NPS Form 10-900
(Oct.1990)

OMB No. 1024-0018

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 Fourteen Foot Shoal Light Station

other names/site number Fourteen Foot Shoal Light

2. Location

street & number In northern Lake Huron, 2.2 miles northeast of Cheboygan River mouth ☐ not for publication

city or town Cheboygan ☒ vicinity

state Michigan code MI county Cheboygan code 031 zip code 49721

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.)

Signature of certifying official/Title — Date: 3/15/05

United States Coast Guard
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: 5/2/05

SHPO
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): _____

Signature of the Keeper — Date of Action

NRHP Registration Number 05000742

Listed on 27 July 2005

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	
		buildings
		sites
1		structures
		objects
1	0	Total

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

Light Stations of the United States

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(Enter categories from instructions)

Transportation
Water-related
Lighthouse

Current Functions
(Enter categories from instructions)

Transportation
Water-related
Lighthouse

7. Description

Architectural Classification
(Enter categories from instructions)

No Style

Materials
(Enter categories from instructions)

foundation Wood, steel and concrete
roof Copper
walls Steel
other Lantern: Cast iron and glass

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

Narrative Description

Completed in 1930, Fourteen Foot Shoal Light Station is located in Lake Huron, near the main entrance to Cheboygan Harbor. It marks a hazardous underwater formation and shallow waters in the Straits of Mackinac South Channel that runs between Bois Blanc Island and the Michigan mainland. The station consists of a rectangular, single-story, equipment building resting on the deck of a concrete pier. Rising from the center of the building's hipped roof is a conical tower topped by a gallery and lantern. The building and tower are painted white, while the roof of the building is gray and the roof of the lantern is red. Owned by the United States Coast Guard, the structure serves as an active aid to navigation.

Exterior

The only access to the structure is from the water. A metal ladder attached to each of the four sides of the pier provides access to the deck. The pier is constructed on a 50-foot square wooden crib filled with stone and concrete. The sides and top of the pier are surfaced in concrete; the sides flare out slightly at the top to prevent waves from breaking atop the pier. A belt course of steel plates is bolted around the middle of the pier walls. Enclosing the deck is a two-tiered chain railing connected by forty-five stanchions topped by ball finials. An array of solar panels and a crane hoist are attached to the deck on the pier's south side.

Positioned in the center of the deck and slightly elevated on a concrete base is the 34-foot by 28-foot equipment building. A projecting, steel water table surrounds the building's base. The central bay of the façade (north wall) is recessed several inches. A metal, overhead, rolling door is centered on the recessed bay and conceals the original double-doors. A bracket attached to the wall next to the doorway supports a modern fog signal. The two other bays of the façade each contain a single, rectangular window. Fenestration on the south wall consists of three windows and on the east and west walls of two windows. All of the openings are accentuated by metal sills and lintels painted gray. The solid, metal shutters attached by hinges on either side of the windows are closed. Shutter dogs are attached to the walls to hold the shutters open when necessary. The gray, copper cornice and blocking course support the low-pitched, hipped roof. A brick chimney rises from the roof on the east side.

A 15-foot conical tower, composed of metal plates rises from the center of the roof. Five porthole windows pierce the walls at the top of the tower just under the lantern gallery. The gallery extends beyond the tower walls, and is supported underneath by decorative metal brackets. Enclosing the gallery is a metal railing composed of nine ornate stanchions connected by a flat metal rail at both the top and bottom; between each stanchion are seven balusters. Positioned in the center of the gallery is an octagonal, fourth-order lantern. The parapet or bottom portion of the lantern is composed of cast-iron panels; one panel contains a door for accessing the gallery. Above the parapet are eight glass plates held in place by metal sills and glass stops. Above the plates is a soffit from which the triangular, iron, roof plates rise. The roof is topped with a ventilator ball and a lightning rod spindle.

Interior

Equipment Building – Main Level

Access to the equipment building is through wooden double-doors; the upper sections of the doors are fitted with glass. The building contains four rooms in addition to a foyer, hallway, bathroom, three closets, and a stair hall. The floor is concrete and the walls and ceiling are plastered. Just inside the doorway is the foyer at the back of which is a storage closet with wooden shelving. The foyer is open on the left or east side to the machinery room, which now holds two wooden ladders, various tools, and scrap materials. The room contains two window openings. A doorway in the south wall of the machinery room allows access to the office/spare bedroom; this room also has two window openings, which contain multi-pane casement windows. A doorway in the west wall of the office allows access to a back hallway. Off of the hallway to the right or north is another closet, as well as the doorway to the tower and basement staircases. To the left or south is a bathroom. The bathroom floor is covered with tile and contains a toilet, a sink, and a bathtub. It is lit by a multi-paned casement window. At the end of the hallway is a doorway to the bedroom, which now houses modern electrical boxes, tubing, and wet-cell batteries, all of which are related to the operation of the light and fog signals. Inside the bedroom and to the south of the hall doorway is a third closet. Like the office, the bedroom contains two, multi-pane casement windows. A doorway in the north wall of the bedroom provides access to the kitchen/dining room. A sink is mounted on the east wall and part of a furnace lies on the floor. There is a single multi-pane casement window in the north wall and one in the west wall. A doorway in the east wall of this room connects back to the entrance foyer.

Overall, the main level is in poor condition. All of the walls and ceiling exhibit layers of peeling gray and white paint. The red paint on the floor is worn. Non-functioning lighting is attached to the ceiling and all of the interior doors between rooms and on closets have been removed. In the machinery room, Styrofoam and plywood covers a portion of the machinery room's ceiling and walls, and one window has been entirely removed from its frame, while Styrofoam conceals the other.

Equipment Building – Basement

The basement is accessed through a doorway in the back hall, opposite the bathroom. Inside the doorway is the base of the tower and a cast-iron landing. A circular staircase (fourteen steps) descends clockwise to the basement and is contained within a concrete-walled cylinder. The stair treads are attached both to the cylinder walls and to a central cast-iron column, and are embossed with a diamond pattern. A metal-pipe handrail is attached to the wall. Set in the upper portion of the cylinder is a square window opening, which would have provided the staircase with natural light, but has been sealed.

The basement contains one large rectangular room and two smaller square rooms. The walls, floor, and ceiling are concrete. The large room is accessed from two doorways set into opposite sides of the staircase cylinder. The two smaller rooms are reached via doorways set into interior walls extending perpendicular to the staircase cylinder. A solid wall separates them from each other. One of the rooms contains two large, yellow, gasoline storage tanks, while the other room is empty.

Tower

Inside the tower, the steel plates of the walls are flanged and bolted together. A circular, freestanding, iron staircase (thirty-two steps) within the tower ascends counterclockwise. The treads of the staircase are embossed with a diamond pattern. Metal balusters connect to the inner edge of the treads and support a metal-pipe handrail.

Approximately halfway up the staircase is a landing, embossed in the same diamond pattern as the stair treads. At the landing, cut into the tower wall, is a doorway, which provides access to the equipment building's attic, where the roof's wooden frame and a portion of the brick chimney are visible. Electrical tubing runs across the attic floor and the slanted roof. The staircase continues to a room at the top of the tower.

The upper portion of the tower or watch/service room is accessed via an opening in the floor. The cast-iron, triangular, floor plates are bolted to the tower walls and supported in the middle by a hollow, central column that began at the floor of the equipment building. It is pierced with square holes on two sides. In the room, a porthole window pierces every other panel for a total of five windows. A sheet of plywood attached to the wall conceals one window. The ceiling is the underside of the lantern floor and the flanges and bolts connecting the eight triangular, metal plates are visible. Each plate contains a round, glass deck light; some of these lights are cracked. A slanted ship's ladder provides access to the lantern.

Lantern

Access to the lantern room is via an opening in the watch room ceiling/lantern floor. The lower portion or parapet is constructed of eight iron plates. Every other plate contains a circular vent. Access to the gallery is through a hatch door in the one of the parapet plates. The cast-iron floor is painted red and the parapet walls are white. Above the parapet are eight glass panes, one of which is cracked. From a soffit above the glass, triangular ceiling plates rise to a ceiling vent. The original cast-iron pedestal still sits in the middle of the lantern. It now supports a modern ML-300 Series E optic.

Changes Over Time

Some of the most noticeable changes to Fourteen Foot Shoal Light Station are the presence of modern solar panels on the deck and a modern fog signal on the wall by the entrance. Prior to the installation of the current solar panels, the solar equipment used was smaller and attached to the lantern gallery. In photographs taken as late as July 1997, the current solar panels were not yet installed. The photos also show a flagpole located on the lantern gallery, which does not exist today.

The original fog signal at Fourteen Foot Shoal was a type "B" diaphone resonator, which was attached to the northern side of the tower. Later, the fog signal was mounted on a metal shelf, just above a window on the equipment building's north wall—the empty shelf still exists. The current, modern fog signal is mounted on a shelf next to the entrance to the equipment building.

The original fourth-order Fresnel lens employed during the summer months and the 200mm-lens employed during the winter months have been replaced by a single-250mm plastic optic.

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.

Areas of Significance
(Enter categories from instructions)
Maritime History
Transportation
Architecture

Period of Significance
1930-1954

Significant Dates
1930

Significant Person
(Complete if Criterion B is marked above)

Cultural Affiliation
N/A

Architect/Builder
U.S. Lighthouse Service

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 # _____

Primary Location of Additional Data
- ☐ State Historic Preservation Office
- ☐ Other State agency
- ☒ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Name of repository:

U.S. National Archives; Maritime Heritage Program, NPS; USCG Headquarters, Historian's Office, Washington, DC

Narrative Statement of Significance

Fourteen Foot Shoal Light Station is significant for its association with the efforts of the federal government to provide an integrated system of navigational aids throughout the United States and to provide for safe maritime transport in the Straits of Mackinac and throughout the Great Lakes. The construction of a permanent light station at Fourteen Foot Shoal was the final stage of an extensive project to improve aids to navigation in the Straits of Mackinac. The Lighthouse Service obtained special Congressional appropriations for the task, seeking to replace all of the lightships in the area and to better mark navigational obstacles. In addition, Fourteen Foot Shoal is one of the earliest examples of off-site control for a lighthouse, as Lighthouse Service engineers successfully developed a way to operate Fourteen Foot Shoal's sound signal through radio control emitted from Poe Reef.

The station, which marks a hazardous shoal and the entrance to Cheboygan Harbor, consists of a steel equipment building with an integrated steel tower constructed on a concrete-surfaced wooden crib. Fourteen Foot Shoal embodies the distinctive characteristics and methods of construction employed for offshore lighthouses in the Great Lakes during the late nineteenth century and early to mid-twentieth century. Engineers started building lighthouses on isolated islands, reefs, and shoals, instead of solely on the mainland or on piers and breakwaters. At submarine sites, wooden crib foundations often replaced lightships and were especially well adapted to fresh water and hard rock bottoms. They were constructed on shore, towed to the offshore site, and filled with stone to sink them in place. The experienced work crew that built Martin Reef and Poe Reef Light Stations were also responsible for the construction of Fourteen Foot Shoal Light Station. Although the new light was of a totally different design and considerably smaller than the reef lights, the construction of the 50-foot square pier at Fourteen Foot Shoal proceeded in much the same manner.

Fourteen Foot Shoal Light Station meets the registration requirements outlined in the multiple property documentation form "Light Stations of the United States." The light station remains in its original location in Lake Huron, and despite the loss of some exterior features such as the flagpole on the lantern gallery and the original light and fog signal equipment, its character and appearance are essentially unchanged from its period of significance. Fourteen Foot Shoal Light Station continues to operate as a federal aid to navigation today.

Shipping, Commerce, and the Establishment of Navigational Aids on the Great Lakes

The Great Lakes system, which includes Lakes Ontario, Erie, Huron, Michigan, and Superior, their connecting waters, and the St. Lawrence River, has a total shore of about 11,000 statute miles and a total water surface area of about 95,000 square statute miles. It is one of the largest concentrations of fresh water on the earth. The completion of the Erie Canal in 1825 linked Buffalo, New York on Lake Erie with New York City via the Hudson River and marked the start of enormous growth in population, maritime traffic, and trade in the Great Lakes Region. In 1829, the Welland Canal opened and linked Lake Ontario and Lake Erie. St. Mary's Falls Ship Canal (the Soo Locks) at Sault Ste. Marie opened in 1855, thus completing one of the last major links in the Great Lakes navigation system. With the opening of the St. Lawrence Seaway in 1959, the system provided access by oceangoing deep-draft vessels to the industrial and agricultural heartland of North America. Small craft and barge traffic reached the Great Lakes from the Gulf of Mexico via the Mississippi River and the Illinois Waterway and from New York Harbor via the Hudson River and New York State Barge Canal System.

Commerce in the region grew rapidly throughout the second half of the nineteenth century and into the twentieth century. The lumber industry accounted for early development and expansion of marine traffic, calling for aids to navigation. As early as 1852, over 4 million tons of goods crossed the Great Lakes, largely consisting of lumber and grain. In the years to come, the production of iron ore in the western Upper Peninsula of Michigan and in Wisconsin and Minnesota, and copper production in the Keweenaw region of the western Upper Peninsula, in addition to grain production in the northwest, furnished southbound cargoes. These shipments corresponded with the heavy movement of coal from the lower Great Lake ports. By 1910, the amount of shipped goods increased to 80 million tons of mainly iron ore and coal. In 1915, limestone emerged as an important bulk commodity in the region.[1] Freight tonnage shipped reached a record of 217 million tons in 1948.[2] The combined movement of lumber, grain, iron ore, and coal together with limestone cargoes from the Lake Huron area to the centers of steel production, resulted in the greatest bulk freight marine commerce the world has ever seen.

The need for aids to navigation on the Great Lakes increased along with the expansion of shipping and settlement. Seven light stations were built on the Great Lakes between 1818 and 1822, and thirty-two more were completed during the 1830s. From 1841 to 1852, the Lighthouse Establishment added thirty-three new lights.[3] By 1860, 102 aids to navigation had been put into service. Another construction boom occurred in the 1890s. By the beginning of the twentieth century, the Great Lakes had 334 major lighted aids, 67 fog signals, and 563 buoys.[4]

Several distinct designs or types of lighthouses emerged during the nineteenth century. Until 1870 or so, the most common design consisted of a wood, stone, or brick keeper's dwelling with the light exhibited in a lantern on the roof or in an attached square tower. By the 1870s, taller towers connected to a keeper's house by an enclosed passageway became popular. Lighthouse engineers practiced and perfected the construction of light stations on isolated islands, reefs, and shoals from 1870 to 1910. These lighthouses most commonly rested on submarine crib structures.

Light vessels also served as a substitute for building expensive lighthouses at offshore sites during this time. Harsh weather on the Great Lakes often forced lightships to leave their stations before the end of the shipping season in mid-December. In addition, lightships had to wait until larger, stronger vessels broke the ice before returning to their locations at the start of the shipping season in mid-April, meaning some dangerous areas were left unmarked for a period of time. Lighthouse engineers worked throughout the late 1920s and 1930s to replace all lightships on the Great Lakes with permanent aids to navigation in order to promote safer travel and increase maritime commerce.

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[1]U.S. Department of Commerce, Bureau of Lighthouses, "How The Lighthouse Service Has Kept Pace With The Growth Of Marine Trade," *Lighthouse Service Bulletin*, vol. IV, no. 11, 1 November 1930 (Washington, D.C.: GPO, 1930), 43; Charles K. Hyde, *Northern Lights: Lighthouses of the Upper Great Lakes* (Detroit: Wayne State University Press, 1995), 20; and "A Chronology of Lake Navigation," <http://www.nmu.edu/upstudies/UPinfo/UPMarit/CHRONO.htm>.

[2]"A Chronology of Lake Navigation," <http://www.nmu.edu/upstudies/Upinfo/UPMarit/CHRONO.htm>.

[3]Charles K. Hyde, *Northern Lights*, 15-16.

[4]Ibid., 20.

The History of Fourteen Foot Shoal Light Station

During the early twentieth century, maritime traffic dramatically increased through the Straits of Mackinac, the passage between Bois Blanc Island and the Michigan mainland. The Lighthouse Service responded in 1927 by obtaining special congressional appropriations for improving aids to navigation along the important route. By the opening of navigation on the Great Lakes in 1930, the extensive project was complete at a cost of about $215,000. Prior to the project, Poe Reef Lightship marked the northerly side of the passage, while Cheboygan Point Light Station, located on the mainland, marked the southerly side. A 70-candlepower, acetylene gas buoy marked Fourteen Foot Shoal.[5] The Lighthouse Service removed Poe Reef Lightship from duty when Poe Reef Light Station was first lit on August 15, 1929. Commissioned concomitantly in April of 1930, a lighted gas buoy marked the southerly passage off Cordwood Point, while Fourteen Foot Shoal Light Station marked the southerly side of the westerly end of the passage.[6]

Outlined in the *Annual Report of the Lighthouse Service* for 1927, the original project sought to construct a principal light station off Cordwood Point and another at Fourteen Foot Shoal. Both light stations were to be operated from shore with submarine cables supplying electricity from the Cheboygan power plant. Due to unfavorable foundation conditions off Cordwood Point, the Lighthouse Service instead chose to build the principal fixed aid on the opposite side of the channel at Poe Reef. The new location required that the cables be much longer and laid directly across the main route of vessels. The increased expense and the likelihood of damage to the cables prompted the Lighthouse Service to reconsider the situation.[7] The first funds for the Straits of Mackinaw project became available on July 1, 1927. Construction immediately began on the wooden crib for Poe Reef, while preliminary soundings were made and test piles were driven at Fourteen Foot Shoal.

In a letter written to Commissioner of Lighthouses George Putnam in December 1927, the Eleventh District Superintendent C. A. Park offered several economically sound recommendations regarding the project already in progress. Park suggested that Poe Reef be built as a manned lighthouse, following the general plans used at Martin Reef Light Station. He also included details about the construction of the pier and superstructure to be built at Fourteen Foot Shoal. Another important recommendation included the installation of radiophone equipment at Poe Reef, Fourteen Foot Shoal, and the Cheboygan Range keeper's dwelling, permitting communication between the light stations. Other additional equipment related to the functioning of the light and fog signal at Fourteen Foot Shoal, such as batteries and generators, would allow the Poe Reef keepers to monitor Fourteen Foot Shoal and provide assistance when needed. The Superintendent also proposed to abandon the Cheboygan Point Light Station and place an acetylene buoy off Cordwood Point.[8]

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[5]Installed on April 15, 1925, the acetylene gas buoy replaced an outdated can buoy.

[6]U.S. Department of Commerce, Bureau of Lighthouses, "Important New Stations Commissioned In The Straits Of Mackinac," *Lighthouse Service Bulletin*, Vol. IV, No. 5, 1 May 1930 (Washington: GPO, 1930), 19.

[7]C. A. Park to Commissioner of Lighthouses, Washington, D.C., 10 December 1927, typed, RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939," National Archives.

[8]C. A. Park to Commissioner of Lighthouses, Washington, D.C., 10 December 1927.

Park's detailed outline for the improvement of aids to navigation in the Straits of Mackinac received approval and progressed at a satisfactory pace with minor alterations. By the end of the 1928 season, Poe Reef Light Station was nearing completion and Fourteen Foot Shoal Light Station was well under way. Fourteen Foot Shoal's 46-foot square wooden crib had been constructed onshore in Cheboygan. A lighthouse tender attached lines to the crib, eased it down a greased skid-way into Lake Huron, and towed it to the prepared site on the shoal. The crib's pockets were then filled with stone, allowing it to sink to the leveled hard-pan bottom, some 18 feet below the surface.[9] After the remaining water was pumped from the crib, the concrete walls were then built to a height approximately 5 feet above sea level.

On February 1, 1929, Superintendent Park again wrote to Commissioner Putnam for approval regarding the upcoming season's work plans at Fourteen Foot Shoal. He proposed that a working party fabricate the steelwork for the superstructure prior to the opening of navigation. The workers would then complete the pier to stand 15 feet above sea level. The steel building, along with its integrated tower and the lantern used previously at Vidal Shoals Front Range Light Station, were to be constructed atop the pier in the ensuing months. Unlike the original proposal, Park added that "the mechanical equipment would consist of a 5 KW Kohler electric generating unit furnishing power for electrically operated compressors which in turn furnish air for a type "B" diaphone [fog] signal."[10] A storage battery furnished the electricity needed for the fourth-order lens, the lights throughout the structure, and the radiotelephone. Two Westinghouse electric generating units charged the batteries. Both the battery and generators were formally used at Manitou Island Light Station. This combination of equipment could also be used to operate the air compressors for the fog signal, if a problem occurred with the Kohler unit. Park stressed the importance of the radiotelephone. Once installed, it would allow the Poe Reef keepers to operate the Kohler unit and fog signal by remote control.[11] This technological advancement, still in experimental stages at the time,[12] made it practicable for one Poe Reef keeper to be employed at Fourteen Foot on a rotating basis and, thus, eliminated the need to hire permanent staff to man the station. The keeper-on-duty would be notified by radiophone of any problems occurring with the remote control unit, thereby abolishing the need to stand a rotating night watch as was common at other offshore stations.

Harsh weather impeded construction on Fourteen Foot Shoal Light Station during 1929. Park insisted that "the structure would have been placed in commission last fall had weather conditions not become so severe."[13] With considerable work yet to be accomplished, the station was nonetheless ready to be placed in commission by February 1930.

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[9]C. A. Park, "Brief Description Principal Features: Aids to Navigation, Straits of Mackinac Project," 13 February 1930, RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939," National Archives.

[10]C. A. Park to Commissioner of Lighthouses, Washington, D.C., 1 February 1929, typed, RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939," National Archives.

[11]C. A. Park to Commissioner of Lighthouses, Washington, D.C., 1 February 1929.

[12]In the shops of the Eleventh Lighthouse District in Detroit, Michigan, the Lighthouse Service built the first radio control apparatus for the distant control of navigational aids during the late summer and early fall of 1928. The experimental equipment was tested during the winter of 1928-1929, when the controlling unit installed at the Detroit Lighthouse Depot successfully operated the Windmill Point Light Station approximately four miles distant.

[13]C. A. Park, Superintendent of Lighthouses to Commissioner of Lighthouses, Washington, D.C., 13 February 1930, typed, RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939," National Archives.

In order to complete the remaining work on Fourteen Foot Shoal and some minor work on Poe Reef, Park was forced to request an additional $4,400. On April 23, 1929, $4,400 had been transferred from the available Straits project funds in favor of another project at Detour Reef on St. Mary's River. By May 1930, the monetary request was granted and the additional work on both light stations was nearing completion. Once again the funds were insufficient and Park solicited more money to finish the project. He received another $1,000, which was transferred from an unexpended balance allotted for fog signals during the 1930 fiscal year.[14]

When Fourteen Foot Shoal Light Station was first lit for the opening to navigation in 1930, Cheboygan Point Light Station was discontinued as planned. The new structure was located out near the path of vessels, where it could be of better service. The fourth-order Fresnel lens was illuminated by an incandescent electric light bulb that produced a one-second flash followed by a two-second eclipse. At 50 feet above sea level, the 11,000-candlepower light was visible for 14 miles during clear weather. During the winter months, a 130-candlepower, 200-mm lens, powered by an acetylene tank in the equipment building, provided the light signal.

Poe Reef Light Station operated Fourteen Foot Shoal's type "B" diaphone resonator, which was attached to the northern side of the tower. It blasted for one second followed by fourteen seconds of silence during foggy conditions. Later, the fog signal was mounted on a metal shelf, just above a window on the equipment building's north wall. A column in the *Lighthouse Service Bulletin* attested to Fourteen Foot Shoal Light Station's superiority. The author stated that the "accidents which have occurred in the past, such as the stranding of steamers off Cheboygan Point and caused no doubt either by inability to hear or to properly locate the fog signal on shore, are unlikely with the new arrangement."[15]

In 1939, less than a decade after Fourteen Foot Shoal Light Station was established, the Lighthouse Service was abolished as a separate federal agency and the U.S. Coast Guard subsumed its duties. At that time, Poe Reef Light Station was operating with a staff of four men—a keeper and first, second, and third assistant keepers—with the men rotating through duty tours at Fourteen Foot Shoal.[16] Personnel were removed from Poe Reef Light Station and Fourteen Foot Light Station when both lights were automated in 1974. It is likely that the 250-mm plastic lens replaced the original optic as part of the automation process. Today, the station exhibits an occulting white light of four seconds duration at 51 feet above sea level and visible for ten miles. The current fog signal operates year round and produces a single two-second blast every fifteen seconds.

[14]C. A. Park to Commissioner of Lighthouses, Washington, D.C., 20 May 1930, typed, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939," National Archives.

[15]U.S. Department of Commerce, Bureau of Lighthouses, "Important New Stations Commissioned In The Straits Of Mackinac," 19.

[16]Phyllis L. Tag and Thomas A. Tag, *The Lighthouse Keepers of Lake Huron: Including Late St. Clair and St. Mary's River* (Dayton: Great Lakes Lighthouse Research, 1998).

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Primary Sources

Park, C.A. 1927. Letter to Commissioner of Lighthouses, Washington, D.C., 10 December 1927. Typed. RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939." U.S. National Archives.

_____. 1929. Letter to Commissioner of Lighthouses, Washington, D.C., 1 February 1929. Typed. RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939." U.S. National Archives.

_____. 1930a. Letter to Commissioner of Lighthouses, Washington, D.C., 13 February 1930. Typed. RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939." U.S. National Archives.

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_____. 1930c. Letter to Commissioner of Lighthouses, Washington, D.C., 20 May 1930. Typed. RG 26, Entry 50 "Correspondence of the Bureau of Light-Houses, January 1911-December 1939." U.S. National Archives.

U.S. Department of Commerce, Bureau of Lighthouses. 1930a. "Important New Stations Commissioned In The Straits Of Mackinac." *Lighthouse Service Bulletin*, Vol. IV, No. 5, 1 May 1930 (Washington: GPO, 1930), 19-20.

_____. 1930b. "How The Lighthouse Service Has Kept Pace With The Growth Of Marine Trade." *Lighthouse Service Bulletin*, vol. IV, no. 11, 1 November 1930 (Washington, D.C.: GPO, 1930), 43-45.

Secondary Sources

Hyde, Charles K. 1995. *Northern Lights: Lighthouses of the Upper Great Lakes*. Detroit: Wayne State University Press.

Tag, Phyllis L. and Thomas A. Tag. 1998. *The Lighthouse Keepers of Lake Huron: Including Late St. Clair and St. Mary's River*. Dayton: Great Lakes Lighthouse Research.

Northern Michigan University. 2004. "A Chronology of Lake Navigation." Internet website article. Available at: <http://www.nmu.edu/upstudies/UPinfo/UPMarit/CHRONO.htm>.

10. Geographical Data

Acreage of Property: Less than one acre.

UTM Reference:	Zone	Easting	Northing
1	16	699760	5061476

Verbal Boundary Description: The boundary is coterminous with the exterior perimeter of the rock riprap surrounding the foot of the wooden crib that supports the structure's concrete pier.

Boundary Justification: The boundary includes the wooden crib, concrete pier, and superstructure that have historically been part of the Fourteen Foot Shoal Light Station. The submerged land beneath the wooden crib is the property of the State of Michigan.

11. Form Prepared By

name/title Karmen Bisher, Maritime Historian, NCSHPO Consultant, edited by Jennifer Perunko, NPS Maritime Historian and Daniel Koski-Karell, Ph.D., U.S. Coast Guard Headquarters Environmental Management Division.

organization Maritime Heritage Program, National Park Service date 16 February 2005

street & number 1849 C Street, NW (2280) telephone 202-354-2244/2243

city or town Washington state DC zip code 20240-0001

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

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

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

Property Owner

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

name U.S. Coast Guard Headquarters

street & number 2100 2nd Street SW telephone 202-267-1587

city or town Washington state DC zip code 20593

These are photographs of Fourteen Foot Shoal Light Station, which is situated offshore in northern Lake Huron in Cheboygan County, Michigan.

The following information is common to photographs 1, 2, 3, and 4. The name of the photographer is Karmen Bisher. The photos were taken on June 23, 2004, and June 25, 2004. The location of the original negatives is the Maritime Heritage Program, National Park Service, Washington, D.C.

1. Overall exterior, south and east elevations.

2. Exterior, north elevation, entrance and sound signal.

3. Equipment building interior, main level hallway, looking north.

4. Tower interior, central cast-iron column and staircase.

Photographs 5 and 6 are historic photos. The location of their original negatives is the Coast Guard Historian's Office, U.S. Coast Guard Headquarters, Washington, D.C.

5. 1929 photo of Fourteen Foot Shoal Light Station during construction. Captain W.J. Taylor, photographer.

6. Circa 1929 architectural plans for Fourteen Foot Shoal Light Station. The photographer and date are unknown.

NPS Form 10-900-a
(8-86)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

LOCATION MAP

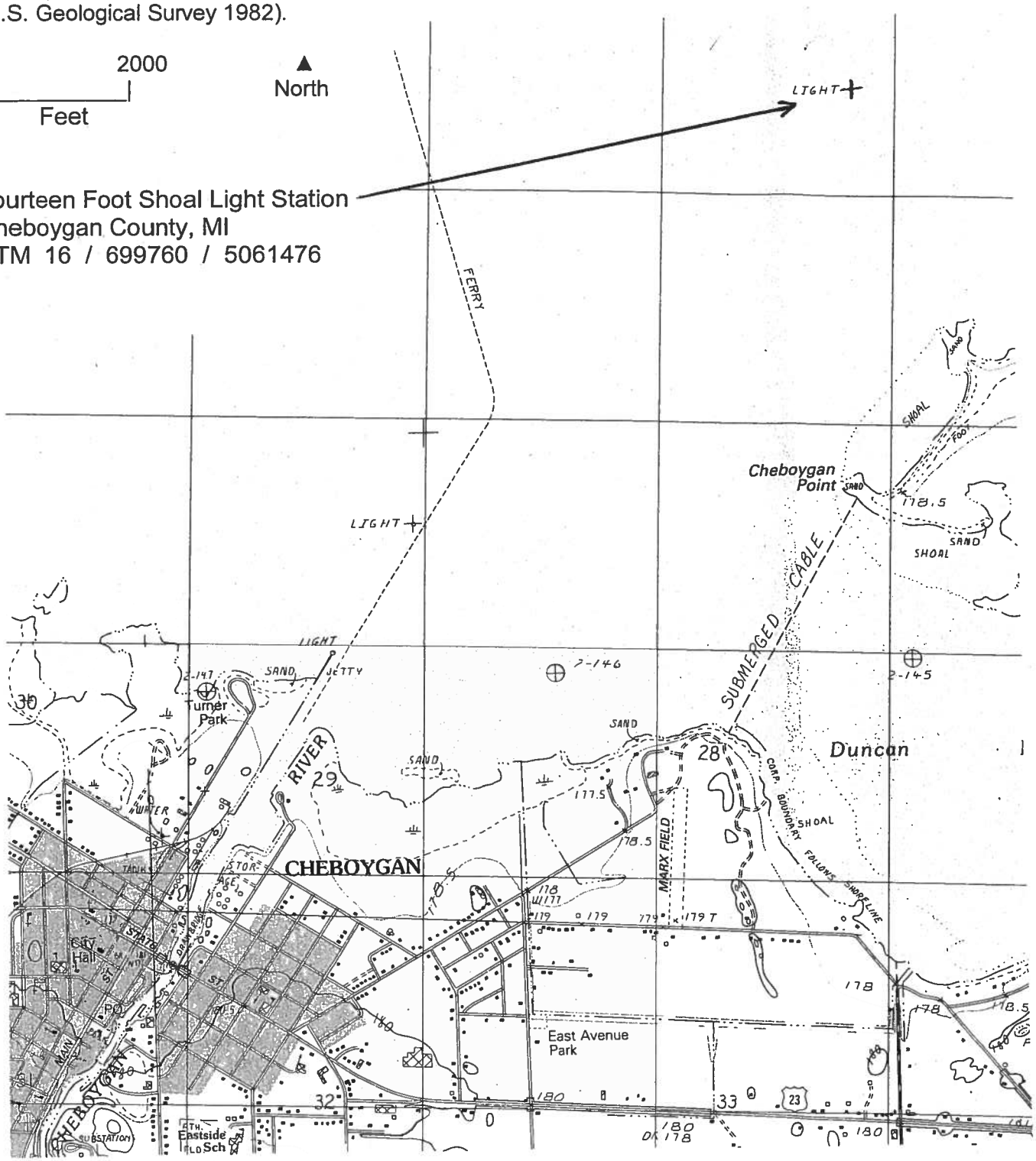
Fourteen Foot Shoal Light Station
Cheboygan County, Michigan
(Light Stations of the United States
Multiple Property Listing)

This a portion of the "Cheboygan, Michigan" 7.5 minute series topographic quadrangle map, scale 1:25,000 (U.S. Geological Survey 1982).

0 2000
Feet

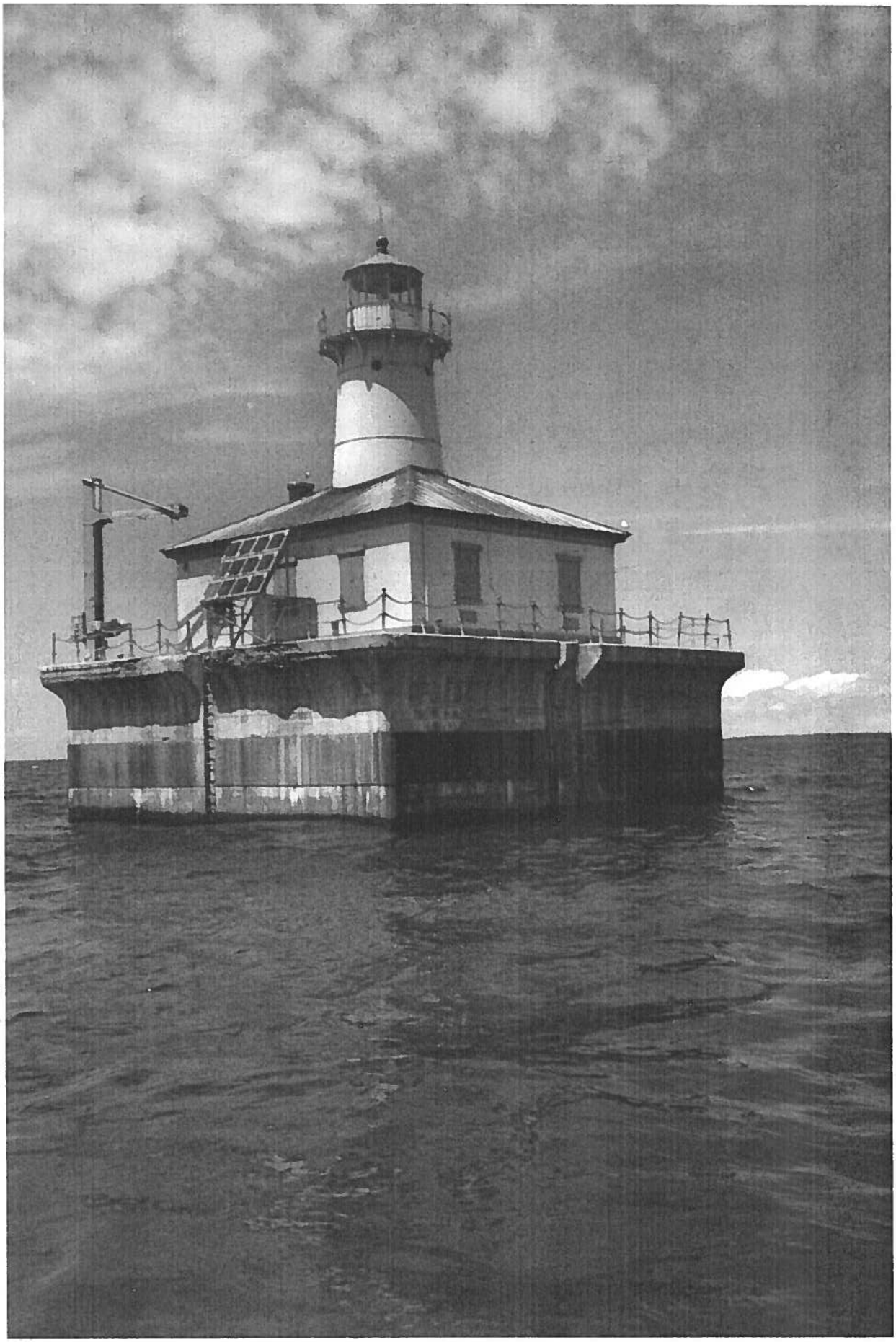
North

Fourteen Foot Shoal Light Station
Cheboygan County, MI
UTM 16 / 699760 / 5061476



Fourteen Foot Shoal Light Station
Cheboygan County, Michigan
Photo #1

PHOTO #1
FOURTEEN FOOT SHOAL LIGHT STATION
CHEBOYGAN COUNTY, MI
PHOTOGRAPH BY KARMEN BISHER
23 JUNE 2004
NEGATIVE AT MARITIME HERITAGE PROGRAM,
NATIONAL PARK SERVICE,
WASHINGTON, DC,
VIEW OF OVERALL EXTERIOR,
SOUTH AND EAST ELEVATIONS.



Fourteen Foot Shoal Light Station
Cheboygan County, Michigan
Photo # 2

PHOTO #2
FOURTEEN FOOT SHOAL LIGHT STATION
CHEBOYGAN COUNTY, MI
PHOTOGRAPH BY KARMEN BISHER
25 JUNE 2004
NEGATIVE AT MARITIME HERITAGE PROGRAM,
NATIONAL PARK SERVICE,
WASHINGTON, DC.
VIEW OF EXTERIOR, NORTH ELEVATION,
ENTRANCE AND SOUND SIGNAL.

2[illegible] 18
Fourteen Foot Shoal Light Station
Cheboygan County, Michigan
Photo #3

PHOTO #3
FOURTEEN FOOT SHOAL LIGHT STATION
CHEBOYGAN COUNTY, MI
PHOTOGRAPH BY KARMEN BISHER
25 JUNE 2004
NEGATIVE AT MARITIME HERITAGE PROGRAM,
NATIONAL PARK SERVICE,
WASHINGTON, DC.
VIEW OF EQUIPMENT BUILDING INTERIOR,
MAIN LEVEL HALLWAY, LOOKING NORTH.

2-0-00 20

Fourteen Foot Shoal Light Station
Cheboygan County, Michigan
Photo # 4

PHOTO #4
FOURTEEN FOOT SHOAL LIGHT STATION
CHEBOYGAN COUNTY, MI
PHOTOGRAPH BY KARMEN BISHER
25 JUNE 2004
NEGATIVE AT MARITIME HERITAGE PROGRAM,
NATIONAL PARK SERVICE, WASHINGTON, DC.
VIEW OF TOWER INTERIOR, CENTRAL CAST
IRON COLUMN AND STAIRCASE.

Fourteen Foot Shoal Light Station
Cheboygan County, Michigan
Photo # 5

PHOTO #5

FOURTEEN FOOT SHOAL LIGHT STATION

CHEBOYGAN COUNTY, MI

PHOTOGRAPH BY CAPTAIN W. J. TAYLOR

DATE: 1929

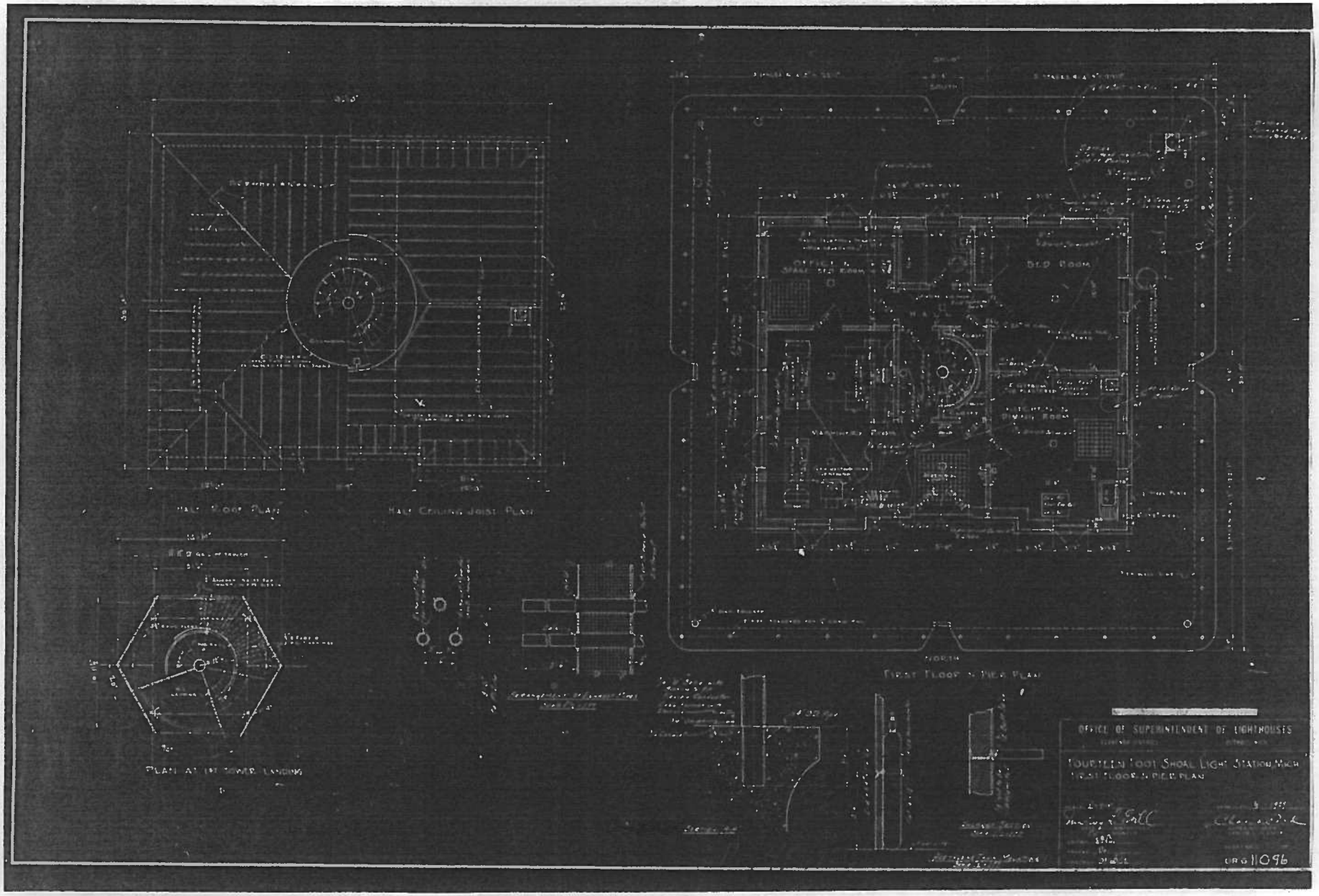
LOCATION OF ORIGINAL NEGATIVE:
COAST GUARD HISTORIAN'S OFFICE
U.S. COAST GUARD HEADQUARTERS
WASHINGTON, DC.

VIEW OF FOURTEEN FOOT SHOAL LIGHT STATION
DURING CONSTRUCTION.

Fourteen Foot Shoal Light Station
Cheboygan County, Michigan
Photo #6

PHOTO #6
FOURTEEN FOOT SHOAL LIGHT STATION
CHEBOYGAN COUNTY, MI
PHOTOGRAPHER AND DATE UNKNOWN.
LOCATION OF ORIGINAL NEGATIVE:
COAST GUARD HISTORIAN'S OFFICE
U.S. COAST GUARD HEAD QUARTERS
WASHINGTON, D.C.

CIRCA 1929 ARCHITECTURAL PLANS FOR
FOURTEEN FOOT SHOAL LIGHT STATION.


Half Roof Plan
Half Ceiling Joist Plan
Plan at 1st Tower Landing
Dep Room
North
First Floor & Pier Plan
Office of Superintendent of Lighthouses
Fourteen Foot Shoal Light Station, Mich.
First Floor & Pier Plan
Drg 1096