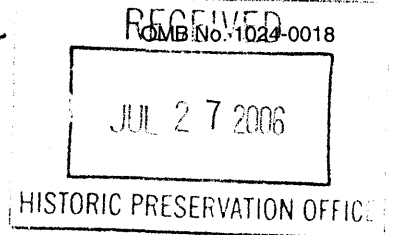
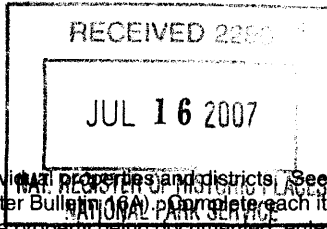


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United States Department of the Interior
National Park Service



National Register of Historic Places
Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Princeton Ice Company

other names/site number Mountain Lakes Preserve

2. Location

street & number 57 Mountain Avenue not for publication

city or town Princeton Township vicinity

state New Jersey code NJ county Mercer code 021 zip code 08540

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this 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 meets does not meet the National Register Criteria. I recommend that this property be considered significant nationally statewide locally. (See continuation sheet for additional comments.)

Amy Cradic 6/25/07
Signature of certifying official/Title Date

Amy Cradic, Assistant Commissioner Natural & Historic Resources/DSHPO
State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria. (See continuation sheet for additional comments.)

Signature of commenting or other official Date

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that this property is:

- 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): _____

Edgar H. Beall 8.28.07
Signature of the Keeper Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply)

- private
- public-local
- public-State
- public-Federal

Category of Property

(Check only one box)

- building(s)
- district
- site
- structure
- object

Number of Resources within Property

(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
	1	buildings
1		sites
2		structures
		objects
3	1	Total

Name of related multiple property listing

(Enter "N/A" if property is not part of a multiple property listing.)

N/A

Number of contributing resources previously listed in the National Register

None

6. Function or Use

Historic Functions

(Enter categories from instructions)

EXTRACTION/extractive facility

COMMERCE/business

EXTRACTION/industrial storage

Current Functions

(Enter categories from instructions)

RECREATION/outdoor recreation

LANDSCAPE/natural feature

LANDSCAPE/conservation area

7. Description

Architectural Classification

(Enter categories from instructions)

N/A

Materials

(Enter categories from instructions)

foundation N/A

roof N/A

walls N/A

other N/A

Narrative Description

(Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations

(Mark "X" in all the boxes that apply.)

Property is:

- A owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or a grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years of age or achieved significance within the past 50 years.

Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

- 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 # _____

Areas of Significance

(Enter categories from instructions)

Commerce _____

Industry _____

Archaeology/Historic—Non-aboriginal _____

Period of Significance

1884-1929 _____

Significant Dates

1884, 1906 _____

Significant Person

(Complete if Criterion B is marked above)

Margerum, Stephen; Margerum, James C. _____

Cultural Affiliation

N/A _____

Architect/Builder

Margerum, Stephen _____

Primary Location of Additional Data

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository:

Township of Princeton Historic Preservation Office _____

10. Geographical Data

Acreage of Property 76.69

UTM References

(Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing		Zone	Easting	Northing
A	18	527100	4468100	C	18	527920	4467480
B	18	527440	4468300	D	18	527500	4467450

See continuation sheet.

Verbal Boundary Description

(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification

(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Charles H. Ashton, Architectural Historian with additional research by Wanda S. Gunning

organization Hunter Research, Inc. date May 2005 (revised July 2006)

street & number 120 West State Street telephone (609) 695-0122

city or town Trenton state NJ zip code 08608

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items

(Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of the SHPO or FPO.)

name Township of Princeton

street & number 400 Witherspoon Street telephone (609) 921-1359 x 141

city or town Princeton state NJ zip code 08540

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 *et seq.*).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

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National Register of Historic Places Continuation Sheet

Section number 7 Page 1

Princeton Ice Company
Mercer County, NJ

The Princeton Ice Company/Mountain Lakes Preserve occupies nearly 77 acres in Princeton Township, New Jersey. Now principally functioning as a municipal open space and passive recreation tract, it is nearly devoid of buildings, although it contains the remains of a locally-owned and operated ice business dating from the last quarter of the 19th century and the first quarter of the 20th. The property also includes a Colonial Revival style house that was built in 1958.

The nominated property lies north of Mountain Avenue and is north and east of the Mountain Avenue Historic District that was entered in the National Register on February 2, 1995, which it abuts.

All significant features on the property relate to the production, storage and distribution of ice, the sole source of domestic refrigeration until after World War I. The principal features described below were inventoried during a 1991 cultural resources survey that included above-ground and subsurface investigations. These findings were confirmed during subsequent inspections in 2004 and 2005. All contemporary photographs were taken in 2005.

The property is mostly wooded, although there are lawns near the house. The topography slopes upward from Mountain Avenue and forms the two lakes that dominate the property. Improvements not related to the ice business are few, consisting of a small network of cleared trails and sewer right-of-ways. There is one non-contributing building, a Colonial Revival house dating from the mid-1950s. A one-lane driveway provides access to the property from Mountain Avenue but this is interpreted as dating from the period of significance, although its asphalt paving is not.

The most visible component of the property is the large lower dam, and to a lesser extent the upper dam. By impounding two unnamed tributaries of Mountain Brook (a tributary of Stony Brook not named on USGS maps, but shown on Township tax maps), they create two lakes (shown as a single lake, Mountain Lake, on USGS and Township tax maps) that were at the heart of the ice business (Photo 1). The dams are aligned generally east-west (and the long axes of the lakes north-south).

The lower (southern) lake, created in 1884, is about 1,000 feet long (from the upper dam to the lower) and approximately 200 feet wide for most of its length (a surface area of about five acres), widening at its downstream end. The lower dam is an earthen embankment about 350 feet long, about 30 feet wide and 13 feet high. There is a mortared stone wall centrally located on the downstream side of the dam, from which two cast iron flow control pipes project toward a stone and concrete basin (Photos 2 and 3). The ice house stood just below this dam, near its western end. There is a stone-faced concrete spillway at the eastern end of the dam.

The upper dam, built in 1902 to create another water body from which ice could be cut, is a random-coursed stone-faced structure. It is about 268 feet long and six feet wide at its crest, with a central spillway (Photos 4 and 5). A by-pass channel, of which traces remain, once extended from the southeast corner of the upper dam to below the spillway of the lower dam.

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National Register of Historic Places Continuation Sheet

Section number 7 Page 2

Princeton Ice Company
Mercer County, NJ

There is also a low dam about 100 feet long on the east tributary of the upper lake, approximately 250 feet north of the lake. The purpose of this dam, and its relationship (if any) to the ice business, is presently unknown.

Near the western end of the dam are two concrete foundations and the collapsed remains of a brick chimney (Photos 6 and 7). One foundation is comprised of footings and is about 13 x 18 feet; the other is a slab about 20 x 30. While the exact function of these two buildings is unknown, they are near the site of a timber structure apparently used to raise blocks of ice into the ice house, which may have been steam powered. A chimney can be seen at this location in a 1910 photograph (Figure 8), and the 1906 property deed referred to a "tower" and "boiler house" under construction at that time.

About 300 feet west of the dam, on the slope above the lower lake, the remains of a barn were identified in 1990. The barn, which is seen in Figure 8, is presumed to have been used to store insulating hay. The remains consist of 16 brick piers indicating a structure about 48 x 18 feet in area. Within this area were found a 46-foot long steel track, wheeled swivel carrier and a harpoon hay fork. Together they would have created a system for the efficient transport of hay within the barn.

There is also a stone slab bridge across the unnamed tributary of Stony Brook (called Mountain Brook on tax maps) with stone slab retaining walls. This is located near the most eastern end

South of the lower dam near its eastern end is a concrete slab bridge crossing the outflow from the lower lake (Photo 8). Its span is 14 feet and the deck is about 16 feet wide. The slab is supported on I-beams. It has stone retaining walls. The bridge is believed to date from about 1906 based on its design and the mention of a bridge in the 1906 deed. It is on a road/trail that would have provided access to the ice house complex from the main driveway, thus integral to the operation of the facility.

About 400 feet south of the eastern end of the lower dam is a complex of concrete footings and slabs whose function is unknown but is presumed to relate to the ice business (Photo 9). Three of the four foundations measure about 6 x 7 feet, 27 x 27 feet and about 22 x 30 feet; the extent of the fourth is uncertain but it includes five massive piers with embedded machine bolts. Based on the similarity of construction technique to the concrete foundation near the dam, these structures are also believed to date from around the turn of the 20th century, and may in fact relate to the Princeton Ice Company's installation of an artificial ice plant in 1909 (discussed in the Statement of Significance).

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National Park Service

National Register of Historic Places Continuation Sheet

Section number 8 Page 1

Princeton Ice Company
Mercer County, NJ

The Princeton Ice Company/Mountain Lakes Preserve is a vernacular rural historic landscape, locally significant in the area of industry. It manifests changes to the natural landforms resulting from the founding and operation of the Mountain Lake Ice Company by Stephen Margerum and his son James. The company, which through a series of name and ownership changes was ultimately known as the Princeton Ice Company, supplied ice to Princetonians from 1884, when the first pond was created by damming a small stream, until its dissolution in 1929. Although archaeological investigations have located a number of features related to the ice company, today the dominant features of the landscape are two manmade ponds from which the company annually obtained its inventory.

In addition to the ponds and their dams, the property of nearly 77 acres includes the remains of several structures used in the production, storage and sale of ice. It meets National Register *Criteria B* and *C* because of its associations with two members of a locally prominent family and as a "significant and distinguishable entity" whose components lack individual distinction. Also on the property is a house built in 1958 to the design of a prominent 20th-century Princeton architect, the only structure built after the period of significance. The near-total absence of later construction adds to the integrity of its setting. It also meets *Criterion D* for its ability to yield information about the ice business and dam construction.

History of the Ice Business

Farmers in temperate climates cut and stored ice for their own use since at least the 18th century--George Washington had an icehouse at Mount Vernon as early as 1773, for instance¹--but Americans living in towns and cities at the beginning of the 19th century would rarely encounter ice during the warmer months because ice was not shipped any great distance. A shipment was sent from New York to Charleston in 1799, with predictably unsatisfactory results. Common sense explained the folly of trying to send ice in any quantity from a cold place to a warm one, and the ice available to any given household was limited to whatever could be cut and stored on the premises.²

The harvesting, storage, shipment and sale of ice--the birth of the ice business--is generally credited to Frederic Tudor (1783-1864), a native of Boston. Beginning in 1806 he sent ice by the shipload to warm places around the world, including the Caribbean, the American South, and ultimately India, where British expatriates eagerly became his customers.

In the process of building the "frozen water trade," as it was known, Tudor made significant strides in the technique of ice harvesting and preservation. He needed to produce and store large quantities of ice at low cost, which led to advances in cutting and storage methods. Markers, saws (known as ice plows) and planers invented in the late 1820s specifically for the ice trade produced blocks of uniform size and predictable weight, which were closely packed into double-walled icehouses. Once the cost of ice came down, and icemen learned how to store it

¹ Jackson, Donald, and D. Twohig (eds.), *The Diaries of George Washington* (vol.4). January 17, 1785 (note), University Press of Virginia, Charlottesville, 1978

² Most of the background information on the genesis and development of the commercial ice business in this section, unless otherwise noted, is from Gavin Weightman, *The Frozen Water Trade* (New York: Hyperion, 2003).

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National Register of Historic Places Continuation Sheet

Section number 8 Page 2

Princeton Ice Company
Mercer County, NJ

so as to last through the summer, the technology needed by the ice business was essentially in place. All that was missing was a market.

Significantly, these technological advances were taking place in the northeastern United States, where cities such as New York, Brooklyn and Philadelphia (as well as Tudor's Boston) were poised for major population growth. By the 1830s the cities had reached sufficient size to support local ice companies. Ice was harvested from Rockland Lake in the 1830s for the New York market, but the Hudson River below Albany would ultimately become the city's primary source. Business boomed, and by the 1880s New Yorkers were using about 2.5 million tons of ice per year. About 135 commercial icehouses on the Hudson between Albany and New York were meeting that demand, barging the ice downriver after the spring thaw.³ In 1880, between eight and 10 million tons were harvested nationwide, and six million Americans in 20 large cities bought almost four million tons.⁴

America has been described as the first refrigerated society, where the benefits of cooling were available to virtually all social strata.⁵ A steady supply of ice at all times of the year meant that brewers did not have to shut down in warm months. It meant that all types of perishable foods, including dairy products, meats, vegetables and fish, could be stored and, once the ice-cooled railroad car was invented in the 1860s, even shipped across the country. With the advent of the domestic icebox, and its ability to keep foods fresh, it meant that ice transformed Americans' diets.

The benefits of the ice business as economic enterprise were summarized in *Scribner's Monthly Magazine* in 1875:

One hardly realizes that the frozen lakes and rivers of the North furnish labor for thousands who would otherwise be unemployed during the greater portion of the winter months; that the ice trade employs millions of capital; that in the revenue to the carrying trade of the United States, both foreign and coastwise, it ranks next to cotton and grain, and frequently exceeds the latter; that the universal practical use to which it is applied in the preservation of meats, fruits, and vegetables, has, within the past thirty years, produced an entire revolution in the system of domestic economy, to say nothing of the blessings it has brought to suffering humanity, in our hospitals, and in our pestilence-stricken cities.⁶

Ice was nothing short of a miracle.

It also became the 19th-century equivalent of foreign oil: disruption of the supply had the potential to cause disaster, although the cause of disruption was meteorological, not geopolitical. In 1869-70 the ice crop, as it was called, failed due to mild weather in Boston and southward, including the Hudson Valley. Maine, however,

³ Harris, Wendy Elizabeth and A. Pickman, "Towards an Archaeology of the Hudson River Ice Harvesting Industry" *Northeast Historical Archaeology*, vol. 29, 2000, pp. 50-51.

⁴ Weightman, Gavin, *The Frozen -Water Trade*. Hyperion, New York, 2003, , p. 250.

⁵ *Ibid.*, p. 109.

⁶ Forbes, F. H., "Ice." *Scribner's Monthly Magazine*, August (vol. 10 no. 4), 1875

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Section number 8 Page 3

Princeton Ice Company
Mercer County, NJ

enjoyed a typical Maine winter, and ice cutters on the Kennebec River quickly cut and stored 300,000 *tons*, three times their normal output. The large urban ice companies, feeling themselves held hostage, soon bought riverfront property on the Kennebec and constructed huge icehouses.⁷ The ice crop failed again in 1880 and 1890.

The seeds of the decline of the ice business, starting in the early 20th century, were not sown by competition from refrigerators, as one would expect, but by water pollution. The expanding cities that provided the industry with spectacular growth were also fouling the waters from which the ice was cut. In 1907 Hudson River ice was declared fit only for use in iceboxes, not in drinks. Samples of the ice were taken from a 150-mile stretch of the river, and most were found to contain "intestinal germs." In a masterful *non sequitur* response, the ice industry pointed out that the surface of the river ice, where pollution would accumulate, was planed off during processing.⁸ Ice companies had to go farther and farther from their markets to obtain clean ice, thereby raising the cost of production.

This gave artificial icemaking the toehold it needed. A steam-driven icemaking machine had been patented in 1860, and by 1880 there were 40 different types in operation. These were industrial-scale operations, nothing that could or would be used by a homemaker. Their primary drawback was cost; they were never able to compete with cheap natural ice. They were economical only in southern cities, where natural ice came with a high transportation cost, but their output was meager. One ice machine at the Louisiana Ice Company in New Orleans was producing 18 to 19 tons per day, or about 45,000 tons per year, in 1880.⁹

However, ice machines were not affected by warm winters, and between health scares, price manipulation by ice conglomerates, and a few spectacular fires in icehouses, the public was ready for manufactured ice. The irony of this is that the product was used in exactly the same fashion as natural ice: in iceboxes.

Even though the principles of artificial refrigeration were understood, refrigeration on a domestic scale--the death knell of the ice business--required small electric motors. Great progress was made in this area during and after World War I, and in 1926 General Electric made and sold 2,000 electric refrigerators. Just five years later a million were sold by various manufacturers, and the ice business was doomed. Residents of cold locations without electricity continued to use natural ice, but as the 20th century wore on and electricity became nearly universal, ice cutting nearly ceased. In 1950, 90% of Americans in towns owned a refrigerator. Americans were as addicted to ice as ever but now could get it from the refrigerator rather than from the iceman.¹⁰

The Production and Storage of Ice

On the farm before icemaking was an industry, ice was cut using ordinary woodworking tools such as axes and saws, resulting in chunks of irregular size and shape. These were trimmed into blocks on shore, using a crosscut saw, then manhandled into a half-buried icehouse for storage.

⁷ Weightman, p. 226-227.

⁸ *Ibid.*, p. 241.

⁹ *Ibid.*, p. 229.

¹⁰ *Ibid.*, pp. 242-244.

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Princeton Ice Company
Mercer County, NJ

In the 1820s, Nathaniel Wyeth (who would become Tudor's foreman) invented most of the tools that transformed this process into one of efficient mass production. Chief among these was the ice plow. Resembling a farmer's plow and pulled by two horses, the ice plow cut a groove in the ice, while a second parallel blade scratched the location of the next cut (typically 22 inches from the first). He also devised a method for lifting the ice from the water into the icehouse.

Tudor himself transformed icehouse design. The icehouses were built with a cavity wall: the inner and outer walls were from 16 to 24 inches apart, the space between being filled with straw, sawdust or pine shavings. Tudor also understood that air is a poorer conductor of heat than is water, therefore the icehouse had to be kept as dry as possible. This meant it had to be well-drained, so that the ice would not stand in a puddle of meltwater, and the insulation in the walls had to be kept dry. Finally it had to be airtight, so the chilled air could not drain out of the bottom of the house, to be replaced by warm air entering from the top. The exterior was painted white to reflect the sun's heat.¹¹

Because of the scale of the ice business, icehouses were very large structures. A ton of ice occupies 40 to 50 cubic feet, or a mass about four feet by four feet by three feet. Commercial icehouse capacities ranged from about 2,000 to 50,000 tons; a typical structure described in *Scientific American* in 1868 was 100 feet by 50 feet in plan and 24 feet to the top plate. A house of these dimensions would therefore have a capacity of between two and three thousand tons. Larger capacities were obtained by connecting several structures:

Houses for ten to thirty thousand tons are often built in several sections, of these, or even increased dimensions, giving one the idea of half a dozen large barns cemented together at the sides, each section having its own individual roof, reminding one of the board fences one sometimes sees, where the upper edge of the fence is sawn out into pickets, looking like saw teeth.¹²

When the ice on a pond or river was thick enough to support horses, the area to be harvested was first scraped to remove any frozen snow down to sound ice, using a horse-drawn planer on which the driver sat. The area to be harvested was then cut with parallel grooves using the ice plow, then cut again at right angles. Successive cuts deepened the grooves, until the blocks could be sawn free or broken off using long-handled ice chisels. Men with ice hooks guided the blocks to a channel of open water leading to the icehouse, where an endless conveyor (typically steam-powered) lifted the blocks to the highest level. A series of wooden ramps manned by men with ice hooks directed the ice to the proper level in the icehouse. The blocks were stored as compactly as possible to eliminate any air passages. When the house (or a section) was full, it was tightly sealed, and the space above the ice filled with more insulation.

¹¹ *Ibid.*, pp. 66-68.

¹² *Scientific American*, "Ice--Its Collection, Storage and Distribution", May 30, 1868

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Princeton Ice Company
Mercer County, NJ

It has been estimated that an acre of 12-inch ice would yield about a thousand tons, and a one-day harvest of 6,000 tons was not considered remarkable. Properly cut and stored, the mass of ice would not decrease by much more than a foot in a year.¹³

Most of the operations described above are shown in Figure 1.

4. Ice-making at Mountain Lake

Ice was being sold commercially in Princeton long before the formation of the Mountain Lake Ice Company. James Vandeventer and Joseph Priest were advertising ice for sale in the 1860s and '70s, and ice was also shipped via the Delaware and Raritan Canal to an ice house at the Princeton basin. Stephen Margerum was advertising ice for sale by his Riverside Ice Company in 1879 ("Still in the lead and ready to receive orders"). The company name was derived from the fact that he harvested ice from the Millstone River, "a stream of pure running water."¹⁴

In 1880 a typhoid epidemic broke out as a result of the installation of a new sewage system at the College of New Jersey (now Princeton University) which contaminated wells and groundwater. The epidemic attracted national attention. The town responded by forming a health board and a water supply system, but all surface waters were considered suspect.¹⁵

Iceman Stephen Margerum responded by purchasing a small farm from the estate of Edward Kinney in 1883, near the corner of Bayard Lane and Mountain Avenue. With improvements, this would become the Mountain Lake Ice Company (successor to the Riverside Ice Company) and finally the Princeton Ice Company. In announcing Margerum's undertaking in 1884, the local newspaper pointedly observed that, "The water comes from two small streams flowing from the hills on the north, and from numberless springs on the ground itself. The water is very clear and free from any possible contamination."¹⁶

The property was probably settled by Peter Stryker who acquired it as part of a larger parcel in 1796. A map drawn in 1840 (Figure 2), when it was owned by Samuel Updike, shows buildings and fields. The present property boundaries largely date from an 1868 sale by Charles Hendrickson. It had changed little when it was mapped again in 1875 (Figure 3), then in possession of Edward Kinney. Kinney died intestate in 1883.¹⁷ The 1875 map is of interest for another reason: there was an icehouse south of Mountain Avenue, virtually opposite Kinney's property.

Stephen Margerum, then 62 years old, built the lower dam on two nameless tributaries of Stony Brook, creating the larger of the two ponds. He was taking orders—still as the Riverside Ice Company—in June of 1884 (Figure 4). Deliveries were offered from eight to 40 pounds daily, at \$0.50 to \$1.58 per week. The order card also

¹³ *Scribner's*.

¹⁴ Gunning, Wanda S., personal communication to Christine Lewandoski, January 25, 2006.

¹⁵ *Ibid.*

¹⁶ *Ibid.*

¹⁷ Somerset County Deeds D 621; Mercer County Deeds 93 262, 137 492, 137 494.

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Section number 8 Page 6

Princeton Ice Company
Mercer County, NJ

offered deliveries of stone, and informed customers (and employees) of "Rule 4.-Drivers must be polite and obliging to their customers, and treat them fairly and honestly in all cases. Honest weight must be given. Throwing Ice in gutters, sliding it up alleys, cutting in improper shapes, &c., will not be allowed." Exactly when the Riverside company became Mountain Lake is not known, but a handbill probably dating from 1887 (based on its similarity to that year's order card) advertises "The Mountain Lake Ice Co." and notes the company was "formerly Riverside" (Figure 5). The 1887 order card (not reproduced here), perhaps mindful of the ice famines of 1870 and 1880, notes that "The Lake and House, at foot of Bayard Avenue; the House containing at present, twenty-two hundred tons, enough to last Princeton for three years."¹⁸

Stephen Margerum (1822-1901) was a member of a prominent and long-established family from Bucks County, across the Delaware River from Mercer County (in which the property is located). Apprenticed as a boy to a farmer in Tullytown (Pennsylvania), he reportedly ran away and came to live with his maternal grandfather in the section of Princeton known as Jugtown (or Queenston), near the corner of Nassau and Harrison Streets. How and when he entered the ice trade is unknown, but he was also in the coal and quarrying businesses; reportedly much of the stone used to construct Princeton University buildings came from Margerum's quarries. He married in 1843 and was the father of three sons and a daughter. When Stephen Margerum died in 1901 he left the "Hendrickson Farm," where the ice business was located, to his son James C. Margerum. His obituary noted that his Mountain Lake Ice Company furnished "the main portion of Princeton's ice supply."¹⁹

James C. Margerum, the son, had more than a passing acquaintance with frozen water. Born in Princeton in 1854, he entered the ice, stone and general contracting businesses at 17 (or in 1871, 30 years before his father left him the Mountain Lake Ice Company).

The property was mapped again in 1903 (Figure 6). For the first time the pond is shown, behind two buildings labeled "J. Margerum" on Mountain Avenue. Although not indicated on the map, James Margerum had built the upper dam in 1902, probably to create a larger area from which ice could be harvested.

Five years after he inherited the business, James Margerum was one of five founders of the Princeton Ice Company, which purchased the business from him for \$50,000.²⁰ According to the company's Certificate of Incorporation, dated December 7, 1906, the other directors were William R. Matthews, H. C. Bunn, John B. Renwick, and Joseph Hoff. Each owned 100 shares. A month later the Annual Report for 1907 listed Albert S. Leigh as President and William R. Matthews as Vice President. Thornton Conover, A. D. Cook and William H. Lyons had joined the board. James C. Margerum was listed as President in 1916.

¹⁸ Margerum Family Papers.

¹⁹ Gunning.

²⁰ Mercer County Wills S 233; Mercer County Deeds O 524.

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National Register of Historic Places Continuation Sheet

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Princeton Ice Company
Mercer County, NJ

The deed resulting from the 1906 sale by Margerum to the Princeton Ice Company provides an inventory of the facilities at that time. Included in the sale were two ponds, one brick house²¹, one double frame house, one eight room icehouse with a capacity of at least 9,000 tons, three wagon houses, a corn crib, barns, horse barn, five open wagon houses, two hay barns, a scale house with scales, 10 horses, nine ice wagons, and five markers and ice plows. The deed also stipulated that Margerum was to "...complete the tower, the boiler house, road and bridge and all other improvements now underway..." The Princeton Ice Company, for its part, would complete "the small ice-house" Margerum was about to build.

Another ice famine in 1908-1909 shaped the appearance of the property. That winter the thickness of the ice was never sufficient to harvest, never exceeding six inches, and the company had attempted (and failed) to obtain ice from New York and Maine. In April 1909 the company therefore installed a plant to manufacture "artificial ice" at its property. Although the precise size and location of this equipment is unknown, it is surmised that the large concrete footings south of the main dam are associated with it. Ice independence was short lived, however. The plant burned in December of the same year, a total loss.²²

Two historic photographs of the ice company survive. Figure 7 is believed to be the earlier of the two; based on the state of structures visible it may date from around the time of the 1906 sale. The view is south-southeast, from the western shore of the lower pond, with a group of men standing on the frozen pond. Prominent in the background, below the dam and parallel to it, is a three-part icehouse, very nearly fitting the *Scientific American* description published in 1868. To the right (west) can be seen the ramps for lifting the ice into the icehouse.

The second historic photo is inscribed "Princeton Ice Co. 1910" on the back of the negative (Figure 8). Taken during warm weather from the east side of the lower pond, the icehouse again dominates, but behind (west of) it can be seen a chimney. This is believed to be the location of the boiler house Margerum agreed to complete in 1906. Next to it is a frame tower with ramps apparently leading from the pond up to a shelter, then down to the icehouse. The shelter may have housed machinery associated with the conveyor. Near the bottom of the conveyor is a small frame structure of unknown purpose; it may have housed a planer used to create blocks of uniform size for more efficient storage. Finally, a tall barn can be seen west of the pond, at a site where no barns appear on pre-Margerum maps. Although its relationship to the ice business is unknown, its site yielded the remains of early-20th century hay handling equipment during a 1990 survey.

In 1915 the company purchased a lot in downtown Princeton, ironically near the site of Vandeventer's pond, for the purpose of constructing a 20-ton ice plant. This plan never materialized, and the land was sold in 1923.²³

²¹ In all likelihood this is 73 Mountain Avenue, already listed in the National Register as part of the Mountain Avenue Historic District. It had been the morphological laboratory on the campus of the College of New Jersey and sold to Margerum for \$900 with the proviso that it be removed. In 1888 he tore it down, intending to "build a house with the material at his farm at the foot of Bayard Avenue" (Gunning).

²² Gunning.

²³ *Ibid.*

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James C. Margerum died in January of 1925. The company had ceased harvesting ice from the lake several years earlier and the company permitted its use as a community beach that summer, but apparently this only lasted one year. The Princeton Ice Company was dissolved on December 16, 1929, marking the end of commercial ice operations at the site nearly a half-century after Stephen Margerum first dammed the stream. At about the same time the property was photographed from the air (Figure 9). This view, although partly obstructed by smoke from a neighboring farm, shows both dams and the tree-lined watercourses converging on and passing through the property. It is noteworthy that except for the field boundaries, the site was mostly open and possibly under cultivation.

The property was sold in 1929 to Edgar Palmer, who would later develop Palmer Square in downtown Princeton. In 1958 the next owner, J. Dudley Clark, commissioned Rolf W. Bauhan to build a house near the upper dam. Bauhan was the first Princeton graduate to receive the degree of M.F.A. from the School of Architecture. He lived and worked in Princeton for most of his productive life, designing more than 70 houses in the town and contributing to the restoration or renovation of more than 150 others. A firm believer that the 18th century was the high water mark of American design, Bauhan favored the Colonial Revival style, often designing houses that appeared to have evolved through several construction periods. The Clark House has six distinct blocks.²⁴

Princeton Township acquired the property as open space in 1987. As modern photographs show, today little is visible to the casual observer to indicate the level of activity around the turn of the century. Aside from the upper and lower ponds, the ruins of the powerhouse chimney can be found in the woods, near the concrete foundations of the conveyor tower, both near the western end of the lower dam. A cultural resources survey in 1990 succeeded in locating a number of other features related to the ice company, notably the brick foundation piers of the large barn visible in Figure 8. The piers revealed it to have been about 48 feet by 18 feet. Within it were found a swivel carrier for a track-mounted hay-handling system and 46 feet of steel track. Also found was a double harpoon hayfork which would have been used with the swivel carrier. Both appeared in Sears Roebuck catalogs around the turn of the century.

A number of other features were located on the site, including concrete foundations below the lower dam whose functions have not been determined precisely but which may be the remains of the artificial ice plant that stood from April to December of 1909.

The dams themselves are of some interest. The 1884 lower dam is an earthen embankment about 350 feet long, about 30 feet wide and 13 feet high. Two flow control pipes project from a stone wall near the center of the dam, into a stone and concrete basin which has an outlet to the south. The 1902 upper dam is a random-coursed stone-faced concrete structure. It is approximately 268 feet long and about six feet wide at its crest. There is a central spillway, about 175 feet wide and about 1.2 feet lower than the crest of the dam.

²⁴ Croll, Emily, "Craftsmanship, Comfort, and Elegance: The Architecture of Rolf W. Bauhan, 1920-1966." The Historical Society of Princeton. 1997 Available at <http://www.princetonhistory.org/bauhan/bauhan.pdf>.

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Princeton Ice Company
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Conclusion

The site of the Princeton Ice Company production and storage facility, today known as the Mountain Lakes Preserve, is an intact (although largely archaeological) site of a commercial ice business typical of a small-scale enterprise harvesting and selling ice into a local market. Its history fits neatly into the larger story of the 19th century ice industry, and the structures and equipment known to have existed in 1906 and 1910 (by deed and photograph) show that the operation was similar to those described in 19th century publications.

The property's integrity of setting is perhaps its greatest strength in terms of National Register eligibility. Although the dams and ponds are the most visible manmade features remaining from the ice business, what may be more important about the site is what is not there. When the ice company ceased operations here in the 1920s and the property was sold, it was apparently unused until a single house was built by a subsequent owner in 1958. The remainder of the land containing whatever evidence the ice company left behind when it disbanded in 1929 has never been redeveloped; other than the normal succession of field to forest, and the disappearance of the wooden parts of the buildings, the site is as it was in 1929. Other than the house, there are no buildings on the property, although a pool house (probably built in 1958) was recently demolished, and there is a tennis court in poor condition northeast of the lake. The house is east of the upper dam, and is considered a non-conforming structure in the context of the property's historical associations with the ice business. It does not meet the National Register's 50-year age test.

The property also has integrity of location, feeling and association.

The property is eligible under Criterion C, "a significant and distinguishable entity whose components [may] lack individual distinction." While the surviving features are not individually significant, taken together they comprise a significant and distinguishable entity, that entity being the remains of the Princeton Ice Company and its predecessors.

It is more properly understood as a rural historic landscape, rather than a site. By the National Park Service definition, a rural historic landscape is

... a geographical area that historically has been used by people, or shaped or modified by human activity, occupancy, or intervention, and that possesses a significant concentration, linkage, or continuity of areas of land use, vegetation, buildings and structures, roads and waterways, and natural features... Rural landscapes commonly reflect the day-to-day occupational activities of people engaged in traditional work such as mining, fishing, and various types of agriculture. Often, they have developed and evolved in response to both the forces of nature and the pragmatic need to make a living.²⁵

²⁵ U. S. Department of the Interior, "Guidelines for Evaluating and Documenting Rural Historic Landscapes." National Register Bulletin 30. 1999

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The Princeton Ice Company handily fits this description. It is a created (but not designed) landscape, modified by human activity for commercial purposes, namely the extraction of value from the frozen stream water. This economic activity was representative of the time and place in which it was being conducted, a period when commercial ice was in great demand by residents of American towns and cities. The modifications that created the landscape remain evident, represented by the two ponds.

The property is also considered eligible under Criterion B for its association with the lives of significant persons in our past. From construction of the first dam in 1884 until at least 1916 (the date of the last Princeton Ice Company document before dissolution, listing James C. Margerum as President), the site was associated with the locally prominent Margerum family, first with Stephen Margerum who built the dam and operated the company until his death in 1901, then with his son James C. Margerum for at least 15 and perhaps the next 24 years; the association may well have lasted until James Margerum's death in 1925. A 1905 map, not reproduced here, labels several large tracts of land in Jugtown and elsewhere in Princeton as belonging to Stephen and James Margerum (sons of the elder Stephen), both jointly and individually, including at least two quarries. Unfortunately the Mountain Lake property was not within the area mapped. James C. Margerum was also elected to the Princeton Township Committee in 1906, the same year the Princeton Ice Company was founded.

Finally, archaeological investigations carried out in 1990 located the remains of several ice-related buildings, particularly near the lower dam. These remains may be expected to yield information about the ice business, imparting eligibility under Criterion D. In addition, the two dams are likely to contain information on the technology of dam construction at the end of the 19th century.

Ms. Wanda S. Gunning has drawn on her extensive personal knowledge and original research into the history of the Princeton Ice Company, the Margerum family and the ice business in Princeton and other topics relevant to this nomination. Her work is gratefully acknowledged by Hunter Research and Princeton Township.

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Princeton Ice Company
Mercer County, NJ

Mercer County deeds

Copies on file, New Jersey State Archives.

Mercer County wills

Copies on file, New Jersey State Archives.

Princeton Ice Company

1906 Certificate of Incorporation. Copy on file, New Jersey State Archives.

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**Princeton Ice Company
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Geographical Data

Verbal Boundary Description

The boundary of the Princeton Ice Company/Mountain Lakes Preserve coincides with the boundaries of Lots 2 and 3 in Block 5201 and is shown on the accompanying copy of the Township of Princeton Tax Map, sheet 52, dated 1994.

Boundary Justification

The boundary of the Princeton Ice Company/Mountain Lakes Preserve is nearly identical to that of the so-called "Hendrickson Farm," dating from a sale in 1868, and was in place when Stephen Margerum acquired the property in 1883. The bulk of the property (70.00 acres) is Lot 2. The 1950s house is on Lot 3 (6.69 acres), surrounded on all sides by Lot 2.

The only difference between this boundary and the boundary when the property achieved significance is the absence of the 1.54 -acre lot at 73 Mountain Avenue (Lot 14) on which stands a house built c. 1888. This lot was subdivided in 1958 and remains privately owned. It was listed in the National Register as a component of the Mountain Avenue Historic District on February 2, 1995.

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Princeton Ice Company
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List of Photographs

The following information is common to all photographs.

Property: Princeton Ice Company/Mountain Lakes Preserve, Mercer County, New Jersey

Photographer: Charles H. Ashton

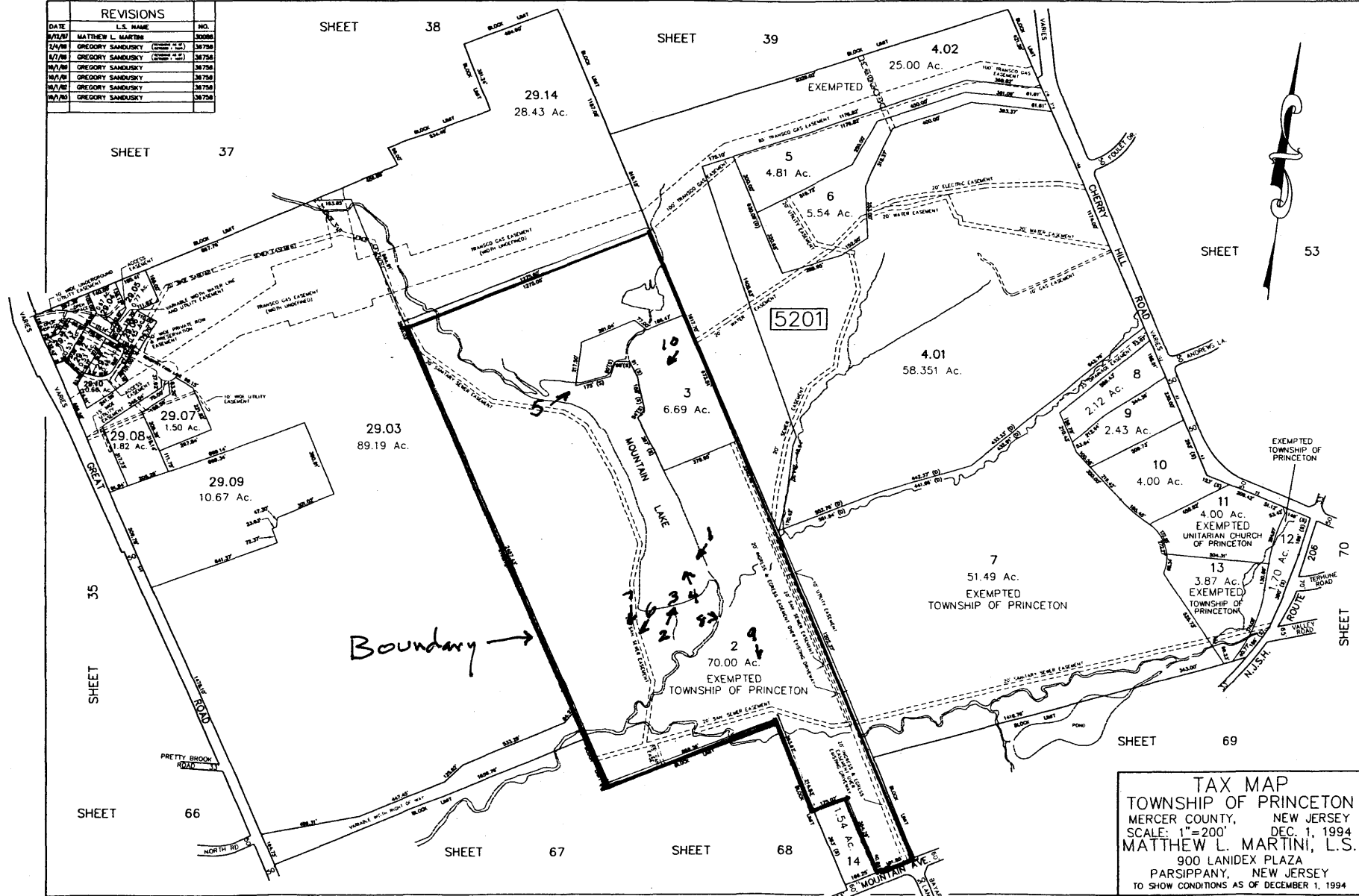
Date of photographs: April 2005

Location of negatives: Princeton Township Historic Preservation Office, 400 Witherspoon Street, Princeton NJ 08540.

1. View generally southwest from eastern end of lower dam. This photograph is nearly the same view as Figure 8, a photograph taken in 1910. Most of the "shoreline" on the left half of this view is actually the top of the dam. The remains of the brick chimney visible in Figure 8 are on the far shore near the center of the photo.
2. View generally northeast from below the lower dam. One of two cast iron overflow pipes can be seen projecting from the stone wall.
3. View looking generally south from the top of the lower dam into the stone drain downstream of the overflow pipe. This is the same pipe shown in Photo 2.
4. View generally north from the lower dam showing the lower pond and the upper dam.
5. View generally northeast from the western end of the upper dam showing the lower pond (right) and upper pond (left). The 1950s house is visible at the far end of the dam.
6. Concrete foundations below and near the western end of the lower dam.
7. Remains of brick chimney below and near the western end of the lower dam.
8. View generally southeast of the concrete slab bridge below and near the eastern end of the lower dam.
9. View generally south showing concrete foundations of unknown function, below the lower dam.
10. View generally southwest showing the front (eastern) façade of the 1950s house.

Princeton Ice Company/Mountain Lakes Preserve Mercer County, NJ

REVISIONS		
DATE	L.S. NAME	NO.
8/12/93	MATTHEW L. MARTINI	00000
12/4/93	GREGORY SANDOZSKY	38750
1/7/94	GREGORY SANDOZSKY	38750
3/1/94	GREGORY SANDOZSKY	38750
3/1/94	GREGORY SANDOZSKY	38750
3/1/94	GREGORY SANDOZSKY	38750
3/1/94	GREGORY SANDOZSKY	38750
3/1/94	GREGORY SANDOZSKY	38750



TAX MAP
TOWNSHIP OF PRINCETON
 MERCER COUNTY, NEW JERSEY
 SCALE: 1"=200' DEC. 1, 1994
 MATTHEW L. MARTINI, L.S.
 900 LANIDEX PLAZA
 PARSIPPANY, NEW JERSEY
 TO SHOW CONDITIONS AS OF DECEMBER 1, 1994

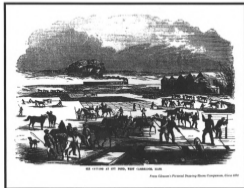


Figure 1. Harvesting ice, c. 1884. Reproduced in Foster's Sunday Citizen, March 7, 2004.



Figure 2. U. S. Coast and Geodetic Survey. *Interior Topography: Princeton and Vicinity, New Jersey*. 1840. The future site of the Princeton Ice Company is outlined. Scale: 1 inch= 1660 feet.

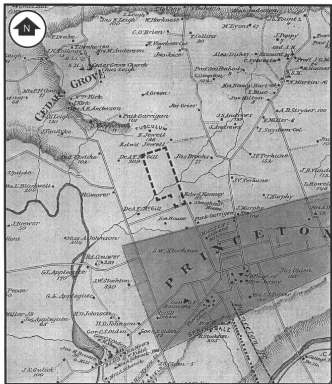



Figure 3. Everts & Stewart. *Combination Atlas Map of Mercer County*. 1875. The Mountain Lakes Preserve is outlined in red. Scale: 1 inch= 2390 feet.

RIVERSIDE ICE COMPANY

Stephen Margerum, Prop'r.  Princeton, New Jersey

ICE DEPOTS FOR 1884:

W. L. HANKINS, LEIGH & COOK,
J. B. SLAYBACK, HENRY BAYLES

The following prices for Families, Offices, &c. will continue until further notice.

8 lbs. Daily,	.50 Per week	20 lbs. Daily,	\$1.00 per week.
12 " "	.75 " "	40 " "	1.50 " "
16 " "	.83 " "		

PAYABLE MONTHLY

Our trucks deliver Stone and Ice only in all parts of the city, except that can be bought elsewhere. Our business for delivering Ice only in the day and on order, and satisfaction will be fully guaranteed.

ORDERS BY MAIL WILL BE PROMPTLY ATTENDED TO.

[over.]

Name, *H. N. Van Dyke*
 Residence, *Railroad Ave.*
 Quantity, *10 lbs. 4 times a week*
 Commence, *June 6th, 84*

Kindly deliver at the points and obliging to their capacities and keep them fully and honestly in all cases. Honest weight must be given. Throwing Ice to ground, melting it or using it in improper places, etc., will not be allowed.


STONE—Flags, Curbing, building, Capping and Bridge Stone, Road Stone, and Curbing. Call and examine before buying elsewhere.

STEPHEN MARGERUM, Prop'r.
[over.]

36

Figure 4. 1884 order card (front and back). Source: Margerum Family Papers, Historical Society of Princeton.

THE
Mountain Lake
ICE CO.



STEPHEN MARGERUM, SR. PROP.
Formerly River Side
FURNISH THE
BEST QUALITY OF ICE
Throughout the year at
Most reasonable rates

DEALER IN ALL KINDS OF ICE
W. L. HANBINS, LEIGH & COOK, PULLMAN BROS.
W. V. SCODDER

Wholesale and Retail in all parts of the State.

Figure 5. Handbill, c. 1887. Source: Margerum Family Papers, Historical Society of Princeton.

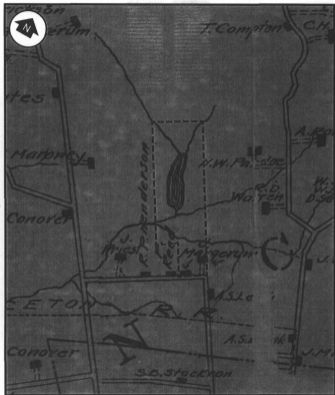


Figure 6. Pugh and Downing. *Map of Mercer County, 1903*. The Mountain Lakes Preserve is outlined in red. Scale: 1 inch = 1220 feet.



Figure 7. Historic photograph, c. 1906. The lower dam is at rear, generally parallel to the long dimension of the icehouses. Source: Margerum Family Papers, Historical Society of Princeton.



Figure 8. Historic photograph, 1910. The reversed caption reads "Princeton Ice Co. 1910."



Figure 9. Aerial photograph, 1929-31. Source: Mercer County Engineer's Office, Aerial Photographs, 1925-1940, New Jersey State Archives. Scale: 1 inch= 575 feet.

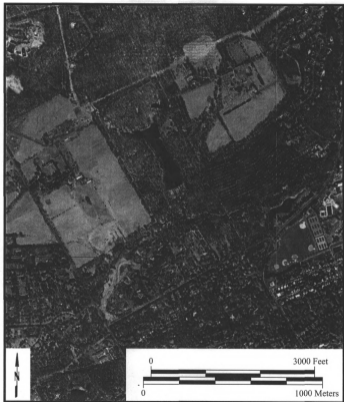


Figure 10. Aerial photograph, 2002.