Form No. 10-300 REV. (9/77)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY
RECEIVED OCT 24 1979
DATE ENTERED NOV 30 1979

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC
Thomas A. Edison Memorial Tower

AND/OR COMMON

LOCATION

STREET & NUMBER
Christie Street
__NOT FOR PUBLICATION

CITY, TOWN
Edison
__ VICINITY OF

CONGRESSIONAL DISTRICT
15th

STATE	CODE	COUNTY	CODE
New Jersey	34	Middlesex	023

CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
__DISTRICT	X PUBLIC	X OCCUPIED	__AGRICULTURE	X MUSEUM
__BUILDING(S)	__PRIVATE	__UNOCCUPIED	__COMMERCIAL	X PARK
X STRUCTURE	__BOTH	__WORK IN PROGRESS	__EDUCATIONAL	__PRIVATE RESIDENCE
__SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	__ENTERTAINMENT	__RELIGIOUS
__OBJECT	__IN PROCESS	X YES: RESTRICTED	__GOVERNMENT	__SCIENTIFIC
	__BEING CONSIDERED	__YES: UNRESTRICTED	__INDUSTRIAL	__TRANSPORTATION
		__NO	__MILITARY	__OTHER:

OWNER OF PROPERTY

NAME
State of New Jersey, Department of Environmental Protection*

STREET & NUMBER
Bureau of Parks P.O. Box 1420

CITY, TOWN
Trenton
__ VICINITY OF

STATE
New Jersey

LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC.
Middlesex County Court House

STREET & NUMBER
John F. Kennedy Square

CITY, TOWN
New Brunswick

STATE
New Jersey

6 REPRESENTATION IN EXISTING SURVEYS

TITLE New Jersey Office of Historic Preservation Historic Sites Inventory

DATE
1978
__FEDERAL X STATE __COUNTY __LOCAL

DEPOSITORY FOR SURVEY RECORDS
Office of Historic Preservation

CITY, TOWN
Trenton

STATE
New Jersey

*Edison Township presently leases the property

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
X EXCELLENT	__DETERIORATED	X UNALTERED	X ORIGINAL SITE
__GOOD	__RUINS	__ALTERED	__MOVED DATE_____
__FAIR	__UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The Edison Tower occupies the rise of a small hill on a parcel planted with grass and surrounded by mature trees. The rectangular 300' by 500' lot contains both the tower structure and an adjacent small one story museum facility.

Rising 131 ft. 4 in. above the ground, the Tower looms as the highest discernible object for many miles. Surmounting the 117 ft. 8 in. concrete-slab structure is a 13 ft. 8 in. replica of the original incandescent lamp which, illuminated nightly, can be seen for a distance of several miles, serving as an airplane beacon. The foundation of the Tower consists of a reinforced concrete pad 2 ft. 6 in. thick under the entire structure. The space between this pad and the floor of the entrance room to the Tower, containing the "Eternal Light", was back-filled with earth for the purpose of adding weight to increase its stability against wind pressure, in the same manner as the keel on a sailboat is provided to counteract the pressure of wind on its sails. The Tower is designed for pressure of wind at a velocity of 120 miles per hour. In its construction, which consumed slightly less than eight months, there were used approximately 1,200 barrels of Edison Portland cement and 50 tons of reinforced steel.

The large bulb atop the Tower was cast by the Corning Glass Works, which in 1879 furnished from a sketch the first commercial electric light bulb. The huge bulb contains 153 separate pieces of amber tinted Pyrex glass, 2 in. thick, set upon a steel frame. The bulb is 5 ft. in diameter at the neck and 9 ft. 2 inches in diameter at the greatest width and weighs, without the steel frame on which it is placed, in excess of three tons. Inside this Pyrex glass bulb are four 1,000 watt bulbs, four 200 watt bulbs and four 100 watt bulbs. A duplicate of each is so arranged as automatically to cut in should its companion bulb fail. The glass in the Pyrex bulb was placed on its steel frame at the Corning Glass Works, Corning, New York, and then, after being numbered, each piece was dismantled, packed and shipped to Menlo Park, where the work of permanent assembly atop the Tower itself was undertaken early in December, 1937.

On seven of the eight sides of the octagonal base are bronze tablets inscribed with descriptions of major Menlo Park inventions. In front of a bronze and glass door in the eighth side, in the concrete base of the tower, is buried a copper box containing, along with several documents, copper plates on which are inscribed the names of the officers and members, past and present, of the Edison Pioneers, and the names of the officers and directors of the Thomas Alva Edison Foundation Incorporated, together with the names of the technical bodies which they represent. The use of copper, apart from its ability to withstand the elements over the years, is in recognition of Edison's inestimable contributions to that industry's growth through the enormous demands for copper metal made necessary by the expansion of the electric light and power industry, in the creation of which Edison was so prominent a factor.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
__PREHISTORIC	__ARCHEOLOGY-PREHISTORIC	__COMMUNITY PLANNING	__LANDSCAPE ARCHITECTURE	__RELIGION
__1400-1499	__ARCHEOLOGY-HISTORIC	__CONSERVATION	__LAW	__SCIENCE
1500-1599	__AGRICULTURE	__ECONOMICS	__LITERATURE	__SCULPTURE
1600-1699	X ARCHITECTURE	__EDUCATION	__MILITARY	__SOCIAL/HUMANITARIAN
1700-1799	__ART	__ENGINEERING	__MUSIC	__THEATER
__1800-1899	__COMMERCE	__EXPLORATION/SETTLEMENT	__PHILOSOPHY	__TRANSPORTATION
X 1900-	__COMMUNICATIONS	__INDUSTRY	__POLITICS/GOVERNMENT	__OTHER (SPECIFY)
		__INVENTION		

SPECIFIC DATES 1937 BUILDER/ARCHITECT Massena & DuPont, architects

STATEMENT OF SIGNIFICANCE

An exceptionally important architectural and commemorative landmark, the Edison Tower at Menlo Park is a dramatic monument dedicated to the inventive genius of Thomas Alva Edison.

The Art Deco polygonal tower, capped at the top with a huge light bulb created by the Corning Glass Works, is unusual to New Jersey. Designed by the architectural firm of Massena and DuPont the forty-two year old structure is a rare example of a public monument in the Art Deco style. According to noted architectural historian Constance Grieff, a "public monument in the Art Deco style is rare in the State of New Jersey". While one other Art Deco monument can be found in New Jersey, the Edison Tower is the State's best representative of a public monument in the Art Deco style.

Gabriel Francois Massena (1902-1945) attended the Ecole des Beaux-Arts in the 1920's and was living in France when in 1929 he met Alfred F. DuPont (1900-?). In 1930 they formed the architectural partnership of Massena and DuPont. Returning to the United States, they were first commissioned to design the Sunken Garden at Nemours, Delaware. The Carillon Tower at Nemours in its conventional format is a dynamic contrast to the Edison Tower at Menlo Park of which DuPont wrote in 1946, "stands as a tribute to a builder of the future, and is destined, surely, to be acceptable to 'modernists' of the future" (Journal of the AIA, 2/1946, p. 95).

The firm of Massena and DuPont dealt primarily with public buildings. In addition to the Carillon and Edison Towers, their commissions included the United State Post Office and Federal Buildings at Wilmington, Delaware; and the City Hospital at Wilmington.

The Edison Tower is located on the site of Thomas Edison's 1876 industrial research complex. The Tower commemorates his activities at the complex where in a period of ten years his accomplishments included the development of the first practical incandescent lamp; the invention of a system for generating and distributing electric current; and the invention of the phonograph. The Tower, built in 1937, is a twentieth century reflection of Edison's unparalleled impact on the modern world. A recognition which has continued into the second half of the twentieth century.

The potential for retrieval of archeological information at the Edison Tower site must be mentiond. This potential, however, must be assessed against the undocumented scope of Henry Ford's excavations at the site in 1928, and the preparation of the site in 1937 for the tower construction.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

See Continuation Sheet

10 GEOGRAPHICAL DATA

UTM NOT VERIFIED

ACREAGE OF NOMINATED PROPERTY 3.44

QUADRANGLE NAME Perth Amboy, N.J.-N.Y. QUADRANGLE SCALE 1:24000

UTM REFERENCES

	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
A	18	551910	4490240	B			
C				D			
E				F			
G				H			

VERBAL BOUNDARY DESCRIPTION

Block 667, Parcel 2 Edison Township Tax Map

The nominated property is a rectangular lot 300' by 500', bound by Christie and Frederick Streets, Middlesex Avenue, and Tower Road.

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE

Revised by the Office of Historic Preservation 9/79
Trenton, New Jersey 08625

Mayor Anthony Yelencsics

DATE: June 18, 1979

ORGANIZATION: Edison Township

TELEPHONE: (201) 287-0900

STREET & NUMBER: Edison Township Municipal Building, Plainfield Avenue

CITY OR TOWN: Edison

STATE: New Jersey 08817

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL ___ STATE X LOCAL ___

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

Deputy
STATE HISTORIC PRESERVATION OFFICER SIGNATURE: Robert Wilson

DATE: 10-9-79

TITLE: Deputy Commissioner, Dept. Environmental Protection

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

acting KEEPER OF THE NATIONAL REGISTER: Carol D. Shull

DATE: 11-30-79

ATTEST: ~~CHIEF OF REGISTRATION~~ Kristin O'Connell

DATE: 11/29/79

GPO 931-803

UNITED STATES DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE

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NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

Edison Memorial Tower
Middlesex County, New Jersey

In a darkened room on the other side of this bronze door is the "Eternal Light", a replica of Edison's first incandescent lamp, which has been giving light continuously since October 21, 1929, when, on the occasion of Light's Golden Jubilee in Dearborn, Michigan, Edison pressed the button to set it aglow. Of interest in this connection is the fact that although the original steel structure, which this Tower replaced, was destroyed by lightning on August 11, 1937 during the construction of the present Tower, the "Eternal Light" was unharmed, and continued to glow brightly, although surrounded by and covered with debris of the wreckage.

In designing and selecting materials to be used in the construction of the Tower, great care was taken to use masses and lines which would be as effective in sunlight as at night in the rays of floodlights. The effect retains the monumental bulb as the main feature of the Tower. A group of eight buttresses rising from the ground to the bulb emphasizes its dominant importance and catch the beams from the floodlights concealed at the top of the dark columns.

The choice of aggregate on the concrete facings -- glittering quartz and ceramic -- was specifically treated so that the many faceted particles are intensified at night. The Tower also represents the most successful treatment of reinforced concrete as a finished material, a material in which Mr. Edison was deeply interested. The precast reinforced concrete facing units which are two inches thick were erected in successive stages and fastened to the interior wooden frames with steel anchors. Concrete then was poured between the facing units and the frames, producing perfect anchorage and a completely monolithic construction of the entire Tower. At the top sixteen anchor bolts are imbedded in the concrete to which is attached the steel framework for the glass bulb. This bulb is the first circular casting work ever produced in the glass industry.

As a protection from lightning, about one-third of the distance down from the top of the light bulb, there are aluminum points projecting about six inches beyond the face of the glass. These points, together with one at the very top of the bulb, are interconnected by a 3/8 inch copper cable. From this cable four 3/8 inch cables are carried down inside the Tower, where they are connected under the foundation to twelve ground rods. Each ground rod is comprised of a steel rod encased in a copper tube and measures about three quarters of an inch in diameter; these are driven into the earth below the foundation to an average depth of seventeen feet. These twelve ground rods are also interconnected by copper cables to which the four cables coming down the Tower are attached.

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Emblematic of the invention of the phonograph, a sound system designed and manufactured by RCA-Victor Company of Camden, New Jersey was incorporated into the Tower. Electricially transcribed phonograph records were broadcast from the top of the tower ninety-six feet above the ground. There, beneath the hugh lamp were decorated grilles behind which are wide-range, high-powered, loud speakers. The speakers were designed to transmit chimes, music of all kinds, as well as speech, over a radius of two miles. The group of specially designed, heavy duty amplifiers, with all controls, was located in the operating room in the Tower. Here are also installed the transcription turntable and the lateral and vertical sound heads for reproduction of standard or special recordings of all types. Part of the general installation was a group of eight loud speakers located thirteen feet from the base of the Tower; these are designed particularly for speech reproduction over the radius of at least one hundred and fifty feet. They were equipped with a high duty, portable microphone for use at locations provided with connections to amplifiers. Much of the sound system has been removed in the past few years.

The Tower was built at the site of Thomas Alva Edison's Menlo Park industrial compound. The current 3.44 acre lot contained the following facilities (see period photo):

2A. Main Laboratory. A two story clapboard wooden structure 100 feet in length and 30 feet wide. From this building Edison invented among other things the first incandescent light bulb, photograph, and telephone transmitter.

2B. Carbon Shed. A wooden structure where kerosene lamps burned continuously giving off smoke. This smoke of pure carbon (lamp black) was used to make carbon buttons for telephone transmitters.

2C. Machine Shed. A one story brick building where all the machines and tools needed in the lab were made and stored.

2D. Office and Library. A one story brick building where Edison and his staff's offices were located and where many of Edison's books and papers were stored.

2E. Glass Blowers Lamp Shed. A one story structure where the incandescent bulbs were blown into different shapes until the right size was created. In the Summer of 1880 the small clapboard building became the first lamp factory in the world.

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Located opposite the Machine Shop outside the bounds of the 3.44 acre lot was an Electric Railway, Edison's first experimental electric train track.

In 1928 Henry Ford purchased the Edison property in Menlo Park. His intentions were to salvage any remaining facilities, transporting them for reconstruction at his Greenfield Village in Deerborn, Michigan. Henry Ford's retrieval of Edison memorabilia from the site included archeological features remaining at the site. Ford excavated the site of Edison's main laboratory and machine shop. In addition, a trash pit behind the then extant office and library is known to have been excavated. Any additional excavations remain undocumented.

FHR-8-300A
(11/78)

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Jehl, F. Menlo Park Reminiscences, Michigan: Thomas A. Edison Institute, 1941.

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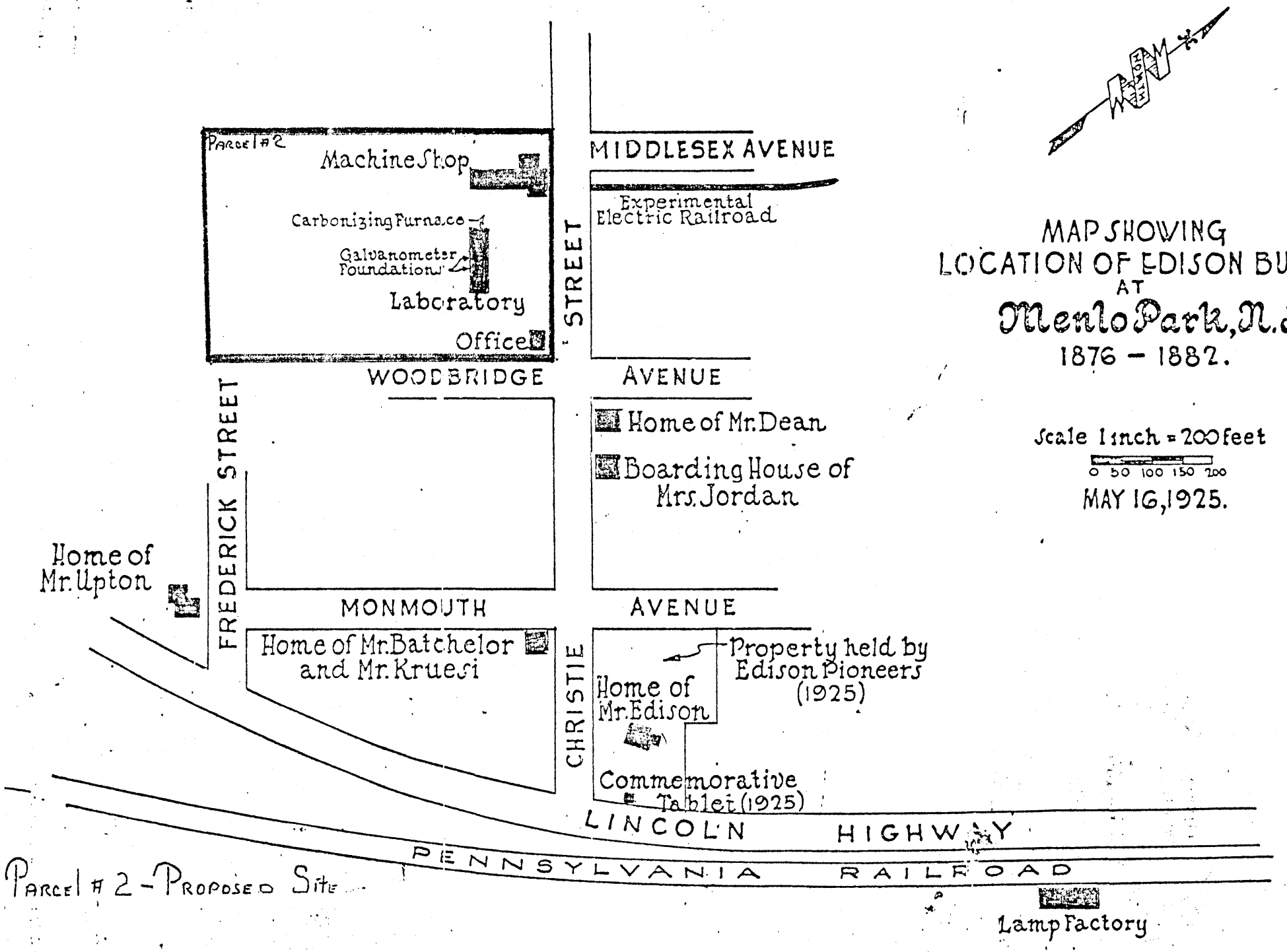


MAP SHOWING LOCATION OF EDISON BUILDINGS AT Menlo Park, N.J. 1876 – 1882.

Scale 1 inch = 200 feet

0 50 100 150 200

MAY 16, 1925.

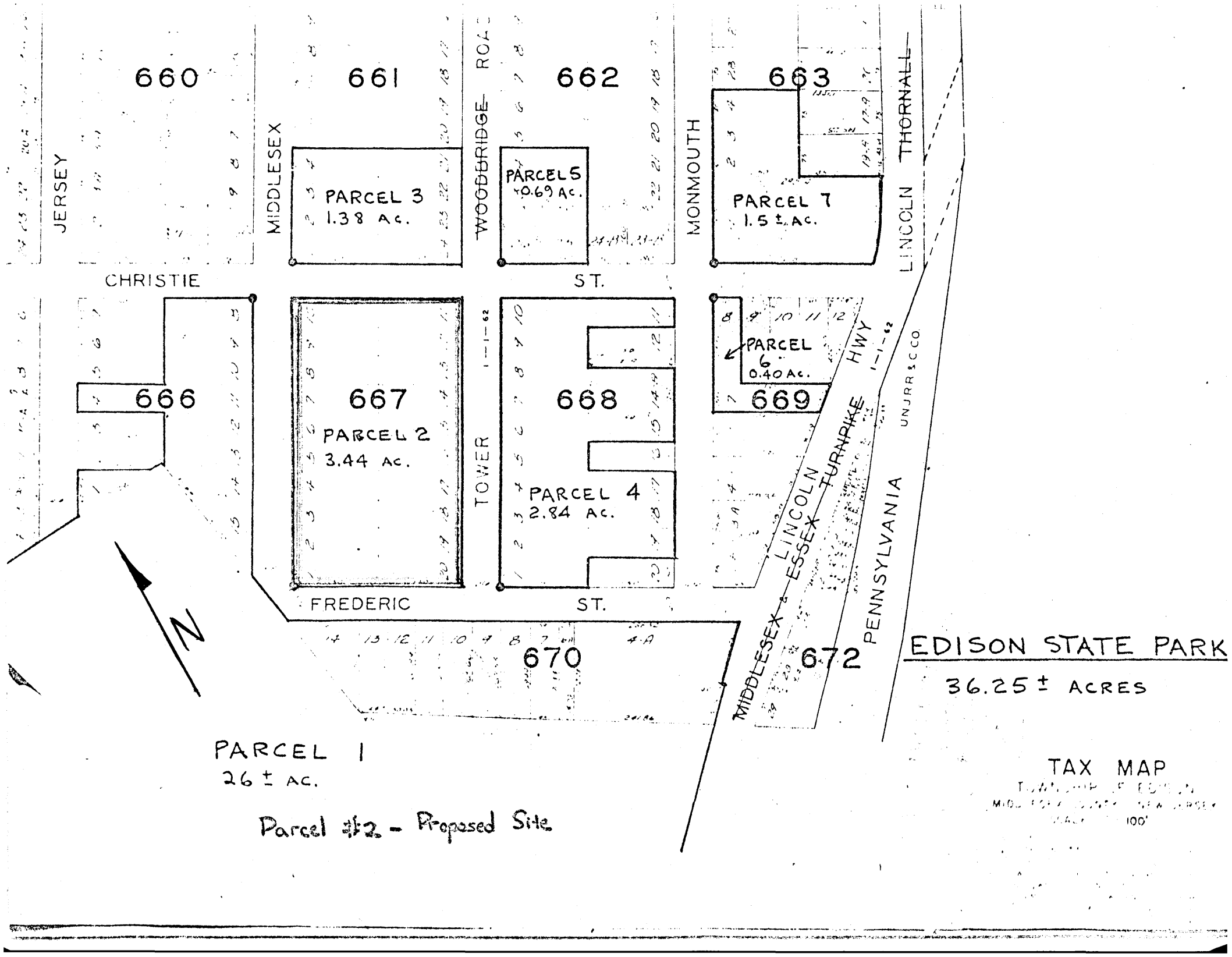
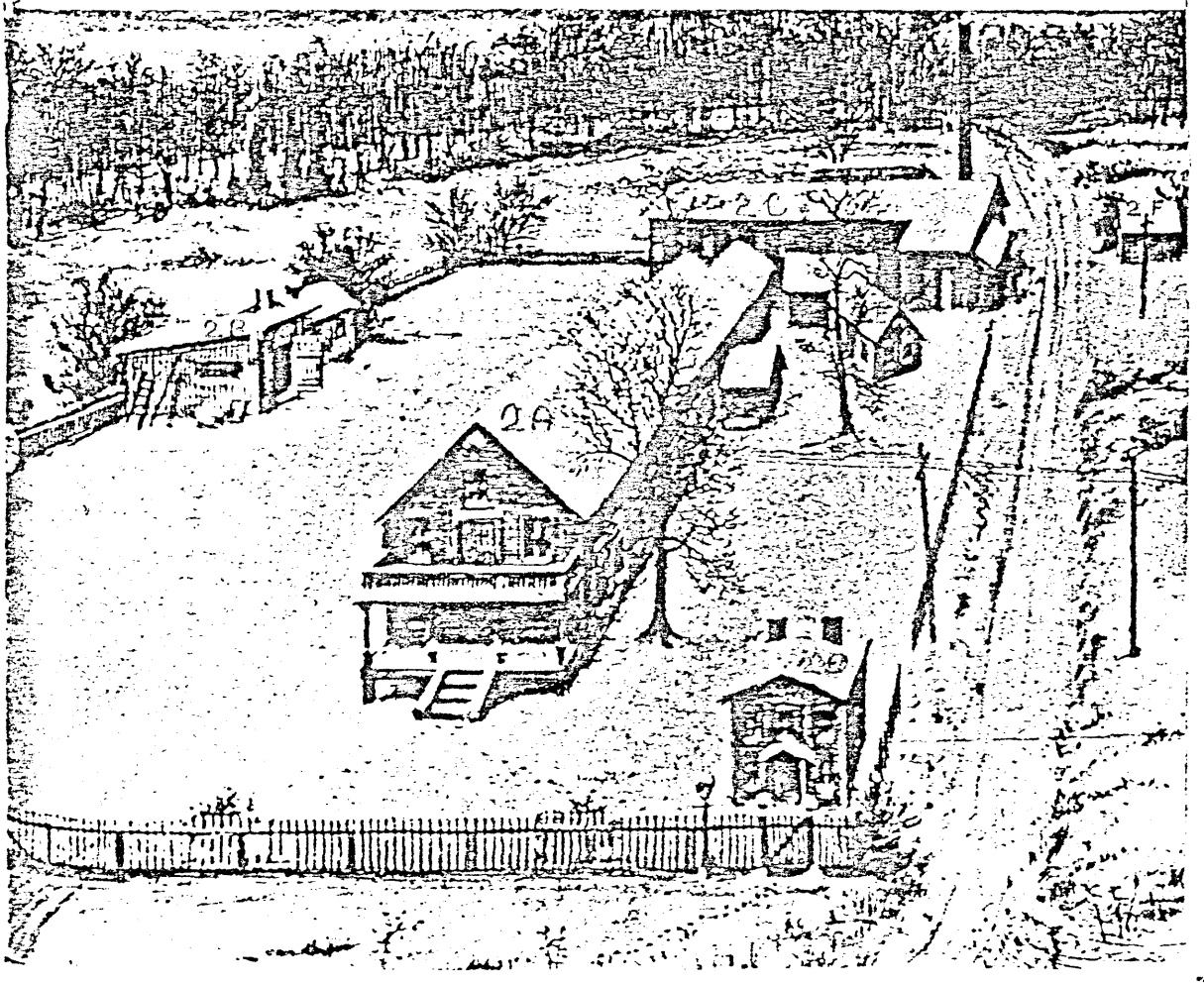
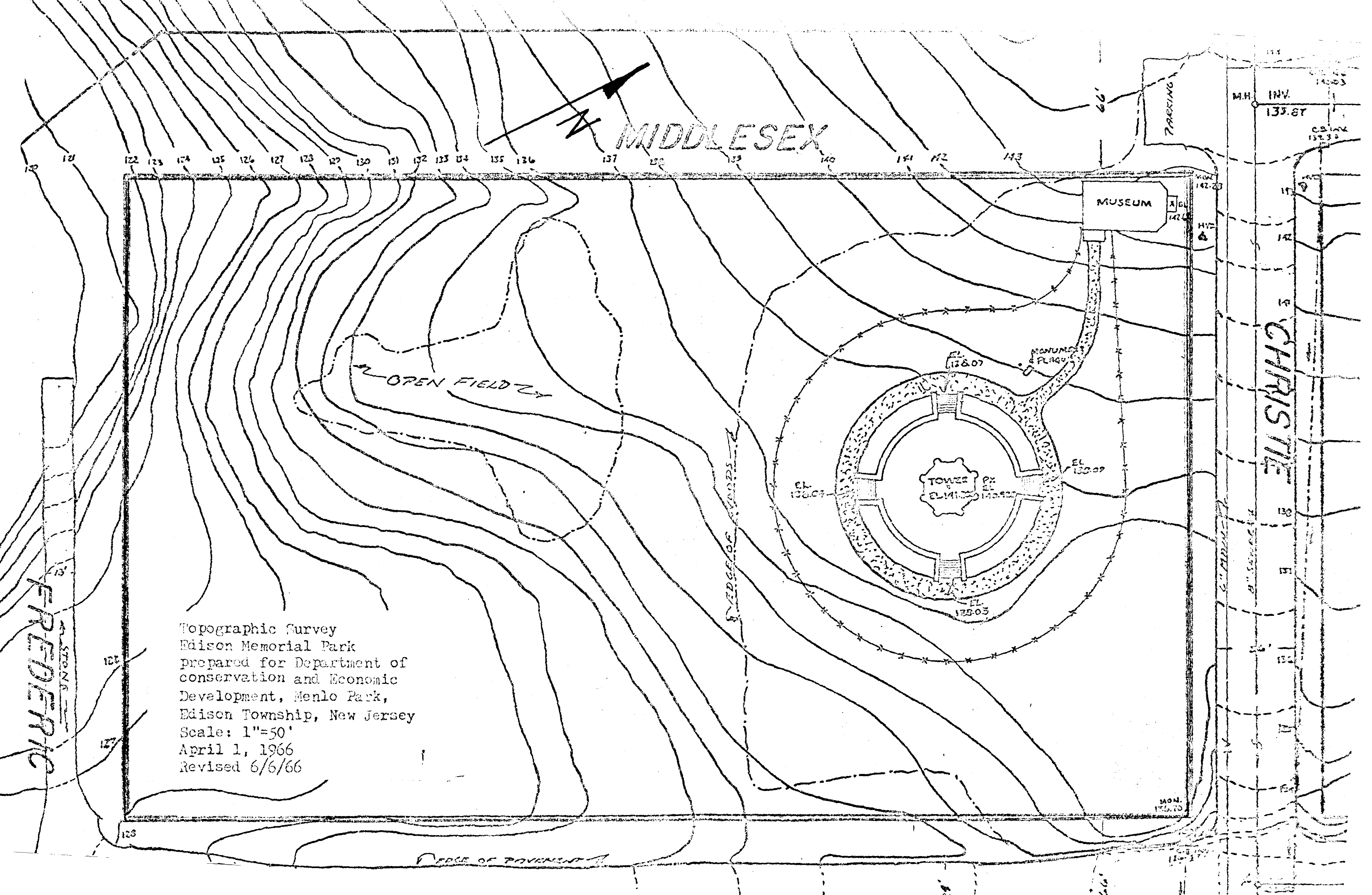

660
661
662
663
JERSEY
MIDDLESEX
WOODBRIDGE ROAD
MONMOUTH
LINCOLN THORNALL
PARCEL 3
1.38 Ac.
PARCEL 5
0.69 Ac.
PARCEL 7
1.5 ± Ac.
CHRISTIE
ST.
666
667
PARCEL 2
3.44 Ac.
668
PARCEL 4
2.84 Ac.
PARCEL
6
0.40 Ac.
669
TOWER
1-1-62
HWY
UNJRR & C CO.
LINCOLN TURNPIKE
MIDDLESEX & ESSEX
PENNSYLVANIA
FREDERIC
ST.
670
672
N
EDISON STATE PARK
36.25 ± ACRES
PARCEL 1
26 ± Ac.
Parcel #2 - Proposed Site
TAX MAP
100'

Photo #2

Menlo Park in winter (below) is shown with the laboratory in the center, the library and office in the right foreground, and the machine shop in the rear.



2-A Main Laboratory
2-B Carbon Shed
2-C Machine Shop
2-D Office and Library
2-E Glass Blowers Lamp Shed
2-F Electric Railway


MIDDLESEX
CHRISTIE
FREDERIC
MUSEUM
PARKING
OPEN FIELD
EDGE OF WOODS
EDGE OF PAVEMENT
TOWER
M.H. INV. 133.87
Topographic Survey
Edison Memorial Park
prepared for Department of
conservation and Economic
Development, Menlo Park,
Edison Township, New Jersey
Scale: 1"=50'
April 1, 1966
Revised 6/6/66