

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Continuation Sheet**

Section number _____ Page _____

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 01001313 Date Listed: 12/4/2001

Property Name: Ontonagon Harbor Piers Historic District County: Ontonagon State:MI

Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

Patricia Andrews

Signature of the Keeper

12/4/2001

Date of Action

=====

Amended Items in Nomination:

The registration form establishes the historic and engineering significance of the Ontonagon Harbor Piers Historic District, but does not justify the district as meeting National Register Criterion D for archeological importance. To qualify under Criterion D the registration form must include a specific set of research questions that a study of the piers would address and an explanation of why this information would be considered significant. Further, it must be established that the piers themselves have been the principal source of important information (in other words, that the information is not already available in reports, studies, engineering drawings, etc.). Criterion D is therefore deleted from the registration form and will not be entered in the National Register database.

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National Register of Historic Places Continuation Sheet

Name of Property

County and State

Section number _____ Page _____

Name of multiple property listing (if applicable)

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 01001313

Date Listed: 12/03/2001

Property Name: Ontonagon Harbor Piers Historic District

County: Ontonagon

State: MI

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.



Signature of the Keeper
JA

8/9/2010

Date of Action

Amended Items in Nomination:

Section 5: Resource Count

The nomination is hereby amended to add one (1) contributing structure and one (1) non-contributing structure.

The nomination neglected to count or describe a large, skeletal pier light located at the end of the West Breakwater. The tower was constructed in 1900 and retains excellent integrity of design.

There is a modern, square, green dayboard with a light attached to the top at the end of the East breakwater. This structure is noncontributing.

The Michigan State Historic Preservation Office was notified of this amendment.

DISTRIBUTION:

National Register property file
Nominating Authority (without nomination attachment)



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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 Ontonagon Harbor Piers Historic District

other names/site number N/A

2. Location

street & number Ontonagon River at Lake Superior not for publication N/A
city or town Ontonagon vicinity N/A
state Michigan code MI county Ontonagon zip code 49953

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] 9 October 2001
Signature of certifying official Date

Federal Preservation Officer, U.S. Army Corps of Engineers
State of Federal agency and bureau

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

[Signature] 7/12/01
Signature of commenting or other official Date

MI 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): _____

Patrick Andrews

12/4/2001

for

Signature of 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

Contributing	Noncontributing
_____	_____ buildings
_____	_____ sites
<u>2</u>	_____ structures
_____	_____ objects
<u>2</u>	_____ Total

Number of contributing resources previously listed in the National Register _____

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

N/A

6. Function or Use

Historic Functions (Enter categories from instructions)

Cat: Transportation Sub: Water-related

Current Functions (Enter categories from instructions)

Cat: Transportation Sub: Water-related

7. Description

Architectural Classification (Enter categories from instructions)

NO STYLE

Materials (Enter categories from instructions)

foundation Wood; Steel
roof N/A
walls Steel
Rock
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.

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**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 7 Page 1

Ontonagon Harbor Piers Historic District
Name of property
Ontonagon, MI
County and State

Physical Setting

Located in Michigan's Upper Peninsula on Lake Superior's south shore, the Ontonagon area is dominated by the Ontonagon River Valley. Measuring fifty miles in length and draining 1,300 square miles, the Ontonagon River is the largest of approximately thirty rivers that empty onto the lake's southern shore. Prior to any harbor development in the 1850s, the river was four hundred feet wide as it entered the lake. Like other rivers on Superior's southern shore, the Ontonagon's flow at its mouth is slowed by a combination of prevailing northwest winds and lake current--forces that compel the river to deposit prematurely its silt load. Historically, the silt formed an eight-hundred-foot wide sandbar at the mouth of the river, the depth of which was thus limited to between four and eight feet. This created a winding and often-changing entrance channel. Spring freshets and frequent storms also added silt deposits to the sandbar.¹

Situated halfway between Keweenaw Point and the Apostle Islands, the Ontonagon region is a relatively flat area on a coastline considered to be "ironbound" by numerous sandstone cliffs. Overall, the region ranges from flat-to-gently rolling near the lower part of the river to semi-mountainous in the interior. Along the slow-moving, winding river, the land originally contained rich soil covered with elm, maple and walnut trees. Away from the river, the forest primarily consisted of white pine and hemlock. At the current site of the village of Ontonagon, the river had a slough and an island on both sides. Today, the west slough is filled in and no island exists. On the east bank, the slough is a small channel between the riverbank and the island. Because the placement of harbor facilities altered the natural wave action, the lake shoreline west of the Ontonagon River has extended over one thousand feet into Lake Superior.²

¹Mentor L. Williams, ed., *Schoolcraft's Narrative Journal of Travels: Through the Northwestern Regions of the United States Extending from Detroit through the Great Chain of American Lakes to the Sources of the Mississippi River in the Year 1820* (East Lansing, MI: Michigan State University Press, 1992), 117, 119-20; U.S. Army Corps of Engineers (COE), "History of Ontonagon Harbor, Michigan" (ca. 1940), Ontonagon Harbor Files, Canal Park Marine Museum, Duluth, MN, 2; John Harris Forster, "Some Incidents of Pioneer Life in the Upper Peninsula of Michigan," in *Michigan Pioneer and Historical Society Collections* (Lansing, MI: Robert Smith & Co, 1892), 17:338. Henceforth cited as *Michigan Collections*.

²Williams, ed., *Schoolcraft's Journal*, 120-21; Edward Lugenbeal, "Archeological Survey and Testing of Ontonagon Harbor for Purpose of Determining Status of 'Old Copper Village Site,'" 15 October 1975, Ontonagon Harbor Files, On file at Canal Park Marine Museum, Duluth, MN, 11.

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Section 7 Page 2

Ontonagon Harbor Piers Historic District
Name of property
Ontonagon, MI
County and State

Description of the Piers:³

The Ontonagon Harbor Piers Historic District consists of two components, the east and west piers. Both are considered contributing elements within the district.

The "up river" portion of each pier is landward, while the remaining portion of each extends into the lake. The projecting segments are 27 feet wide, the sides of which are defined by corrugated, sheet steel pilings that have been driven into the lakebed. The fill between the piling walls is not apparent, although each pier is crowned with boulders that vary in size up to perhaps 10 feet long. The high point of each pier is approximately 4 feet above the water.

From that inland point where the navigation channel opens into a basin, the west pier is approximately 2,560 feet long, the first 1,300 feet of which is landward on the west side. The channel side of this first portion is defined by the same type of corrugated, sheet steel pilings as the lake projections. The landward side, however, has been infilled with large rocks, behind which is a large, flat expanse that includes the historic lighthouse and an area where coal for the nearby paper mill is off-loaded from freighters and stored. Additionally, the final 96-foot segment of the projecting portion has its own corrugated metal encasement. This section was rebuilt in 1947 and is that part of the pier to which the Coast Guard's outer-harbor light is anchored.

Starting from the same approximate point as the west pier, that to the east is about 2,315 long, the first 800 feet of which is landward on the east. Of that 800-foot portion, the channel side of the first 550± feet appears to be constructed of corrugated sheet metal pilings with wooden fenders (for ships) and a concrete cap. Landward of that is an industrial complex that housed the former barge-building facility. The remaining 250 feet is all concrete encased. Fieldwork in late July found that portion of the east pier being excavated and filled in with large boulders. A review of the material removed revealed timbers with mortised and tenon joints, as well as other evidence of crib construction. Furthermore, a 1990 engineering drawing of a cross section of the piers clearly illustrates that their core is formed of timber-cribbing.

Chronology of Construction/Repair/Alteration Activity for each Pier:

These entries describe in detail the *significant activities* that affected each pier since their initial construction in 1856 by Charles T. Harvey. This listing, therefore, does not include minor maintenance or dredging activities.

³This descriptive material was prepared after two visits to the site, as well as after reviewing various COE diagrams. Measurements cited were determined by the use of laser rangefinders and tape measures, as well as scaling off the COE diagrams.

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**NATIONAL REGISTER OF HISTORIC PLACES
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Section 7 Page 3

Ontonagon Harbor Piers Historic District
Name of property
Ontonagon, MI
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East Pier

- 1856 Construction of pier initiated by Charles T. Harvey. Over four hundred feet of timber-pile pier completed.⁴
- 1857 Length of pier extended to 550 feet.⁵
- 1858 Cribs used to extend pier an additional five hundred feet.⁶
- 1868 Pier construction sponsored by U.S. Army Corps of Engineers. Cribs used to complete 362 feet of pier.⁷
- 1869 Pier extended by an additional 896 feet.⁸
- 1875 "Extensive repairs" and a thirty-two foot extension completed.⁹
- 1876 Five-course-high crib placed onto crib #41 along with six courses of superstructure. Refilling and replanking of cribs #1, 2, 3, 4, 39 and 40.¹⁰
- 1877 Riprap placed on west side of cribs #1-3.¹¹

⁴Lake Superior Miner, 09 February 1856; 16 August 1856; 20 December 1856.

⁵Lake Superior Miner, 11 April 1857.

⁶Lake Superior Miner, 22 May 1858; 12 June 1858.

⁷Lake Superior Miner, 21 March 186; 09 May 1868; COE, "History of Ontonagon Harbor, Michigan," 23.

⁸COE, "History of Ontonagon Harbor, Michigan," 23.

⁹United States Army Corps of Engineers, *Report of the Chief of Engineers* (Washington, D.C.: Government Printing Office, 1875-1954), [1875], 1:1875, Henceforth cited as *Chief Engineer Report*; COE, "History of Ontonagon Harbor, Michigan," 23.

¹⁰Chief Engineer Report, [1876], 1:321-22.

¹¹Chief Engineer Report, [1877], 2:842.

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- 1878 Crib #39 refilled with stone and replanked with timber.¹²
- 1879 Refilling and replanking cribs #1, 2, 36, 37, 39 and 41. Channel side of pier received 116 feet of riprap. Pier extended by six cribs (300 feet).¹³
- 1880 Superstructure placed over six cribs. Three additional cribs sunk.¹⁴
- 1881 Pier extended by three cribs (150 feet).¹⁵
- 1882 Timber superstructure built.¹⁶
- 1883 Five-crib extension placed along with one course of superstructure over cribs #51-54. The outer crib (#60) was planked over.¹⁷
- 1884 Twenty snubbing posts placed. Pier extended one hundred feet. Construction of 950 feet of superstructure completed.¹⁸
- 1887 One crib placed to extend pier fifty feet.¹⁹
- 1889 Superstructure on 1887-constructed crib completed.²⁰

¹²Chief Engineer Report, [1878], 2:1131-32.

¹³Chief Engineer Report, [1879], 2:1476-77; COE, "History of Ontonagon Harbor, Michigan," 23.

¹⁴Chief Engineer Report, [1880], 3:1897-99; [1881], 3:2034.

¹⁵Chief Engineer Report, [1881], 3:2114; COE, "History of Ontonagon Harbor, Michigan," 23.

¹⁶Chief Engineer Report, [1882], 2114.

¹⁷Chief Engineer Report, [1883], 2:1630; [1884], 3:1826.

¹⁸Chief Engineer Report, [1884], 3:1126; [1885], 3:1968.

¹⁹Chief Engineer Report, [1888], 3:1819-20.

²⁰Chief Engineer Report, [1889], 3:2018-19.

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Ontonagon Harbor Piers Historic District
Name of property
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- 1890 Fifty feet of superstructure repaired.²¹
- 1900 New timbers replaced rotting ones on outer 1,120 feet of superstructure at the +2-foot line.²²
- 1915 Inner end of pier received 503 feet of new superstructure above the waterline. Width of new superstructure is ten feet instead of twenty.²³
- 1917 New timber replaces 317 feet of superstructure beginning at the low-water datum.²⁴
- 1919 After a powerful storm damaged a portion of the pier, large sandstone blocks were placed on top of the crib substructure. Stone placed on top of 125 feet of timber superstructure to protect crib filling.²⁵
- 1921 Storm destroyed portion of pierhead. Repairs made by placing 1,345 tons of stone to form a rubble mound on the pierhead.²⁶
- 1922 An additional 636 tons of stone placed on the pierhead rubble mound. Rotting portions of superstructure replaced with large blocks of sandstone and hard rock.²⁷
- 1923 Sandstone placed over exposed crib filling. Area covered equaled 32 percent of the pier's length.²⁸

²¹Chief Engineer Report, [1890], 3:2297-98.

²²Chief Engineer Report, [1900], 5:3595.

²³Chief Engineer Report, [1916], 1:1284, 3:2929-30.

²⁴Chief Engineer Report, [1918], 2:3087.

²⁵Chief Engineer Report, [1920], 1:1419.

²⁶Chief Engineer Report, [1921], 1:1420.

²⁷Chief Engineer Report, [1922], 1:1442.

²⁸Chief Engineer Report, [1923], 1:1300.

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Section 7 Page 6 Ontonagon Harbor Piers Historic District
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- 1931 Portion of superstructure replaced with stone.²⁹
- 1932 Portion of superstructure replaced with stone.³⁰
- 1935 Concrete cap replaced inner 689 feet of timber superstructure.³¹
- 1936 Concrete cap replaced 160 feet of timber superstructure. Channel face of timber superstructure covered with 786 feet of steel plate.³²
- 1936-1982 Dredging, minor rockwork and miscellaneous repairs.³³
- 1982 Sheet steel piling and concrete deck installed along beginning 545 feet of pier.³⁴
- 1995 Encapsulation of 1,475 feet of pier with sheet steel piling with tie-rod connecting system. The area between the steel piling and the original wooden crib work is filled with three-inch rock. Half-ton rock is used between the connecting ties and the whole structure is capped with twenty-ton stones.³⁵
- 1997 Rubble mound extension along the east pier's channel side completed.³⁶

West Pier

- 1856 Construction initiated by Charles T. Harvey. Over five hundred feet of
-

²⁹Chief Engineer Report, [1932], 1:1334.

³⁰Chief Engineer Report, [1933], 1:1334.

³¹Chief Engineer Report, [1935], 1:1151.

³²Chief Engineer Report, [1936], 1:1157.

³³Harbor, Ontonagon, Michigan, COE Duluth Office, Duluth, MN, Ontonagon Harbor Files.

³⁴"East Breakwater," COE Duluth Office, Ontonagon Harbor Files.

³⁵Ibid.

³⁶Ibid.

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- timber-pile pier completed.³⁷
- 1857 Length of pier extended to 1,175 feet.³⁸
- 1868 Pier construction sponsored by the U.S. Army Corps of Engineers. Cribs used to extend pier an additional 270 feet.³⁹
- 1871-1872 Pier extended a total of 224 feet.⁴⁰
- 1875 Construction of a 430-foot pile revetment shoreward from inner end begun. This work replaced the Harvey-constructed pier. Construction of ten fifty-foot-long cribs initiated.⁴¹
- 1876 Pile revetment complete, which connected inner end of west pier to shore a length of 498 feet. Cribs #1-7 were refilled and replanked with new superstructure. Cribs #8-17 were placed and filled. Cribs #8-12 received one course of superstructure. The completion of the extension totaled five hundred feet.⁴²
- 1877 Cribs #13-17 covered with timber superstructure. Riprap placed by pile revetment and on east side of crib #7.⁴³
- 1878 Some crib refilling completed along with riprapping of selected cribs.⁴⁴

³⁷*Lake Superior Miner*, 15 March 1856; 16 August 1856; 20 December 1856.

³⁸*Lake Superior Miner*, 11 April 1857.

³⁹*Lake Superior Miner*, 21 March 1868; 09 May 1868; COE, "History of Ontonagon Harbor, Michigan," 24.

⁴⁰COE, "History of Ontonagon Harbor, Michigan," 24.

⁴¹*Chief Engineer Report*, [1875], 1:185; COE, "History of Ontonagon Harbor, Michigan," 24.

⁴²*Chief Engineer Report*, [1876], 1:321-22; COE, "History of Ontonagon Harbor, Michigan," 24.

⁴³*Chief Engineer Report*, [1877], 2:841-42.

⁴⁴*Chief Engineer Report*, [1878], 2:1131-32.

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Ontonagon Harbor Piers Historic District
Name of property
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- 1880 Eight cribs placed and superstructure completed over seven of them. Remaining pier elements placed by Charles T. Harvey in the 1850s removed.⁴⁵
- 1881 Four crib substructures placed and covered with a partial superstructure.⁴⁶
- 1882 Superstructure built.⁴⁷
- 1884 Twenty snubbing posts placed.⁴⁸
- 1887 One hundred feet of superstructure completed on cribs #34 and 35. Three cribs positioned to extend pier. Minor repairs to crib #33.⁴⁹
- 1889 Three cribs placed to extend pier 150 feet.⁵⁰
- 1890 150 feet of timber superstructure added.⁵¹
- 1891 150 feet of timber superstructure added.⁵²
- 1909 Upper two courses of wall timber replaced, cribs refilled where settlement had occurred and 340 feet of new decking laid.⁵³
- 1912 Two courses of wall timbers, upper ties and 502 feet of decking repaired.

⁴⁵Chief Engineer Report, [1880], 3:1197-99; [1881], 3:2034.

⁴⁶Chief Engineer Report, [1882], 3:2114.

⁴⁷Chief Engineer Report, [1882], 3:2114.

⁴⁸Chief Engineer Report, [1884], 3:1126.

⁴⁹Chief Engineer Report, [1888], 3:1819-20.

⁵⁰Chief Engineer Report, [1889], 3:2018-19.

⁵¹Chief Engineer Report, [1890], 2297-98.

⁵²Chief Engineer Report, [1892], 3:2140.

⁵³Chief Engineer Report, [1910], 2:2076-77.

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Ontonagon Harbor Piers Historic District
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- Vertical posts inserted at west pierhead.⁵⁴
- 1913 Replacement of 302 feet of superstructure. Ballast used to fill settled areas was taken from other parts of pier. Five hundred feet of pier lowered from +9 to +6 above water line.⁵⁵
- 1922 Seventy-eight linear feet of riprap placed on lakeside portion of pier. Sandstone replaced 219 feet of the channelside timber wall.⁵⁶
- 1927 Decaying decking on outer 440 feet of pier replaced with 645 tons of stone.⁵⁷
- 1928 Outer 594 feet of timber superstructure rebuilt with stone.⁵⁸
- 1929 Stone replaced 734 feet of timber superstructure.⁵⁹
- 1931 Portion of timber superstructure replaced with stone.⁶⁰
- 1932-1933 Portion of timber superstructure replaced with stone. Concrete cap replaced 1,069 feet of timber superstructure.⁶¹
- 1948 Ninety-six feet of the pierhead rebuilt with sheet steel piling. Replacement of timber fenders initiated.⁶²

⁵⁴Chief Engineer Report, [1912], 2:2469-70.

⁵⁵Chief Engineer Report, [1913], 2:2730-31.

⁵⁶Chief Engineer Report, [1922], 1:1142.

⁵⁷Chief Engineer Report, [1927], 1:1258.

⁵⁸Chief Engineer Report, [1929], 1:1326.

⁵⁹Chief Engineer Report, [1930], 1:1412.

⁶⁰Chief Engineer Report, [1932], 1:1334.

⁶¹Chief Engineer Report, [1932], 1:1334; [1933], 1:848; COE, "History of Ontonagon Harbor, Michigan," 24.

⁶²Chief Engineer Report, [1948], 2:2133.

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Ontonagon Harbor Piers Historic District
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- 1949 Replacement of 1,070 linear feet of timber fenders completed.⁶³
- 1950 Pierhead reconstruction completed by placing 1,878 tons of riprap.⁶⁴
- 1950-1992 Dredging, minor rockwork and miscellaneous repairs.⁶⁵
- 1992 Sheet steel piling installed along 1,069 feet of the pier's channelside portion. The piling was connected to the shore with tiebacks and tierods. Twin timber fenders attached to the piling.⁶⁶
- 1995 Sheet steel piling connected with tie rods installed. The original wood cribs are encapsulated and the space between the crib and the steel piling is filled with three-inch stone. Half-ton rock fills areas between the tie rods and twenty-ton stone covers the whole structure.⁶⁷

⁶³Chief Engineer Report, [1949], 2:1926.

⁶⁴Chief Engineer Report, [1950], 2:1977.

⁶⁵"Harbor, Ontonagon, Michigan," COE Duluth Office, Ontonagon Harbor Files.

⁶⁶"West Breakwater," COE Duluth Office, Ontonagon Harbor Files.

⁶⁷Ibid.

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

- 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)

ENGINEERING
TRANSPORTATION
MARITIME HISTORY

Period of Significance 1867-1951

Significant Dates 1867-1951

Significant Person
(Complete if Criterion B is marked above) N/A

Cultural Affiliation N/A

Architect/Builder US Army Corps of Engineers

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 # _____

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Ontonagon Harbor Piers Historic District
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Statement of Significance:

The Ontonagon Harbor was a significant nineteenth-century shipping point on Lake Superior, the early use of which was hampered by the lack of well-developed pier and port facilities. Shortly after the Civil War, however, the United States Army Corps of Engineers began constructing the necessary amenities. The community of Ontonagon grew up around its harbor. Indeed, the town's growth and economic vitality were closely linked to the surrounding region's extractive industries, and the subsequent ability to export from the harbor the harvested resources. As such, the piers are eligible for the National Register under Criterion A.

The piers were erected utilizing a typical nineteenth-century building method known as crib construction. Although repaired, maintained and modified through the years, evidence of the crib construction remained apparent into the early 1990s. The piers are thus also eligible for the Register under Criterion C as unique technological artifacts. Finally, any extant nineteenth-century timber structures on the Great Lakes could reveal significant information about the construction and technological methods employed, thus making the piers eligible under Criterion D.

Historical Development of Ontonagon

As European explorers reached the Ontonagon area, they encountered Ojibwa Indians inhabiting a small village near the mouth of the river. The Indians knew of large quantities of copper in the region, including the Ontonagon Boulder -- a 3,700 pound mass of almost pure copper that was located along the Ontonagon River. French explorers, missionaries and fur traders learned from the Indians of the rich mineral deposits and reported this information to their colonial officials; however, the French mounted few serious mining ventures. Following the French and Indian War, the British attempted to access the region's copper; however, all attempts proved futile. After the British left the region, the American government sent its first major exploratory expedition in 1820 when Lewis Cass and Henry Schoolcraft traveled up the Ontonagon River and saw the boulder before continuing exploration. Finally, in 1840, Michigan State Geologist Douglass Houghton surveyed the region. His report sparked the beginning of copper speculation in the area.⁶⁸

Several prospecting groups attempted to remove the boulder. Thinking it was impossible to move, the Ojibwa village had a profitable enterprise of "selling" the boulder to these

⁶⁸William Johnson, "Letters of the Fur Trade," in *Michigan Collections* (Lansing: Wynkoop, Hallenbeck, Crawford Company, 1909-10), 37:153; Bruce H. Johanson, *This Land, the Ontonagon* (Iron Mountain, MI: The Ralph W. Secord Press, 1985), 11-13; *Detroit Journal*, 17 June 1895; COE, "History of Ontonagon Harbor, Michigan," 5. The former Indian village site is now a city park and marina.

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groups for various goods. In 1842, a Virginian named Jim Paul trekked to the Ontonagon River in search of the boulder. After camping for the winter, he and several others raised the boulder and used a primitive rail tram and a raft to maneuver it down river. With profits from its sale, Paul opened a saloon named the "Deadfall" on the east bank of the river. Paul catered to the numerous prospectors arriving in the area. Soon a number of tents and primitive buildings sprung up around the saloon. In 1844, the U.S. government opened a mineral agency in the settlement, which was dubbed Ontonagon. One of the next permanent settlers, Daniel Cash, began a farm and a river boat service to serve the fledgling upriver mines.⁶⁹

Originally part of Houghton County, Ontonagon County was created by the Michigan State Legislature in 1848. Ontonagon was named the county seat. The word Ontonagon apparently derives from the Ojibwa language and means either "hunting river," "fishing place" or "lost bowl." The county originally embraced current-day Gogebic County and Isle Royale; however, primary settlement concentrated around the Ontonagon River. During the 1850s, the village of Ontonagon grew substantially. The primary commercial avenue, River Street, ran parallel to the river and featured numerous saloons and hotels. The village also had a newspaper, four churches, a public school, a brewery and a fire company. The presence of a local sawmill allowed many residents to build frame buildings rather than log cabins. Although constructed before any public harbor improvements, many small private docks and wharves lined the river. The craft using those facilities were small vessels that served the interior mines by hauling ore and supplies. At the height of the copper boom in the late 1850s, Ontonagon had a population of nearly 1,200 people.⁷⁰

Michigan's Upper Peninsula possessed abundant natural resources in the 1800s, and they were the basis of the region's economy. The Ontonagon copper district was one of four in the region, the others being the Keweenaw, Portage Lake and Isle Royale. Known as mass copper, the metal in the Ontonagon District existed in almost pure chunks that ranged from a pound to many tons--thus negating the need for processing. By 1845, the Minesota Mine was in operation near present-day Rockland. The mine proved to be one of the largest and most profitable in the district. It produced millions of dollars of profit and thousands of tons of ore before closing in 1870. Between 1850 and 1860, Ontonagon County produced 55 percent of the nation's copper. Indeed, in 1855, the village's newspaper, the *Lake Superior Miner*, listed thirty-six mining companies in its directory; however, not all

⁶⁹Johanson, *This Land, the Ontonagon*, 20-33; *History of the Upper Peninsula of Michigan* (Chicago: The Western Historical Company, 1883), 510. The Ontonagon Boulder is currently on display at the Smithsonian Institution in Washington, D.C.

⁷⁰Johanson, *This Land, the Ontonagon*, 32, 34-35; William Jenks, "History and Meaning of the County Names of Michigan," in *Michigan Collections* (Lansing: Wynkoop Hallenbeck Crawford Co., 1912), 38:471; *Lake Superior Miner* (Ontonagon, MI), 26 July 1856.

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companies had working mines. By 1860, the county's eighteen working mines exported one million dollars worth of ore. The economic impact of this activity on the village was clear. An 1863 business gazetteer listed Ontonagon with six stores, three hotels, two tanneries, seven copper stamping mills and several churches. The publication also proclaimed Ontonagon as one of the most important points on the Northern Peninsula due to its location and copper mining. Copper production remained high during the Civil War, but a post-war drop in prices made most of the mines unprofitable. Many mines closed and the town's population declined to five hundred by 1873. One source speculated that Ontonagon's want of a rail connection and a reliable harbor contributed to the area's decline because increased transportation costs added to the unprofitability of mining.⁷¹

During the late 1870s, Ontonagon slowly recovered its lost population and increased its number of businesses. The main reason for this recovery was a transition to a lumber-based economy. The copper mines and local residents had engaged in small-scale lumbering, but the industry had not yet significantly developed in the Ontonagon area. The catalyst for growth was perhaps Chicago's devastating 1871 fire. In its aftermath, the city needed abundant and cheap lumber with which to rebuild. Ontonagon's white pine could easily be floated down the Ontonagon River, milled and then shipped to Chicago via a steamer that served the village's newly developed, federally funded harbor. Several lumber companies owned large tracts of land in the Ontonagon area and constructed large sawmills in the village. Eventually, the Diamond Match Company became the dominant, lumber-related operation. Its two sawmills were located on the west island in the river, as well as on the west bank. They were capable of sawing three hundred thousand board feet per day. Water continued to be the chief method of transport for most of this lumber until a railroad to Ontonagon was completed in 1889. By the 1890s, the Diamond Match Company sawed over one hundred million board feet per year. Likewise, Ontonagon County flourished. The local government built a county courthouse and installed electric streetlights in the mid-1880s and the village was incorporated in 1885. Additionally, the village and its two thousand inhabitants claimed sixteen hotels/saloons, fourteen retail establishments and twelve service-based enterprises, including a telephone company. But the boom did not last, for in August 1896, a forest fire destroyed both of the Diamond Match Company's mills and the village of Ontonagon. While the town was quickly rebuilt, the mills were not. Thus ended largely the era of pine lumbering.⁷²

⁷¹History of the Upper Peninsula of Michigan, 159; Johanson, *This Land, the Ontonagon*, 44-47, 53, 65; *Lake Superior Miner*, 06 October 1855; COE, "History of Ontonagon Harbor, Michigan," 6; George W. Hawes, *Michigan State Gazetteer and Business Directory for 1860* (Detroit: F. Raymond & Co., 1860), 259; *Michigan State Gazetteer and Business Directory, 1863-1864* (Detroit: Charles F. Clark, 1863), 429; *Michigan State Gazetteer and Business Directory for 1873* (Detroit: Tribune Book and Job Office, 1873), 506.

⁷²*Michigan State Gazetteer and Business Directory* (Detroit: R.L. Polk & Co., 1877-

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The demise of the timber industry did not spell disaster for Ontonagon despite a population drop to 1,200 people. At the turn of the century, Ontonagon businesses included a post office, doctor's office and a jewelry store. Several hotels and saloons served travelers, miners and lumbermen. In addition to a newspaper, modern high school and library, the village had a variety of small department stores, grocery stores and emporiums. Numerous fish houses and small docks existed along the river. Commerce was augmented by a small sawmill that cut mostly hardwoods. By 1905, the population had rebounded to 1,700. In 1919, Northern Fiber Company established a pulp mill in Ontonagon-- a plant which still operates today. The development reflected the local economy's growing diversification which focused on hardwood-based lumber industries and fishing. Furthermore, improved technology made the process of copper mining more profitable. Accordingly, mining companies returned to harvest the area's still extant, rich ore deposits. With all these pursuits, Ontonagon's harbor remained a locus of activity. Cargo ships and daily passenger steamers visited the harbor. Prosperity had returned to Ontonagon and its two-thousand residents until shortly after World War I, when the post-war drop in copper prices once again made Michigan mining unprofitable. During the 1920s and early 1930s, the area largely relied upon agriculture, timber products and paper milling to support the local economy.⁷³

Shortly before World War II, copper mining and ore processing at nearby White Pine resumed when the profitability of the industry was improved through further technological advances. Both the mine and processing plant prospered, thus improving the economy for all of Ontonagon County. The plant depended on the harbor for importing coal and limestone, but the processed copper was exported by rail. The next industry of note to locate in Ontonagon was the Upper Peninsula Shipbuilding Company in the early 1980s. A decade later, however, both the shipbuilding company and the copper facility in White Pine were closed. Only the paper mill and recreational craft from the growing tourism industry were left to use the harbor.⁷⁴

1932), [1877], 684-85; [1881], 897-98; [1887-88], 1357-58; [1893-94], 1247-48; [1905], 1584. Henceforth cited as *Michigan Directory*. *Lake Superior Miner*, 14 May 1870; James K. Jamison, *The Ontonagon Country: The Story of an American Frontier* (Ontonagon, MI: The Ontonagon Herald Company, 1939), 187, 196-200, 204-05; Johanson, *This Land, the Ontonagon*, 81-82; *Ontonagon (MI) Herald*, 05 September 1896.

⁷³Alma W. Swinton, *I Married a Doctor: Life in Ontonagon, Michigan, from 1900 to 1919* (Ann Arbor: Edwards Brothers, Inc., 1965), 6-17; *Michigan Directory*, [1901], 1373-74; [1905], 1584; [1909-10], 1410-11; [1917], 1155; [1931-32], 987-98; Johanson, *This Land, the Ontonagon*, 117, 124-25, 147-48.

⁷⁴Jamison, *This Ontonagon Country*, 187-92, 195-205; Kenneth D. LaFayette, "Early Navigation on the Ontonagon River," in *Inland Seas* (Spring 1982): 45-46.

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Early Lake Superior Shipping and Harbor Development

Since the 1700s, the Great Lakes were considered the primary route through which to access regions north of the Ohio and Mississippi Rivers. Initially slowed by numerous rapids and portages, Great Lakes shipping increased exponentially with the development of the steamship and the construction of canals--especially the Erie Canal in 1825. Michigan's Lower Peninsula benefitted immensely in the 1830s from the development of Great Lakes shipping. At the same time, the Upper Peninsula remained undeveloped since the rapids on the St. Marys River limited access to Lake Superior.⁷⁵

The first Europeans to use Lake Superior for commerce were French voyagers. They relied on massive canoes to transport furs. In the early 1800s, the American Fur and Hudson Bay companies plied the lake in schooners. A major accommodation to shipping came in the 1840s when portage roller and tackle devices were installed around the St. Marys River rapids. These rollers permitted either boats or dismantled ships to reach Lake Superior where, when reassembled, they could carry goods and passengers to and from the lake's fledgling settlements. Soon the lake possessed a small fleet of both sail and wood-burning steam ships. The largest of these was the steamer *Independence*, which displaced 150 tons. But most of the vessels were in the forty-ton range. As noted previously, the primary activity along the lake's southern shore during this period was copper mining. And small, primitive harbors were established in nearby Copper Harbor, Eagle River and Ontonagon. During the copper boom, Ontonagon touted its position as one of the most significant shipping stops on Lake Superior.⁷⁶

In 1837, the Michigan State legislature approved a survey for a canal to bypass the St. Marys River; nevertheless, fifteen years passed before the U.S. Congress appropriated funds for its construction. Managed by Charles T. Harvey, construction began in 1852 and was completed three years later. With the St. Mary's Canal, vessels could pass unhindered between Lake Superior and Lake Huron. Shipping on the lake increased and cheaper transportation permitted greater development of the Upper Peninsula.⁷⁷

⁷⁵Lew Allen Chase, "Michigan's Share in the Establishment of Improved Transportation Between the East and the West," in *Michigan Collections* (Lansing: Wynkoop Hallenbeck Crawford Co, 1912), 32:589, 592-94; Thomas Bailey, et. al., *The American Pageant: Volume I: To 1877*, 11th ed. (Boston: Houghton Mifflin Company, 1998), 318-21.

⁷⁶Joseph A. Ten Broeck, "Old Keweenaw," in *Michigan Collections* (Lansing: Wynkoop Hallenbeck Crawford Co, 1905), 30: 145; *History of the Upper Peninsula of Michigan*, 136-37; Lewis Marvill, "First Trip by Steam to Lake Superior," *Detroit Post & Tribune*, 26 March 1882.

⁷⁷*History of the Upper Peninsula of Michigan*, 133, 214-16; Byron M. Cutcheon, "Fifty

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Ships needed facilities at which to load and unload their cargo, as well as to escape Lake Superior's violent storms. River inlets and coves initially served as harbors. Yet low water and sandbars sometimes rendered these locations unusable. When this occurred, freight had to be lightered onto small boats--an expensive process that could only be done in calm seas. Some cities attempted to construct their own harbor improvements, but that often proved to be too expensive. Others attempted to lobby for harbor appropriations, but it was a difficult sell since, prior to the Civil War, the Upper Peninsula was considered too remote to warrant many such projects. Perhaps due to the increase in shipping inspired by the St. Mary's Canal, this perception changed after the war ended. Significant federal appropriations were made and numerous harbors were either improved or developed. Marquette, Houghton/Hancock and Ontonagon all benefited from this activity. During the same period, the focus of Lake Superior shipping began to shift from copper to iron ore, grain and timber. Soon cities like Duluth, Superior, Marquette and Ashland passed Ontonagon in importance. Nevertheless, the lake's first ports--including Ontonagon--continued to serve as shipping points for local resources, as well as harbors of refuge.⁷⁸

Early History of the Ontonagon Harbor

Until the railroad reached the village in 1889, water routes were the most viable method of reaching Ontonagon. Indeed, they dictated village development. In 1846, Daniel Cash made the first improvements to the Ontonagon River. He erected a small dock on the west bank, about one-half mile from the river's mouth. This dock handled small keelboats and steamers that hauled freight upriver to the mining camps. Due to the sandbar at the mouth of the river and the six-foot depth of the water, however, materials from Lake Superior ships were downloaded onto small lighters and floated to shore. The next year, a dock near Chippewa Street was built on the east river bank. Ontonagon residents petitioned Congress in 1849 for a harbor development appropriation, but it was rejected.⁷⁹

From 1851 until approximately 1857, James Carson operated a quarter-mile long pier that

Years of Growth in Michigan," in *Michigan Collections* (Lansing: Robert Smith & Co, 1894), 22: 495-96.

⁷⁸*Lake Superior Miner*, 17 May 1856; 24 May 1856; COE, *History of Ontonagon Harbor, Michigan*, 6; S.P. Ely, "Historical Address," in *Michigan Collections* (Lansing: Thorp & Godfrey, 1884), 178; Grace Lee Nute, *Lake Superior* (Indianapolis: The Bobbs-Merrill Company, 1944), 250-51, 285-87; *Chief Engineer Report*, [1875], 1:1875.

⁷⁹COE, "History of Ontonagon Harbor, Michigan," 25; Jamison, *This Ontonagon Country*, 120-22; Johanson, *This Land, the Ontonagon*, 33, 81; John G. Parker, "Autobiography of Captain John G. Parker," in *Michigan Collections* (Lansing: Wynkoop Hallenbeck Crawford Co., 1905), 30:584.

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extended into Lake Superior. Located east of the Ontonagon River, this pier consisted of timber piling topped with a wooden deck (see historic photo #1 of 13--the pier is reflected generally as a short, north/south line located immediately east of the river's mouth). A small rail tram moved material along the pier. Exposed to the full force of Lake Superior storms, the structure required constant and expensive maintenance. Realistically, the usefulness of the pier was limited since it could only be used during calm seas and it could not handle a large amount of cargo. Nevertheless, Ontonagon was a regular stop for both cargo and passenger ships from Chicago, Detroit and Cleveland (see historic photo #3 of 13). Additionally, the region imported annually nearly 50,000 barrels of supplies to operate the village and the mines. Navigation was aided by the construction in 1853 of the first lighthouse in the village. And in fog, a cannon signaled passing ships.⁸⁰

Shipping was the lifeblood of the Ontonagon area during this period, the interruption of which could have severe consequences. As observed by John Harris Forster, an early Upper Peninsula historian:

Mining supplies, provisions and merchandise sufficient for six months consumption were brought in necessarily before the close of navigation. There was no remedy for any shortage in these supplies. Sometimes, by accident in navigation, some necessary supplies failed to be delivered and there was consequently much privation, if not actual suffering.⁸¹

Such an event occurred in the fall of 1855 when early storms prevented a sufficient amount of winter supplies from reaching Ontonagon. Commodities grew short and the price of flour increased to \$25 per barrel. Meanwhile, copper ore was piled on the docks fruitlessly awaiting export. In order to prevent such events from recurring, the county board agreed to pay \$3,000 a year for five years to build piers and maintain a channel through the mouth of the Ontonagon River. This fund would also be augmented by private subscriptions from businessmen and mine owners. The contract was awarded to Charles T. Harvey, the man who was instrumental in constructing the St. Mary's Canal the previous year.⁸²

⁸⁰COE, "History of the Ontonagon Harbor, Michigan," 6, 25, Plate I; Johanson, *This Land, the Ontonagon*, 61, 63-64; *Michigan State Gazetteer and Business Directory, 1863-1864*; *Lake Superior Miner*, 06 October 1855; 22 March 1856; 17 January 1857; 01 August 1857; 15 August 1857.

⁸¹John Harris Forster, "War Times in the Copper Mines," in *Michigan Collections* (Lansing: Robert Smith & Co, 1892), 18:376-77.

⁸²*Lake Superior Miner*, 06 October 1855; 13 October 1855; 03 November 1855; 17 November 1855; 10 May 1856; Johanson, *This Land, the Ontonagon*, 62; Jamison, *The Ontonagon Country*,

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Early in 1856, Harvey's crews began their work by driving piles that formed a straight channel at the mouth of the river. This was intended to direct the river's current to cut through the sandbar at its mouth. Each pier consisted of three rows of eighteen to twenty-four-inch diameter logs that were driven approximately twenty feet into the sand bottom. The inner two rows were six feet apart and the gap was filled with brush and stone in order to trap sand. The outside row was positioned ten feet from the middle row and connected with timbers. By August, over nine hundred feet of pier had been driven. Between the two piers, the river's depth deepened from four to sixteen feet. At the farthest ends of the pier, cribs filled with rock were employed since they were quicker to construct and the current did not undercut them as easily. Due to these efforts, the sandbar shrank from its original eight-hundred-foot width to approximately two hundred feet; however, the river still formed a shallow side channel. Although many lake steamers could not use the port consistently, the shipping situation improved so the county extended the contract by one year. At the end of the contract, Harvey had completed 2,526 feet of pier and dredged the channel. In addition to the county appropriation, Harvey was paid \$40,000 in private funds; however, the project did not have the anticipated success. Although the channel was straightened, the sandbar still prevented larger ships from entering the harbor, the average depth of which was only eight feet. In retrospect, it has been suggested that Harvey and the county board were shortsighted in thinking that a proper harbor could be constructed on the harsh Lake Superior shoreline with local funds.⁸³

Although the Harvey piers were not entirely successful, Ontonagon remained a center of commerce and trade on Lake Superior. In the late 1850s, the village was the largest and most populous community on the lake. During the height of the copper boom, over 3,200 tons of copper moved through the harbor annually. In 1866, the last year before federal improvements, the harbor was used to bring in over 3,100 tons of supplies ranging from food to mining equipment. Exports from Ontonagon totaled 1,880 tons with copper (at 1,500 tons) being the leading export. Although a small amount by later standards, annual lumber shipments from the harbor reached 125,000 board feet.⁸⁴

Ontonagon Harbor Development by the U.S. Army Corps of Engineers

The present United States Army Corps of Engineers (COE) dates to the Revolutionary War.

121-22.

⁸³Lake Superior Miner, 07, March 1857; 15 March 1856; 16 August 1856; 07 March 1857; 27 June 1857; 24 July 1858; History of the Upper Peninsula of Michigan, 537; Jamison, This Ontonagon Country, 176.

⁸⁴COE, "History of Ontonagon Harbor, Michigan," 33; Lake Superior Miner, 14 November 1857; Jamison, The Ontonagon Country, 154.

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General George Washington desperately sought qualified engineers to erect the fortifications required to fight the war. A nation of few engineers in the late 1700s, America turned to Britain's enemy, France, for engineering help. One of the French engineers that soon arrived in America was Louis Duportail. By the end of 1777, Duportail had been promoted to brigadier general and chief engineer. Duportail pressured the fledgling American government to create an engineering branch of the army. In May 1778, Congress authorized that three companies of Americans be trained in engineering practices. Congress formally created the Corps of Engineers the following March. Development of army engineers began in earnest with the formation of the United States Military Academy at West Point. The academy was organized in 1802 as a school to train professional soldiers in the art of war, as well as science and engineering. Academic courses concentrated on mathematics, surveying and hydraulics. In fact, West Point was the leading engineering school in the nation during most of the nineteenth century. This emphasis on engineering spawned from the need to develop coastal fortifications and the corresponding water survey data needed to repel invasion and protect vulnerable harbors. Soon the COE had gained a significant amount of practical experience dealing with seawalls, breakwaters and other erosion control measures, thus making it an appropriate agency to handle harbor construction. Indeed, the COE began in the 1830s to make minor harbor improvements. Whether driven by public need or pork-barrel politics, Congress eventually authorized numerous river and harbor projects for the COE. By 1882, the COE had \$18 million dollars to spend on over five hundred river and coastal projects. Although mostly made up of civilian employees today, the COE still manages U.S. waterways.⁸⁵

In Ontonagon, the Civil War increased demand for copper and the village thrived. But the tenuous shipping situation remained a problem. Although the Harvey piers helped, and Ontonagon was one of the most important settlements on Lake Superior, the port had not been developed to its fullest potential. In 1867, the COE recommended that two parallel, timber-crib piers with a combined length of five thousand feet be constructed and a twelve-foot-deep, 250-foot-wide channel be dredged. The project was undertaken the next year at a cost of \$30,937, which included pier construction, removing the sandbar, channel dredging and the placement of harbor lights.⁸⁶

⁸⁵Todd Shallat, *Structures in the Stream: Water, Science, and the Rise of the U.S. Army Corps of Engineers* (Austin, TX: University of Texas Press, 1994), 79-83, 87-88, 94, 106, 117-18, 189, 200; COE, *The History of the US Army Corps of Engineers* (Alexandria, VA: Office of History, Headquarters, US Army Corps of Engineers, 1998), 17, 19.

⁸⁶The previous year, the COE constructed a lighthouse on the west side of the river near the lakeshore, which is still extant, although not used as a lighthouse. Forster, "War Times in the Copper Mines," 376; Johanson, *This Land, the Ontonagon*, 63-64; Jamison, *This Ontonagon Country*, 122.

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Timber-crib engineering was commonly used for subaqueous structures during the nineteenth century. Timber, being a readily available building material in the northern reaches of the country, was especially well suited for crib construction. Air, heat, and moisture cause wood to decay. If wood is deprived of air by being submerged, however, it will last for a very long time, especially in freshwater. Thus timber proved an ideal source for creating underwater structures. Made out of heavy timbers dovetailed together, most cribs measured between thirty and fifty feet in length and were strengthened with rows of cross ties spaced approximately ten to fifteen feet apart, thus forming four compartments for stone fill (see historic photos #4-8, as well as Figure 3). One of the principal advantages of timber cribs is that they are relatively inexpensive to build and can be constructed entirely with hand tools. Once formed, the cribs are floated into position and filled with stone. The cribs settle on a dredged or leveled lake bed and generally become a reliable foundation for piers, wharves, lighthouses, and other similar structure types. Many cribs constructed by/for the COE had a lattice bottom to allow stone fill to replace sand/mud undercut from the crib by current or wave action. This feature limited any eventual side tilt to the crib and increased the structure's overall stability. Additionally, piles driven on the outside of the crib allowed ships to moor alongside the pier.⁸⁷

Between 1868 and 1890, the piers at Ontonagon were erected in numerous phases. Various private companies received contracts as additional money was appropriated for the project. With their work directed by COE engineers, Gelley & Weston of Milwaukee, Wisconsin, and Vaughn, Bayfield & White of Marquette, Michigan, extended the east pier by 387 feet. The next year, Gelley & Weston completed an additional 896 feet of work on the east pier. Meanwhile, the west pier's 270-foot-long extension from the Harvey works was completed by Prince of Ontonagon. These improvements did not improve the situation sufficiently and between 1875 and 1877, Ames & Emery of Houghton, Michigan, extended by a modest 32 feet the east pier while concentrating on adding 500 feet to the west pier. Since the project's inception, the COE had expended \$155,600 for these undertakings. Also during that time, H.J. Lutes of Ontonagon rebuilt the Harvey portion of the pier. The resulting nine-foot-deep channel allowed 206 vessels from four steamer lines to utilize the harbor in 1877. Primary imports into Ontonagon consisted of lumber, general merchandise and food. Copper, hay and fish were the leading exports. At that time, the facility also functioned as a harbor of refuge since it was the only developed port between the Apostle

⁸⁷Carleton Greene, *Wharves and Piers: Their Design, Construction, and Equipment* (New York: McGraw-Hill Book Company, Inc., 1917), 4-5, 52; Lieutenant Colonel J.D. Graham, "Annual Report on the Harbor Improvements of Lakes Michigan and St. Clair, 1855," in *Report of the Secretary of War in Compliance with a Resolution of the Senate of the 29th Ultimo, Calling for Copies of the Survey of Lieutenant Colonel Graham, of Harbors, etc. in Wisconsin and Michigan*, Senate Executive Document No. 77, 34th Congress, 1st Session, 23 May 1856, 3-9.

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Islands and the Portage Canal near Houghton. The fact that it served such a purpose, as well as provided the best outlet for local commerce, gave the COE impetus to continue to improve the facility.⁸⁸

Between 1879 and 1881, MacDougall & McLennan of Duluth, Minnesota, added 450 feet to both the east and west piers. Wooden cribs filled with stone again provided the material used to construct these extensions. Each crib destined for Ontonagon's piers cost nearly \$1,700 to construct and measured fifty-feet long, twenty-feet wide and thirteen-and-one-half-feet tall. The completion of the MacDougall portion of the piers worked to place channel depth at twelve-and-one-half feet and the depth over the sandbar at ten-and-one-half feet.⁸⁹

In 1880, a total of 234 ships used Ontonagon Harbor, along with an undetermined number of fishing craft and tugs. This represented a fifty-six ship increase over the previous year. These ships brought to Ontonagon 2,192 tons of goods, which consisted primarily of animals, animal products and food. Export tonnage was recorded at 6,499 tons, 4,750 tons of which was lumber. By this time, lumber dominated Ontonagon County's economy. And the ability to ship cheaply through the harbor contributed immensely to the industry's development. The remaining exports included copper and miscellaneous items. Throughout the late 1800s, the general trend of harbor use reflected an increase in lumber shipments --reaching a high of 176,000 tons in 1893--and a decrease in those related to copper.⁹⁰

Improvements to Ontonagon Harbor next occurred in 1882 when Joel Rich of Ontonagon completed, over a two year period, a five-hundred-foot extension of the east pier and a two-hundred-foot extension of the west pier. In 1885, John Gillett of Marquette further extended the west pier by one hundred feet. Three years later, a contract awarded to W.T. Casgrain of Milwaukee required the addition of fifty feet to the east pier and one hundred fifty feet to the west pier. Then measuring 2,315, feet the east pier was considered complete. The last 150 feet of the west pier was finished between 1888 and 1890 by J.C. Morrison of Duluth, activity which brought that pier's length to 2,675 feet. With the conclusion of that work, the COE's expenditures on pier construction and maintenance had reached \$298,100. Further enhancements to the piers ceased as the COE decided that annual dredging was more economical than additional construction. In order to maintain a twelve-

⁸⁸COE, "History of the Ontonagon Harbor, Michigan," 23-24; *Chief Engineer Report*, [1875], 1:185; [1876], 1:321; [1886], 3:1642; *Michigan State Gazetteer and Business Directory for 1873; Michigan Directory*, [1887-88], 1358.

⁸⁹*Chief Engineer Report*, [1879], 2:1477-78; [1880], 3:1897-99; COE, "History of the Ontonagon Harbor, Michigan," 23-24.

⁹⁰COE, "History of Ontonagon Harbor, Michigan," 30-32.

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foot-deep channel, the COE estimated that 60,000 cubic yards of material would have to be excavated annually at a cost of \$15,000.⁹¹

For many decades, use of the harbor remained steady, although the types of shipments changed as different industries dominated the local economy. The number of ships using the harbor averaged between two and three hundred per year. But, prior to 1926, shipping tonnage fluctuated as much as 60 percent from year to year. Some of these oscillations could be attributed to periodic economic downturns, while others may have been due to poor record keeping since the COE used statistics supplied by local merchants.⁹²

After the piers were deemed complete, the COE concentrated its efforts on regular pier maintenance and channel dredging. The sandbar in front of the piers required constant removal. As well, due to erosion resulting from increased logging operations, the harbor and channel itself required regular excavation. Congress approved a second Ontonagon Harbor project in 1910 in order to facilitate the increasing size of ships on the lake. This project provided funds for maintaining a fifteen-foot-deep and one-hundred-foot-wide channel that would accommodate ships with deeper drafts and wider beams. Primarily, the project focused on additional dredging in the channel and maintenance to the piers. Both private contractors and COE assets performed the work. In November 1919, a storm destroyed one hundred feet of that portion of the east pier that was above water. It also tore planking off in other places. The next spring, the COE used 779 tons of sandstone to replace the damaged area's timber superstructure. While those repairs took place, inspection revealed that the piers were in poor condition and in need of massive repairs. In 1921, storms and ice caused additional damage to fifty feet of the east pier (see historic photos #3 & 4 of 10). In response, the COE reconstructed the damaged pier superstructure with a rubble mound (see historic photo #5 of 10).⁹³

Choosing not to hire private contractors, the COE itself initiated in 1922 rehabilitation of the Ontonagon piers. The first half of the east pier had its timber decking and superstructure replaced with 1,219 tons of sandstone and 1,710 tons of hard rock. Other work included replacing decaying piles on the west pier and riprapping its lakeside portion. The next year, work on the east pier continued by placing 1,267 tons of

⁹¹Chief Engineer Report, [1881], 3:2033-35; [1885], 3:1968-69; [1888], 3:1819-20; [1889], 3:218-20; [1890], 3:2297-98; COE, "History of the Ontonagon Harbor, Michigan," 23-24.

⁹²COE, "History of Ontonagon Harbor, Michigan," 30-32; Michigan Directory, [1909-10], 1408.

⁹³Chief Engineer Report, [1920], 2:2786-87; [1921], 1:1419-21; [1940] 2:1843; Johanson, *This Land, the Ontonagon*, 82.

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Ontonagon Harbor Piers Historic District
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sandstone on top of exposed crib filling. As a result of this project, combined with the 1922 stonework, 86 percent of the crib work had been covered with stone (see historic photos #6-8 of 10). In 1928 and 1929, the outer 734 feet of the west pier had its superstructure replaced with stone at a cost of \$14,357. Between 1930 and 1931, application of a stone superstructure to 130 feet of west pier and 1,319 feet of the east pier was completed. These repairs cost \$39,725.⁹⁴

After World War I, the Ontonagon port switched from an emphasis on export shipping to one that focused on imports. The second copper boom had subsided and the lumber industry continued to wane. For most of the 1920s and 1930s, records indicate little--if any--export tonnage. Most of the shipping from Ontonagon that did occur was done via railroad. In 1923, the COE reported that "commerce [had] practically ceased using this harbor." The primary receipt at the port was coal to fuel both homes and industry. Annual shipments ranged between nineteen and thirty-nine thousand tons. No passenger statistics for the time period were recorded but, as a whole, the Keweenaw Waterway -- through which many ships bound for Ontonagon traveled -- recorded only one to two thousand passengers annually. Conversely, recreational vessels using the harbor numbered approximately six hundred in the late 1930s.⁹⁵

The last substantial historic pier rehabilitation occurred between 1932 and 1936, when the COE covered a large portion of the piers with concrete (see historic photos 10 & 11 for images of the piers prior to the application of the concrete cap). In 1932, a concrete cap was applied to 1,069 feet of the west pier. Two years later, 689 feet of the east pier's inner portion was rehabilitated, while 160 feet of east pier subsequently received a concrete covering in 1936. Additionally, the east pier's channelside timber substructure had a 786-foot section encased with steel plate in order to prevent damage from both ice and current. Upon the project's completion, 853 feet of the east pier was concrete encased, as was 1,069 feet of the west pier. The cost totaled \$65,5289 and was completed by hired labor using COE equipment.⁹⁶

In 1937, Congress authorized a third project for Ontonagon Harbor. The rehabilitated piers were deemed sufficient, thus the new undertaking focused on dredging and routine maintenance. The most significant improvement consisted of the excavation of a seventeen-

⁹⁴Chief Engineer Report, [1923], 1:1298-1301; [1929], 1:1325-27; [1930], 1:1412; [1931], 1:1430.

⁹⁵COE, "History of Ontonagon Harbor, Michigan," 30-32; Quote in Chief Engineer Report, [1923], 1:1301; [1932], 2:749; [1940], 2:889.

⁹⁶Chief Engineer Report, [1933], 1:848; [1935], 2:1151; [1936], 1:1157-58; COE, "History of the Ontonagon Harbor, Michigan," 23-24.

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foot-deep, flared channel that extended from the mouth of the pier channel into the lake. The pier channel itself was to be maintained at a fifteen to seventeen foot depth, while the harbor's depth of fifteen feet was considered adequate.⁹⁷

After World War II, the COE judged the piers to be in "fair" condition and completed necessary repairs. Beginning in 1948, ninety-six feet of the west pierhead received a sheet steel piling jacket. Also, replacement of the west pier's timber fenders began with a total of 1,070 feet of the west pier's timber fenders by 1949. The next year, the west pierhead received 1,878 tons of riprap. Shipping statistics for the period after World War II and into the early 1950s indicate that harbor shipping ranged between fourteen and fifty thousand tons annually. Most of the traffic consisted of small recreational craft. In 1963, an automatic, battery-powered light and foghorn was installed at the end of the east pier. The historic lighthouse closed the next year.⁹⁸

Use of Ontonagon Harbor has been sporadic through the 1980s and 1990s. Depending on the health of local industry and number of area road construction projects, shipments into the harbor have been as high as 393,008 tons (1994) or as low as 55,587 tons (1995). Generally, harbor imports have consisted of coal, limestone and other raw materials. Additionally, a number of recreational vessels use the harbor.

In 1982, the Upper Peninsula Shipbuilding Company (UPSCO) encapsulated for its own use 545 feet of the east pier with sheet steel piling and concrete deck. UPSCO had planned to build barges in Ontonagon, but the venture failed. In the 1990s, the Corps of Engineers conducted a significant repair and improvement program for the harbor piers. A few years prior to the alterations, Barr Engineering Company of Minneapolis created plans of proposed alterations. Half-section drawings were completed of the piers at that time. The drawings clearly illustrated that the original crib construction of the piers remained. In the early 1990s, the Michigan State Historic Preservation Office noted that the piers appeared to represent some of the earliest examples of federally built piers on the Great Lakes. The COE later determined that the piers were eligible for National Register listing.

In 1992, 1,069 feet of the west pier's channelside wall was jacketed with sheet steel piling, an action that effectively encapsulated the original wooden crib substructure.

⁹⁷Chief Engineer Report, [1938], 2:1406-07; E.J. Duganne, "Ontonagon Harbor, Michigan Standard Harbor Control Chart Sheet #1," on file at Ontonagon County Historical Society Harbor Files, Ontonagon, MI.

⁹⁸Chief Engineer Report, [1948], 2:2133; [1949], 2:1926; [1950], 2:1977; [1952], 2:1054; Ontonagon County Historical Society, "The Ontonagon Lighthouse," on file at Ontonagon County Historical Society. Placement of the lighthouse on the National Register of Historic Places occurred in 1975.

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The remaining 1,400 feet of pier wall was similarly treated in 1995. Three-inch rock filled the area between the original wooden crib and the steel structure. 1,473 feet of the east pier was similarly treated in 1995. Regretfully, the new pilings altered the movement of in-coming waves. And that led to increased riverbank erosion in the village. In addition to pleasure boats, the harbor today is a port of refuge for Lake Superior shipping and a port of call for a few coal ships that supply the local pulp paper mill.⁹⁹

Discussion Regarding Criterion A:

Ontonagon's heyday has long since passed. The copper boom of the 1850s and 1860s proved the community's most influential period, a time when Ontonagon was one of the principal settlements edging Lake Superior. Although its significance as a Lake Superior port would never again reach the heights attained in the mid-1800s, it is clear the community still owes its existence to its harbor. If not for the foresight of early pioneers determined to establish and maintain harbor facilities at the mouth of the Ontonagon River the community never would have survived. The abundant copper in the region certainly spurred the initial growth of the town, but mining is a bittersweet industry on which to hinge an existence. The mines around Ontonagon have been closed about as frequently as they have been open. It is not copper that has kept the town from altogether failing but rather the harbor. While the harbor today handles few outgoing shipments, it is still a port of entry for ships supplying local industry, especially the local paper mill. For these reasons, the piers that comprise the primary elements of Ontonagon's harbor are eligible for listing in the National Register of Historic Places under Criterion A.

Discussion regarding Criterion C:

During the nineteenth century timber-crib engineering was one of the most popular methods of construction for maritime structures. The reliability of the building method compelled early twentieth-century engineering authors to continue lauding its use for subaqueous

⁹⁹Jan Tucker, "Mine Closing Affects Harbor, Ironwood (MI) Daily Globe, 09 November 1995; "Harbor Shipments Unexpectedly Big," 09 May 1994; *Ontonagon Herald*, 05 July 1995; Ruth Ristola, Ontonagon County Historical Society President, Interview with Brian Faltinson, 01 July 1999, Notes on file at Heritage Research, Ltd., Menomonee Falls, WI; "East Breakwater, West Breakwater," US Army Corp of Engineers Duluth Office, Duluth MN, Ontonagon Harbor Files. Post-war statistics on types of materials being shipped to and from the Ontonagon Harbor were not available. See also COE, "Environmental Assessment: Repair and Maintenance to Sections A of the East and West Breakwaters, Ontonagon Harbor, Ontonagon County, Michigan," 1993, report prepared for the US Army Corps of Engineers, Detroit District, available at the Michigan Library, Lansing, 4-5; Engineering drawings of proposed alterations to the piers at Ontonagon Harbor, May 4, 1990, prepared by Barr Engineering Company of Minneapolis for the COE, available at the Ontonagon County Economic Development Corporation, Ontonagon County Courthouse, Ontonagon, MI.

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structures. Documentary evidence implies that the piers at Ontonagon Harbor are comprised of some of the earliest surviving federally constructed timber cribs on the Great Lakes. Although the timber cribs have been encapsulated, this should not adversely influence determination of integrity. Timber cribbing is an unusual historic resource since it is generally submerged within bodies of water, thus obscuring its physical features. Enclosing the timber cribs at Ontonagon Harbor within steel sheet piling does not undermine their integrity since historically they have been concealed by the waters of Lake Superior. Moreover, encapsulation of nineteenth-century timber-crib maritime structures is not unique. In fact, the State Historic Preservation Office in Michigan has reviewed many harbor facilities and has never encountered any with visible nineteenth-century timber cribbing. As a result, the piers at Ontonagon Harbor are eligible for the National Register of Historic Places under Criterion C.

Discussion Regarding Criterion D:

Starting in the early years of the nineteenth century, the ability to ship commodities on the Great Lakes has been critical to the economic vitality of many industries and communities. Starting with modest vessels under sail, after which steam ships came, technology has evolved in such a fashion that ships now are 1,000 feet long and powered with diesel engines. Similarly, the technology employed in harbor development and construction has changed over the years. Early harbor facilities were erected with timber and rocks, while those today employ steel and concrete. Accordingly, any extant nineteenth century, timber and rock structures on the Great Lakes could yield significant information about the technology and method of construction employed. Therefore, the extant nineteenth-century timber-crib piers at Ontonagon Harbor are eligible for the National Register of Historic Places under Criterion D.

Primary Location of Additional Data

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

Name of repository: _____

10. Geographical Data

Acreage of Property approximately 16 acres

UTM References (Place additional UTM references on a continuation sheet)

Zone	Easting	Northing	Zone	Easting	Northing		
A	<u>16</u>	<u>322820</u>	<u>5193550</u>	C	<u>16</u>	<u>322460</u>	<u>5194200</u>
B	<u>16</u>	<u>322380</u>	<u>5194220</u>	4	<u>16</u>	<u>322860</u>	<u>5193600</u>

___ 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 Brian J. Faltinson and John N. Vogel (Heritage Research, Ltd.), and
Denis Gardner (Hess, Roise and Company)

organization Heritage Research, Ltd. and Hess, Roise and Company

date August 1999 and March 2001

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city or town Minneapolis state MN zip code 55401

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)

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Ontonagon Harbor Piers Historic District
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Verbal Boundary Description

The district boundary corresponds roughly to a rectangle, following the outside edge of the 2,315-foot east pier and 2,560-foot west pier, encompassing the 237-foot-wide channel.

Boundary Justification

The boundary includes the entire historic resource.

Property Owner

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

name US Army Corps of Engineers
street & number 477 West Michigan Avenue telephone (313) 226-6413
city or town Detroit state MI zip code 48231

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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ONTONAGON HARBOR PIERS (Reproduction of 1859 harbor chart)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo Reprint by Ontonagon County Historical Society
Acquired July 1999
View to N/A
Photo #1 of 10

ONTONAGON HARBOR PIERS (1860 view of harbor)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo Reprint by Ontonagon County Historical Society
Acquired July 1999
View to West
Photo #2 of 10

ONTONAGON HARBOR PIERS (1921 view of east pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo Reprint by Ontonagon County Historical Society
Acquired July 1999
View to South Southeast
Photo #3 of 10

ONTONAGON HARBOR PIERS (1921 view if east pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo Reprint by Ontonagon County Historical Society
Acquired July 1999
View to Southeast
Photo #4 of 10

ONTONAGON HARBOR PIERS (1922 view of east pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo Reprint by Ontonagon County Historical Society
Acquired July 1999
View to South
Photo #5 of 10

ONTONAGON HARBOR PIERS (1926 view of west pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo Reprint by Ontonagon County Historical Society
Acquired July 1999

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Ontonagon Harbor Piers Historic District
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View to Uncertain
Photo #6 of 10

ONTONAGON HARBOR PIERS (1926 view of east pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo Reprint by Ontonagon County Historical Society
Acquired July 1999
View to Southeast
Photo #7 of 10

ONTONAGON HARBOR PIERS (1926 view of Ontonagon Harbor)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo Reprint by Ontonagon County Historical Society
Acquired July 1999
View to Southeast
Photo #8 of 10

ONTONAGON HARBOR PIERS (1932 close-up view of rocks on east pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo Reprint by Ontonagon County Historical Society
Acquired July 1999
View to Southeast
Photo #9 of 10

ONTONAGON HARBOR PIERS (1932 close-up view of rocks on east pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo Reprint by Ontonagon County Historical Society
Acquired July 1999
View to Northeast
Photo #10 of 10

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ONTONAGON HARBOR PIERS (Perspective view)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to Northwest
Photo #1 of 20

ONTONAGON HARBOR PIERS (West side of west pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to North
Photo #2 of 20

ONTONAGON HARBOR PIERS (Harbor/Ontonagon River mouth)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to North Northwest
Photo #3 of 20

ONTONAGON HARBOR PIERS (West pier: capping on corrugated steel side walls)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to Northwest
Photo #4 of 20

ONTONAGON HARBOR PIERS (Light at end of west pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to Northwest
Photo #5 of 20

ONTONAGON HARBOR PIERS (East pier in foreground)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999

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View to Northwest
Photo #6 of 20

ONTONAGON HARBOR PIERS (Corrugated steel sidewalls and stone capping on east pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999

View to Northeast
Photo #7 of 20

ONTONAGON HARBOR PIERS (End of east pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999

View to Northeast
Photo #8 of 20

ONTONAGON HARBOR PIERS (Close-up view of stone capping on west pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999

View to Southeast
Photo #9 of 20

ONTONAGON HARBOR PIERS (Close-up view of stone capping on east pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999

View to Southeast
Photo #10 of 20

ONTONAGON HARBOR PIERS (Protruding timber near end of west pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999

View to North
Photo #11 of 20

ONTONAGON HARBOR PIERS (Damaged portion on east sidewall of west pier)
Ontonagon River at Lake Superior

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Name of property
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Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to Southeast
Photo #12 of 20

ONTONAGON HARBOR PIERS (Section of east pier under reconstruction)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to East Southeast
Photo #13 of 20

ONTONAGON HARBOR PIERS (Section of east pier under reconstruction)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to Southeast
Photo #14 of 20

ONTONAGON HARBOR PIERS (Close-up view of section of east pier under reconstruction)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to Southeast
Photo #15 of 20

ONTONAGON HARBOR PIERS (Barge off-loading debris excavated from east pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to Northwest
Photo #16 of 20

ONTONAGON HARBOR PIERS (Debris from east pier)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to North Northwest
Photo #17 of 20

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Ontonagon Harbor Piers Historic District
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ONTONAGON HARBOR PIERS (Close-up of debris from east pier-note mortise & tenon features)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to North Northwest
Photo #18 of 20

ONTONAGON HARBOR PIERS (Debris from east pier-note timber planking and concrete capping)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to North Northwest
Photo #19 of 20

ONTONAGON HARBOR PIERS (Adjacent, National Register-listed Ontonagon Lighthouse)
Ontonagon River at Lake Superior
Ontonagon, Ontonagon County, MI
Photo by John N. Vogel
July 1999
View to West
Photo #20 of 20

Ontonagon Harbor Piers

Ontonagon, MI

Figures

Ontonagon Harbor Piers
Ontonagon, Ontonagon County, MI

A: 16/322820/5193550

B: 16/322380/5194220

C: 16/322460/5194200

D: 16/322860/5193600

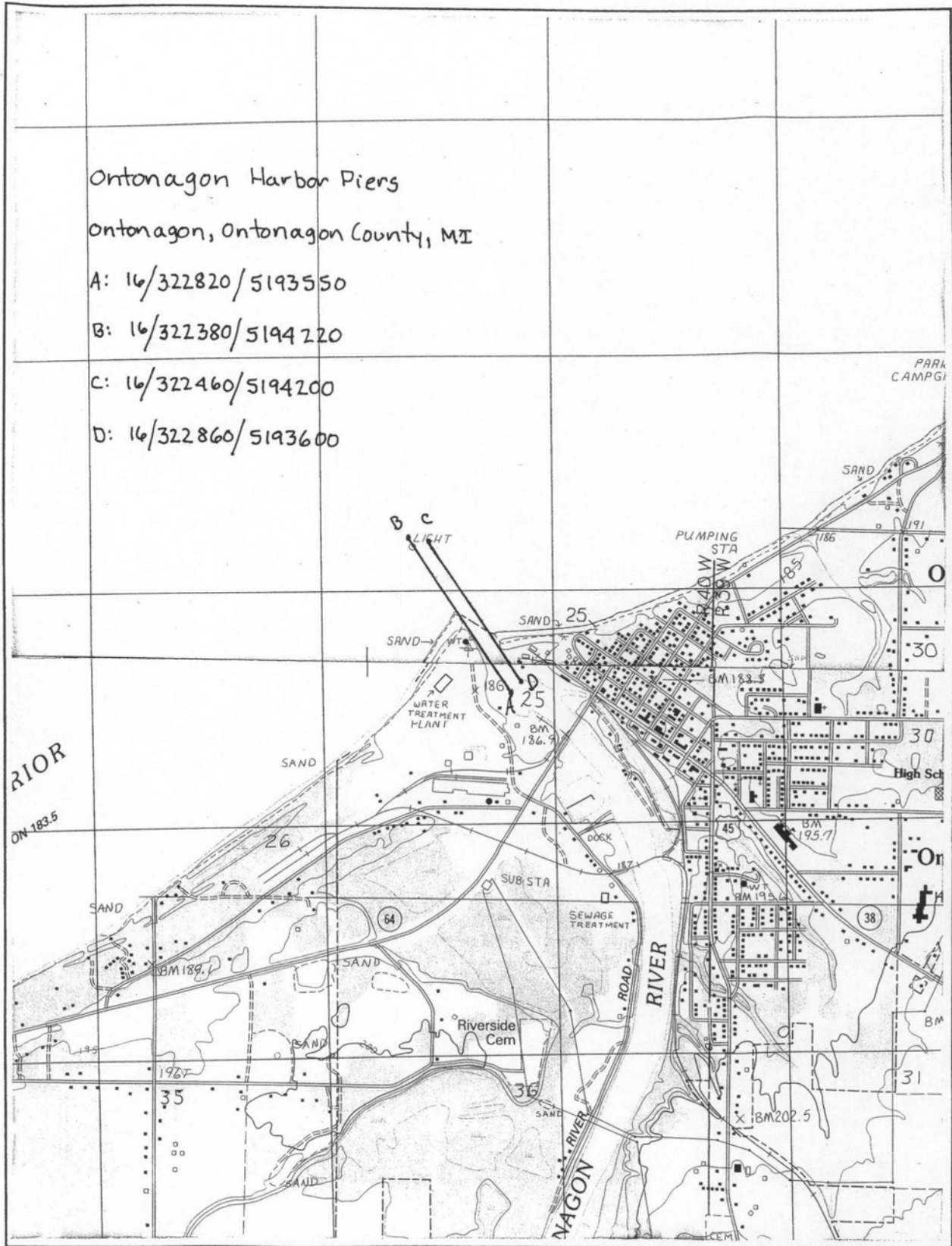
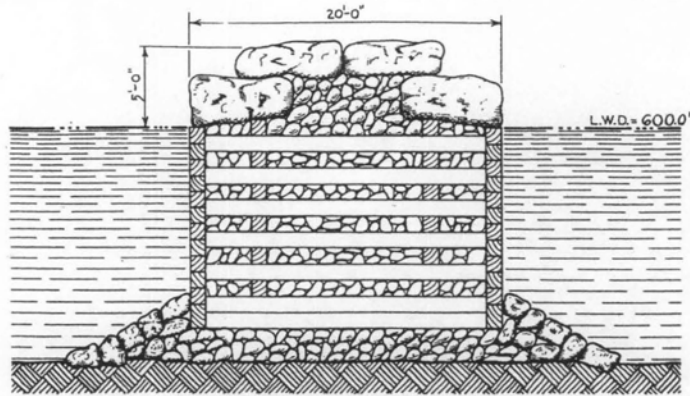
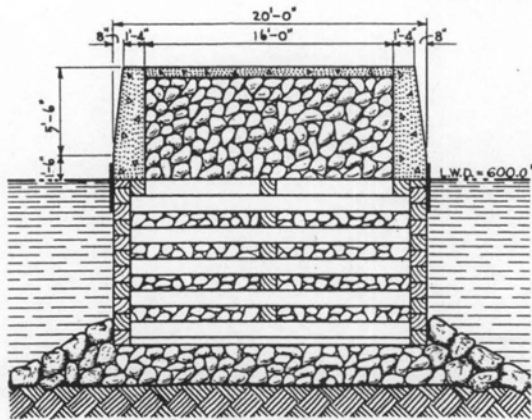


Figure 1: USGS Map showing location and UTM coordinates of piers. (7.5 minute quads: Ontonagon South and North.)

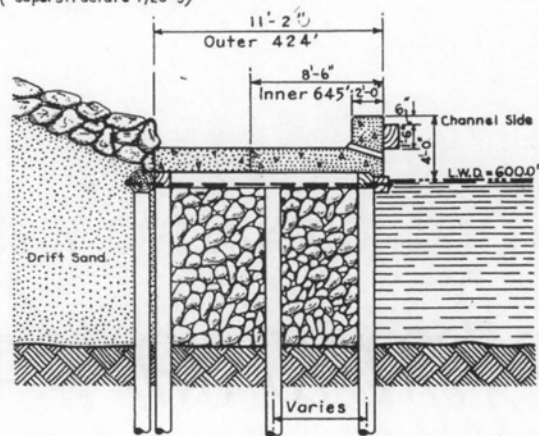


WEST PIER AND EAST PIER
 1398' beginning 96' from end, West Pier; Built { Substructure 1875-90.
 Superstructure 1920-35.
 Outer 1515' of East Pier; Built { Substructure 1868-79.
 Superstructure 1920-35



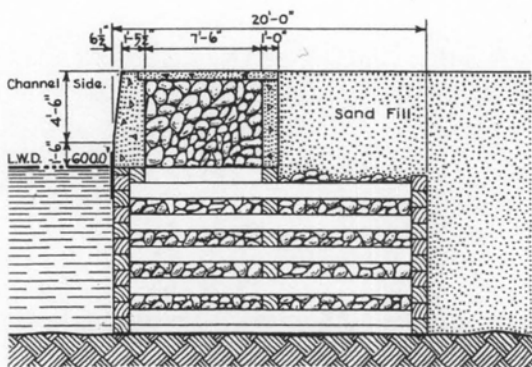
254'-6" Beginning 549'-6" from Inner End
 Built { Substructure 1881-82.
 Superstructure 1935-36.

EAST PIER
B



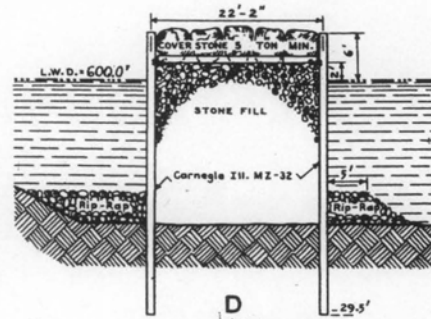
Inner 1069' Built { Substructure 1868-72; 1913.
 Superstructure 1933.

WEST PIER
E



Inner 549'-6" Built { Substructure 1882-88.
 Superstructure 1935-36.

EAST PIER
C



Pierhead-96' Rebuilt 1947

WEST PIER
D

Scale of Feet

EXISTING CONDITIONS

RIVER & HARBOR PROJECT
 LAKE SUPERIOR
ONTONAGON HARBOR
MICHIGAN
 IN 2 SHEETS ONTONAGON COUNTY SHEET NO. 2
 SCALE IN FEET
 U. S. ARMY ENGINEER DISTRICT, DETROIT
 30 SEPTEMBER 1985

Figure 3: 1985 Diagram of crib construction that was extant and apparent prior to reconstruction in the early 1990s.

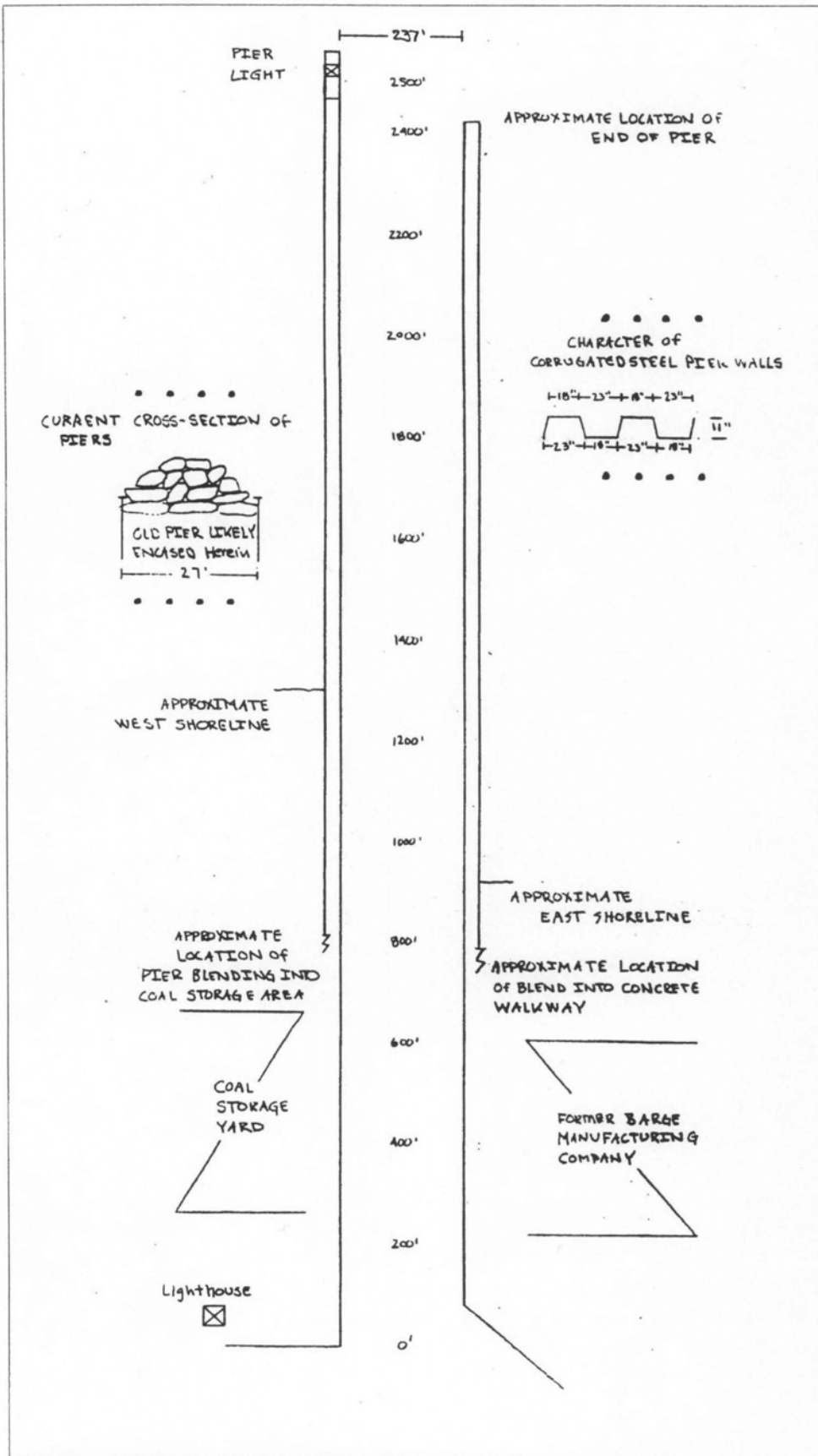
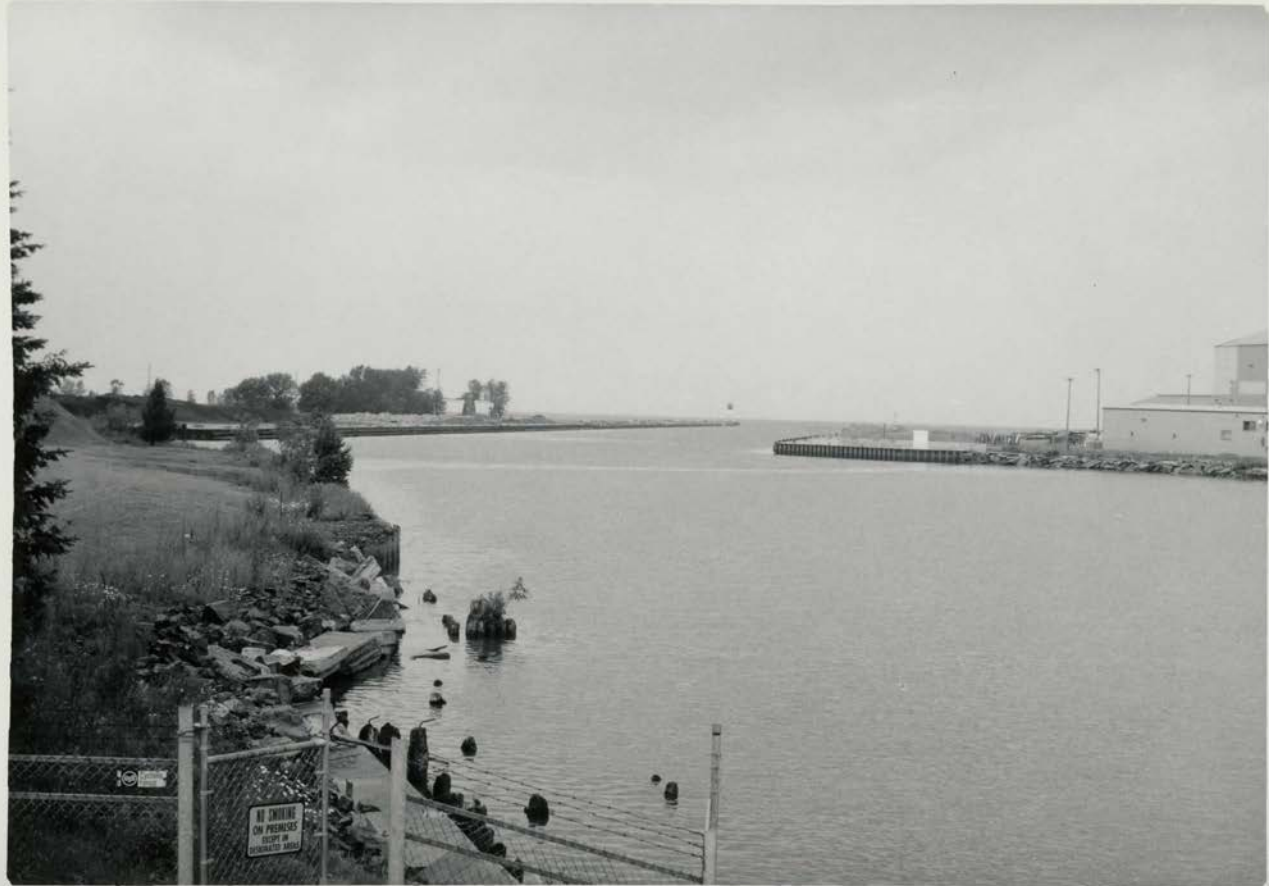


Figure 4: Sketch Map of current facility.

Ontonagon Harbor Piers

Ontonagon, MI

Historic Photographs



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI

Photo #1 of 20



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI Photo #2 of 20

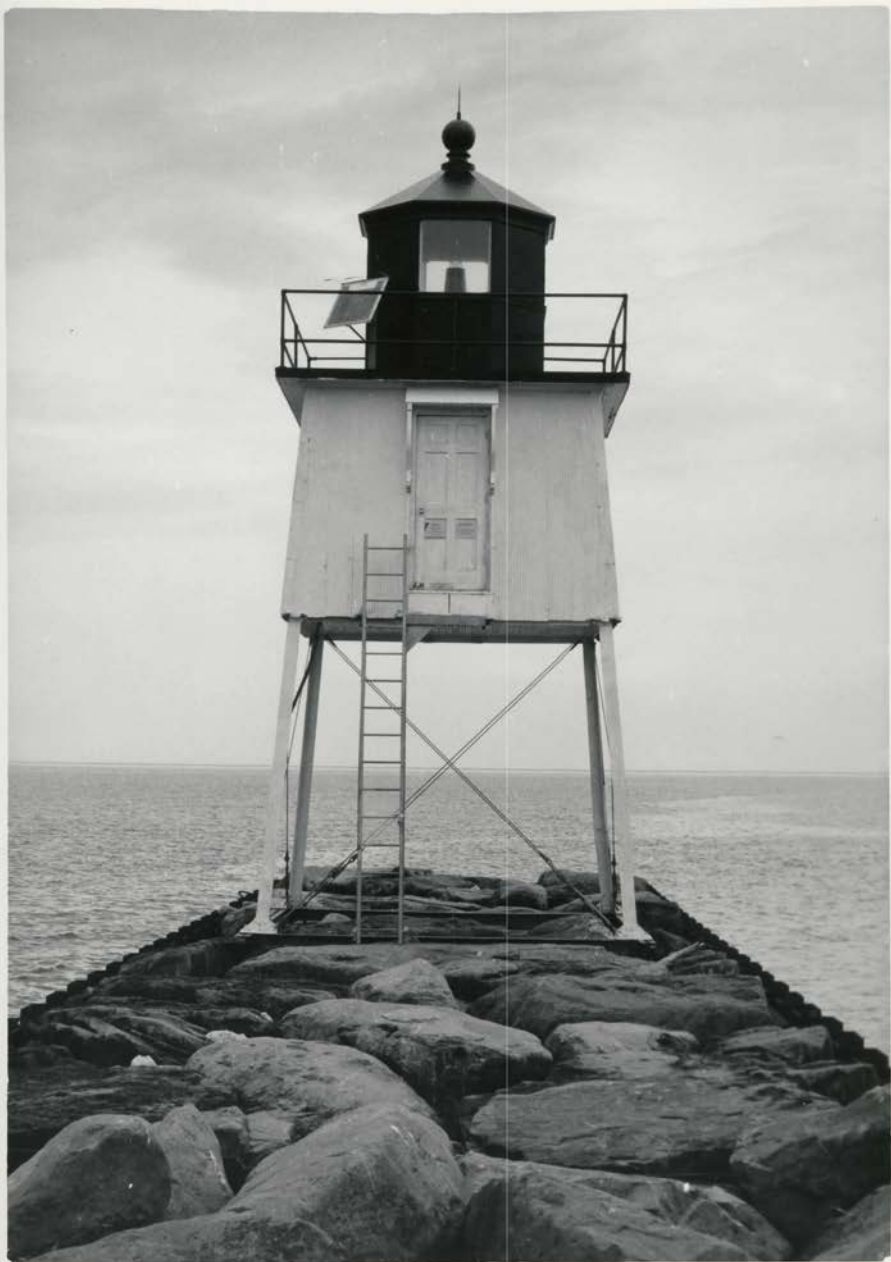


Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI

Photo # 3 of 20



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI Photo #4 of 20



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI Photo #5 of 20



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI. Photo # 10 of 20



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI

Photo #7 of 20



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI

Photo #8 of 20



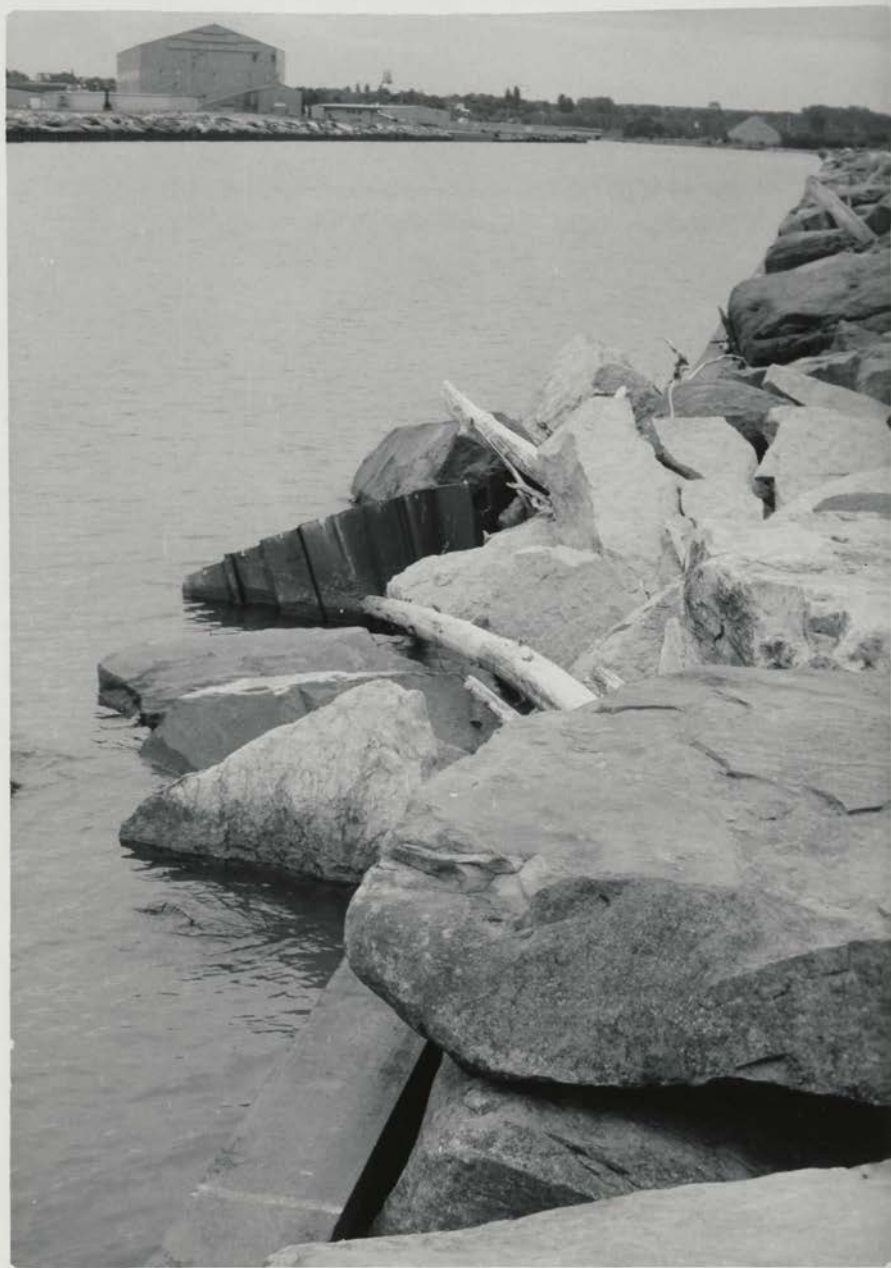
Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI Photo # 9 of 20



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI Photo #10 of 20



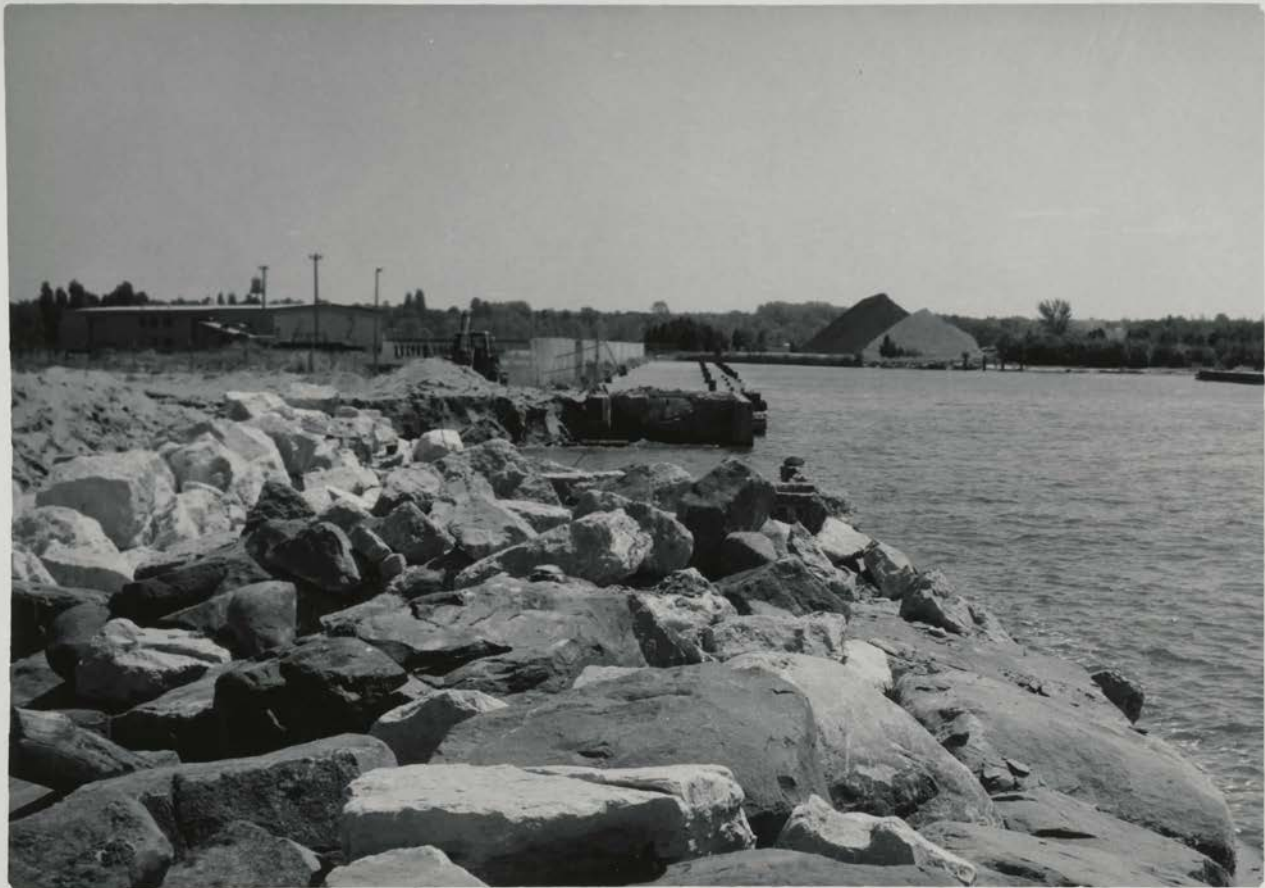
Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI Photo # 11 of 20



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI Photo# 12 of 20



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI Photo #13 of 20



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI Photo #14 of 20



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI Photo #15 of 20



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI Photo #16 of 20



Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI Photo #17 of 20



Harbor Piers, Ontonagon, Ontonagon County, MI Photo # 18 of 20



Harbor Piers, Ontonagon, Ontonagon County, MI Photo #19 of 20



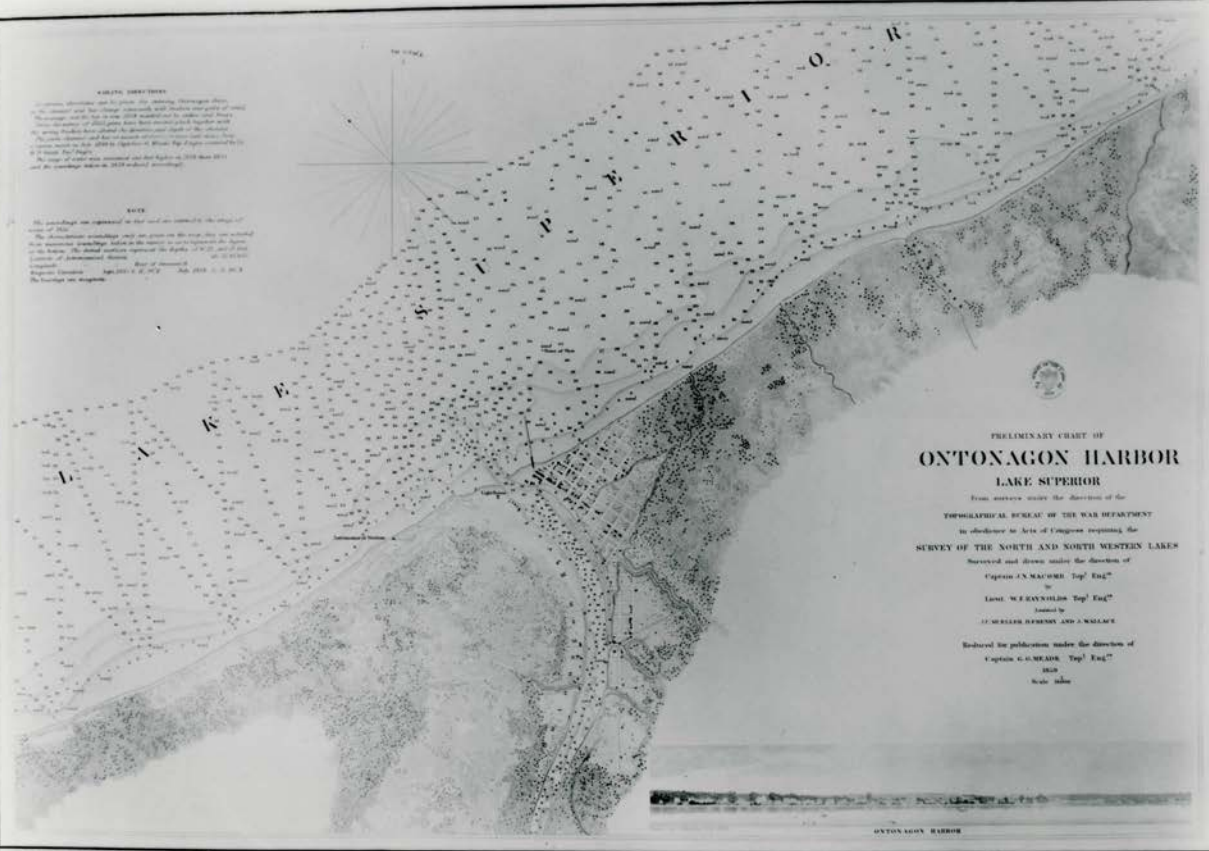
Ontonagon Harbor Piers, Ontonagon, Ontonagon County, MI Photo # 20 of 20

WINDY LIGHT SIGNALS

Continued observations and the present day observations, observations taken in the harbor and the change in the wind direction and force of wind. The average and the day in one 24-hour period are shown and the change in the direction of the wind from one day to the next. The wind direction and force of wind are shown in the same manner as in the 24-hour period. The wind direction and force of wind are shown in the same manner as in the 24-hour period. The wind direction and force of wind are shown in the same manner as in the 24-hour period.

NOTE

All soundings are expressed in fathoms and are referred to the depth of 100 fathoms. The soundings are expressed in fathoms and are referred to the depth of 100 fathoms. The soundings are expressed in fathoms and are referred to the depth of 100 fathoms. The soundings are expressed in fathoms and are referred to the depth of 100 fathoms.

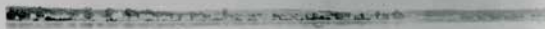


PRELIMINARY CHART OF
ONTONAGON HARBOR
 LAKE SUPERIOR

From surveys under the direction of the
 TOPOGRAPHICAL BUREAU OF THE WAR DEPARTMENT
 in obedience to Acts of Congress requiring the
 SURVEY OF THE NORTH AND NORTH WESTERN LAKES

Surveyed and drawn under the direction of
 Captain J. N. MAFFORD, Top^l Eng^l
 by
 Lieut. W. E. KAYSHILD, Top^l Eng^l
 assisted by
 J. S. MILLER, DEWNEY AND A. WELLS

Reduced for publication under the direction of
 Captain G. S. MERRILL, Top^l Eng^l
 1888
 Scale 1:50,000



ONTONAGON HARBOR

ONTONAGON HARBOR PIER 5, ONTONAGON, ONTONAGON CO., MI HISTORIC PHOTO # 1 of 10



ONT. HARBOR 1860

ONTONAGON Harbor Piers, ONTONAGON, ONTONAGON Co., MI Historic Photo # 20510



Ontonagon, Michigan.
North end of east pier.
April 29, 1921.

ONTONAGON HARBOR PIERS, ONTONAGON, ONTONAGON CO., MI HISTORIC PHOTO # 30 OF 10



Onion Island - Michigan
North end of west pier.
April 5, 1921.

ONTONAGON HARBOR PIER, ONTONAGON, ONTONAGON CO., MI. HISTORIC PHOTO # 4 OF 10



Ontonagon, Mich
East Pierhead
May 8, 1922.

ONTONAGON HARBOR PIERS, ONTONAGON, ONTONAGON CO., MI HISTORIC PHOTO # 5 of 10



Ontonagon, Mich.
West Pier May 7, 1926.

ONTONAGON HARBOR PIER, ONTONAGON, ONTONAGON CO., MI HISTORIC PHOTO #6 OF 10

7
86



Ontonagon, Mich.
East Pier May 7, 1926.

ONTONAGON HARBOR PIER 5, ONTONAGON, ONTONAGON CO., MI HISTORIC PHOTO 7 OF 10

$\frac{7}{86}$



Ontonagon, Mich.
Entrance - May 7 1926.

ONTONAGON HARBOR PERS. ONTONAGON, ONTONAGON CO., MI HISTORIC PHOTO # 8 OF 10



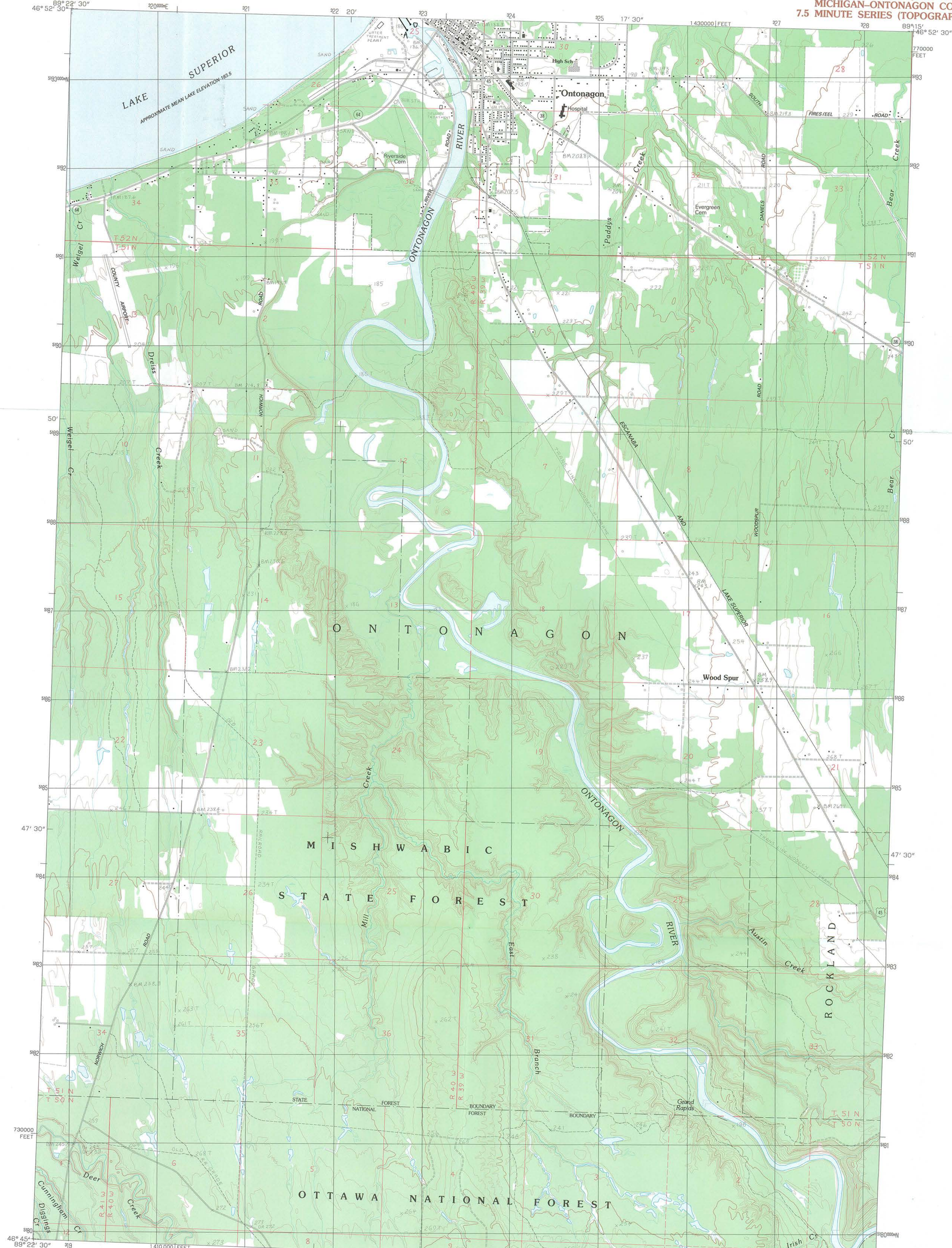
4/24/32 - ONTONAGON
EAST PIER - STA. 19+00
LOOKING TOWARD HARBOR

ONTONAGON HARBOR PIERS, ONTONAGON, ONTONAGON CO., MI HISTORIC PHOTO # 90F10



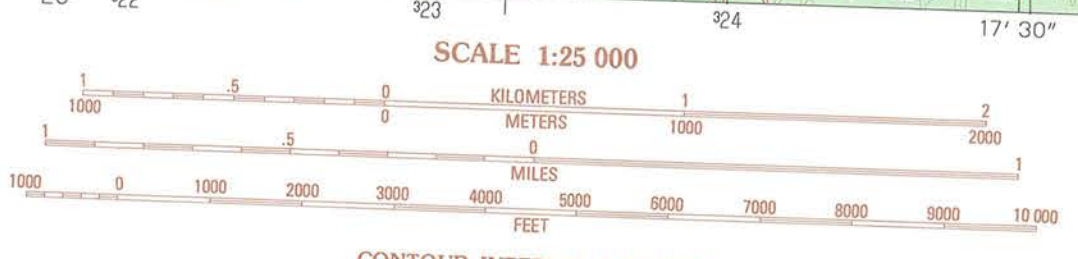
4/24/32 - ONTONAGON
EAST PIER - STA. 13400
CHANNEL SIDE

ONTONAGON HARBOUR PIERES, ONTONAGON, ONTONAGON Co., MI HISTORIC PHOTO # 10 OF 10



PRODUCED BY THE UNITED STATES GEOLOGICAL SURVEY
CONTROL BY USGS AND NOS/NOAA
COMPILED BY DIGITAL-PHOTOGRAMMETRIC METHODS FROM AERIAL
PHOTOGRAPHS TAKEN 1977
MAP EDITED 1976
FIELD CHECKED 1977
PROJECTION LAMBERT CONFORMAL CONIC
GRID: 1000-METER UNIVERSAL TRANSVERSE MERCATOR ZONE 16
10,000-FOOT STATE GRID TICKS MICHIGAN, NORTH ZONE
UTM GRID DECLINATION 141° WEST
1982 MAGNETIC NORTH DECLINATION 1927 NORTH AMERICAN DATUM
VERTICAL DATUM NATIONAL GEODETIC VERTICAL DATUM OF 1929
HORIZONTAL DATUM To place on the predicted North American Datum of 1983
move the projection lines as shown by dashed corner ticks
(6 meters north and 9 meters east)
There may be private inholdings within the boundaries of any
Federal and State reservations shown on this map

PROVISIONAL MAP
Produced from original
manuscript drawings. Infor-
mation shown as of date of
field check.



SCALE 1:25 000
CONTOUR INTERVAL 5 METERS
CONTROL ELEVATIONS SHOWN TO THE NEAREST 0.1 METER
OTHER ELEVATIONS SHOWN TO THE NEAREST METER
To convert meters to feet multiply by 3.2808
To convert feet to meters multiply by 0.3048
FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
AND BY THE GEOLOGICAL SURVEY DIVISION
MICHIGAN DEPARTMENT OF NATURAL RESOURCES, LANSING, MICHIGAN 48909

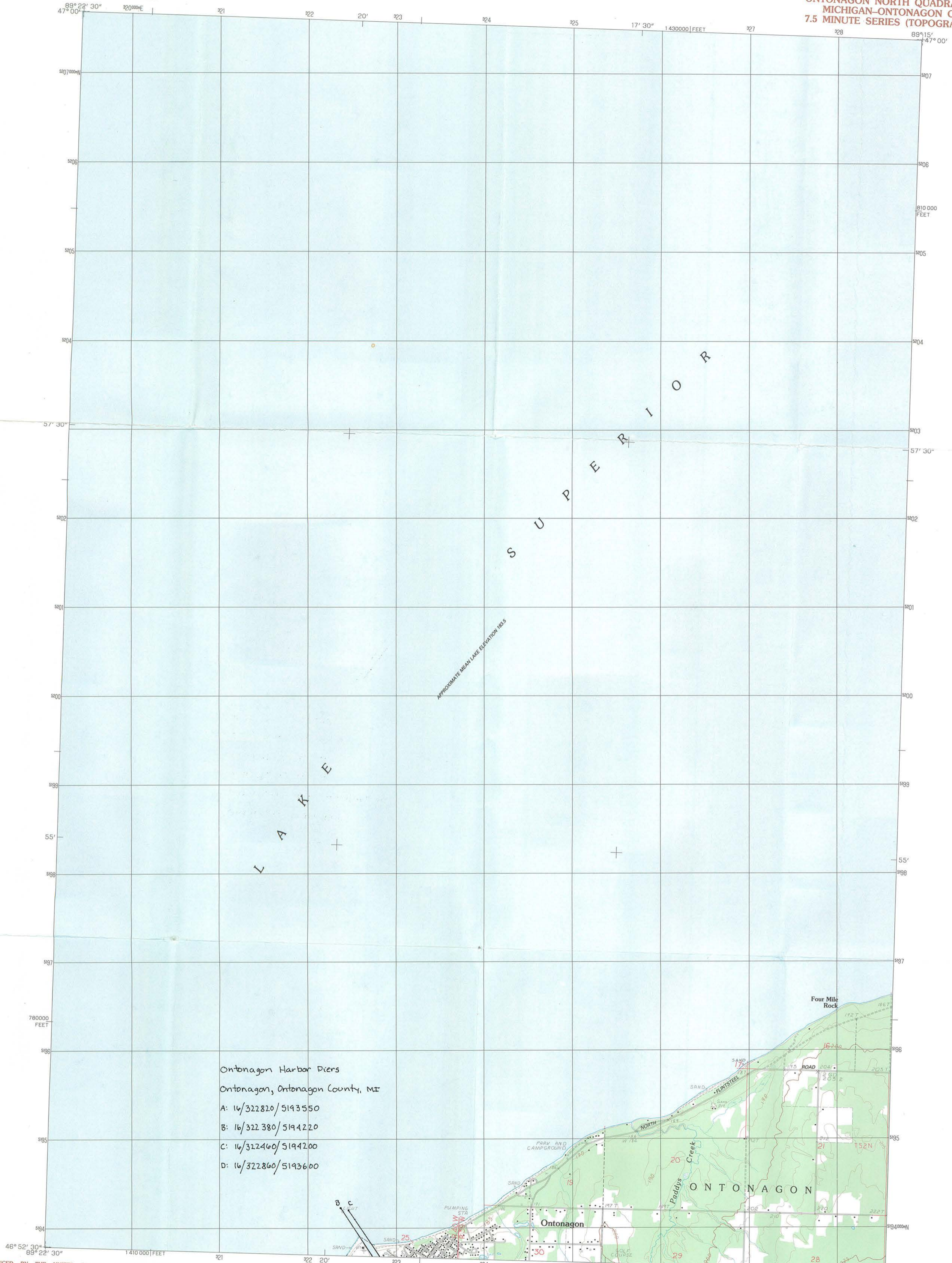
QUADRANGLE LOCATION

1	2	3	4	5	6	7	8

ADJOINING 7.5' QUADRANGLE NAMES
CONTOURS AND ELEVATIONS
IN METERS

ROAD LEGEND
Improved Road
Unimproved Road
Trail
Interstate Route
U. S. Route
State Route

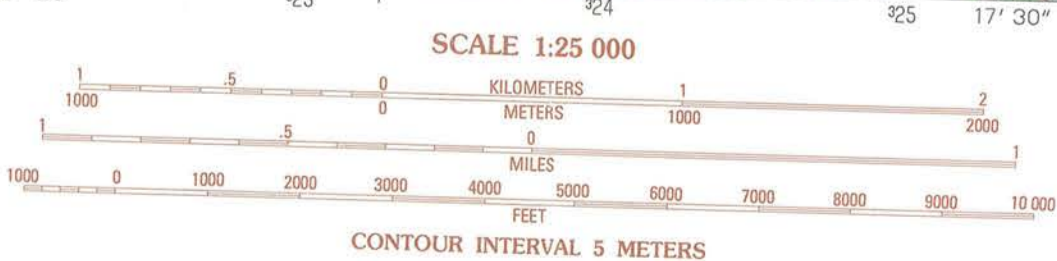
ONTONAGON SOUTH, MICHIGAN
PROVISIONAL EDITION 1982



Ontonagon Harbor Piers
Ontonagon, Ontonagon County, MI
A: 16/322820/5193550
B: 16/322380/5194220
C: 16/322460/5194200
D: 16/322860/5193600

PRODUCED BY THE UNITED STATES GEOLOGICAL SURVEY
CONTROL BY: USGS AND NOS/NOAA
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FIELD CHECKED: 1977 MAP EDITED: 1982
PROJECTION: LAMBERT CONFORMAL CONIC
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UTM GRID DECLINATION: 1982
10,000-FOOT STATE GRID TICKS: MICHIGAN, NORTH ZONE
1982 MAGNETIC NORTH DECLINATION: 141' WEST
VERTICAL DATUM: 1929 WEST
HORIZONTAL DATUM: NATIONAL GEODETIC VERTICAL DATUM OF 1929
To place on the predicted North American Datum of 1983
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PROVISIONAL MAP
Produced from original
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FOR SALE BY U.S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
AND BY THE GEOLOGICAL SURVEY DIVISION
MICHIGAN DEPARTMENT OF NATURAL RESOURCES, LANSING, MICHIGAN 48909

1	2	3	1
2	3	4	2
3	4	5	3
4	5	6	4
5	6	7	5
6	7	8	6
7	8		7
8			8

ADJOINING 7.5' QUADRANGLE NAMES
CONTOURS AND ELEVATIONS
IN METERS

ROAD LEGEND
Improved Road
Unimproved Road
Trail
Interstate Route U.S. Route State Route

ONTONAGON NORTH, MICHIGAN
PROVISIONAL EDITION 1982
46089-H3-TM-025

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION

PROPERTY ONTONAGON HARBOR PIERS HISTORIC DISTRICT
NAME:

MULTIPLE
NAME:

STATE & COUNTY: MICHIGAN, ONTONAGON

DATE RECEIVED: 10/19/01 DATE OF PENDING LIST: 11/13/01
DATE OF 16TH DAY: 11/29/01 DATE OF 45TH DAY: 12/04/01
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 01001313

REASONS FOR REVIEW:

APPEAL: N DATA PROBLEM: N LANDSCAPE: N LESS THAN 50 YEARS: N
OTHER: N PDIL: N PERIOD: N PROGRAM UNAPPROVED: N
REQUEST: N SAMPLE: N SLR DRAFT: N NATIONAL: N

COMMENT WAIVER: N

___ ACCEPT ___ RETURN ___ REJECT _____ DATE

ABSTRACT/SUMMARY COMMENTS:

RECOM./CRITERIA accept A&C

REVIEWER Patrick Andrus

DISCIPLINE Historian

TELEPHONE _____

DATE 12/4/01

DOCUMENTATION see attached comments Y/N see attached

SLR
544

Y/N



DEPARTMENT OF THE ARMY

U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

OCTOBER 12, 2001

REPLY TO
ATTENTION OF:

Planning and Policy Division
Guidance Development Branch

Ms. Carol Shull
Keeper, National Register of Historic Places
National Register, History and Education
National Park Service
Department of the Interior
Mail Stop 2280, Suite 400
Washington, D.C. 20240

Dear Ms. Shull:

Enclosed is the National Register of Historic Places nomination for the Ontonagon Harbor Piers Historic District, Ontonagon County, Michigan. This proposed historic district is administered by the U.S. Army Corps of Engineers, Detroit District. The Corps Detroit District prepared the nomination in consultation with the Michigan State Historic Preservation Officer (SHPO).

The nomination has been reviewed by Mr. Brian D. Conway, the Michigan SHPO, and the Corps Federal Preservation Officer, Mr. Paul D. Rubenstein. They certify, by signing Section 3 of the enclosure, that the Ontonagon Harbor Piers Historic District should be included in the National Register of Historic Places. We request that you take the actions necessary to list these properties.

Should you find this submittal requires revision or, if additional information is needed, please return the nomination with your requirements directly to the Corps Detroit District, to the attention of Dr. Karen Krepps. Dr. Krepps' mailing address is Commander, U.S. Army Corps of Engineers, Detroit District, ATTN: CELRE-ET-EC-E, 477 Michigan Avenue, Detroit, Michigan 48226. Copies of this letter have been provided to Dr. Krepps and to the Commander, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division, ATTN: CELRD-ET-CO (Mr. Loesch), Post Office Box 1159, Cincinnati, Ohio 45201-1159

Sincerely,

A handwritten signature in black ink that reads "James F. Johnson".

Dr. James F. Johnson
Chief, Planning and Policy Division
Directorate of Civil Works

Enclosure