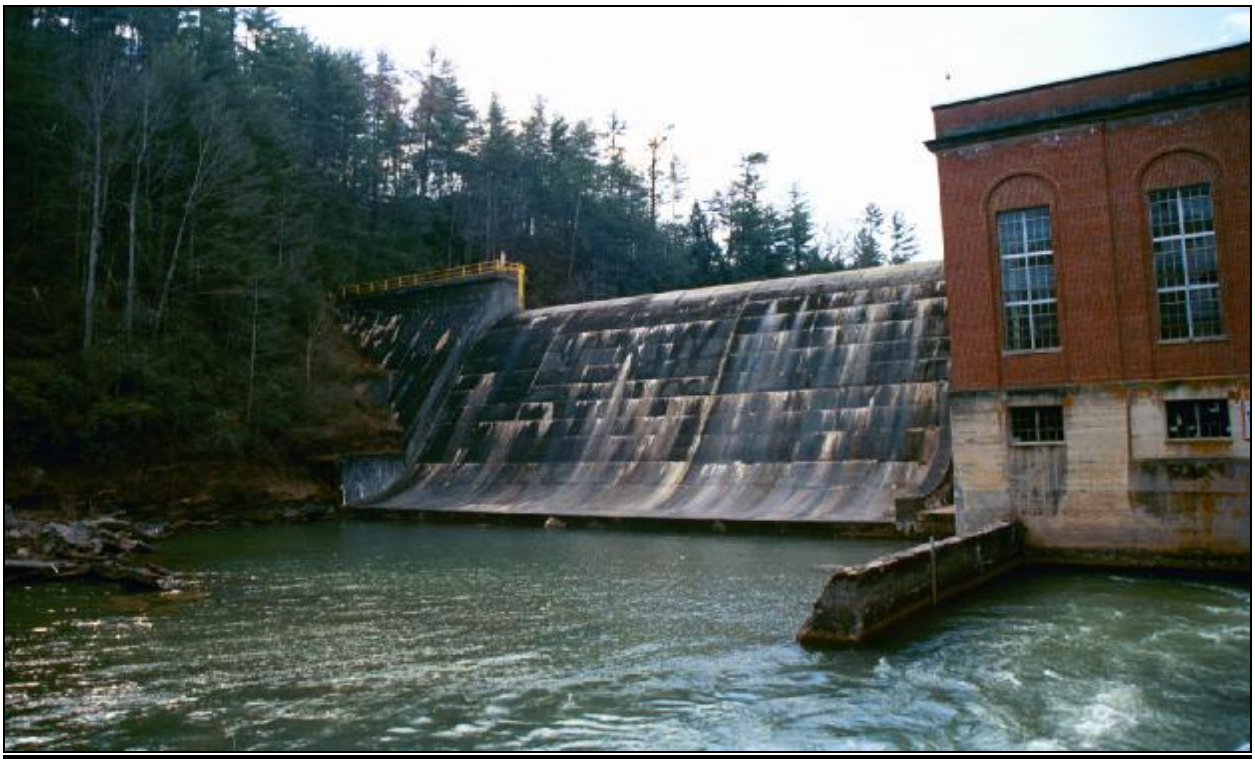

Illustration 20

Illustration 21

THE TERRORA PLANT

In 1914, before the completion of the Tallulah Falls Dam the Mathis Dam construction began. Construction of the Mathis Dam was started to insure uninterrupted hydroelectric operations by building reserve water supplies. This dam is five hundred feet long and ninety feet high, it forms Lake Rabun. This lake has the capability of storing one billion three hundred and sixty nine million cubic feet of water. In theory it can produce fifteen million kilowatt hours of electricity at the Tallulah Falls Plant. It was originally thought that a powerhouse would be built into this dam to house generator units. However, it was decided that constructing a separate plant would use the water more efficiently; therefore, plans for the Terrora Plant were soon underway.

The Terrora Plant is located between the Mathis Dam and the Tallulah Dam at the headwaters of the Tallulah Lake. However, it does not back up to a lake or a dam, like the previously mentioned plants do. This plant stands alone and therefore has four breath taking viewsheds, while the other plants have three. This four story building is made of brick and steel and is set on solid rock. This plant is the third in succession of the six hydroelectric plants.

There is a one hundred and ninety four foot drop from the surface of Lake Rabun to the surface of Tallulah Falls Lake. A mile long tunnel was drilled through the mountain from Lake Rabun to the proposed powerhouse at Tallulah Falls Lake. This tunnel utilized the drop between the two lakes for hydroelectric production. A surge tank above the powerhouse connects with the south end of the tunnel. Two nine hundred foot long penstocks with a nine foot diameter pass the water to two water wheels able to produce sixty million kilowatt-hours. Operations at this plant began in 1925.

The hipped roofed Terrora Plant was constructed of concrete with steel reinforcements, and brick veneer. A piano nobile effect has been created with the brick. The basement and main floor are concrete; the rest of the building is covered with the brick veneer. A decorative belt course has been created with the brick where the concrete meets the veneer. This structure also has six rows of paired casement windows across the front and rear facades and two sets of matching windows on the side facades. The windows run almost the entire height of the building. On the lower floor there is one set of paired sixteen light windows in each of the six rows recessed into the concrete. Above that, recessed into the brick portion of the building there are three sets of windows in each row, topped with a fanlight. The top of the building has the same windows that are on the bottom. The windows are hinged to open upward. Eight lights from the sixteen light windows open up wile the other eight remain fixed, four at the bottom, and four at the top. The arch around the fanlight has a keystone in the center that extends up to a belt course. Between each of the sets of windows in the upper portion of the building is a recessed rectangular panel that is the same size as a window. Above the windows, at the roofline, is a simple cornice followed by a parapet. At the very bottom of the building is a recessed rectangular panel that is the same size and shape as the windows above. This building contains seven thousand, four hundred and forty square feet of floor space.

Illustration 22

Illustration 23

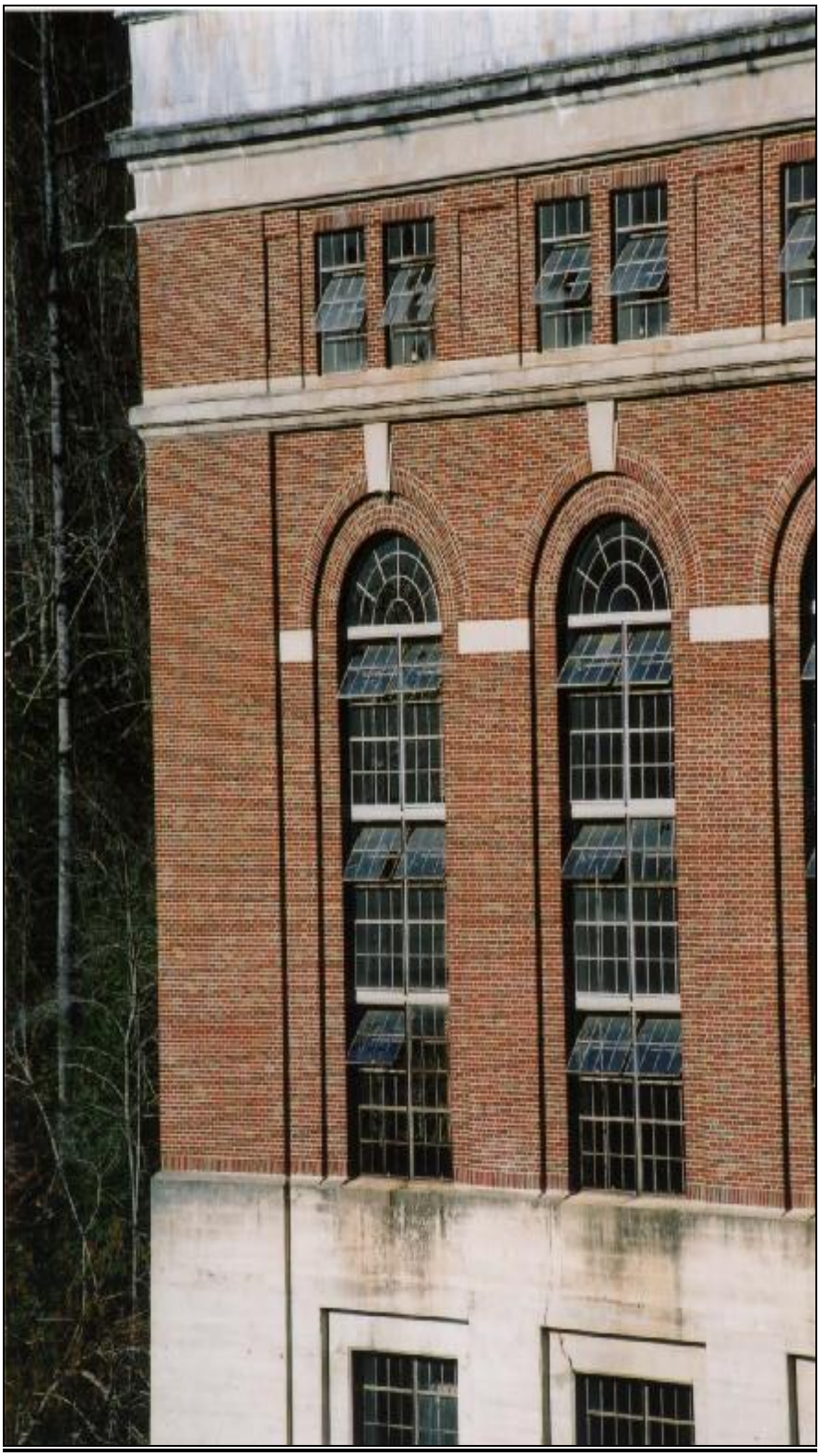

Illustration 24

THE TALLULAH FALLS PLANT

The Tallulah Falls project consisted of a dam four hundred feet long, one hundred and sixteen feet high over the Tallulah River, at the falls and two hydroelectric plants within the gorge. The dam directs the water intake to a structure on the right bank of the river and into a tunnel which leads from the intake structure to the side of the gorge above the Tallulah powerhouse. The tunnel is six thousand six hundred and sixty six feet long, eleven feet wide and fourteen feet high. It is lined with concrete and cut through rock. The water is passed through steel penstocks, one thousand and two hundred feet long and five feet in diameter, along the side of the gorge. The eighteen thousand horsepower capacity turbines are connected to twelve thousand kilowatt generators. In 1916, the plant produced one hundred forty seven million, one hundred ninety seven thousand kilowatt-hours; thirteen million, one hundred and ninety seven thousand kilowatt-hours more than expected.

The Tallulah Falls plants are two separate plants with a combined square footage of twenty one thousand three hundred and twenty six. These plants are the fourth in the succession of the six Northeast Georgia hydroelectric plants. Each building has approximately ten thousand square feet; these plants are much longer than any of the others. Construction was completed on these plants in 1916. They are constructed of solid concrete with steel reinforcements and a brick veneer. A piano nobile effect has been created with the brick. The basement and main floor are concrete; the rest of the building is covered with the brick veneer. A decorative belt course has been created with the brick where the concrete meets the veneer. This structure also has paired casement windows with arches at the top. The windows are hinged to open upward. The construction and fenestration of these buildings are virtually the same as the other plants.

Illustration 25

Illustration 26

Illustration 27

THE TUGALO PLANT

The Tugalo Plant, located two miles below the Tallulah Falls powerhouse, was the second to be built and is the second largest of the six plants. This plant rests below the convergence of the Tallulah and Chattooga Rivers, on what is now Lake Yonah, backing up to Lake Tugalo and the Tugalo Dam. Construction of this dam began in 1917 but due to the World War I, it was not completed until 1922. This dam is one hundred and forty feet high and has a storage capacity of five hundred million cubic feet.

The construction and fenestration of this plant is much the same as the other plants. It is made of solid concrete with steel reinforcements and a brick veneer. The appearance of piano nobile has been created with the brick. The basement and main floor is exposed concrete; the rest of the building is covered with the brick veneer. A decorative belt course has been created with the brick where the concrete meets the veneer. This structure also has ten rows of paired recessed casement windows. The main body of the building has two sets of paired windows, one on top of the other, in each row topped by a fan light. The main body is separated from the top of the building by a cornice. Directly above the cornice, still in keeping with the rows of windows are recessed rectangular panels. Below the belt course in the concrete portion of the building is a set of paired windows, still in line with the rows above. Below all of this is a long recessed rectangular panel. The windows are hinged to open upward. In the main body of the building between each row of windows is a brick pilaster. There is a clearstory of windows at the top of the hipped roof. This structure also has paired recessed casement windows with fan lights at the top. The windows are hinged to open at the top. Six lights from the nine light window open up wile the other three remain fixed at the bottom. This five story structure has sixteen thousand, six hundred and sixty square feet.

Illustration 28

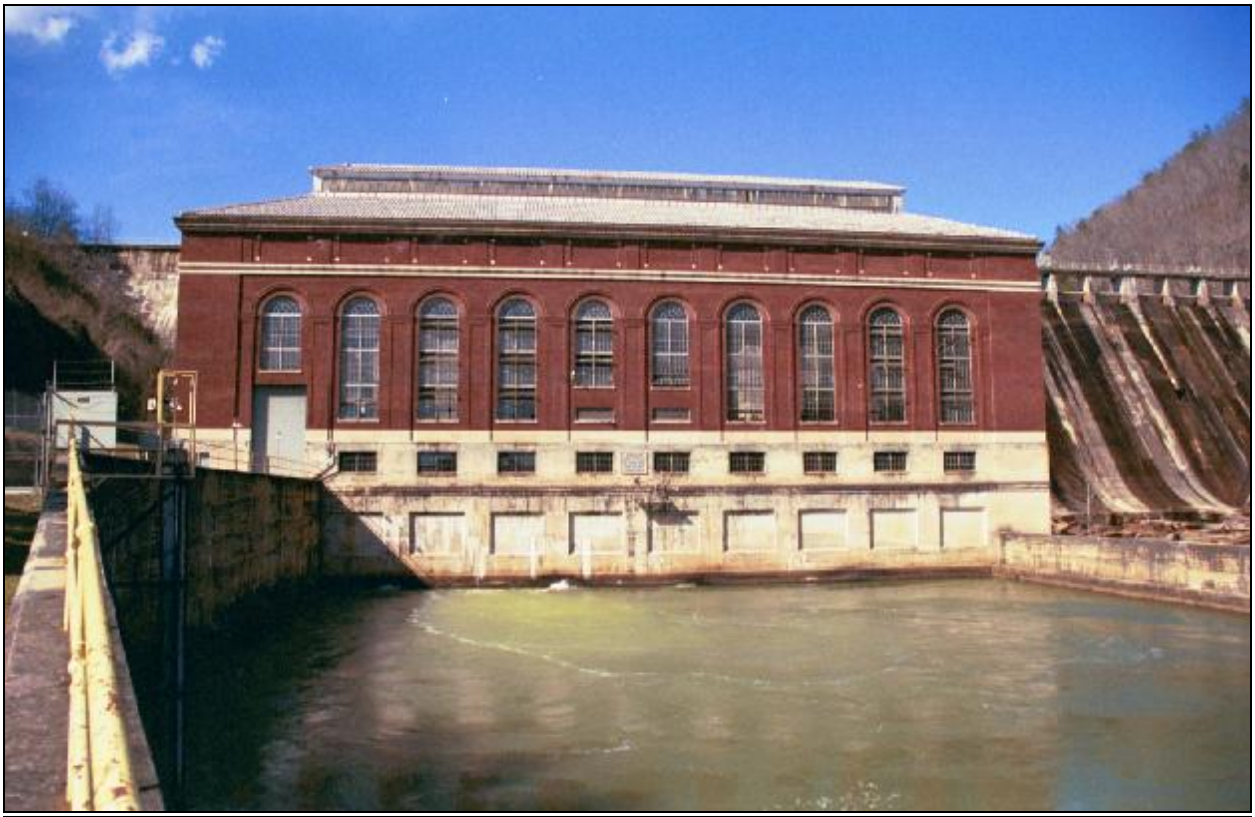

Illustration 29

Illustration 30

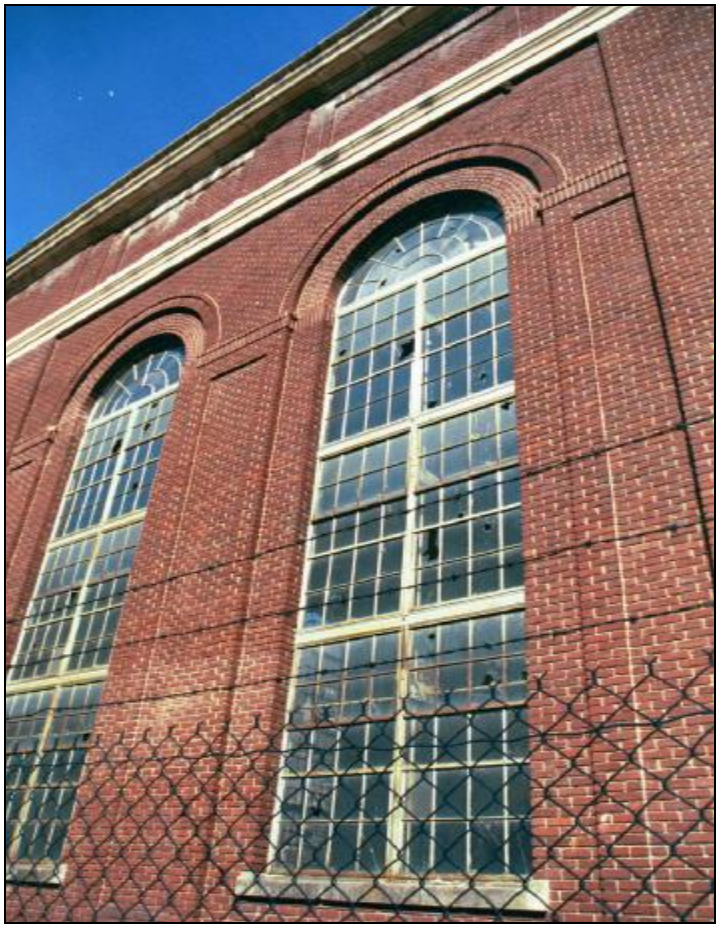

Illustration 31

THE YONAH PLANT

The Yonah Plant is the last in the line of the six North Georgia Hydroelectric Plants. It was built on the old Tugalo River, three miles below the Tugalo Plant, it backs up to Lake Yonah. The eastern portion of the Yonah Dam is in South Carolina. This dam is nine hundred feet long and seventy five feet high, the water wheels originally produced three thousand seven hundred and thirty kilowatts of horsepower. Construction started in 1923 and was completed in 1925.

Like the other plants it is constructed of solid concrete reinforced with steel and partially covered with brick veneer. This structure has a hipped roof with a row of clearstory windows in it. A piano nobile effect has been created with the brick. The basement and main floor is exposed concrete; the rest of the building is covered with the brick veneer. A decorative belt course has been created with the brick where the concrete meets the veneer. This structure has eight rows of paired recessed casement windows. The main body of the building has three sets of paired windows, one on top of the other, in each row. The main body is separated from the top of the building by a cornice. Directly above the cornice, still in keeping with the rows of windows is one set of paired arched casement windows. Below the belt course in the concrete portion of the building are two windows, still in line with the rows above. Below all of this is a long recessed rectangular panel. The windows are hinged to open upward. There is a clearstory of windows at the top of the hipped roof. These windows look over the Yonah Dam at Lake Yonah in one direction and out over the river and valley in the other. One interior floor of this five story structure has eleven thousand square feet.

Illustration 32

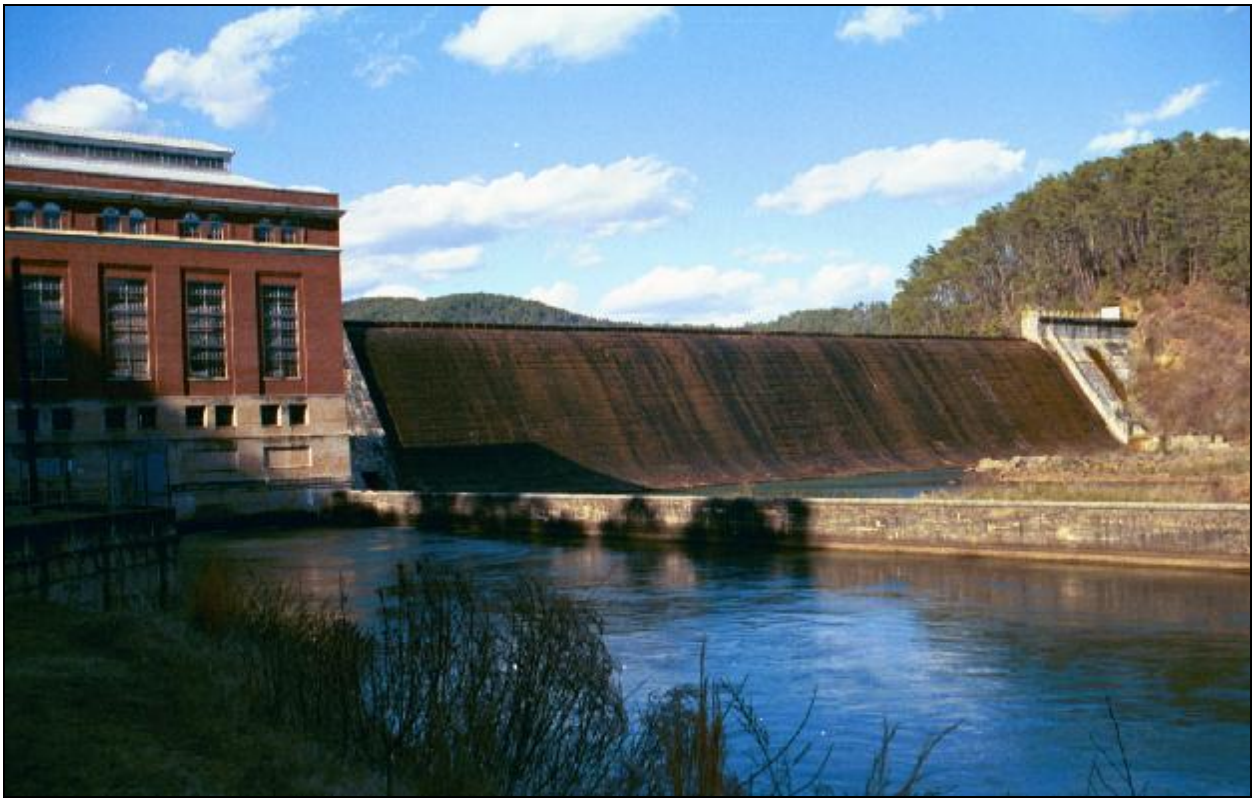

Illustration 33

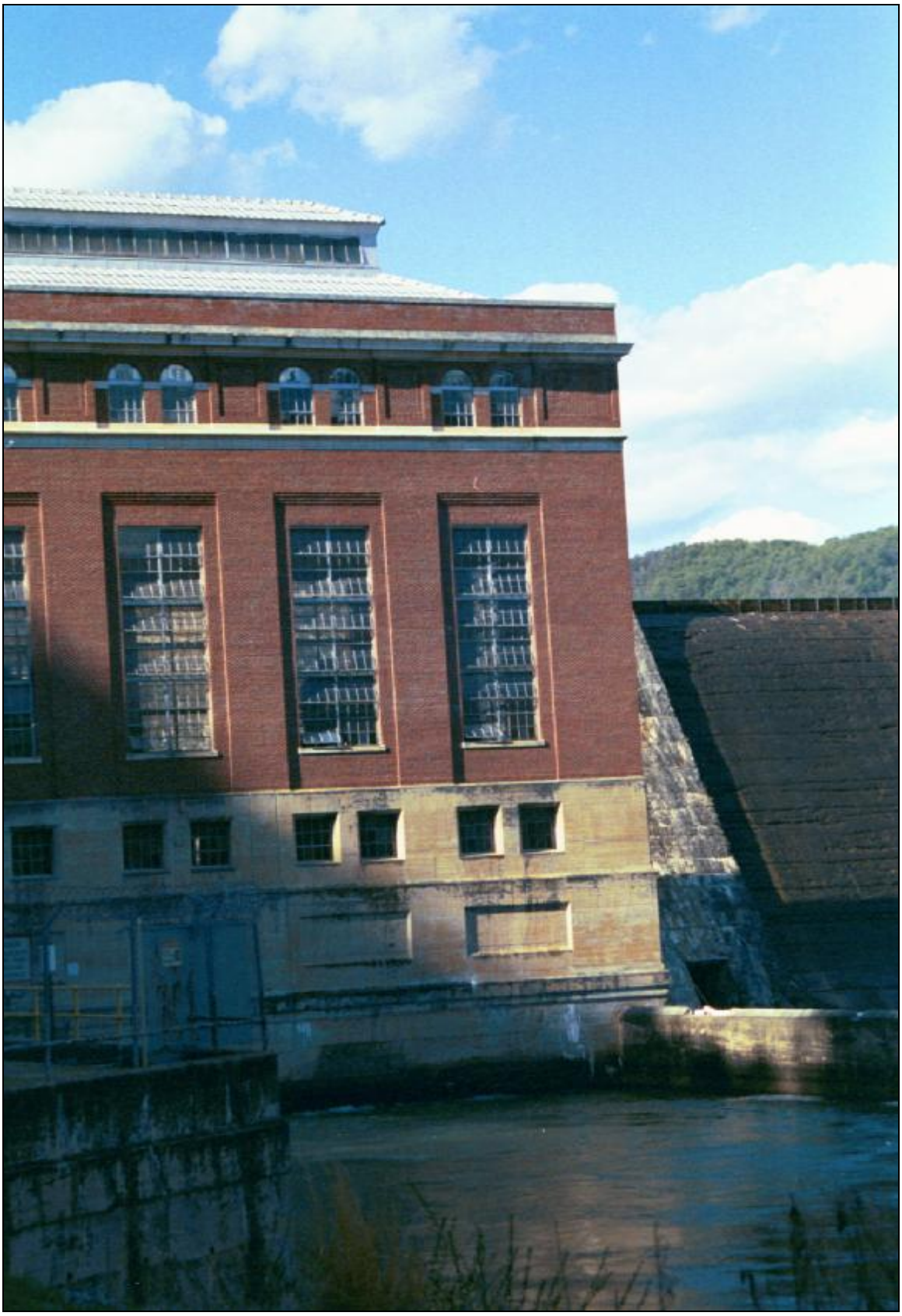

Illustration 34

THE SIX LAKES FORMED BY GEORGIA POWER

When harnessing the power of the falls to provide power for the city of Atlanta, the power company created six lakes. The lakes were intended for recreational use and remain one of northeast Georgia's most popular tourist attractions. A few of the lakes provide a tranquil setting for summer homes for Atlanta natives.

The first lake to be filled was the sixty three-acre, Tallulah Falls Lake. After completion of the dam, this lake was filled in 1914. It stretches four miles along the original bed of the Tallulah River. The second lake to be formed, Lake Rabun, is also the second largest lake in the group. This lake has a twenty-five mile shoreline, and a water surface area of 834 acres. Lake Rabun was filled in 1915; by the early twenties, summer cottages and houses were constructed. A prominent Atlanta business man, Winship Nunnally, of Nunnally Candy, had his summer home built by the Georgia architect Neel Reid.[16] Lake Burton is the largest of the six lakes. It has a shoreline of sixty two miles, and a water surface of two thousand, seven hundred and seventy five acres. In order to buy the land for this reservoir the Georgia Railway and Power Company had to also buy the town of Burton. Sixty-five families were displaced by this lake, and a cemetery relocated. Lake Burton was full by August of 1920; it filled so rapidly that rumor has it that the company was not able to remove all of the buildings from the town of Burton. The fourth lake to fill was Lake Tugalo, in 1922. Tugalo is a Cherokee word meaning "fork of a stream." This lake has eighteen miles of shoreline and covers five hundred and ninety seven acres. The area surrounding Tugalo has been relatively undisturbed due to its steep shoreline. Lake Yonah, the next lake to fill, was completed in 1925. Yonah is a Cherokee word meaning "big black bear." This lake covers three hundred and twenty five acres and has nine miles of shoreline. Lake Seed, also known as Lake Nacoochee, was the last of the six lakes to

fill, in 1927. Nacoochee is a Native American word meaning "Evening Star." It hugs the original bed of the Tallulah River and has a thirteen mile shoreline.

In 1927, when all of the dams had been completed, the falls were but a mere trickle, and the six lakes had reached full pool; the way of life in this region was again changed. The tourists were no longer concentrated in the small town of Tallulah Falls; they were spread out to all six lakes; from Lake Burton to Lake Yonah. Many of these tourists have established second homes in this region. More businesses have been established to help the tourist industry flourish, which provides jobs for the permanent residents of this area. In essence the hydroelectric plants have established a cultural resource in this region by producing electricity from its dammed reservoirs which are Lake Burton, Lake Nacoochee, Lake Rabun, Tallulah Falls Lake, Lake Tugalo and Lake Yonah. Thus the hydroelectric plants have become an engineering resource, a historic resource and a cultural resource.

[16] Neel Reid was a famous architect in the state of Georgia in the early part of the twentieth century.

Chapter 5

FUTURE THREATS TO THE NORTHEAST GEORGIA PLANTS

Hydroelectricity is the least expensive form of electric power, production; but, the conditions for it to be cost effective must be ideal. The facilities operate best when the reservoirs are full; when the water is profuse. This means that in the state of Georgia the peak times of year for highly productive plants is during the rainy seasons in the spring and fall. During these seasons when the performance of the hydroelectric plants is at their peak, they only produce 4% of the Georgia Power Company's total output of electricity.[17] In the 1940s hydroelectric power provided the United States with 33% of the total electric energy.[18] The generation of hydroelectric energy has been on the decline due to the increase of other methods for producing electricity.

In 1994 in the town of Stuyvesant, New York a hydroelectric plant which had been in operation since 1901 was shut down for good. The company that owned the plant , Reliant Resources, Inc. Could no longer justify keeping this old plant in operational condition. The expense of the maintenance and upkeep of the structure surpassed the output of electric production. This building has sat vacant since 1994.

It is speculated by some at different power companies that hydroelectric operations may cease. If this occurs the Northeast Georgia hydroelectric plants will more than likely fall into a serious state of disrepair. When the time comes, certain steps should be made by both the

[17] southerncompany.com/gapower
[18] www.usbr.gov

preservation and local communities to insure the future of these hydroelectric plants that were once so important to the state of Georgia.

ABANDONED INDUSTRIAL STRUCTURES

Historic industrial structures are unlike any other type of structure based on the fabric and the immense size of the buildings. They were often made of sturdy materials, such as brick, cement, steel, and stone to withstand the arduous nature of the industry housed within. It is also common for these buildings to have several windows in succession to allow for as much natural light as possible. Most industrial structures were constructed to house large pieces of mechanical equipment. For example, the water turbines within the Northeast Georgia Hydroelectric Plants are approximately three stories tall. The size of antique mechanical equipment is substantial. Therefore, the room in which to house this equipment had to be adequate for several pieces of machinery and the people it took to operate it. With the need for interior rooms this large the entire size of most industrial structures was colossal.

The size of these structures poses major problems when attempting to undertake the preservation of them. When an industrial structure becomes the focus of a preservation professional it is more often than not because the business, for which the structure was erected, has abandoned the building. Therefore, the preservationist must typically determine a new use for the large industrial building. The preservation of an industrial structure is not like the preservation of a house or commercial structure. Both of these types of buildings can usually be restored to their original splendor maintaining the same function they have always had. It can also be fairly straightforward to find tenants for these structures. However, the same is not true for industrial structures. It is quite difficult to figure out what to do with the cavernous spaces

within these buildings. If a new company does not occupy the structure, then what is to become of the building?

The most typical reuse for an industrial structure is the conversion of the building into office space, or apartments. This reuse application is generally only relevant in cities. In rural regions like Northeast Georgia, the population is low and filling apartments may not be feasible. In this situation a preservationist must be even more creative in determining a plan for the future of an industrial structure.

The hydroelectric power boom in the United States was in the early part of the twentieth century. Their usefulness for power production has been on the decline since the 1970s. Preservationists are just now starting to feel the pressure of finding new uses for these unique structures, however, there are many issues that need to be assessed when dealing with the adaptive reuse of an abandoned hydroelectric plant. For example, these structures reside in water; therefore, their new use must somehow incorporate and build off of the natural waterways. Often, as is the case with the Northeast Georgia plants, these structures are bellow dams. The danger of using a structure adjacent to a dam has to be assessed. The complexity of these two issues may be the reason why when a hydro plant ceases to exist, a new use is typically not found.

Chapter 6

BASIC PROTECTION FOR INDUSTRIAL STRUCTURES

One of the first steps in the protection of any structure should be the physical identification of the resource. By this it is meant that a historic preservation professional should be responsible for the documentation of the historic resource's background information and performing a historic resource survey of the threatened resource. During the background information search, it is important to ascertain a few key elements such as the construction date of the resource, the resource's architect and designer, the original and subsequent uses of the resource, any important events and people associated with the resource, and the current and previous owners of the resource. The historic resource survey is a preservation tool that documents the specific architectural details of the resource. Several states have a version of their accepted historic resource survey forms available online. There are a few specific details that must be recorded for a survey to be valuable in the protection of a structure. It is important to properly determine the structure type, style, and date of construction. By noting specific architectural details, and taking photographs, the preservationist is essentially verifying the above determinations. Most importantly, when performing a historic resource survey the preservationist must make a National Register eligibility determination.

It is important to realize during the documentation process that this survey may be the only step taken toward the protection of the building. Sometimes it is not possible to safeguard resources from adverse effects, especially when the resource is an unusual structure. If this becomes the case it is very important that the historic structure survey is filled out correctly with

descriptive details to illustrate the resource. It may become the last link to the historic structure; should it be torn down.

THE NATIONAL REGISTER & HISTORIC AMERICAN ENGINEERING RECORD

The National Register of Historic Places and the Historic American Engineering Record can be an important instruments in the protection of industrial structures. The National Register is a list of noteworthy historic properties maintained by the National Park Service. The property does not have to be significant to the entire nation. It can have local, state, or national significance. These properties can be buildings, districts, objects, sites and structures. However, the resource must maintain its original integrity. By this, it is meant that if it has seen too many drastic alterations to its materials, design, setting, location, workmanship, and feeling it is ineligible for listing. If its original integrity is intact than it must meet one or more of the National Register's criterion before it can be listed on the National Register of Historic Places.

Listing on the National Register of Historic Places is an honor; it gives recognition to the region in which the resource resides. Unfortunately, the National Register does not lend legal protection to the property. However, if a structure is on the National Register and the federal government is considering a project that may have an adverse effect on the resource, then a Section 106 review is required in an effort to come up with an alternative that will have no effect on the resource.

Industrial structures are unlike homes, and even commercial buildings in reference to beauty and nostalgia. Residents of a community often rally together to save the beautiful house on the corner. They even rally to save the local community store in which they have shopped for years. Due to the rough, utilitarian appearance of industrial buildings the general public is less likely to come together and protect this type of structure on their own. By listing on the register,

the residents in the community in which the industrial building is located are more likely to recognize the importance of the structure and the building may be eligible for tax benefits if adapted for another income producing use.

The Historic American Engineering Record (HAER) is a record of important documented architectural, engineering, and industrial sites located within the United States. This program was started in 1969 by the American Society of Civil Engineers as part of the Historic American Building Survey Program (HABS). The documentation entails an in depth written history, measured drawings, and large format photograph of each historic site. By having HAER documentation done on each of the Northeast Georgia hydroelectric Plants the details of these buildings will be preserved for future generations even if the building themselves are not. Since this is documentation undertaken by the federal government this information will be readily available to the entire nation.[19]

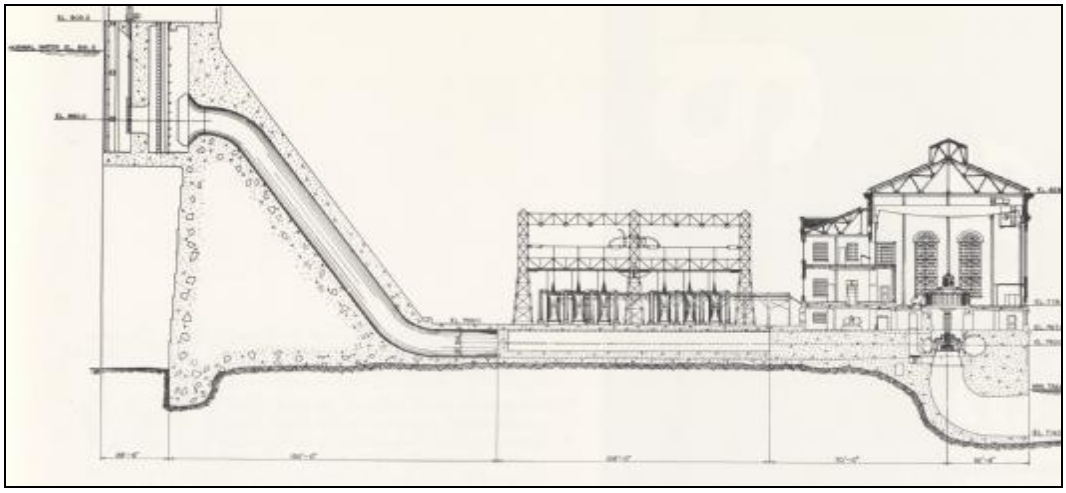

Illustration 35

[19] HAER documentation guidelines available in Appendix.

TAX CREDITS

Once a structure has been listed on the National Register of Historic Places it may become eligible for a number of both local and federal tax credits. Tax Credits can be an essential tool when rehabilitating a large scale project like the adaptive reuse of the Northeast Georgia Hydroelectric Plants; they provide the investor of the project with a financial break. Tax credits at the state level vary depending on the regulations of the state in which the structure resides. For the purposes of this thesis the 20% Historic Preservation Federal Tax Incentive program will be analyzed in relation to the Northeast Georgia plants.

The Rehabilitation Investment Tax Credit (RITC) provides for income producing properties to take advantage of a federal tax credit that covers 20% of the qualified rehabilitation expenses. The guidelines that must be followed are as follows: (A) the resource must be in the National Register or eligible for listing in the National Register. (B) It must be a substantial rehabilitation and be completed within two years. (C) The structure must be used for income producing means for a minimum of five years. (D) The Secretary of the Interior's Standards for Rehabilitation must be followed when undertaking the restoration work.

This 20% RITC will ease some of the financial burden felt when undergoing the rehabilitation of the hydro plants. Since the rehabilitation that each of these plants will require to convert them into a different type of structure will be significant they will meet the substantial rehabilitation test. However, the credits will only be awarded to the plants that are rehabilitated for income producing means.

It is important to remember that when applying for this and all tax credits work should not begin until after approval for the credit is received. It is possible to receive a tax credit retroactively, after the restoration has been completed, however, it is not probable. The level of

documentation required to receive a retro credit is rarely done. There would have to be photographic proof that none of the significant architectural elements of the building were damaged, the Secretary of the Interiors Standards were followed, and that it was a substantial restoration. Basically, a retroactive tax credit will not be given after the rehabilitation work is completed; therefore, the application for tax credits must be submitted after its National Register eligibility has been assessed.

CULTURAL ROUTES

When dealing with a group of significant historic resources strung together by some sort of path, such as a road, it is paramount to designate the path a cultural route. A cultural route "demonstrates in a visible way, a journey through space and time."[20] Not only are these paths significant for the resources along them, but the paths themselves are significant to the cultural heritage of the area in which they reside. Historically these paths were routes taken by our ancestors to get from one point of interest to another. Typically these historic paths have been converted into modern roadways. These roadways are traveled daily while those on them often give little heed to the historic nature of them.

By designating these paths as cultural route, thus making people aware of their significance, a link is formed between past times and modern times. The different historic resources along the route naturally work together demonstrating the historic nature of the expansion of travelers and residents from one site to the other. Most often this is demonstrated by house type and style. Typically, the older resources are right in the center of the town or just outside of it. These structures can be dated by their style and type. The structures become more modern the farther away from the town they are. It is even possible to determine the decades in which construction booms occurred by the building's type and style.

A more tangible way to connect the modern travelers of the route to the ancient travelers is by the creation of different cultural stops along the route. These stops can be any resource that can aid in demonstrating why the cultural route was established. It would be possible to set up a museum house in the house of someone important to the history of the area demonstrating their life. If there was no, one important resident, a museum demonstrating the area's founders, the influential or famous residents could be established. A museum could also be set up to demonstrate any natural or man made resources found in the area. Focusing on a large natural resource, that may be unique to the area like a rock formation or battlefield, may also be an option for some towns. By establishing these stops, tourists have a connection to the past, thus giving them a little bit of perspective into the lives of the former inhabitants.

When determining a cultural route to connect the six hydroelectric plants in Northeast Georgia there are two options. The Tallulah, Chattooga, and Tugalo rivers that were dammed, thus forming the lakes and generating the power for the hydro plants is option number one. This route is the more historic of the two, dating back to the times when the Cherokees inhabited the area. Native Americans settled near rivers, they would have also used the rivers as a water source, hunting spot, and a means of travel. The area around the rivers still has the potential to yield Cherokee artifacts which may give further incite into their way of life. Even though the rivers were dammed and lakes were formed in the early part of the twentieth century, it is still evident from aerial photographs that this winding trail was once a river. This Cultural route was not lost when Georgia Power built the hydroelectric plants, it was simply altered. This cultural route now acts as a path that strings the plants together. Every plant backs up to the head waters of a lake; therefore, these plants are in succession along a path of water. The formation of the

[20] coe.int/T/E/Cultural_Co-operation/Heritage/European_Cultural_Routes/

lakes and consequently the power generated by them changed the communities surrounding the lakes, as well as, the communities that were able to receive the power that was generated. By designating the Tallulah River where it meets the Chattooga River to form the Tugalo River a cultural route, a connection can be made by the tourists between, Native Americans, the industrial revolution, and nature.

The second cultural route that can be established is a path following the roadways that run along the lakes and the hydroelectric plants. This route can also incorporate the old Tallulah Falls rail bed, demonstrating how the early tourists traveled to the region. This route would demonstrate life during the later part of the nineteenth century and early twentieth century. The main focus would be on tourism, the towns, and businesses that sprung up along the route. By the designation of this route and the public awareness the designation will convey, it may bring life back into some of the older country stores in the surrounding cities, such as Clayton.

AERIAL PHOTOGRAPH OF TALLULAH FALLS

3/16/1999

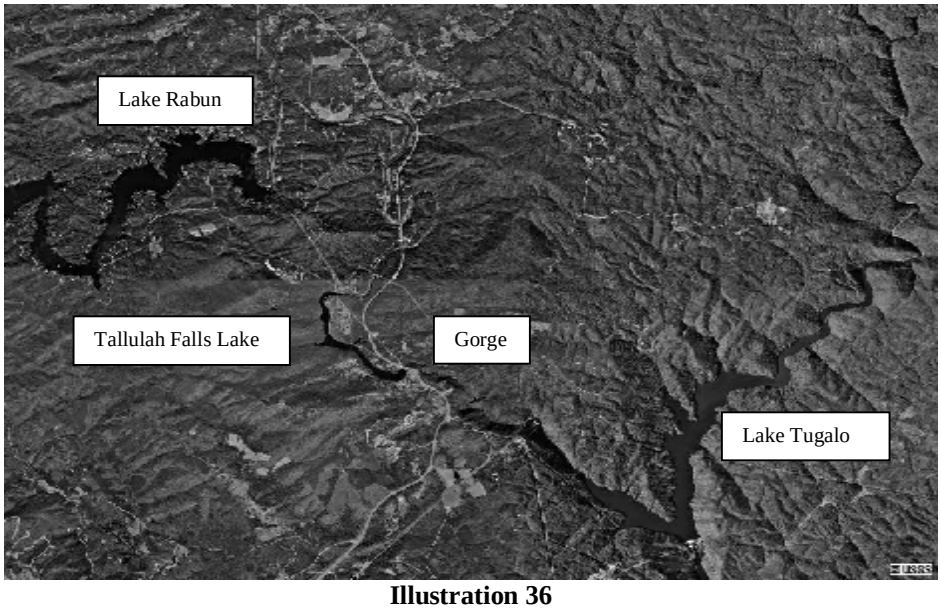

Illustration 36

HISTORIC MARKERS

Historic markers are a simple way to raise public awareness on the subject of historic resources. They provide a "tangible, visible record of the past" by giving a short synopsis of the history and importance of the resource for which they were erected. The markers are typically placed along roadways to indicate the importance of the area to passersby. Working in conjunction with cultural routes the historic marker program can excel. Using both preservation tools helps demonstrate the importance of the resource. It also helps raise the issue of preservation awareness to the residents and the tourists as to the level of significance of the resource.

Historic marker programs were typically started as state run and funded programs. For instance, the state of New Hampshire's historic marker program is in the Division of Historical Research under the authorization of the Commissioner of Transportation. However, due to funding cuts, countless states can no longer afford the marker program. Many states are still erecting historic markers but the government typically has nothing to do with their erection. The citizens within these states are now playing a larger role in the marker program. The state of Michigan's marker program is under the Michigan Department of State, Bureau of History, yet it is privately funded. In New York, private individuals are erecting historic markers with no checks from the government regarding accuracy and importance. In the state of Georgia the government stopped erecting historic markers in 1997. However, they are still responsible for the maintenance and replacement of markers put into place before July 1, 1998. The Georgia marker program is currently administered by the Georgia Historical Society. There are guidelines that have to be followed to even be eligible for the erection of a marker in this state. If the guidelines are met than an application and review process is followed.

There are currently a few historic markers in place along highway 441, near the Tallulah Gorge and Tallulah Falls Lake. However, only one of these markers references the northeast Georgia hydroelectric plants. To help the tourists realize the impact these plants had on the surrounding community a historic marker would act as catalyst. By placing historic markers on the roads above the plants or by the lake next to the plants people will have the opportunity to read a brief synopsis about the plant and the community. This may peak the curiosity of the reader and get them to look into the history of the plants and region or simply tour the plants. Furthermore, there are several people who travel to regions just to see resources for which historic markers are erected. Historic markers on their own are beneficial preservation tools. Placing one near a historic industrial building will explain the importance of the building. Essentially historic markers are an easy way to educate the general public, who are not going to actively seek out information about a resource.

Illustration 37

Illustration 38

Chapter 7

ORGINAZATION OF A GOVERNING BODY

Currently, the Georgia Power Company has a partnership with the Department of Natural Resources (DNR) which formed the Tallulah Gorge State Park and funds the interruptive center. The adaptive re-use of the hydro plants can be an expansion of this agreement. Since the adaptive re-use of the plants would cost far more than the interruptive center, other local and state agencies would have to become involved with this project as well. It may also be financially beneficial to have private firms in this partnership.

The first step in forming a group of partners to govern the Northeast Georgia hydroelectric plants would be to look to similar projects such as Ironbridge Gorge in England. This World Heritage Site consists of six square miles and several industrial plants within Severn Gorge. The industrial structures house ten museums, one satellite school and other tourist attractions. Two trusts were established to maintain this vast site. The first of which is The Ironbridge George Museum Trust, this trust owns, manages, and maintains the museums. The second trust is the Severn Gorge Countryside Trust, this group owns, manages, and maintains much of the open space and wooded land around the gorge. The remainder of the area is owned by private property owners such as residents, academics, and businesses.

After establishing governing bodies for the Northeast Georgia hydroelectric plants a management plan must be established. This management plan will outline the goals, the governing body, and the future for the plants and surrounding area. It can beneficial to the project to reevaluate the management plan every few years to make sure it is still feasible for the

hydroelectric plants. The management plan assessment should also allow the governing body to expand or alter the plan as needed. It is possible that one or more of the entities involved with this project may have to or choose to pull out of it. By having a flexible management plan that assesses the project every few years it could be possible for one of the entities within the governing body to withdraw from the project as painlessly as possible; it would also allow for new entities to join the project.

A management plan can not be established without conferring with those in the surrounding communities. It should not appear to those who live within the community as if large companies from the larger cities and state government are joining forces to establish a grand playground for tourists. In order for a project on such a large scale as the re-use of the Northeast Georgia hydroelectric plants there has to be community support. It has to be determined if there is even an interest in the conservation of the area as well as the preservation/adaptive re-use of the hydroelectric plants.

The first step to determine public interest would be to research projects and studies done in or around the Tallulah Gorge. A prime example of a study done in this region would be ***The Tallulah Study***. This study was written in 1971 as a planning venture between the Georgia Power Company and the North Georgia Mountain Authority. The intent of this project was to asses the potential for development of the Georgia Power owned land around the gorge. This study indicates that there was interest and concern for the future of the Tallulah Gorge and surrounding area thirty four years ago and that today there is probably a greater concern for the area.

From this point public meetings need to be established. These round tables will be a venue where those within the community and those interested in the area can voice their

concerns and ideas for the project. It may even be wise for those running the meeting to bring in guest speakers to explain how a plan such as the conversion of the Northeast Georgia hydroelectric plants could work and benefit the region. The meetings should be held more than once to ensure as many people are able to attend as possible. A governing body does not have to be established before these meetings begin. The meetings can be run by the local regional development centers, the state preservation division, and the owner of the property.

After interest in the project has been established it is time to form the governing body. The obvious entities to form the governing body for the hydro plants are the Georgia Power Company and the DNR; the Georgia Power Company owns all of the land the six hydroelectric plants reside on and they already have a partnership with the Department of Natural Resources. However, these two companies may not be able to manage the Northeast Georgia Hydro project alone. From this point it is important to establish what entities both non-profit and for profit could benefit form this type of plan.

The preservation of the six hydroelectric plants and the conservation of the surrounding land would effect the Georgia Power Company, Georgia Department of Natural Resources, the Georgia Mountains Regional Developmental Center, Georgia Historic Preservation Division, the tourism boards of Habersham and Rabun Counties, businesses within Tallulah Falls and Clayton, as well as home and property owners around the lakes. The previously mentioned are all entities that have a vested interest in what happens to the hydro plants. For this project, which has the potential for involvement from so many different kinds of establishments and private individuals, it would be wise to have a governing body much like the governing body of the Ironbridge Gorge. Different conglomerates could manage the different aspects of this project that way no

one conglomerate has to take on the finical burden of maintaining the entire project area as well as the six historic structures.

For example the Georgia Power Company could sell the hydro plants and retain the surrounding land that they currently own. This would enable them to maintain the dams and control the land leases they currently administer. The DNR would maintain its current interest in the ecosystem of this region and the private land owners would maintain their land and all the property rights that entails. By having representatives from these three different entities form a trust a balance between the private and public sectors interested in the development of the land may be created. The DNR would act to ensure the land would not become overrun with development; while the Georgia Power Company and private land owners would keep the DNR from turning the entire area into a wildlife refuge.

A trust controlling the hydroelectric plants could be a partnership between the Georgia Mountains RDC, Georgia HPD, local business owners, and local tourism boards. The RDC and HPDs first concern would be the maintenance and physical state of the structures; while the tourism board and business owners' main concern would be the profit margins of the businesses within the structures. By having these entities work together who have different ideas of the bottom line it may be possible to ensure the future use of the buildings as well the future of the buildings themselves. The preservationist will make sure that a certain percentage of the profits go toward the preservation/restoration of the buildings while the business men/women make sure that a certain percentage of the profits go toward marketing and market research.

Forming two different trust to maintain the hydroelectric plants and the land around the plants is an adequate solution to a large complicating project such as the re-use of the Northeast Georgia hydro electric plants. However, the success of this project depends on the hydroelectric

plants and their environment being part of the same plan. The hydroelectric plants on their own are great pieces of historic architecture worthy of a preservation plan; however they are not on their own, they are six individual structures which were built to work together. The construction of these structures formed six beautiful lakes that have become tourist's destinations and the topography of the land around the plants is the reason why the plants were built where they are. They plants and land must be managed together.

Therefore, the different trusts outlined in the above paragraphs must be under one governing body. This governing body manages the plants and land as one as well as establishes the groundwork for managing the staff needed to run this type of operation on a day to day base. The main governing body should either be a board made up of a representative from each of the previously mentioned entities or an individual who answers to a board made up of a representative from each of the previously mentioned entities. This would ensure that all facets from the hydroelectric plants and the surrounding land are represented in the governing body of the overall project.

Chapter 8

ADAPTIVE RE-USE OF INDUSTRIAL STRUCTURES

Adaptive re-use is "the process of converting a building to a use other than that for which it was designed."[21] Frequently, the best means of protection for a historic resource is to convert its use. For example, industrial structures are considerable buildings built for an explicit reason, the production of a specific good. Once the industry for which the structure was constructed moves out, it may not be feasible for another industry to take over the building. Therefore, in order to ensure the survival of the structure a new use must be found for it.

There are several steps that must be taken into account when attempting to re-use a building.[22] The first thing that must be considered when starting an adaptive re-use project is what the demographics show the market needs. Checking with the planning department to be sure the area is zoned in accordance with the future use of the building is also important at this stage. From here it must be taken into account the material that the building is made of, the architectural elements of the building, and the impact the building has on its environment. Then, it needs to be determined what the defining characteristics of the building are; to be sure they are retained. Finally, an adaptive re-use plan that limits the alterations to the structures overall integrity must be implemented.

Often industrial buildings are converted into loft apartments or condominiums. However, this type of re-use is not feasible for the Northeast Georgia hydroelectric plants. When dealing with six large buildings, all within a close proximity to one another, it would be impossible for a rural economy to support six large loft complexes. Adaptive reuse allows for the creativity to come

[21] Keeping Time *The History and Theory of Preservation in America.* Murtagh, William J., 1990, Page 213.

up with different uses for one type of building while maintaining its historic integrity. Several ideas for the adaptive re-use of the Northeast Georgia hydro plants are as follows.

CRM FIRM AND TRAINING CENTER

The conversion of a building into an office complex is a fairly simply task. The major requirements for this type of project all involve interior alterations. Separating walls need to be added in most cases as well as retrofitting the structure to meet modern codes and conveniences.

Finding occupants for this type of office complex can be the hardest part of the adaptive reuse project. Cultural resource management firms or agencies perform services in several cultural resource fields, such as historic preservation, archaeology, and environmental management. By placing a CRM firm within a converted industrial structure, the structure becomes a calling card of sorts. Who better to work on a historic preservation project than a firm that is based out of a unique historic structure?

Due to the size of most industrial buildings there may be excess space after the firm moves in. This space could become a training facility for other CRM center. In these types of firm's projects are often shard by the preservationists, environmentalists, and archaeologists. This means that each professional has to have a working grasp of the other fields. By providing CRM firms with in depth training in all of the fields, their work can be done more efficiently and most importantly, more accurately. An adapted industrial building could house an archaeology field school that teaches the importance of archaeology, any new methods or findings in the field, as well as offering refresher courses on the proper shovel test methods. The same types of classes can be offered in historic preservation and wildlife management.

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[22]Keeping Time *The History and Theory of Preservation in America.* Murtagh, William J., 1990, Page 213

Ironbridge Gorge is located in England; it is a World Heritage Site that is very similar to the Northeast Georgia Hydroelectric Plants. It is made up of approximately eight resources which reside within a gorge and are strung together by a river. Ironbridge Gorge has a similar premise within one of the industrial structures in the chain. It houses an archaeology field unit. This unit was initially set up to provide Ironbridge Gorge with archaeology services. However, this unit is now a commercial contracting unit that works both locally and nationally.

Retrofitting one of the hydro plants in the Northeast Georgia hydroelectric plant chain to house a CRM firm and training center may be a profitable idea. The larger cities in the southeast all have CRM firms. Many employees of CRM firms are required to help in some way with all projects the firm is hired out for. Therefore, there is a lot of cross training within each firm. It would benefit CRM firms to have a "school" to send their employees to. This school can help explain archaeology to preservationist or historic preservation to archaeologists and so on; it can act as a center to learn new methods and theories in each field. In essence it can become a school for those in the cultural resource management field to come to every five years or so to make sure they are aware of the most recent management tool in their respective fields, much like realtors are required to up date their license every so often. It may be possible for this school to be satellite program of the University of Georgia's or Georgia State University's.

In order for one of the hydro plants to become a cultural resource management firm/training center the plant would have to be purchased by a private professional organization. The politics involved with such a purchase would become tricky. It should not be the intent of the purchaser to visually separate one of the plants from the chain of hydroelectric plants. The hydro plants will be physically linked to one another as long as they remain standing; however, having a private firm take up residence ion on of the buildings it may loose the visually link they

now possess. In order to insure that the plants remain linked as the series they were built to be an ordinance or set of design guidelines need to be implemented before any of the plants are adapted for a new use. This will insure the land around the plants and the plants themselves do not become a typical office park.

Northeast Georgia needs more cultural resource management firms to protect the abundant resources in the region. It is possible that many of the Cherokee artifacts and sites of former dwellings are being lost due to the vast amount of new construction. There is no doubt that the historic and natural resources are disappearing at an alarming rate. By providing the southeast with a CRM training center it is possible that more resources will be protected in the future.

MUSEUMS

When faced with the protection of an industrial structure, many avenues for the future of the structure must be explored. Perhaps one of the simplest, yet, effective ideas for the protection of an industrial structure is the conversion of the structure into a building to house a museum. Based on the size and shape of these structures it is possible to house virtually any type of exhibit within them.

WORKING INDUSTRIAL MUSEUM

The installation of a working industrial museum has the potential to be one of the most sensitive museums to establish within a historic industrial structure. By this it is simply meant that by creating a museum around the industry for which the structure was built, alterations to the structure should be minimal. This does require the machinery that was once needed in the day to day operations of the plant. The machinery can either be restored to working order or just used as props to demonstrate their function and size. The employees of the museum can be the

"factory workers", their jobs would be the educational role of explaining the importance of the industry itself, and the impact the industry had on the local community. They would also be there to demonstrate the day to day life of a factory worker and their working conditions. In this modern convenient world little is known about industries of the past. In the industrial world many undesirable jobs that were once held by people can now be done more efficiently by machines. Watching museum workers perform jobs of the past has become something of a novelty for many tourists.

The Coalbrookdale Museum of Iron and Darby Houses is an industrial museum within Ironbridge Gorge that demonstrates the day to day life of the iron workers. This industrial structure also has employee homes associated with it. These homes are now part of the interpretation of the lives of the workers.

When considering the future of the Northeast Georgia hydroelectric plants it is a good idea to consider the conversion of the Tallulah Falls Plant into an industrial museum. These plants are the hardest to access, they are in the gorge, and would be the hardest to convert into a structure with a different use. A cog rail was constructed at a park just above this plant to allow visitors access to the buildings bellow, however, this system is no longer in use. By reconstructing the rail visitors could once again easily gain access to the plant. The museum would demonstrate the production of hydroelectricity, which is the conversion of water into electricity. Currently all of the plants are still operational; therefore, the machinery is still within the buildings. All that would have to be done to convert one of these plants into a museum is structural stabilization, as needed, to ensure the integrity of the structure. These industrial structures will probably need retrofitting to meet modern safety requirements for public access to the buildings. To become a tourist destination the plants would need the addition of a few

conveniences such as resting stations for tired patrons, a gift shop for those who may want souvenirs, and some sort of snack bar. By making sure the tourists are entertained and comfortable while learning something new, they are more likely to return.

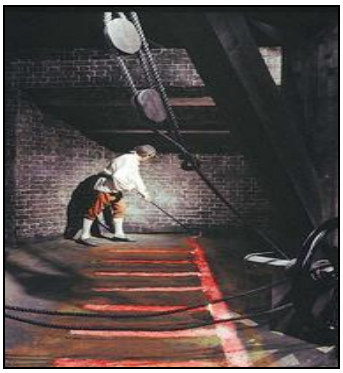

Illustration 39

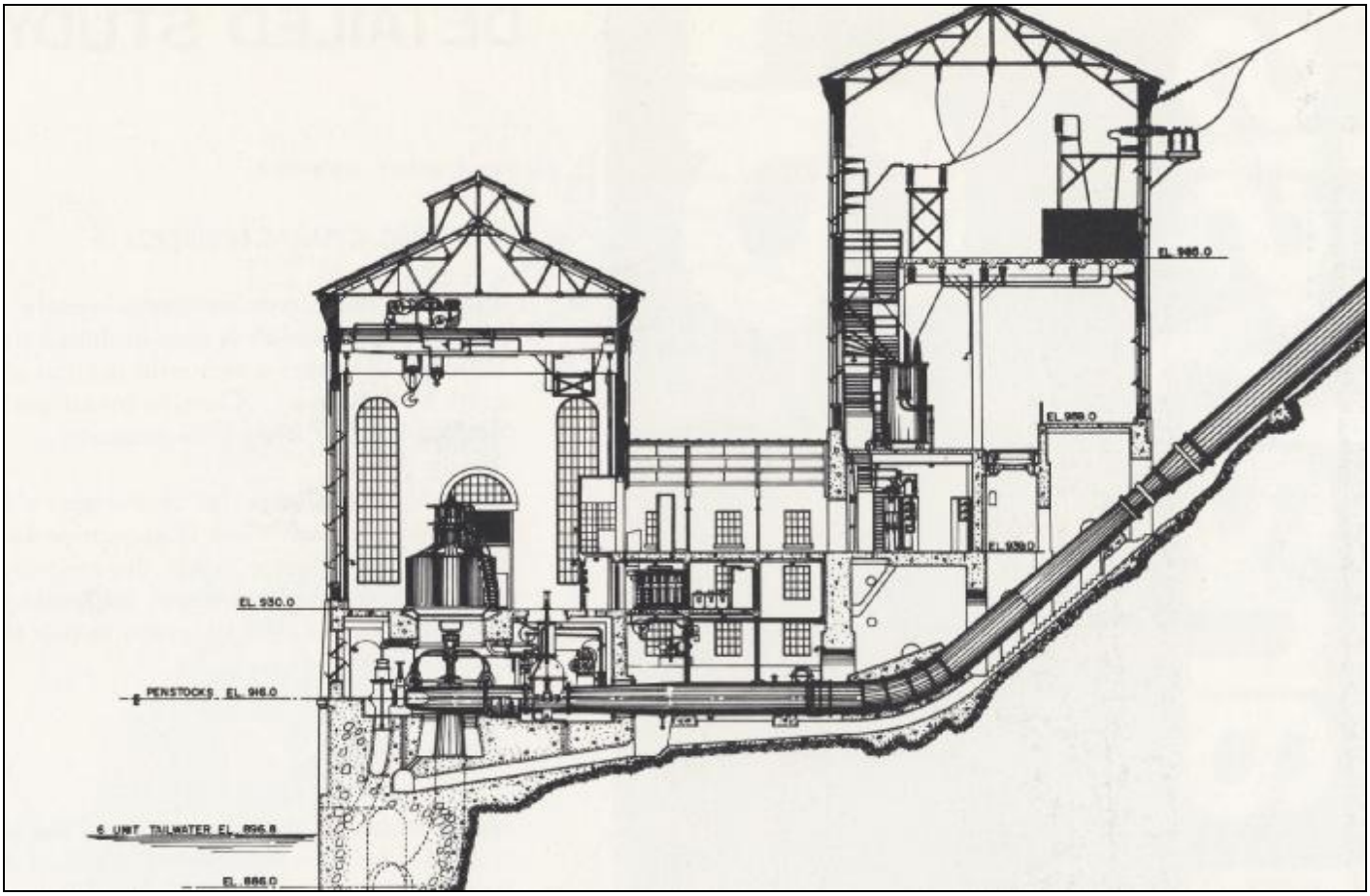

Illustration 40

HISTORY MUSEUM

When establishing a history museum it must first be determined what period and type of history is going to be covered by the exhibit within the structure. It is logical to focus, in some fashion on the period in which the industrial structure housing the museum was constructed. By incorporating the history behind why the structure was built, the importance of the structure is then validated. However, a museum should not just be based on one specific time period unless in this point in time, quite a few people experienced some sort of life altering occurrence. Establishing an exhibit that covers several important time periods to the region in which the museum is to be located is the wisest move. It is even a good idea to broadly incorporate the events influencing the rest of the state and possible even the rest of the world.

Converting one of the Northeast Georgia hydroelectric plants into a history museum is ideal to help the visually understand the impact these large structures had on this region of Georgia. The first era that should be covered by a history exhibit would be prior to the Native Americans land cession which began in 1817. The majority of names for the hydro plants, the lakes, and even the towns within this region are Cherokee. This region was obviously significantly influenced by its first inhabitants, the Cherokees. The tourism boom that helped establish this region is also a very important event that should be addressed. This boom can cover an extensive period of time, beginning immediately after the land cession and ending in the year the museum is established. For roughly the past two hundred years the tourism industry has been influential on the area. Tourism should not be addressed without addressing the way of life for the residents of this region. The most important event to be covered in the museum should be the creation of the lakes and the construction of the hydroelectric plants by Georgia Power. There are several exhibits that can be made from this one event. The first exhibit should be an

illustration of what the Tallulah, Chattooga, and Tugalo Rivers looked like before the damming of the Tallulah Falls. From here it should be addressed what hydroelectricity is, why the Falls were dammed, the effect this had on tourism, the residents, and the natural surroundings. The exhibit could wrap things up with an illustration of what the Tallulah, Chattooga and Tugalo now look like.

CONTEMPORARY ART MUSEUM

It is possible for works of contemporary art to be large sculptures or immense works consisting of large quantities of canvases which are meant to be grouped together and viewed as one. Because of the massing of this type of art, the works are often separated into several pieces to fit into modern buildings. Therefore, many works of this type of art are not viewed as the artist intended them to be. Industrial structures are ideal for displaying large works of contemporary art, due to the nature of these buildings. They have open spacious floor plans that should not present an interference with large works of art.

In New York, the Dia: Beacon, is an art museum that was once an old Nabisco plant. This structure has two hundred and forty thousand square feet of exhibit space and displays large works of art that have rarely been seen by the general public. Displayed within the Beacon are seventy two of one hundred and two works of art by Andy Warhol. This series was meant to be hung edge to edge, like a mural. These works have often been separated to hang in other museums, but they have never been hung like Warhol intended. The size of this industrial building allows for viewers to view sequences of art as the artist originally planned. According to director Michael Govan,

> "The Buildings in a way, are big enough to allow all of the artists to have the fantastic experience of going world to world."

DIA BEACON

Illustration 41

WARHOL EXHIBIT

Illustration 42

NATURE MUSEUM

Many industrial structures such as the Dia: Beacon, Ironbridge Gorge, and the Northeast Georgia hydroelectric plants are located in relatively rural areas surrounded by dense forests. Each of these structures is located in entirely different regions, and is therefore surrounded by different types of vegetation.

It is possible to turn industrial structures into an interpretive nature museum that highlights regional vegetation and animals, and a recreational facility that would allow visitors to enjoy the nearby wilderness. The nature exhibits can feature habitats, how to maintain them, and how to live symbiotically with them while the recreational facility will focus on outdoor entertainment.

On the grounds of the industrial structure an animal rehabilitation zoo can be established. This is a zoo that heals injured animals and releases them; while the animals that are too injured to be released can stay on at the zoo. When the animals are recuperating, visitors have the opportunity to view them in their "natural" habitat. Guided educational hikes can be established for those who want learn at the same time they soak in the environment. For those who prefer to

be on their own in nature, marked paths can be set up for unguided hikes. Establishing this type of museum would allow people insight into the protection of the plants and animals of the wild while allowing them a place to explore.

The natural environment surrounding the Terrora, Tallulah Falls, Tugalo, and Yonah Plants is ideal for this type of museum. The area surrounding all of these plants is what initially drew both the settlers and tourists in. This region is still known for its natural beauty, and this is the main reason people visit it today. Observation decks should be constructed on top of the plants to allow for a view down one lake and up another. A swimming platform would provide the tourists with a safe place to swim and fish. It can also act as a place to store boats for guided boat tours of the lake. Canoes and kayaks can be taken out onto either the lake above or below the hydro plant. Camping with modern conveniences can be provided near the plant, while primitive camping can be done farther away. This plant can act as the hub to meet with a guide for camping, hiking, kayaking, or bike riding; or simply a place to base yourself from and set off on your own. By establishing one of these plants as a nature museum/ recreation facility, not only does it educate the public about the nature within this region but it would provide tourists with a safe way to explore it.

A GLIMPSE INTO PRESERVATION

While the construction during the conversion of the industrial plants is taking place, they can be opened for educational tours. The Jackfield Tile Museum, a museum in the Ironbridge Gorge group, is in the process of preservation. While the preservation process is taking place the structure is open to the public so they can see preservation in action. By allowing this structure to be toured while work is taking place, the layman gets a glimpse into the physical preservation process. This could help raise awareness and support amongst people who do not understand

historic preservation. At the least it can raise money to go towards the restoration of the structure.

JACKFIELD

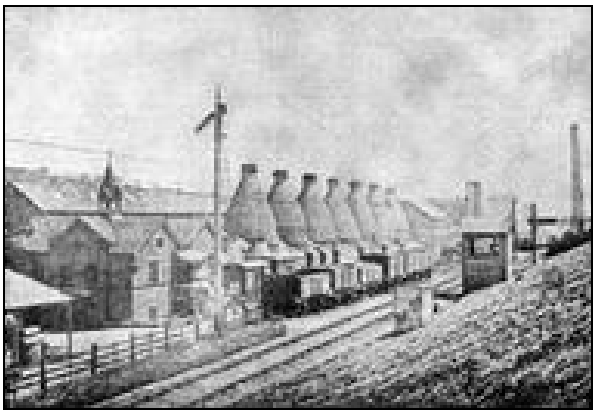

Illustration 43

LINKING A SERIES OF ASSOCIATED INDUSTRIAL STRUCTURES

When there are several industrial structures associated with one another like the Northeast Georgia hydroelectric plants or Ironbridge Gorge in England, it would be beneficial to connect each of these buildings. Establishing a tour that would enable patrons to visit one or all of the structures, would aid in the protection of the individual structures, and allow insight into how these structures were associated with one another, both physically and spatially. A central starting point should be established that provides the tourists with transportation to each of the structures. From here the tourist can determine which of the structures they would like to visit.

Old Severn Warehouse, which houses a history exhibit, in the Ironbridge Gorge is a structure that acts as the starting point for tours of the resources associated with the gorge. When addressing the future uses of the Northeast Georgia hydroelectric plants a history museum would be a good starting place for a tour that would extend to the rest of the hydro plants. By beginning the tour within a history museum the tourist would discover the importance of the

plants and why the falls were dammed. The six hydro plants are a good distance from one another; therefore, for convenience, a shuttle should be established to get the patrons from one plant to the next. The shuttle can also take tourists to the cities of Clayton and Tallulah for shopping and dining. By establishing this shuttle the patron then has the option to go to any combination of hydroelectric plants and cities they choose.

IRONBRIDGE GORGE

Illustration 44

SEVERN WAREHOUSE

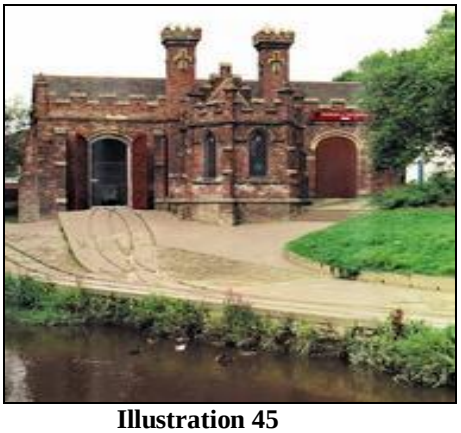

Illustration 45

COALPORT CHINA

Illustration 46

Chapter 9

RECOMMENDATIONS AND CONCLUSIONS

In order to implement the conceptual ideas outlined in this thesis to insure the future of hydroelectric plants, more specifically, the Northeast Georgia Hydroelectric Plants several local, federal, and private agencies/companies have to be willing to work with on another. The first step is either purchasing the plants from the appropriate power company, in this case the Georgia Power Company, or setting up a partnership with the power company; however, the terms of the purchase of the plant may have to grant the power company a permanent easement to enable them to gain access to the property to make future repairs to the dams associated with the hydro plants.

After the purchase or partnership of the plants has taken place a company or foundation has to be created to unite the structures. By uniting the structures a historic district can be formed with the pants. This district can be nominated by a preservationist in house or by contracting the project out. Upon consulting with the Georgia Mountains Regional Developmental Center (RDC) and the Georgia Historic Preservation Division (HPD) the property manager of the plants can determine how to proceed with a historic structures survey, Historic American Engineering Record survey, and a National Register Nomination. Once this step has been done it becomes much easier for the other preservation plans mentioned in this thesis to be undertaken. Money for these procedures many become available through specific tax credits, federal, as well as local grants.

It is the recommendation of this thesis that the Georgia HPD and the Georgia Mountains RDC consult with the Georgia Power Company about the future use of the Northeast Georgia

Hydroelectric Plants. If the Georgia Power Company finds that it can no longer afford the upkeep of these buildings, they are going to either tear them down or let them fall into a state of disrepair. If there is an in depth and well though out preservation plan in place, like the ideas in this thesis, outlined bellow, than the future of these hydro plants may not be so dismal. A project of this magnitude has to be an organized, creative, and proactive plan; it can not be a reaction to Georgia Power announcing the future demolition of the structures.

OUTLINE OF RECOMMENDATIONS

1. Establish the historic significance of the resource.
2. Determine the historic significance of the resources in relation to the region, state and country in which the resource resides.
3. Ascertain the physical architectural elements of the structure.
4. Identify the current and future threats to the resource.
5. Perform a historic structures survey for the resources to be turned into the state historic preservation division and the local historic preservation orginazation.
6. Have the structure listed in the National Register of Historic Places.
7. If applicable request for an in depth structure documentation done by HABS/HAER.
8. Identify the tax credits and grants available to the restoration of the resources.
9. Determine if the establishment of a cultural route or the placement of historic markers will benefit the project.
10. Establish the governing body for the resources.
11. Finally, with the input of the governing body and local community, determine what type of adaptive re-use plan is best suited for the region and resources.

CONCLUSIONS

The Northeast Georgia Hydroelectric Plants are unique buildings that sprang from the demand of a new invention, electricity. Taking into account the impact electric production had on the United States in the early part of the twentieth century these resources become invaluable for not only their architectural beauty but also for the way they aided in shaping life in the U.S. The construction of the plants provided jobs and the lakes formed by the plants brought in tourists. In one way or another, these and all hydro plants forever changed the way of life in the surrounding communities. They are important cultural resource and should be protected in the face of demolition for their architectural value and contribution to the cultural heritage of the surrounding towns. Through appropriate historic preservation methods and customized adaptive reuse plans historic hydroelectric plants can be protected from future demolition.

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APPENDIX

RES # **RESIDENTIAL RESOURCE SURVEY** PHOTO#

1. Name of resource

3. Location

5. Classification & 30. Counts:

Building Site Landscape Feature Structure Object
(Outbuilding)

6.Current & 7.Original Use

Domestic/Residential
Single dwelling
Multiple dwelling
- Apt bldg
- Rowhouse
- Duplex

Secondary structure
- Storage shed
- Garage/Carriage house
- Kitchen
- Privy
- Wellhouse
- Springhouse/Ice house
- Smokehouse
- Dwelling (secondary)
- Dairy
- Greenhouse/Pool house

Commercial
- Business/office
- Professional/office
- Bank/savings & loan
- Retail store/shop
- General store
- Restaurant/bar/café
- Hotel/inn/motel/b&b
- Department store
- Warehouse
- Multiple coml/shop ctr
- Professional assn/trade org
- Market

Religious
- Church/religious structure
- Church school
- Church-related housing
- Campground/arbor/retreat
- Ceremonial site

Educational
- School
- College/university
- Library
- College-related housing
- Research facility

Agriculture/food processing
- Agricultural outbuildings
- Barn/shed (Mule/Cattle/ Horse/Dairy/wagon/machinery/implment)
- Tobacco
- Chicken coop
- Silo/Windmill
- Corn crib

Agricultural storage
- Cotton/ Peanut warehouse
- Grain elevator
- Tobacco warehouse

Agricultural processing
- Animal/Fishing facility
- Agricultural fields
- Tree farm
- Irrigation facility

Industrial/engineering
- Mill/processing/mfg
- Mill/company housing
- Waterworks/reservoir/ dam/water tower/canal
- Extractive facility or site
- Communications facility
- Energy facility

Transportation
- Rail/Road/H2O/Ped/Air

Government/Public
- Fire station
- Post office
- City/town hall
- Jail/prison/police station
- Public works
- Courthouse (co/fed)
- Militia district
- Govt office (type)
- Public housing

Entertainment/recreation/cultural
- Theater/opera hall/ cinema/playhouse
- Museum/gallery
- Sports facility
- Outdoor rec/camp ground/ picnic
- Auditorium
- Fair/amusement park
- Music fac./bandstand
- Zoo

Commem. monument/ marker
- Resort
- Work of art
- Bot./horticultural garden

Funerary
- Cemetery
- Grave/mausoleum
- Mortuary/funeral home

Military
- Battle site
- Fortification
- Military facility (type)
- Armory/arms storage
- Military housing

Health care
- Hospital/ClinicMedical business/office
- Spa/springs
- Nursing home/sanator.

Civic/social
- Fraternal/patriotic org
- Club (common interest)
- Social/civic org.
- Philanthropic housing

Work in progress
Vacant/not in use
Unknown
Write-in

8. Date of construction

9. Altered (Date, Description)

Addition (Date, Description)

Moved/Destroyed

(Details on #25)

12a. High style
Elements

12b. Style(s)

- No academic style
- Craftsman
- Colonial revival
- Folk Victorian
- English vernacular revival
- Queen Anne
- Greek revival
- Italianate
- Stripped Classical
- Beaux Arts Classicism
- Academic Gothic revival
- Gothic revival
- Neoclassical revival
- Mediterranean revival
- Italian Renaissance revival
- Second Empire
- Richardsonian Romanesque
- Stick
- Federal
- High Victorian Gothic
- Shingle
- Prairie style
- Romanesque revival
- High Victorian eclectic
- Dutch Colonial revival
- Federal revival
- Spanish Colonial revival
- Chicago School
- Early Classical revival
- French Vernacular revi
- Moderne
- Exotic revival
- Georgian
- Art Deco
- International
- Unknown
- Write-in

13. Building Type(s)

1 to 1 ½ stories
- single pen (rect./square)
- double pen
- hall-parlor
- saddlebag (2 doors/cent.door)
- central hallway
- dogtrot
- Georgian cottage
- Sand Hills cottage
- Shotgun/Double shotgun
- Gabled ell cottage
- Queen Anne cottage
- New South cottage
- Pyramid cottage
- Saltbox
- English cottage
- Extended hall parlor

2 story
- Bungalow (Front gabl/ Side gab/Hip/Cross gab
- Ranch
- Side Gable Cottage
- I-house (Central hall way/Hall parlor/Double pen/Saddlebag)
- Plantation plain
- Side hallway
- Gabled ell house
- Queen Anne house
- New South house
- American foursquare
- Georgian house
- Split level
- N/A
- Unknown
- Write-in

Contact Print

14. Floor plan (Original)

- one room (square/rect)
- two equal rooms
- two unequal rooms
- three or more rooms
- central hallway
- side hallway

14b. Depth

- one room
- two rooms
- more than two rooms
- unknown
- write-in

15. Plan shape

- rectangular
- square
- L / T / U / H / E
- Greek cross
- Latin cross
- Circular
- Octagonal
- Triangular/flatiron
- Irregular
- Unknown
- Write-in

16. Number of stories _____

17. Façade symmetrical asymmetrical

17b. Front door 1 2 3 or more

18. Roof types

- gable (side-/ front- / cross / multi-/ clipped/ stepped / parapet
- hip
- pyramidal
- gambrel
- mansard
- shed/pent
- flat
- truncated hip/deck-on-hip
- dome
- conical
- complex
- write-in

18. Roof materials

- composition/asphalt shingle
- metal (standing seam/ pressed shingle/ pressed sheet/ corrugated sheet)
- built-up tar and gravel
- clay tile
- slate
- asphalt roll
- wood shingle
- concrete tile
- unknown
- write-in

19. Chimney placemnt

- gable-end, exterior
- both gable ends
- gable-end, interior
- both gable ends
- double gable end
- both gable ends
- center
- off-center, ridgeline
- off-ctr within roof surf
- lateral interior
- lateral exterior
- multiple random
- outside add-on
- three or more chimneys
- see item #25
- no chimney observed
- unknown
- write-in

19b. Chimney material

- brick
- fieldstone
- coursed stone
- cobblestone/rustic
- stuccoed masonry
- concrete block

20. Type of Construction (max 3)

- balloon frame/platform frame
- brick bearing
- stone bearing
- log
- mortise-and-tenon/brace frame
- post-and-beam (wood)
- metal/steel framing
- concrete block
- poured concrete (bearing wall
- concrete frame
- plankwall framing
- tile block bearing
- concrete slab
- glass block
- tabby
- unknown
- (write-in)

21. Exterior Material (max 6)

- wood
  - weatherboard/clapbrd
  - board-and-batten
  - vertical board
  - novelty siding/ shiplap/ drop siding
  - shingles
  - flush board siding
  - beaded tongue&groove
  - half-timbering
- brick (note if handmade)
  - common/American
  - running bond/veneer
  - Flemish bond
  - English bond
- stone
  - fieldstone/rubble/
  - regular coursed stone
  - random coursed stone
  - rock-faced stone
  - rusticated stone
  - cobblestone/rustic
  - stone panels
- log
  - hewn
  - V-notch/ square notch
  - half dovetail/dovetail
  - saddle notch
- ceramic
  - terra cotta
  - glazed brick/enameled
  - tile block/ tile mosaic
- metal
  - wrought iron
  - cast iron/pressed tin
  - sheet metal/corrugated
  - porcelain enamel steel
  - write in
- concrete
  - concrete block/cinder blk
  - decorative concrete blk
  - poured wall
  - cast concrete detail
  - textured concrete
  - prefabricated panel
  - tabby
- stucco
- glass
  - glass block
  - plate glass
  - pigmented sheet glass
  - carrara/prism glass
  - prism synthetics
  - vinyl/aluminum siding
  - tarpaper/asphalt sheet/ patterned asphalt
  - asbestos siding
  - permastone
  - masonite siding
  - plastic/fiberglass
  - plywood/particle board
  - insulbrick (composition)
- unknown
- (write-in)

22. Foundation Material (max 3)

ALSO NOTE: pier / pier w/ infill / continous

- brick
- stone
- concrete
- wood
- metal
- unknown

23. Porch Configurations (max 4 porch types)

	location	# stories	width	material	roof type
verandah					
wrap-around					
recessed					
portico					
stoop					
balcony					
porte-cochere					
arcade					

Roof Types: (fill in above)
hip /shed-pent /gable / hood / conical / complex

24. Window Types (max 3)

	head(flat/round,etc)	pattern (6/6, etc.)	shape (rect, etc.)
double-hung sash			
single-hung sash			
casement			
fixed			
factory sash			
triple-hung sash			
jalousie			
pivotal sash			
unknown			
(write-in)			

26. Outbuildings (max 10)

storage shed / garage
barn/shed (mule/cattle/wagon/ machinery/ horse tobacco/dairy)
corn crib / chicken coop
kitchen / privy
carriage house
wellhouse / springhouse
(write-in)
secondary dwelling
smokehouse /root cellar
windmill / ice house
slave/servant house
dairy / blacksmith shop
silo /dovecote
pool house / greenhouse
outbuilding of unknown use

29a. Landscape Features (max 10)

yard setting
- informal/picturesque
- casual/unplanned
- designed fencing/walls
- designed planting beds
- designed drives/walks
- formal/geometric
- terracing/retaining walls

streetscape
- street trees/landscaping
- town/cthouse square
- street furniture/fountain
- artwork/monument
- ornamental paving

rural landscape/agricultural fields
- field systems
- fence/hedgerows
- cemetery
- terracing/contouring
- pecan/other groves/orchards
- drainage/irrigation

forest/woods
- natural
- planted

(write-in)

29c. Description(s) of Environment

town (residential/commercial)
urban (residential/commercial)
rural (agricultural/ forested/non-agricultural/crossroads comm./dispersed comm.)
(write-in)
suburban (residential/commercial)
vacant lots
industrial setting/park
strip development
designed landscape
mixed use

Surrounding Resources

new old mixed old and new

34a. Historical Themes (max 5)

architecture / agriculture
commerce / industry
religion / education
social/cultural development
transportation
government/politics/law
recreation/entertainment
(write-in)
African American / Indian history
other minority and ethnic groups
engineering/landscape arch
planning / military
exploration/settlement
conservation /public works
arts/letters

architectural type (common/rare)
architectural style (common/rare)
architectural technique(com/rare)
(write-in)
architectural design
craftsmanship
history (development/activity/ person/event)

Name: **Date:**

40. SHPO Evaluation

appears to meet NR criteria
may meet NR criteria
more information needed
appears NOT to meet NR critera b/c of integrity/age/signif

Quad:

UTM:

25. Physical Description (write-in)

Site Plan