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United States Department of the Interior
National Park Service

MAR 13 1989

National Register of Historic Places
Registration Form

NATIONAL
REGISTER

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 Marcus Hook Range Rear Light
other names/site number U.S. Coast Guard Light List #2255 CRS #N-12087

2. Location

street & number Light House Road not for publication
city, town Wilmington vicinity
state Delaware code DE county New Castle code 003 zip code

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
<input type="checkbox"/> private	<input checked="" type="checkbox"/> building(s)	Contributing	Noncontributing
<input type="checkbox"/> public-local	<input type="checkbox"/> district	<u>2</u>	<u>0</u> buildings
<input type="checkbox"/> public-State	<input type="checkbox"/> site	<u>0</u>	<u>0</u> sites
<input checked="" type="checkbox"/> public-Federal	<input type="checkbox"/> structure	<u>1</u>	<u>0</u> structures
	<input type="checkbox"/> object	<u>0</u>	<u>0</u> objects
		<u>3</u>	<u>0</u> Total

Name of related multiple property listing: NA

Number of contributing resources previously listed in the National Register NA

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, 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. See continuation sheet.

[Signature] 3/10/89
Signature of certifying official Date
SHPO - Acting Director, Division of Historical & Cultural Affairs
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:

entered in the National Register. Patrick Andrews 3/27/89
 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:) _____

[Signature] Signature of the Keeper Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)
Coast Guard Facility

Current Functions (enter categories from instructions)
Coast Guard Facility

7. Description

Architectural Classification
(enter categories from instructions)

Materials (enter categories from instructions)

Other: Lighthouse
Colonial Revival

foundation concrete
walls concrete
roof concrete
other concrete

Describe present and historic physical appearance.

Marcus Hook Range Rear Light (U.S. Coast Guard Light List Number 2255) is located in a quiet residential neighborhood in Bellefonte, Delaware. The facility was built in the years 1918 - 1920 and includes a tall reinforced-concrete tower, a separate keeper's dwelling, and an outbuilding which served as a garage, storage area, and oil shed. The tower is near the crest of a high ridge and serves as the rear light marking the line of the channel in the Delaware River. The front light is located in the water some 1.5 miles to the northeast and is a flashing white light mounted on a square skeleton tower. It is not included as part of the nominated property.

The tower, keeper's dwelling and outbuilding are all contributing elements of the nomination. The tower, situated well back from the street, is square in plan and rises from a three-step base to a height of 100'. The corners are buttressed up to the level of the gallery which surrounds the cube-shaped lantern at the top. The entrance to the tower faces Lighthouse Road; it is fitted with a modern steel-plate door, a replacement for the wood-and-glass double doors shown in early photographs. The tower below the gallery was poured in nine sections. Each section, other than the topmost, has one window so that there are two openings on each side of the tower, with the spacing varying from side to side. Windows have concrete sills covered with flashing and molded wood frames and are fitted with four-over-four sash. The windows have recently been repaired by the use of casement windows with a glass and muntin arrangement that duplicates the original windows. Decorative effects are limited. There are simple bed moldings beneath the gallery and the roof of the lantern, and the gallery's balustrade is formed of a solid concrete rail with rectangular sunken panels.

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

Areas of Significance (enter categories from instructions)

Maritime History

Engineering

Period of Significance

1918 - 1939

Significant Dates

NA

Cultural Affiliation

NA

Significant Person

NA

Architect/Builder

unknown

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

Marcus Hook Range Rear Light is significant as an early use of reinforced concrete in lighthouse construction (Criterion C) and as a major Delaware River range light, an integral component of early 20th century improvements to the shipping channel below Philadelphia (Criterion A). One of a half-dozen historic range lights on the Delaware, it is the only one constructed of concrete. Its significance as a historic resource is heightened by the presence of the related dwelling and oil shed.

Marcus Hook Range Rear Light reflects the modernization by the federal government of the Delaware River Channel in the early 20th century. The Army Corps of Engineers in 1910 approved the deepening of the channel below Philadelphia from 30' to 35' in depth. Because part of the deepened channel had to be relocated two new ranges, Marcus Hook and Chester, were laid out to take the place of Schooner Ledge Range. Together with the front range light, Marcus Hook Range Rear Light defines the center line of the channel, for this portion of the river. The Marcus Hook Range is used by ships coming down river from Philadelphia and other upriver ports. It is 7,000 yards long. It is just over 200 yards wide. The range lights are at the southern end of the channel. A river pilot or ship's captain keeps both the rear light and the front light aligned on top of each other in coming down river. In this way he knows that the ship is in the proper channel.

Re-inforced concrete was first used for lighthouses on the Pacific coast in 1908, when the tower at Point Arena, California, was rebuilt after its destruction in the earthquake of 1906. Other

9. Major Bibliographical References

SEE ATTACHED SHEET

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 # _____

See continuation sheet

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 .75

UTM References

A

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4	5	6	8	6	0
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4	4	0	1	2	8	0
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 Zone Easting Northing

B

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 Zone Easting Northing

C

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D

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See continuation sheet

Verbal Boundary Description

The nominated parcel is that lot described in the deed, the parcel dated February 20, 1977 and recorded in deed book L27 P281 in the New Castle Recorder of Deeds Office in Wilmington, DE.

See continuation sheet

Boundary Justification

The bounds are the original tax parcel that made up the Coast Guard/Light Service property.

See continuation sheet

11. Form Prepared By

name/title See attached sheet
 organization Bureau of Archaeology & Historic Preservation date October 1988
 street & number 15 The Green telephone (302) 736-5685
 city or town Dover state DE zip code 19901

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The interior of the lighthouse features steel stairs running along the outside wall. Other than the stepped flat moldings which surround the windows, there is no interior finish. The concrete of walls, floors, and ceilings is exposed. The electric light shines through a large plate-glass window on the lantern's east face. The original light was focused by a dish-shaped fourthorder Fresnel range lens. The lens rested upon an iron pedestal and consisted of eight rings of cut glass held in place by brass retainers for a total diameter of about 36". It is marked "BARRIER PAVARD 7 TURENNE, constructuers, Paris." That lens has been donated to the Philadelphia Maritime Museum, Philadelphia, PA. The tower is now illuminated by a powerful fixed searchlight with a red lens. The original light source was a acetylene gas lamp.

The keeper's house is a two and one-half story brick dwelling, Colonial Revival in style, with the ridge of its gable roof parallel to the road. The walls are of textured brick laid up in Flemish bond, with splayed brick lentils over the windows, which are fitted with six-over-one sash. A flat-roofed porch runs across the front of the house, sheltering the entry centered in the three-bay facade. Decorative effects include a full return of the cornice across the gable ends and quarter-circle attic lights on either side of the exterior chimney on the northeast end. The one-story brick outbuilding is similarly detailed. Although the original sliding door has been replaced with a modern roll-up garage door, the outbuilding retains its original asbestos-shingled roof similar to that initially installed on the dwelling.

The facility is in fair condition. The dwelling and outbuilding appear to be in good repair and retain their historical appearance substantially intact. The tower itself has not fared as well. The concrete has undergone natural weathering, exposing the river-gravel aggregate beneath the surface. There are a few places where gouges have exposed small sections of reinforcing rod. More importantly, large pieces of concrete along the lower edge of balustrade are spalling and coming off; repairs have not been successful. However, the structural integrity of the tower, the condition of the lantern roof, and the inherently long-lasting exterior material all appear basically sound.

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concrete lighthouses off California, Oregon, Washington, and Alaska were built in subsequent years. On the Atlantic coast, the material had primarily been used for minor structures such as the small 1912 oil shed at Delaware Breakwater Light, but in 1913 the lighthouse at Brandywine Shoal was re-built with not only a large reinforced concrete superstructure but a caisson-shell of the same material. The Lighthouse Service's experiments with concrete continued in 1916, when the 100' tower for the Marcus Hook Range was designed. The usual practice at the time was the use of iron or steel skeleton towers for rear range lights, and in fact, Marcus Hook's companion, the 1917 Chester Rear Range Light, was such a tower. Other than providing an extremely strong structure, reinforced concrete would appear to have only minor advantages over steel. Even though the material itself was cheaper, the building of forms, placement of reinforcing rods, and pouring of cement on the upper levels must have been much more complicated than the erection of a largely pre-fabricated tower, something the U.S. Lighthouse Service had been doing since the 1870s. In addition to its structural strength, however, concrete provides a nearly maintenance-free surface, both interior and exterior.

At the time the Marcus Hook Range Rear Light was constructed, all of this nation's lighthouses were under the control of the Bureau of Lighthouses, an agency of the Department of Commerce. The Bureau had been part of the Commerce Department since 1903. Prior to that it had been a branch of the Treasury Department. The Bureau itself was created in 1910 to replace the Lighthouse Board. That Board had been established in 1852 as a nine-member group that supervised the construction and maintenance of the lighthouse system. In 1939, the Bureau of Lighthouses was abolished and its duties transferred to the U.S. Coast Guard, a branch of the Treasury Department.

One of the hallmarks of all of the various agencies that have had control over lighthouses has been their desire to provide a safe and reliable system of aids to navigation. The adoption of improved lighting and focusing systems is one example. The use of new materials such as concrete or pie cast iron is another example. The agencies have also been very willing to work with other agencies such as the Army Corps of Engineers to insure the safe flow of shipping along the coasts and inland to major ports.

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COMPREHENSIVE PLANNING

The Marcus Hook Range Rear Light as a federal constructed aid to navigation is important to the historic theme of transportation and communication. As an example of a specific solution to an engineering problem, i.e. the permanent display of a fixed point of light, the light and its related buildings is significant to the theme of architecture, engineering and decorative arts.

Constructed in a modern era of Delaware's history, the light and its outbuildings fall within the urbanization and suburbanization period in Delaware's history.

Geographically the light and its related buildings fall within the coastal zone.

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BIBLIOGRAPHICAL REFERENCES

Holland, Francis Ross, Jr. America's Lighthouses: An Illustrated History (New York: Dover Publications, 1988)

McCurdy, James G. "Concrete Superseding Wood in Lighthouse Construction," Concrete - Cement Age 6 (April 1915: 198.

National Archives, Still Picture Branch, photographs, c. 1920.

U. S. Bureau of Lighthouses, Annual Report, 1913 - 1920.

U. S. Coast Guard, Third Coast Guard District, Governors Island, Civil Engineering Section, drawing file.

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Section number 11 Page 1

Nomination originally prepared by: Bruce Clouette and Matthew Roth of
Historic Resource Consultants, 55 Van Dyke Avenue, Hartford, CT
under contract in 1983 to the United States Coast Guard.

Nomination updated and edited by: Stephen G. Del Sordo, Historian,
Bureau of Archaeology and Historic Preservation.

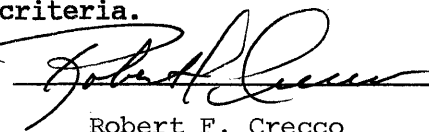
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Marcus Hook Range Rear Light, Wilmington, Delaware

In my opinion, the property X meets _____ does not meet the National Register criteria.

Signature 
Name Robert F. Crecco

Title/Agency Historic Preservation Officer, U.S. Department of Transportation

Address 400 7th Street, S.W., Washington, D.C. 20590

Date 2/22/89

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Marcus Hook Range Rear Light

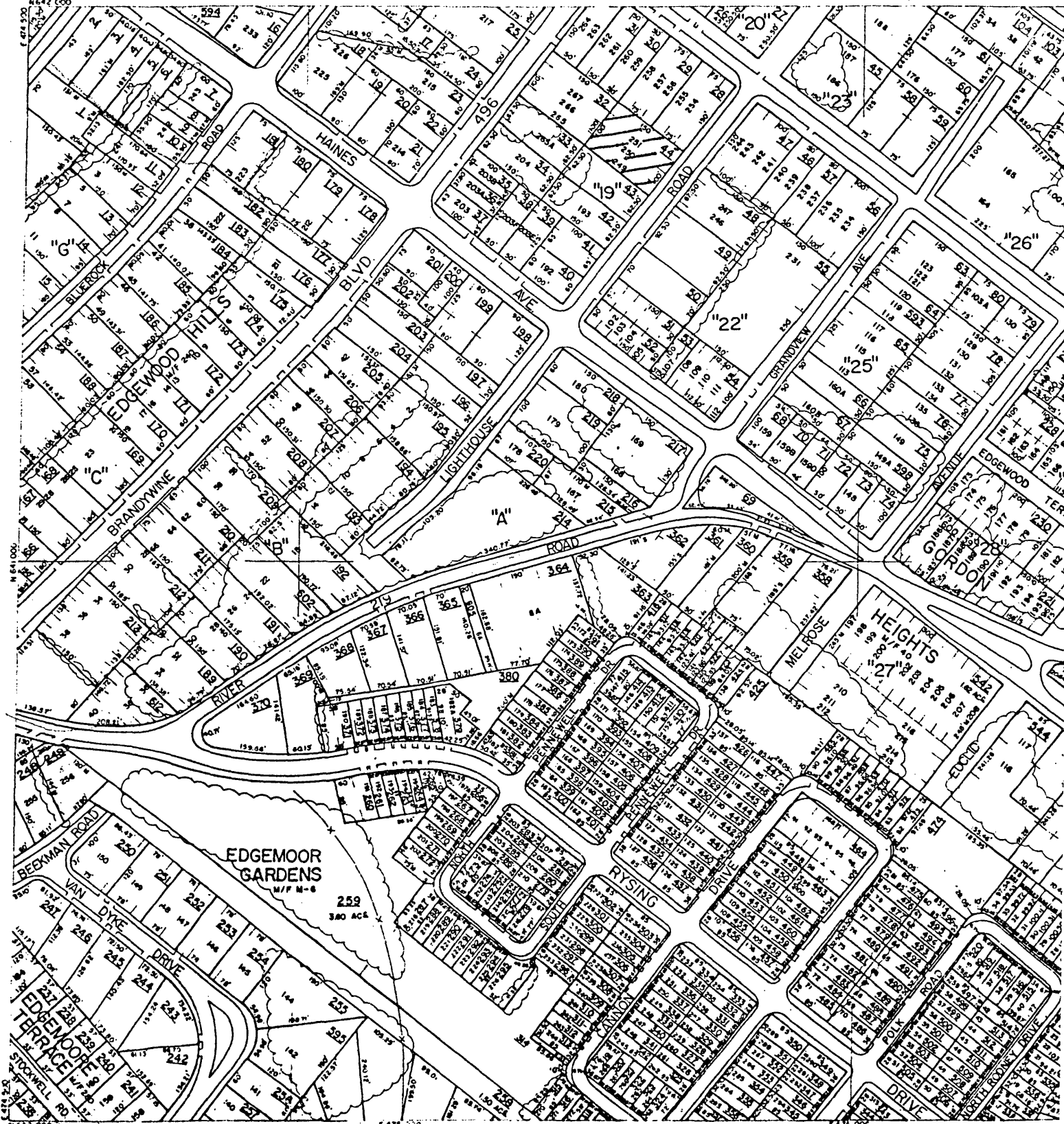
N-12,087

In my opinion, the property meets _____ does not meet
the National Register Criteria.

Rita Justice 12/5/88

Rita Justice Date
County Executive
New Castle County
Delaware

Marcus Hook Range Rear Light
 New Castle County, DE.
 Top is north
 not to scale - dimensions as marked



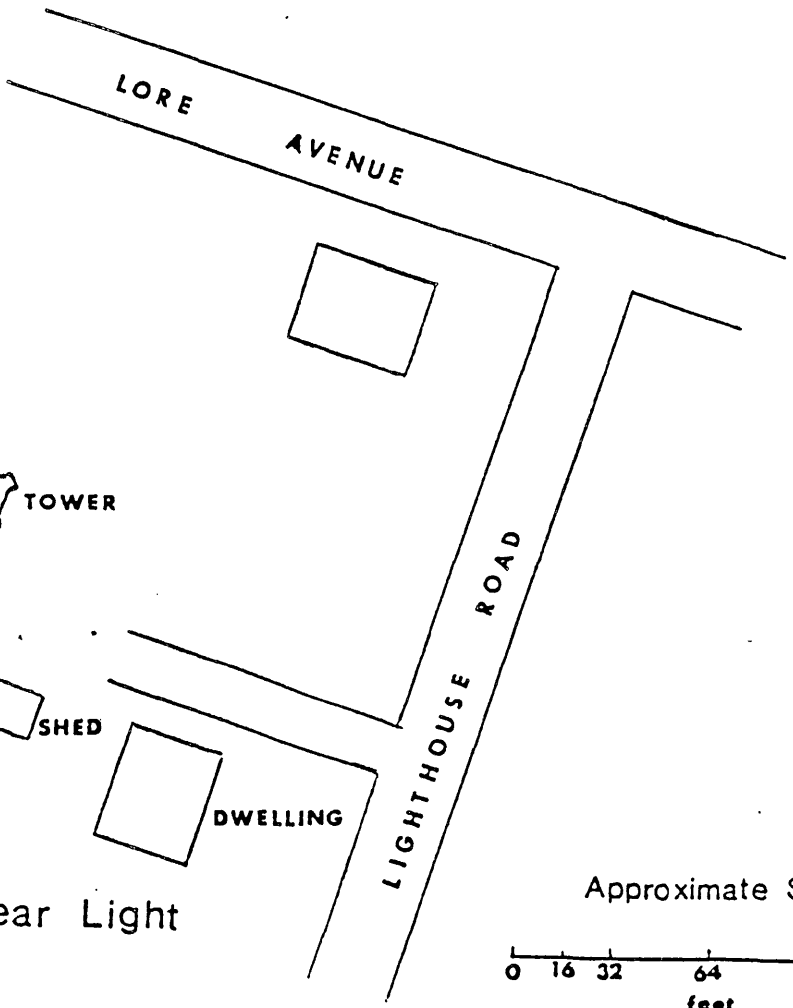
BASE MAP PREPARED BY
 L. ROBERT KIMBALL
 Consulting Engineer
 GREENSBORO, PENNSYLVANIA

THIS MAP IN WHOLE OR IN PART MAY NOT
 BE REPRODUCED IN ANY FORM OR BY
 ANY MEANS WITHOUT WRITTEN PERM-
 ISSION OF THE DEPARTMENT OF PLANNING
 AND ZONING OF NEW CASTLE COUNTY

MAP LOCATION

139	140	141
145	146	147
149	150	151

- LEGEND**
- INTERSTATE HIGHWAY
 - U.S. HIGHWAY
 - STATE HIGHWAY
 - LEGISLATIVE ROUTE M
 - ROAD, PAVED
 - ROAD, UNPAVED
 - TRAIL
 - R/W ROAD
 - RAILROAD
 - STATE LINE
 - COUNTY LINE
 - HUNDRED LINE
 - CORPORATE LIMITS
 - BRIDGE
 - STREAM
 - POND
 - FIELD LINE
 - CEMETERY
 - CHURCH
 - SCHOOL
 - WOODED AREA
 - FENCE
 - B.M. BENCH MARK
 - "M/F" BLOCK/SECTION



Site Plan of
Marcus Hook Range Rear Light

