NPS Form 10-900
(Rev. 8-86)

OMB No. 1024-0018

RECEIVED
JUN 01 1990
NATIONAL REGISTER

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name: Lake Carnegie

other names/site number:

2. Location

street & number: (see continuation sheet for specific data) [NA] not for publication

city, town: Princeton, Plainsboro, South Brunswick, and West Windsor [ ] vicinity

state: New Jersey code: 034 county: Mercer, Middlesex code: 021, 023 zip code: multiple

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property		
		Contributing	Noncontributing	
[X] private	[ ] building(s)	2	3	buildings
[X] public-local	[X] district	1		sites
[X] public-State	[ ] site	3	2	structures
[ ] public-Federal	[ ] structure			objects
	[ ] object	6	5	Total

Name of related multiple property listing: N/A

Number of contributing resources previously listed in the National Register: 0

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this [X] nomination [ ] request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property [X] meets [ ] does not meet the National Register criteria. [ ] See continuation sheet.

Signature of certifying official — Date: 1/22/90

Acting Commissioner, DEP/DSHPO
State or Federal agency and bureau

In my opinion, the property [ ] meets [ ] does not meet the National Register criteria. [ ] See continuation sheet.

Signature of commenting or other official — Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

[X] entered in the National Register. [ ] See continuation sheet.
[ ] determined eligible for the National Register. [ ] See continuation sheet.
[ ] determined not eligible for the National Register.
[ ] removed from the National Register.
[ ] other, (explain:) _____

Entered in the National Register

Signature of the Keeper — Date of Action: 6/28/90

6. Function or Use

Historic Functions (enter categories from instructions)	Current Functions (enter categories from instructions)
recreation & culture - sports facility	recreation & culture - sports facility
recreation & culture - outdoor recreation	recreation & culture - outdoor recreation
transportation - road related	transportation - road related

7. Description

Architectural Classification (enter categories from instructions)	Materials (enter categories from instructions)
Mission Gothic	foundation cement walls stucco roof asphalt other

Describe present and historic physical appearance.

The Lake Carnegie Historic District consists of several elements: a three-and-one-half-mile-long manmade lake, which incorporates several small islands and associated landscape elements; a dam; and three bridges that cross the lake and its tributaries; and the Class of 1887 Boathouse.

The Lake

The lake was formed by damming the Millstone River and Stony Brook in the townships of Princeton, South Brunswick, Plainsboro and West Windsor. The Millstone River flows northwestward and converges with the Stony Brook, which flows northeastward, to form the lake. Several streams also contribute to the waters of the lake, the most important being Harry's Brook, which flows eastward into the lake approximately one-half mile west of the Lake Carnegie dam. The lake is approximately three-and-one-half miles in length, and varies between 400 to 800 feet in width. The lake lies directly southeast of the main core of the Princeton University campus, and then extends northeastward along the southeastern border of Princeton Township. For purposes of this description, the side of the lake bordering Princeton Township will be referred to as the northern shore, and the opposite side will be referred to as the southern shore.

The long, narrow, and winding shape of Lake Carnegie was determined by the topography of the Millstone River, Stony Brook and the surrounding landscape when the area was flooded. The western terminus of the lake begins immediately to the east of the Pennsylvania Railroad bridge across Stony Brook. This "arm" of the lake is fed by Stony Brook, and runs from west to east for approximately 1 1/4 miles until it converges with the Millstone River. When the two bodies of water come together, the lake turns in a northerly direction, and runs northeast for approximately two miles to its eastern terminus at the dam.

Within the western "Stony Brook arm", several important features of the Lake Carnegie Historic District can be found. Approximately one-half mile east of the railroad bridge, lies Washington Road Bridge, one of the three bridges included in the Lake Carnegie Historic District. The second bridge in the district, the Harrison Street Bridge, lies 3/4 of a mile east of the Washington Road Bridge.

[X] See continuation sheet

Roughly, north of the Delaware and Raritan Canal, with its western terminus being the Railroad Bridge in Princeton Township, and its eastern terminus being the dam immediately west of the mill in the Village of Kingston, South Brunswick Township.

Directly east of the Harrison Street Bridge is the point of confluence of the Millstone River and Stony Brook.

Additional features within the western arm of Lake Carnegie are several islands which were also part of the original plan for the lake. The first island is located several feet from the southern shore, approximately 100 feet from the western terminus. It measures approximately 1500 feet long, and between 150 to 200 feet wide, and is densely covered with large trees and vegetation. The second and third islands are located approximately 500 feet east of the Washington Road Bridge, along opposite shorelines. Both islands are only a few feet from their respective shores, and measure approximately 500 feet long and 200 feet wide. A fourth smaller island lies approximately 500 feet east of the Harrison Street Bridge, along the southern shoreline. These three small islands are also covered with dense vegetation and trees.

Approximately 1 1/2 miles northeast of the bend in Lake Carnegie, the waters from Harry's Brook enter the lake along the northern shore. Harry's Brook is the largest of the several streams that feed Lake Carnegie, and as part of the original Lake Carnegie plans, the bridge over Harry's Brook along the Princeton-Kingston Road is the third bridge contained within the boundaries of the Lake Carnegie Historic District.

The eastern terminus of the district is the Lake Carnegie dam, directly west of the Kingston Mill.

The Shoreline

The present shoreline of Lake Carnegie is in approximately the same configuration as when the lake was first created, except for the growth of vegetation. It is heavily wooded, and serves as a picturesque habitat for birds and many small animals. There is evidence of planned landscaping in several areas of the shoreline.

Along the northern shore, beginning immediately east of the Washington Road Bridge, a winding path was cleared through the woods, which originally continued along the remainder of the northern shore to the dam. At the present time, only the section of the path between the Washington Road Bridge and the Harrison Street Bridge remains, but it is still heavily used.

The northern shoreline east of the Harrison Street Bridge, continuing to Harry's Brook, has been subject to low-scale development, and is not included in the Lake Carnegie Historic District. Directly east of the Harry's Brook Bridge is a boat launching and spectator area between Route 27 and the lake, of approximately 2000 feet in length and between 50 and 200 feet in width.

Nearly the entire southern shoreline of Lake Carnegie is alongside the towpath of the Delaware and Raritan Canal, and is densely covered with trees and vegetation.

Several groupings of trees serve as evidence of the planning by Howard Russell Butler, a Princeton graduate and a painter with an interest in landscaping. There are two rows of hardwood trees planted along the northern shore on either side of the walking path directly west of the Harrison Street Bridge. Two groves of cherry trees are planted on the southern shore of the lake, one to the east of the Harrison Street Bridge, and the other west of the Washington Road Bridge. Several willow trees are planted on the northern shore directly west of the Harrison Street Bridge, as well as along the western terminus shoreline. All of these groupings are illustrative of Butler's desire to create a pleasing landscape with overhanging trees. These tree groupings remain in good condition today, and are, of course, much more mature than when Butler first designed the landscape.

Contributing Structures

Three bridges were erected as part of the Lake Carnegie project: the Washington Road Bridge; the Harrison Street Bridge; and the Harry's Brook Bridge' Of these three bridges, the Washington Road Bridge and the Harry s Brook Bridge are contributing structures, while the Harrison Street bridge is noncontributing due to its collapse in 1988. Two other bridges were erected on Route 1, outside of the boundaries of the district, and have since been replaced.

The Washington Road Bridge lies approximately one-half mile east of the western terminus of the lake. This four span, approximately 400 feet long bridge was built to replace an older bridge over Stony Brook, and is constructed of steel-reinforced concrete faced with sandstone from the older bridge, as well as newer German Valley granite. The sandstone masonry east abutment and three piers of the older bridge were repaired and retained.

In 1938, Washington Road Bridge was substantially altered by doubling the width of the entire bridge, and adding sidewalks. In altering this structure, the southern half of the bridge was retained in its place, and the northern facade was removed. In building the new northern facade, the original design was reproduced, and original stone was used whenever possible on the spandrel wall and parapets. The bridge stands today in very good condition.

The other contributing bridge erected as part of the original construction of the lake was a stone bridge over Harry's Brook, the principal subsidiary stream contributing water into Lake Carnegie. The Harry's Brook Bridge is located along the northern shore, approximately one-half mile west of the eastern terminus of the lake. Although most of the bridge is intact, a substantial number of stone copings on both the eastern and western sides of the Harry's Brook Bridge have been replaced with concrete. The bridge is presently in fair condition, with some deterioration in the stone structure on the western facade.

The Lake Carnegie dam, also built as a part of the original plan, is located at the northeastern terminus of the Lake Carnegie Historic District. The steel-reinforced concrete dam is approximately 650 feet long, four feet wide, and is supported at 24 feet intervals by heavy abutment walls. The dam is embedded in solid rock at an average depth of fifteen feet. The structure has undergone major repairs at least twice; records show that the water in Lake Carnegie was lowered in 1930 to permit extensive repair work on the dam, and the structure was substantially rebuilt in 1937 as a WPA project.

The Class of 1887 Boathouse, built in 1913, is a contributing structure located on the northern shoreline, directly west of the Washington Road Bridge. The Class of 1887 Boathouse is an asymmetrical two-story Mission Gothic style stucco building with an asphalt shingle roof. The windows are casement style, many with drip moldings. Four large doorways with gothic arches run across the ground floor of the middle section of the facade. A projecting three-story tower with a parapet roof is attached to eastern front of the building. At the western side of the boathouse structure is a two-story projecting section with large arched openings on the first floor, which form an open porch, and an enclosed porch on the second floor. The interior of the Class of 1887 Boathouse remains remarkably intact, and is still used by the University for crew-related activities. Located alongside the Class of 1887 Boathouse is a small one-story stucco boathouse directly on the river, which is related in style and function to the large boathouse. This small boathouse has an hipped roof, and one large arched opening, and appears to be of approximately the same age as the Class of 1887 Boathouse. Directly to the north of the small boathouse is a newer, non-contributing structure that appears to be related to mechanical systems.

Non-contributing Structures

The Harrison Street Bridge is located approximately 3/4 mile east of the Washington Street Bridge, immediately west of the bend in the lake. The Harrison Street Bridge was considered to be contributing until it collapsed in late 1988. At the time of its collapse, it had been closed because it was judged to be unsafe for vehicle traffic. It was a four span bridge of approximately 400 feet, and was constructed of pressed steel. The Harrison Street Bridge was built to replace an existing bridge, and the existing stone was used to build the faces of the abutments of the new bridge. The Harrison Street Bridge is presently (May 1989) being dismantled, and will be replaced with a new structure.

Immediately east of Harry's Brook Bridge is a boat launching and spectator area still used by the university and the community. Two small non-contributing frame boat houses of no particular style are located in this area.

A small non-contributing cement bridge is located over a culvert at the conjunction of Faculty Road and Lake Drive. This bridge was not part of the original Lake Carnegie plan, but was included in the boundary because its location is the same as a portion of the original winding path.

A non-contributing stucco building housing mechanical systems is located to the west of the Class of 1887 Boathouse. This building appears to be of relatively recent construction, and has no relationship to early plans or uses of the lake.

Integrity, Change in Function

Within the boundaries of the Lake Carnegie Historic District, the original configuration of the lake and the landscape has remained generally intact. There has been minimal development along the shoreline, occurring exclusively along the northern shoreline of the lake, between the Harrison Street Bridge and the Lake Carnegie Dam. Much of the remainder of the shoreline has been well-protected because of its inclusion in or close proximity to the D&R Canal Historic District and the Kingston Mill Historic District.

The integrity of the lake has been well-maintained through the dredging of the lake bed several times over the years. The first dredging took place in 1927, when it was estimated that between 4,000 and 5,000 cubic yards of sediment was removed from the lake bed. By 1937, conditions had again deteriorated and the University purchased its own equipment and dredged intermittently throughout 1937 and 1938, removing a total of 160,000 cubic yards of sediment between the Harrison Street Bridge and the backwater located approximately 200 feet west of the Washington Road Bridge.

The next recorded dredging was a major undertaking begun in 1972 and finished a year later, when $1 million was spent removing approximately one million cubic yards of silt and gravel from the lake bottom. As a result, the lake was no shallower than six feet, and the race course had a uniform depth of nine feet. No dredging was done closer than 35 feet from the shoreline to preserve the environment.

Because the lake has been well-maintained, the primary function of Lake Carnegie as the crew course for Princeton University students has also been maintained. The lake is also often used for recreational boating and fishing.

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:
☐ nationally ☐ statewide ☒ locally

Applicable National Register Criteria ☒ A ☐ B ☐ C ☐ D

Criteria Considerations (Exceptions) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G N/A

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
entertainment/recreation	c. 1905-1938	1906
landscape architecture		1936

Cultural Affiliation
N/A

Significant Person
N/A

Architect/Builder
Howard Russell Butler, designer
Pennington Satterthwaite (Boathouse)

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

The Lake Carnegie Historic District includes as its major component the first man-made lake in the United States created specifically as a course for crew racing. Since its construction in 1905-06, it has been the site of Olympic trials, in 1936 and 1948, and several major intercollegiate rowing events involving crews from all over the country.

Although this function was its primary purpose, the promoters of Lake Carnegie were also interested in creating a landscape feature of pleasing appearance. At strategic places, the shoreline was planted with ornamental arrangements of trees, and a three mile winding walk was cleared along the northern shore. A seven mile scenic drive was also planned, but was never implemented.

There are several groupings of willow trees around the shore of the lake, primarily along the northern shore west of the Harrison Street Bridge, and along the western terminus. These willows have special significance because their ancestry can be traced back to a willow tree under which Napoleon Bonaparte sat while he was exiled at St. Helena. The original slips from Napoleon's tree were planted in the 1840's, and the Lake Carnegie willows are descended from them.

The lake's chief proponent, and the man responsible for implementing its design, was Howard Russell Butler. Butler was a 1876 graduate of Princeton, and a member of the Princeton Boating Club. After Princeton, he received a law degree from Columbia University in 1881 and practiced law for only three years before he decided to pursue his first love, art. Butler then studied art in Paris for several years before returning to the United States in the late 1880s. Butler became a noted artist for his portraits, marine paintings and landscapes, but was best known for his astronomical paintings.

When Butler returned from Paris, he became interested in providing a central location for the various American societies devoted to the arts. He successfully led a fund raising effort which resulted in the construction of

☒ See continuation sheet

9. Major Bibliographical References

☒ See continuation sheet

Previous documentation on file (NPS): N/A

- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary location of additional data:

- ☐ State historic preservation office
- ☐ Other State agency
- ☐ Federal agency
- ☒ Local government
- ☒ University
- ☐ Other

Specify repository: _____

10. Geographical Data

Acreage of property 262 acres Princeton, NJ and Hightstown, NJ Quads

UTM References

	Zone	Easting	Northing
A	18	532000	4468800
B	18	532170	4466600
C	18	531940	4468120
D	18	531580	4465720

☒ See continuation sheet

Verbal Boundary Description

☒ See continuation sheet

Boundary Justification

☒ See continuation sheet

11. Form Prepared By

name/title Deborah M. Kelly

organization Heritage Studies, Inc. date June 8, 1989

street & number 20 Seminary Avenue telephone (609) 466-9606

city or town Hopewell state New Jersey zip code 08525

★U.S.GPO:1988-0-223-918

the Fine Arts Building in New York City. It was during this period that Butler first met Andrew Carnegie, who asked him to become the president of the Music Hall Company. Butler's association with Carnegie grew, and he was soon commissioned by Carnegie to paint his portrait, and later to oversee the design of Carnegie's house and garden on 5th Avenue. It was through this association with Butler that Andrew Carnegie learned of Princeton's need for a crew course. Carnegie's confidence in Butler's abilities convinced him that Butler should represent the magnate on Lake Carnegie project dealings. Butler handled the property acquisition for the lake, oversaw hiring of contractors, and designed the lake and surrounding landscape. According to an unattributed biography of Butler from the Princeton University Archives, his aim for Lake Carnegie was, "to produce the effect of a natural body' of water with islands, irregular shores and overhanging trees."

The Lake Carnegie Historic District has been examined in the context of recreational activities at colleges in the northeastern United States during the early 20th Century.

The Lake Carnegie Historic District is significant in its relationship with the sport of crew racing. As a collegiate activity, crew can be traced to the 1829 match in England between Oxford and Cambridge. In the United States, Harvard and Yale students began rowing in the 1840s as an intra-collegiate recreational activity. The first intercollegiate crew race took place in 1852 between these two colleges at Lake Winnepesaukee in New Hampshire. It was not until the 1870s that enthusiasm for crew had caught on in other colleges, and the Rowing Association of American Colleges was formed. In 1875, this organization sponsored a regatta at Saratoga, N.Y. in which thirteen colleges -- Cornell, Harvard, Yale, Columbia, Dartmouth, Wesleyan, Amherst, Brown, Williams, Bowdoin, Hamilton, Union and Princeton -- raced before a crowd of 25,000. Yale and Harvard were unhappy with the crowded conditions and resigned from the association, and resumed their match race, which is held to this day.

Although the Rowing Association continued to hold the Saratoga regatta annually, most of the other colleges soon gave up intercollegiate rowing in favor of less expensive sports, and the association dissolved in the late 1870s. Princeton continued to race in intercollegiate races until 1886, when rowing was dropped from the college's athletic program. However, the lack of competition in intercollegiate races was not a factor in Princeton's decision to disband the crew team -- the Princeton team came in last in most intercollegiate races in which it participated. The primary reason for Princeton's lack of success was the poor rowing conditions on the Delaware and Raritan Canal. According to a 1905 book, Rowing and Track Athletics, by Samuel Crowther and Arthur Ruhl, [t]he canal never furnished the proper water

according to our American idea of how much space is necessary, and the passing boats and the many low bridges combined to increase still further the hazards of the course."

In the 1890s, enthusiasm for crew began to grow among colleges once more, and the direct progenitor of the Intercollegiate Rowing Association was formed. An annual race sponsored by the association at Poughkeepsie began to attract participation from college crews nationwide. According to Athletics at Princeton; A History (1901) by Frank Presbrey, an attempt was made by the "Daily Princetonian" to revive crew at Princeton in 1891. This attempt was unsuccessful, however, because of the lack of rowing facilities at the college. In 1902, when Andrew Carnegie offered to provide the college with a new, first-rate crew course, Princeton students were universally enthusiastic.

When Lake Carnegie was built in 1905-06, it was the first time in the United States that a lake had been built specifically for collegiate rowing. For a few years after the lake was constructed, Princeton's rowing was limited to races between classes. In 1911, the college returned to inter-collegiate racing in a "triangular regatta", held on the Lake Carnegie course, in which Princeton finished in second place. One of the most spectacular races for the Princeton crew on Lake Carnegie took place in 1921 in a triangular regatta between Princeton, Navy and Harvard. The Princeton crew stroked to a four-length victory over Harvard, and a half-length victory over Navy, the Olympic champions of the previous year.

By 1923, Lake Carnegie was cited in the book, Rowing, by Richard A. Glendon and Richard J. Glendon, as one of the most popular college crew courses in the country. Several other important intercollegiate rowing matches were held on the Lake Carnegie course through the years, and its advantages resulted in the lake being used for Olympic trials several times beginning in 1936.

Summary of Historic Data:

The primary purpose of constructing Lake Carnegie was to provide a crew course for Princeton University students, a use which continues to the present. According to an official associated with the U.S. Rowing Association, it appears that Lake Carnegie was the first man-made lake in the United States specifically created as a course for competitive rowing.

The idea of constructing a lake for rowing at Princeton University had been discussed as early as 1873, but it was not until Andrew Carnegie offered to finance its construction in 1902 that plans for Lake Carnegie were actually begun.

Andrew Carnegie became interested in providing Princeton University with a lake at the prompting of his friend, Howard Russell Butler (Princeton Class of 1876), during a business trip to Princeton in 1902. During the trip, Butler pointed out the poor rowing conditions at the University, which he had experienced first-hand nearly thirty years before as the coxswain of the Princeton Boating Club. During Butler's Princeton days, it had been necessary for the students to row on the nearby Delaware and Raritan Canal, which presented many dangers because of its heavy traffic. These poor rowing conditions eventually led to the disbanding of the first Princeton Rowing Club in 1886. Carnegie, fresh from the experience of building several lakes in Scotland, agreed to finance the construction of a new lake as a gift to the University. The original estimate for this undertaking was $118,000; the final cost, much to Carnegie's consternation, was close to $450,000.

The plans for Lake Carnegie entailed constructing not only the lake itself, but the following as well: a concrete dam; five bridges; and a "winding walk" along three miles of the western and northern shores.

Between 1902 and 1905, Howard Russell Butler, acting as Andrew Carnegie's agent, purchased most of the 400 acres of property, immediately to the west of the Millstone River and Stony Brook, which were to become Lake Carnegie. This large parcel of land was made up of thirty-one separately owned pieces of property, of which approximately 100 acres were densely covered with swamp growth and timber. Butler's purchase of this land progressed smoothly until word leaked out that the buyer was the wealthy Carnegie. In several instances, it was necessary to pay more than the land was worth, or to buy large tracts of land to obtain the few acres needed for the lake.

One such case was the purchase of the Gray farm, which included 100 acres on the north side of the lake above Harrison Street, in order to obtain three acres of needed swamp lands. When Carnegie learned of this $16,000 purchase, he refused to pay for the extra 97 acres. Butler and several other Princeton alumni, calling themselves the "Gray Syndicate", were forced into raising the money for the property, which they later donated to the University. Several similar instances of uncooperative owners did not please Carnegie, who said he did not want to deal with "extortioners."

The purchase also included a mill and dam on the Millstone River in the former village of Aqueduct, located at the southeast corner of the lake, and another mill on the Millstone River in Kingston, located at the northern end of the lake. Another important acquisition was a 110 acre strip of marsh land bordering the towpath of the Delaware and Raritan Canal. The Pennsylvania Railroad owned the canal and the towpath and was reluctant to sell it until

Andrew Carnegie used his considerable influence in convincing the Railroad to "donate" the land for the lake.

The land along the towpath was not the only issue in which the Pennsylvania Railroad took an interest; the Railroad expressed concern over whether the guard banks between the canal and the lake would be sufficiently high; whether the elevation of the spillway between the canal and the lake would cause damage to Railroad property; and whether the water needed in the lake for rowing purposes would affect the level of water in the canal, since both used water from the Millstone River. In the fall of 1906, an agreement was reached between the Lake Carnegie Association and the Railroad allowing Lake Carnegie to use water from the canal when it was needed for rowing purposes, and only at times when that water was not necessary for the operation of the canal. This water, to be paid for by the Lake Carnegie Association, was to be conveyed through sluice gates constructed by the Railroad.

Clearing and excavating the land which was to become the lake bed consumed the entire year of 1905 and half of 1906. Many problems were encountered in determining the appropriate depth for the lake. The engineers originally specified the level of the lake to be +54 feet, with a channel 300 feet wide and four feet deep beginning west of Washington Road and ending near the Aqueduct Bridge, where the valley level was to be +50 feet. It was discovered however, that a level of +54 feet would flood additional lands not purchased by Mr. Carnegie -- this error was due to the fact that the engineers had relied upon faulty government surveys. A new depth of +52.16 feet was adopted, but it was decided that the lake channel should remain at the same level as first proposed, and that the valley would have to be 22 inches deeper. These new levels, while increasing the cost, did avoid the purchase of any new land and were agreed to by Carnegie.

Work crews began building the dam while the lake bottom was still being excavated during 1905, and it was completed during the fall of 1906. The dam sits at the north end of the lake and holds the combined waters of the Millstone River and Stony Brook. The dam has undergone major repairs at least twice; records show that the water in Lake Carnegie was lowered in 1930 to permit extensive repair work on the dam, and the structure was substantially rebuilt in 1937 as a WPA project.

The erecting of the five bridges associated with the lake project proceeded concurrently with construction of the lake and the dam during 1905 and 1906. Two of the new bridges were built over the lake itself, one on Washington Road and the other on Harrison Street; the two additional bridges were erected at Aqueduct Village over the Millstone River on what is now Route

1. These two bridges have since been replaced. A fifth bridge was also erected over Harry's Brook, which is the principal stream flowing into the lake. Many of the laborers who worked on the bridges were immigrant workers from Italy and Hungary who, during construction, lived in tents on the Lake Carnegie property.

The Washington Road Bridge was built of steel-reinforced concrete faced with German Valley granite. This four span, 400 feet long bridge was built to replace an older bridge over Stony Brook. The sandstone masonry east abutment and three piers of the older bridge were repaired and retained. The west abutment of the older bridge was removed and a pier of concrete constructed in its place. All the piers and abutments are made of concrete and founded on rock or on gravel three feet below the level of the bottom of the lake. While this bridge was opened to traffic in November 1906, at the time of the Lake Carnegie opening, the entire structure was not finished until June 1907. The only major alteration of the Washington Road Bridge occurred in 1938, when its width was doubled, using the same granite exterior faces of the original structure.

The Harrison Street Bridge was also built as a four span bridge, and was constructed of pressed steel. This bridge also replaced an existing bridge, which had a 140 feet span. The sandstone abutments of the older bridge were removed, and the stone was used to build the faces of the abutments of the new bridge. The new cement piers supporting the four plate girder spans are founded on rock or gravel three feet below the bottom of the lake. The construction of the Harrison Street Bridge began in late 1905, but major problems were encountered the following May when the northernmost pier of the bridge began to slide from its footings during construction. After 6 months of repairs, the Harrison Street Bridge was finally shored up sufficiently to open on November 3, 1906.

The two additional bridges erected over the Millstone River on the "Trenton and New Brunswick Turnpike" [Route 1] were also replacements of older bridges. The superstructures from the old Harrison Street Bridge and the old Washington Road Bridge were moved and used in these two new bridges. The new abutments and piers for the two bridges were made of concrete, with copings of Portland cement. Both Route 1 bridges have since been replaced as the road was widened significantly.

The Harry's Brook Bridge, the final bridge constructed as part of the plans for Lake Carnegie, is a small stone bridge which was completed by June 1906.

All of the bridges built in conjunction with Lake Carnegie were turned over to Mercer County shortly after their completion.

A three-mile winding walk was constructed during 1906 along the lake's north and west shores. The walk passed through the heavily wooded shore from the Washington Road Bridge for nearly the entire length of the lake.

Lake Carnegie was officially presented by Andrew Carnegie to Princeton University President Woodrow Wilson during a ceremony on December 5, 1906. In his opening remarks, Carnegie stated that his intention in building the lake was to promote such "clean, wholesome" sports as rowing. Carnegie's gift was enthusiastically received by the Princeton students, who hung a banner from a dormitory proclaiming, "Welkum to the Laird of Skeebo" [Carnegie's estate in Scotland]. In addition to its intended use as a crew course, the lake also provided a scenic setting for use by the entire Princeton community for sailing, fishing and ice skating.

The defunct Princeton University Rowing Association was re-established in the Fall of 1907, and the first regatta on Lake Carnegie was held November 8, 1907. This first race on the lake was an inter-class competition, with the sophomore winners receiving the winning cup from Andrew Carnegie. The rowing coach for these interclass competitions held during the first few years after the lake was completed was C. J. Titus, a former United States single sculls champion.

In 1909, J. Duncan Spaeth, Professor of English at Princeton University, took over as crew coach, and by 1911 Princeton was competing in intercollegiate races. On May 20, 1911, the first intercollegiate regatta on Lake Carnegie took place between Princeton, Cornell and Yale -- the Princeton crew came in second behind Cornell. Under Coach Spaeth's tenure from 1909 to 1925, Princeton specialized in short races, ranging from one to two miles. Of the colleges rowing these short races, Princeton's course was the only one rowed exclusively on "college water." (Princeton Companion, Alexander Leitch).

In 1913, the Class of 1887 Boathouse was built on the northwestern shore, directly west of the Washington Road Bridge. At William Butler's instigation, the boathouse was built with funds raised by the Princeton University Class of 1887. The Boathouse was designed by Pennington Satterthwaite, Princeton Class of 1893, and is a stucco building of Mission Gothic style. At the time it was built, the building housed a workshop, locker rooms, a lounge and accommodations for 32 shells. The Class of 1887 Boathouse is still used by the University for crew-related activities.

Lake Carnegie has been used for Olympic trial races, in 1936, 1948, and

continuing up through the recent past, because of the advantageous lack of any strong current on the course.

The only changes made to the lake itself since its construction occurred when the lake bed was dredged several times to remove silt deposits. The first dredging occurred in 1927, when it was estimated that between 4,000 and 5,000 cubic yards of sediment was removed from the lake bed. By 1937, another major dredging was undertaken because silt deposits were seriously interfering with rowing conditions. During the Olympic trials the previous year, the University was forced to cut weeds on the main course before the races could be run. During the 1937-1938 dredging, 160,000 cubic yards of sediment were pumped from the lake and used to fill in low meadows bordering the lake. The lake was again dredged beginning in 1972 when approximately one million cubic yards of silt and gravel were removed from the lake.

Bibliography

Books and Periodicals:

Breese, Gerald. Princeton University Land. Princeton, N.J.: Princeton University, 1986.

Crowther, Samuel and Arthur Ruhl. Rowing and Track Athletics. New York: Macmillan Co., 1905.

Glendon, Richard A. and Richard J. Glendon. Rowing. Philadelphia: J.B. Lippincott, 1923.

Gulick, Alexander R. "Building The Princeton Lake." Town and Country (August 25, 1906) p. 18-19.

"Lake Carnegie" The Princeton Alumni Weekly, Vol. 7, No. 11 (December 8, 1906).

"Lake Carnegie Willows." The Princeton Alumni Weekly, November 11, 1949.

"Leitch, Alexander. A Princeton Companion. Princeton, N.J.: Princeton University Press. 1978.

"Mendenhall, Thomas C. A Short History of American Rowing. Boston: Charles River Books, [1980].

Presbrey, Frank. Athletics at Princeton. Princeton, N.J.: Princeton University, 1901.

"The Princeton Lake." The Princeton Alumni Weekly, Vol. 5, No. 14 (January 14, 1905).

Manuscript Collections:

Lake Carnegie Papers. Princeton University Library, Princeton, New Jersey.

Butler, Howard Russell. Papers. Princeton University Library.

Maps:

Princeton University Planning Department. Lake Carnegie Maps.

Reports:

United States Department of Agriculture, Soil Conservation Service. "Sedimentation Investigation of Carnegie Lake, Princeton, N.J.". Report prepared by L.C. Gottschalk. September 1942.

E 18.531450.4465620

F 18.531470.4465240

G 18.531230.4465020

H 18.531080.4465600

I 18.530310.4465570

J 18.529860.4465260

K 18.529560.4464680

L 18.529410.4464860

M 18.529940.4465700

N 18.531190.4465840

O 18.531400.4466050

P 18.531640.4467200

Q 18.531610.4468180

Verbal boundary description

Beginning at a point 200 feet north and 5 feet east of the northeastern curb of the Washington Road Bridge; east along a line of convenience 200 feet north of the edge of the northern shoreline of Lake Carnegie to the intersection of the path with Lake Drive, and east across Lake Drive to the southwestern edge of block 19.01, lot 8; then east along the southern lot lines of block 19.01, lots 8 and 15, to the west curb of Harrison Street; then south to a point of convenience 100 feet north of the northwest corner of the Harrison Street Bridge; then east across the bridge along the said line of convenience to a point 100 feet north and 5 feet east of the northeastern curb of the Harrison Street Bridge; then 100 feet south along the eastern curb of Harrison Street to the northern shoreline of the lake; thence eastward along a line identical to the northern shoreline of the lake for approximately two miles, to a point where Harry's Brook flows into the lake, then follow the shoreline northeastward for approximately 700 feet to a point 5 feet west and 5 feet north of the northwestern curb of Harry's Brook Bridge; then continue east to a point 5 feet north and 5 feet east of the northeastern curb of said bridge; turn south and continue to a point in the middle of the southern curb of Route 27, and follow said curb east for approximately 2000 feet to a point approximately 100 feet northwest of the lake shore; then turn southeast and continue directly southeast to the lake shore; then east along the northern shore of the lake for approximately 100 feet to a point 5 feet north and 5 feet east of the northeastern edge of the Lake Carnegie Dam; thence continue southeast along the line of convenience 5 feet northeast of said dam into South Brunswick Township to a point at the edge of the southern shoreline of the lake; then west along the lake shore for approximately 1800 feet to a point where the shoreline enters Plainsboro Township; continue west along the southern shoreline for approximately 1 1/2 miles to a point where a line of convenience crosses the canal in a southwesterly direction, and continue to follow the lake shore for approximately 1000 feet into West Windsor Township to a point where the Millstone River flows into the lake; then continue west over the Millstone River to a point where the lake shore continues in a southeasterly direction for approximately 250 feet; then follow the shoreline as it turns north and continues for approximately 1500 feet to where a line of convenience crosses north over the canal into Princeton Township; then to a point where the southern shoreline turns west, and continue west along the southern shoreline of the lake for approximately 1 mile to its western terminus at a point where Stony Brook's waters flow into the lake, approximately 20 feet east of the Pennsylvania Railroad line; then turn east and follow the northern shore of the lake for approximately one-quarter mile to a point directly west of the Class of 1887 Boathouse; then north along a line of convenience to a point 200 feet north of the shoreline; turn east and follow line 200 feet north of shoreline, across Washington Road to the beginning point.

Boundary justification

Note: The boundaries shown for Lake Carnegie on the USGS maps for Princeton and Hightstown are inaccurate. Therefore, a copy of the Princeton Township zoning map is attached showing more accurate boundaries.

The boundaries for the Lake Carnegie Historic District have been drawn to include the entire lake itself, portions of which are located in Princeton Township, South Brunswick, Plainsboro and West Windsor, as well as the structures and landscape features which were part of the lake's original design.

Along the northern shore, beginning with the point 200 feet north and 5 feet east of the Washington Road Bridge, the boundary was drawn 200 feet north of the shoreline to include the winding path, which still exists between the Washington Road Bridge and the Harrison Street Bridge, and the wooded area north of the path. The bridge at the conjunction of Faculty Road and Lake Drive is included in the boundary because its location coincides with the original winding path. The boundary runs along the southern boundary of lots 15 and 8 of Block 19.01 in order to encompass the row of hardwood trees along the north side of the path. The Harrison Street Bridge was included in the boundary, but the line is drawn along the shoreline east of the bridge because the property north of the lake between that point and the Harry's Brook Bridge has been intensively developed during the post-World War II period; Harry's Brook Bridge is included in the boundary because it was part of the original lake plans, and then the boundary is drawn along the southern curb of Route 27 to encompass the boat launching and spectator area for the lake. East of the spectator area, the boundary again follows along the shoreline because the property north of the lake has been developed. The boundary line then proceeds along the shoreline to the dam, includes the dam, and turns west on the edge of the southern shoreline.

Most of the southern shoreline of the lake is included within the boundaries of the Delaware and Raritan Canal Historic District, with the exception of that portion of the lake encompassing the area where the Millstone River flows into it. At that point, approximately 2 miles west of the Lake Carnegie dam, the boundary is drawn to include that small portion of the lake that runs southeast and to meet the Millstone River, and then continues northwest back to the southern shoreline of the lake.

As the boundary of the lake turns north and east at its western terminus, the boundary line is drawn east along the shoreline, so that it does not include a recent apartment building. After the apartment building, the boundary is drawn to turn north and to include the Class of 1887 Boathouse, built in 1913. The boundary then returns to the beginning.

Photographs

Lake Carnegie Historic District

Princeton, Plainsboro, South Brunswick, and West Windsor Townships, New Jersey

Photographer: Deborah Kelly
Date: April, May 1988
Negatives filed at Heritage Studies, Inc., Hopewell, New Jersey

1. Lake Carnegie Dam and southern lake shore, view from northern shore to southwest.

2. View across lake to northern shore, from southern shore east of Harrison Street Bridge.

3. Harrison Street Bridge, view from the southern shore, west of the bridge.

4. View of northern shoreline west of the Harrison Street Bridge, taken from the southern shore.

5. View of western terminus of the lake from the northwestern shore.

6. View of Washington Road Bridge from northwestern shore, looking east.

7. Winding path along northern shore, view east from east of Washington Road Bridge.

8. View of bridge over culvert along northern shore at Lake Lane, west of Harrison Street Bridge.

9. View looking west at southern shore and Washington Road Bridge from northern shore, west of Harrison Street Bridge.

10. Rows of hardwood trees along winding path on northern shore, directly west of Harrison Street Bridge.

11. "Napoleon" willows along northern shore west of the Harrison Street Bridge; view from the Harrison Street Bridge.

12. View of Princeton University crew rowing on the lake directly west of the Harrison Street Bridge.

13. View from the Harrison Street Bridge, looking east to small island.

14. Eastern face of Harry's Brook Bridge; view from marshy area on northeastern shore.

15. View from the northwestern shore, looking west along the boat-launching and spectator area to two small non-contributing boat houses.

16. View of the Class of 1887 Boathouse from the southwestern shore, looking north to the northern shore.

LAKE CARNEGIE HISTORIC DISTRICT