



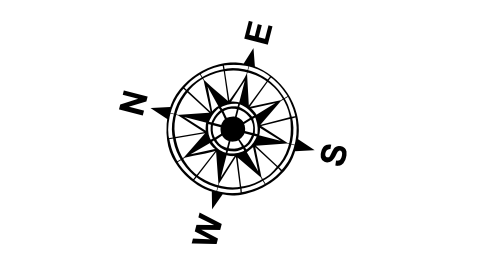
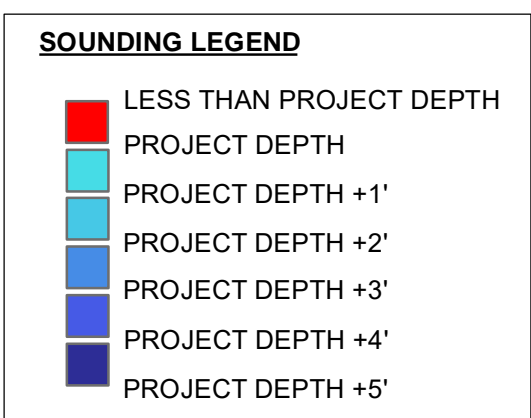
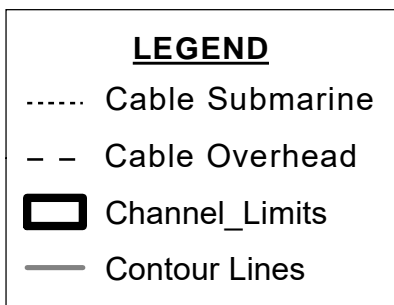
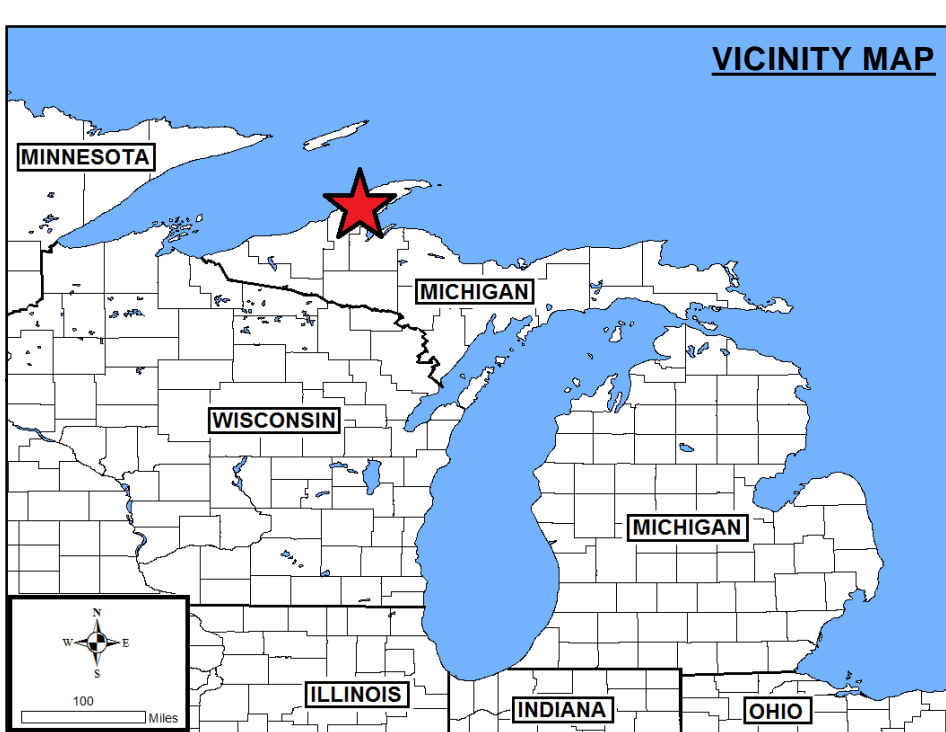
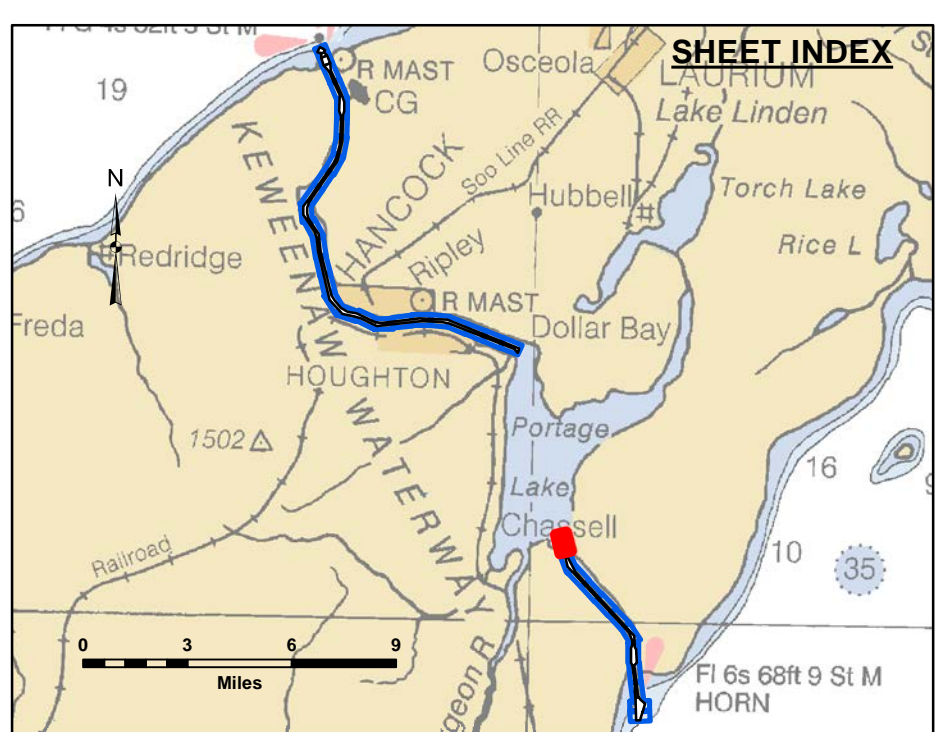
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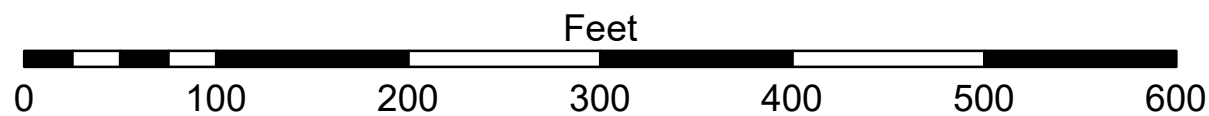
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Submitted: _____	Surveyed By: _____
Recommended: _____ Chief, Survey Section	Plotted By: _____
Approved: _____ Chief, Technical Services	Checked By: _____

**Keweenaw Waterway, MI  
Keweenaw Waterway  
KW\_01\_NAW\_20221116\_CS  
16 November 2022**

Sheet  
Reference  
Number  
**26 of 37**

Revision Number:  
4.2-20200420

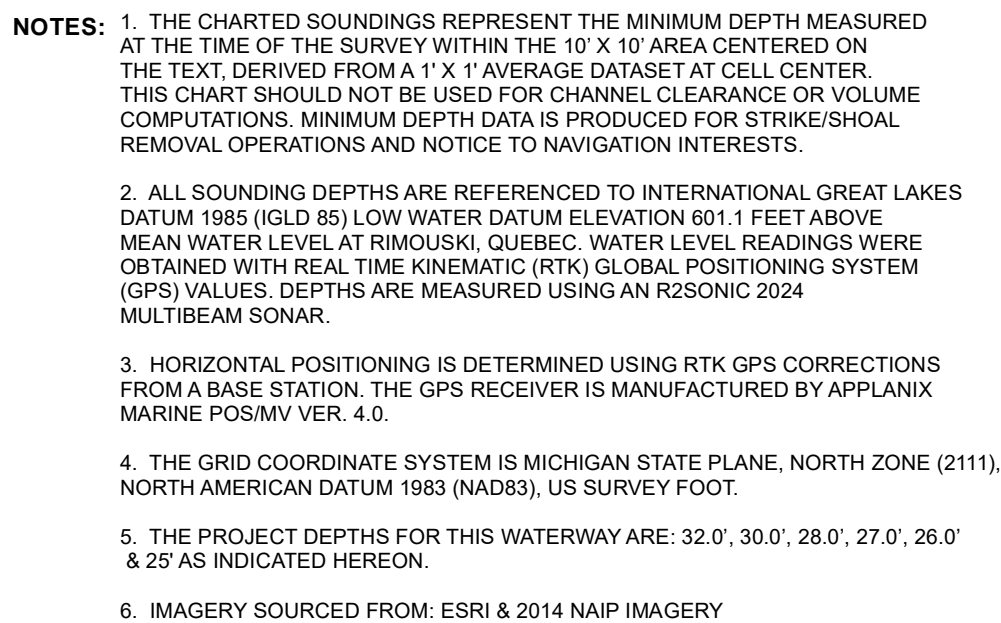
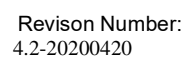
1 inch = 100 feet



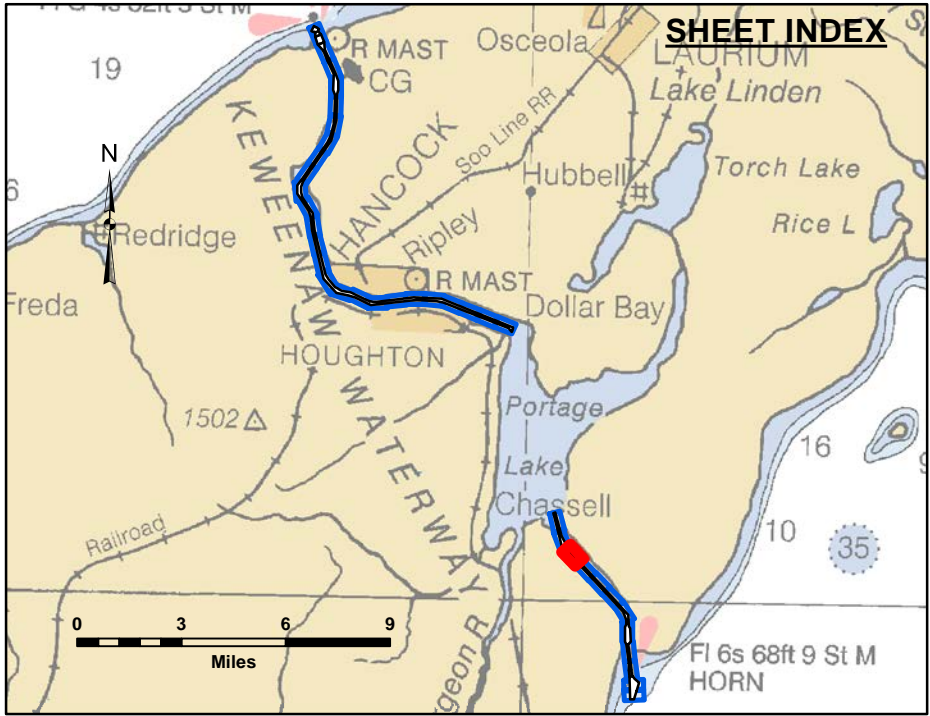
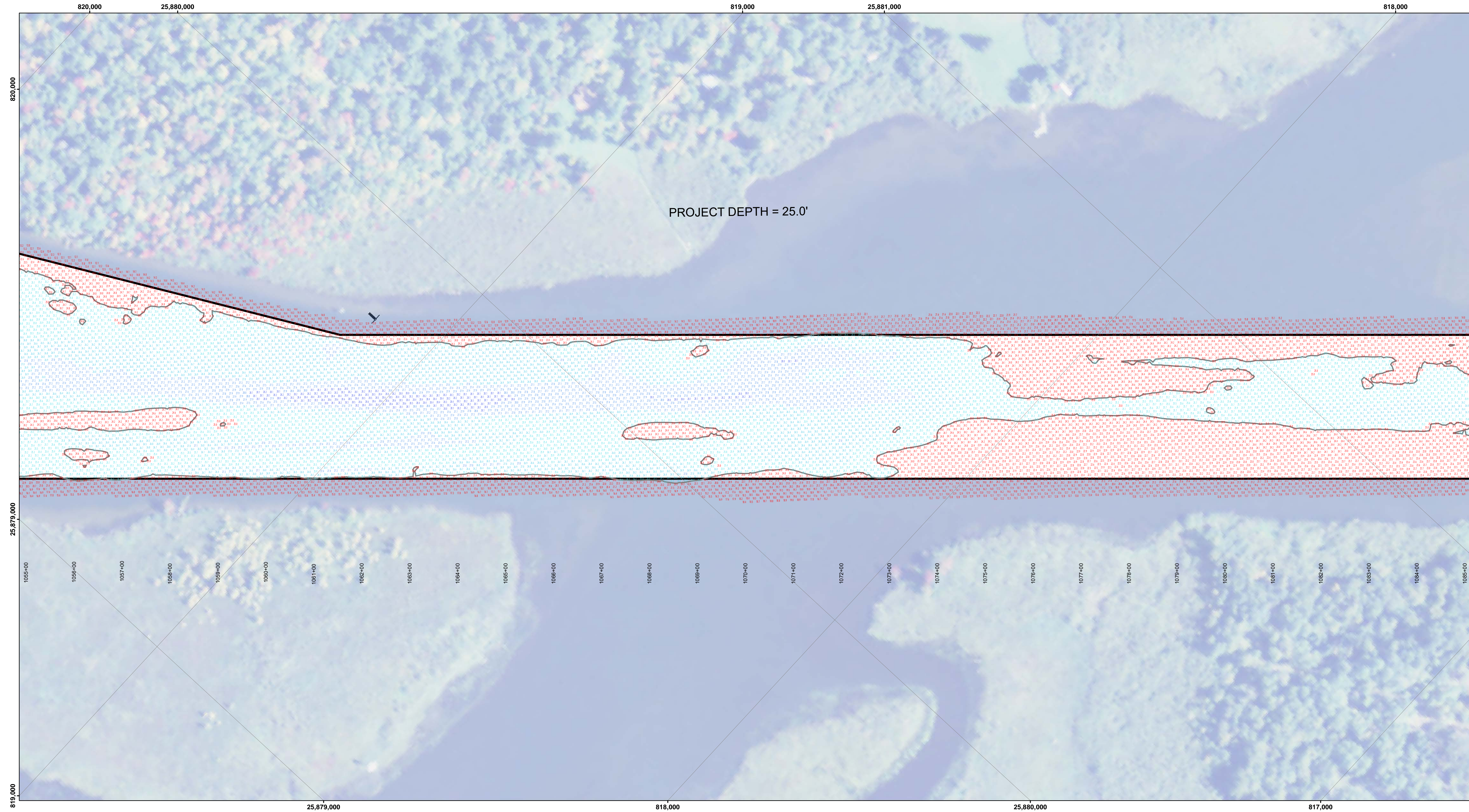
**NOTES:**

1. THE CHARTED SOUNDINGS REPRESENT THE MINIMUM DEPTH MEASURED BY THE TIME OF THE SURVEY WITHIN THE 10' X 10' AREA CENTERED ON THE TEXT, DERIVED FROM A 1" X 1" AVERAGE DATASET AT CELL CENTER. THIS CHART SHOULD NOT BE USED FOR CHANNEL CLEARANCE OR VOLUME COMPUTATIONS. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SWATH REMOVAL OPERATIONS AND NOTICE TO NAVIGATION INTERESTS.
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5. THE PROJECT DEPTHS FOR THIS WATERWAY ARE: 32'0", 30'0", 28'0", 27'0", 26'0" & 25'0" AS INDICATED HEREON.
6. IMAGERY SOURCED FROM: ESR & 2014 NAIP IMAGERY









**LEGEND**

- ..... Cable Submarine
- - Cable Overhead
- Channel\_Limits
- Contour Lines

**SOUNDING LEGEND**

- LESS THAN PROJECT DEPTH
- PROJECT DEPTH
- PROJECT DEPTH +1'
- PROJECT DEPTH +2'
- PROJECT DEPTH +3'
- PROJECT DEPTH +4'
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Feet

0 100 200 300 400 500 600

N  
E  
W  
S

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District: CELRE

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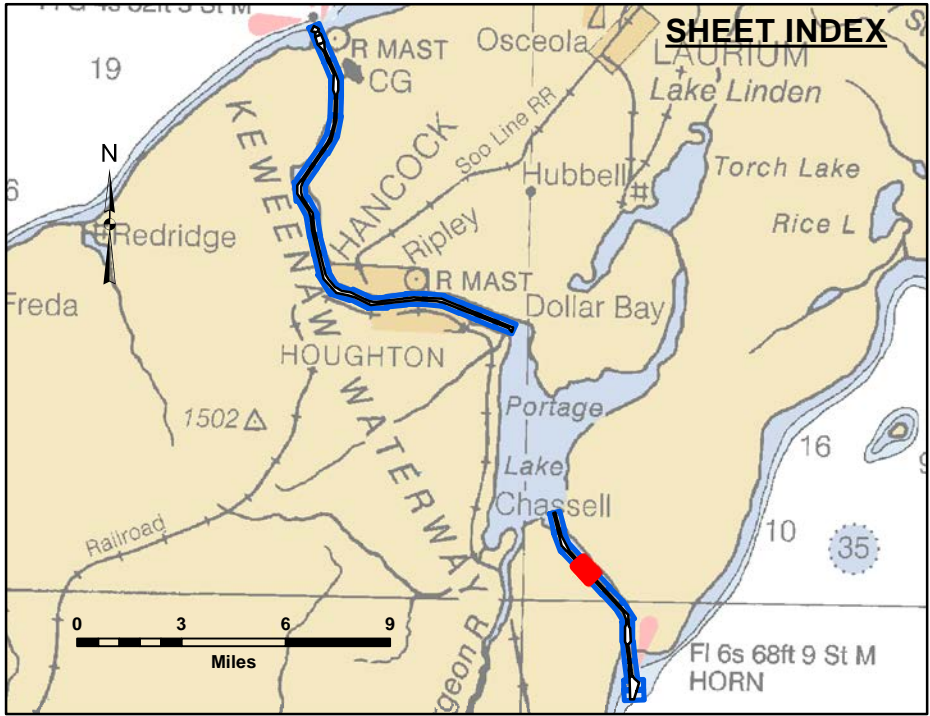
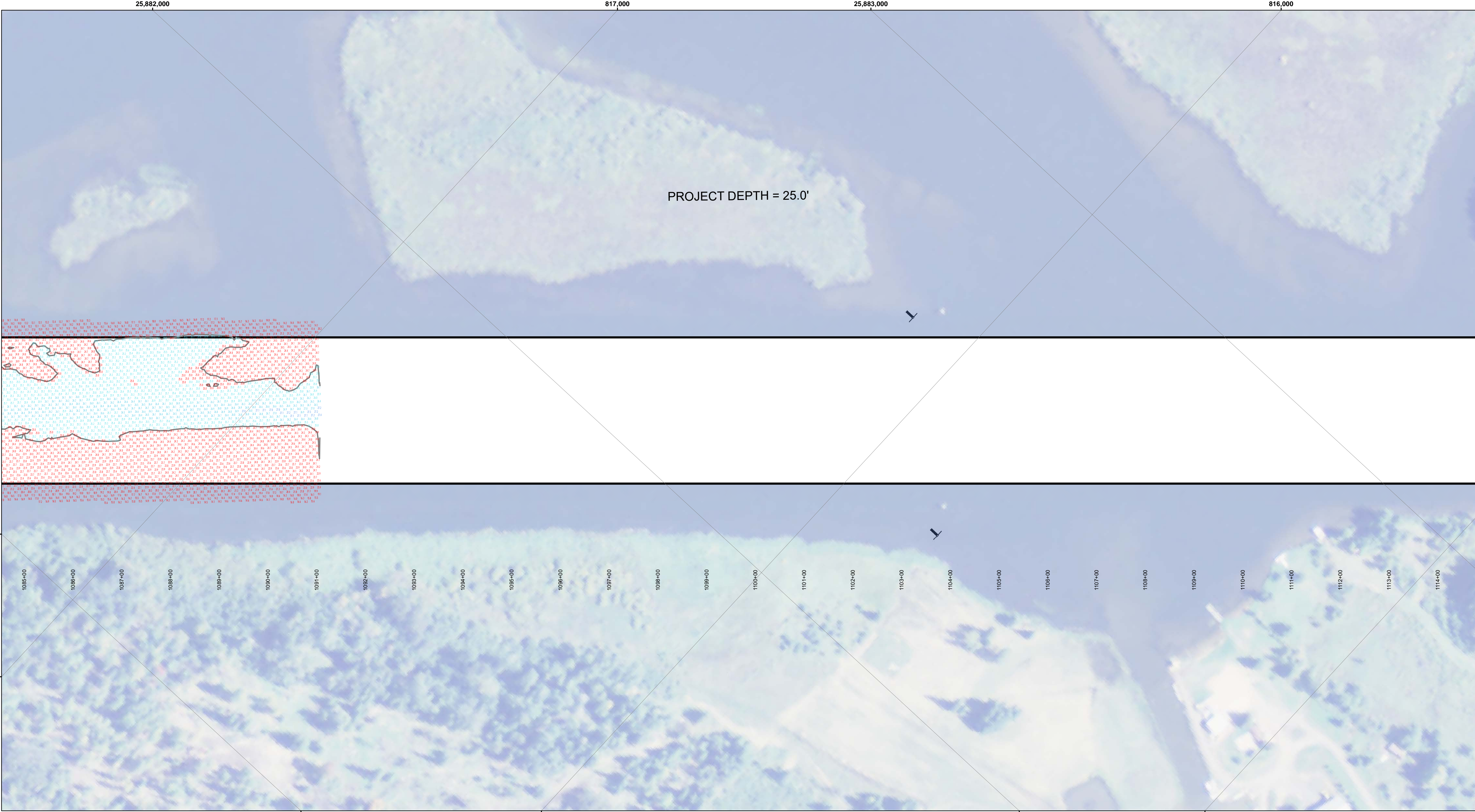
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Submitted:	Surveyed By:	
Recommended:	Plotted By:	
Approved:	Chief, Survey Section	
	Chief, Technical Services	

**Keweenaw Waterway, MI**  
**Keweenaw Waterway**  
**KW\_01\_NAW\_20221116\_CS**  
**16 November 2022**

**Sheet  
Reference  
Number**  
**28 of 37**





**LEGEND**

- ..... Cable Submarine
- - Cable Overhead
- Channel\_Limits
- Contour Lines

**SOUNDING LEGEND**

- LESS THAN PROJECT DEPTH
- PROJECT DEPTH
- PROJECT DEPTH +1'
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Feet

0 100 200 300 400 500 600

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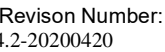
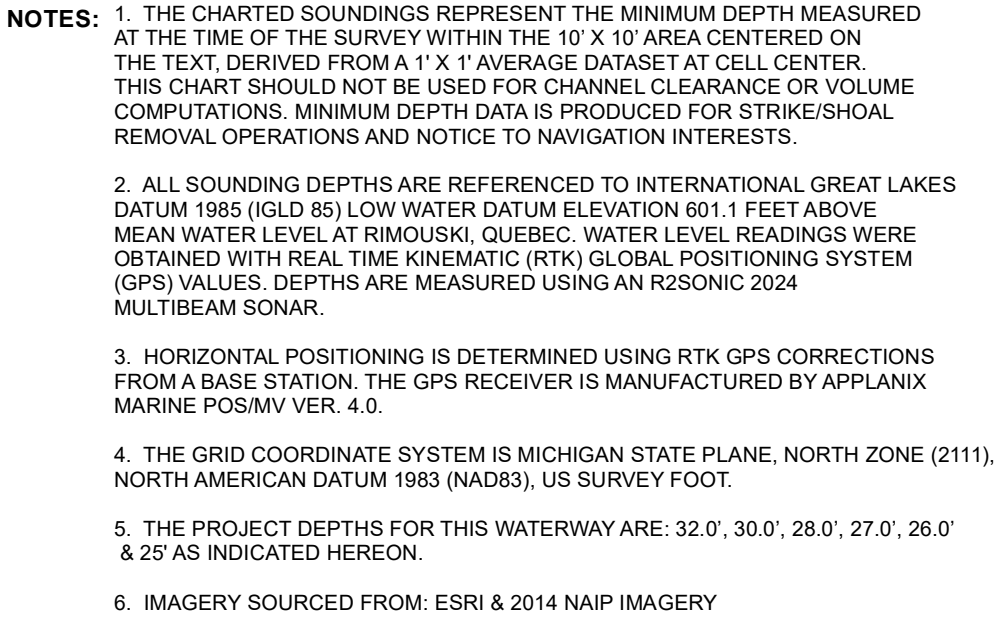
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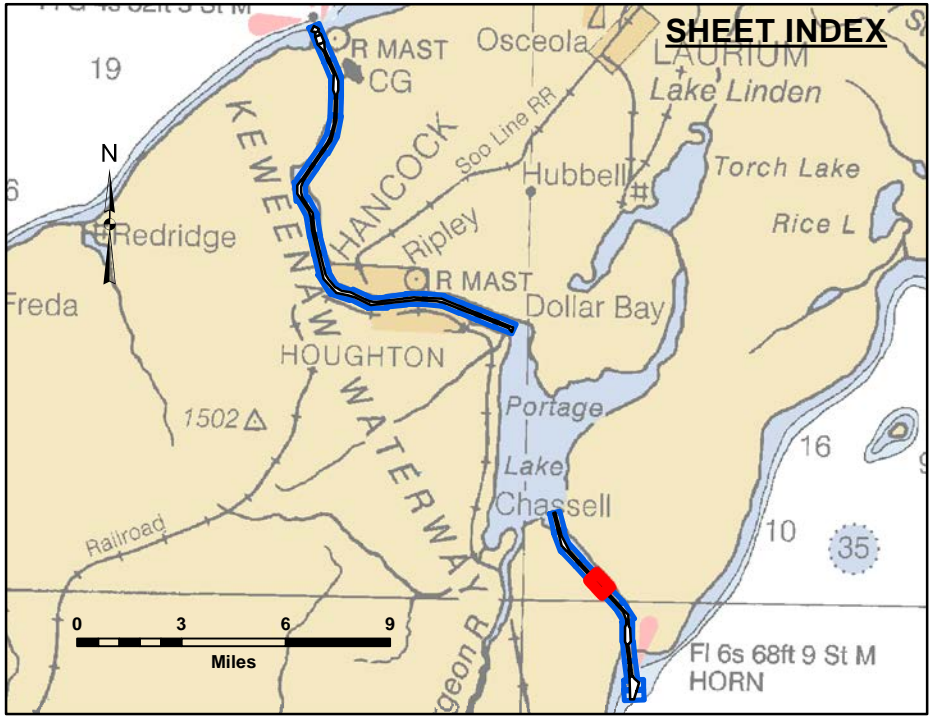
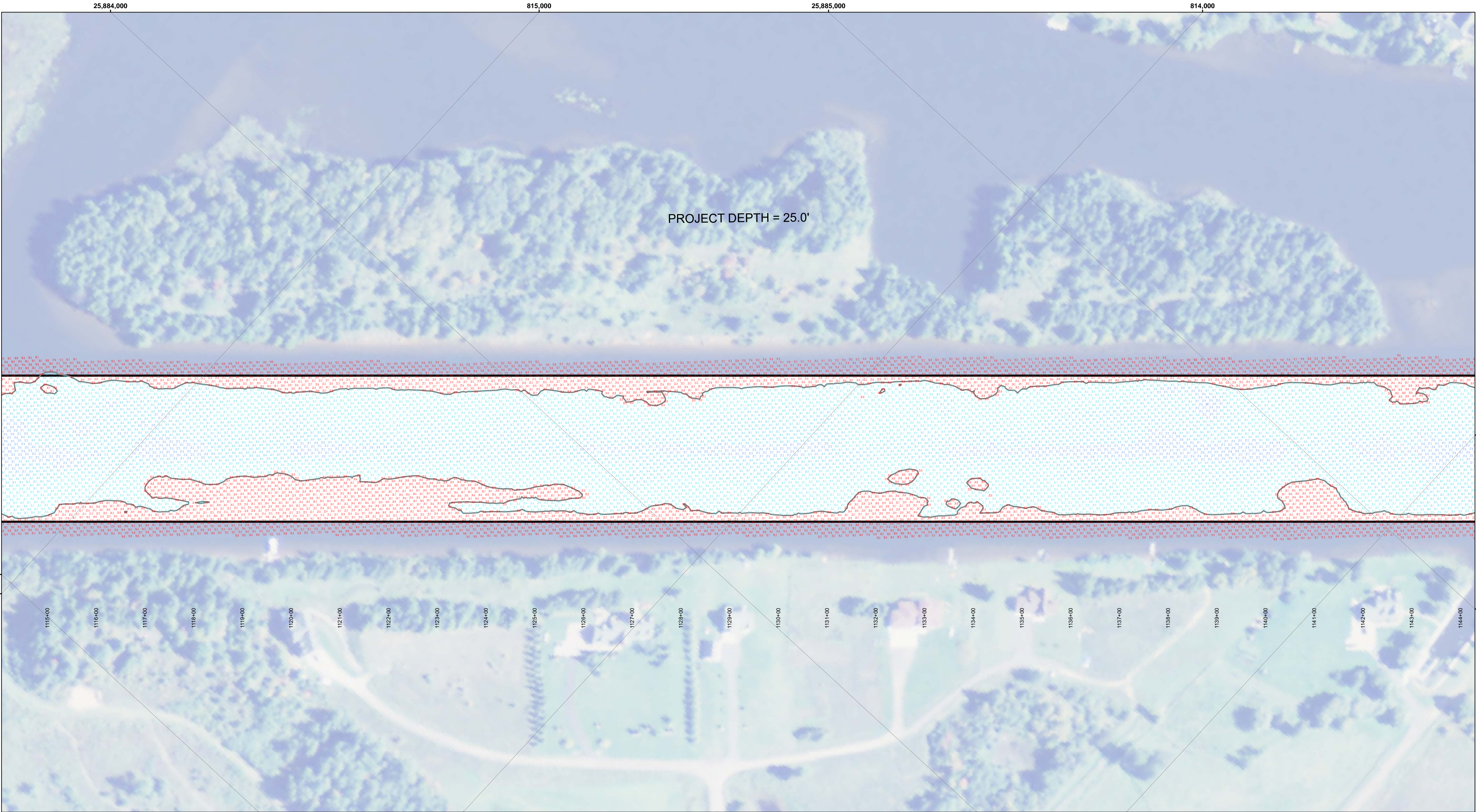
**Keweenaw Waterway, MI**  
**Keweenaw Waterway**  
**KW\_01\_NAW\_20221116\_CS**  
**16 November 2022**

**Sheet Reference Number**  
**29 of 37**









**LEGEND**

- ..... Cable Submarine
- - Cable Overhead
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**SOUNDING LEGEND**

- LESS THAN PROJECT DEPTH
- PROJECT DEPTH
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Feet

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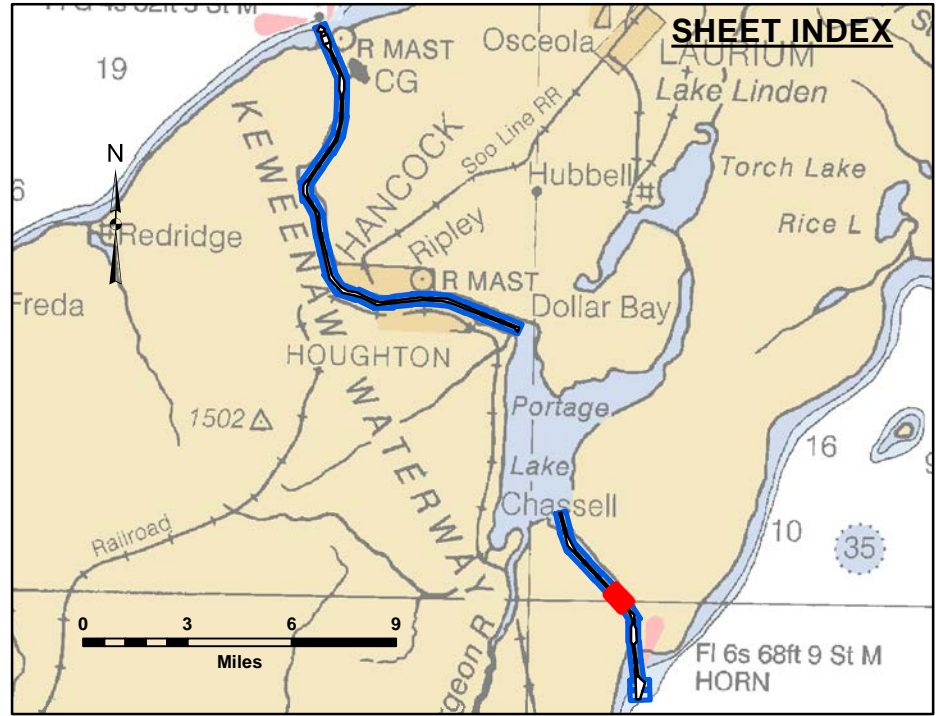
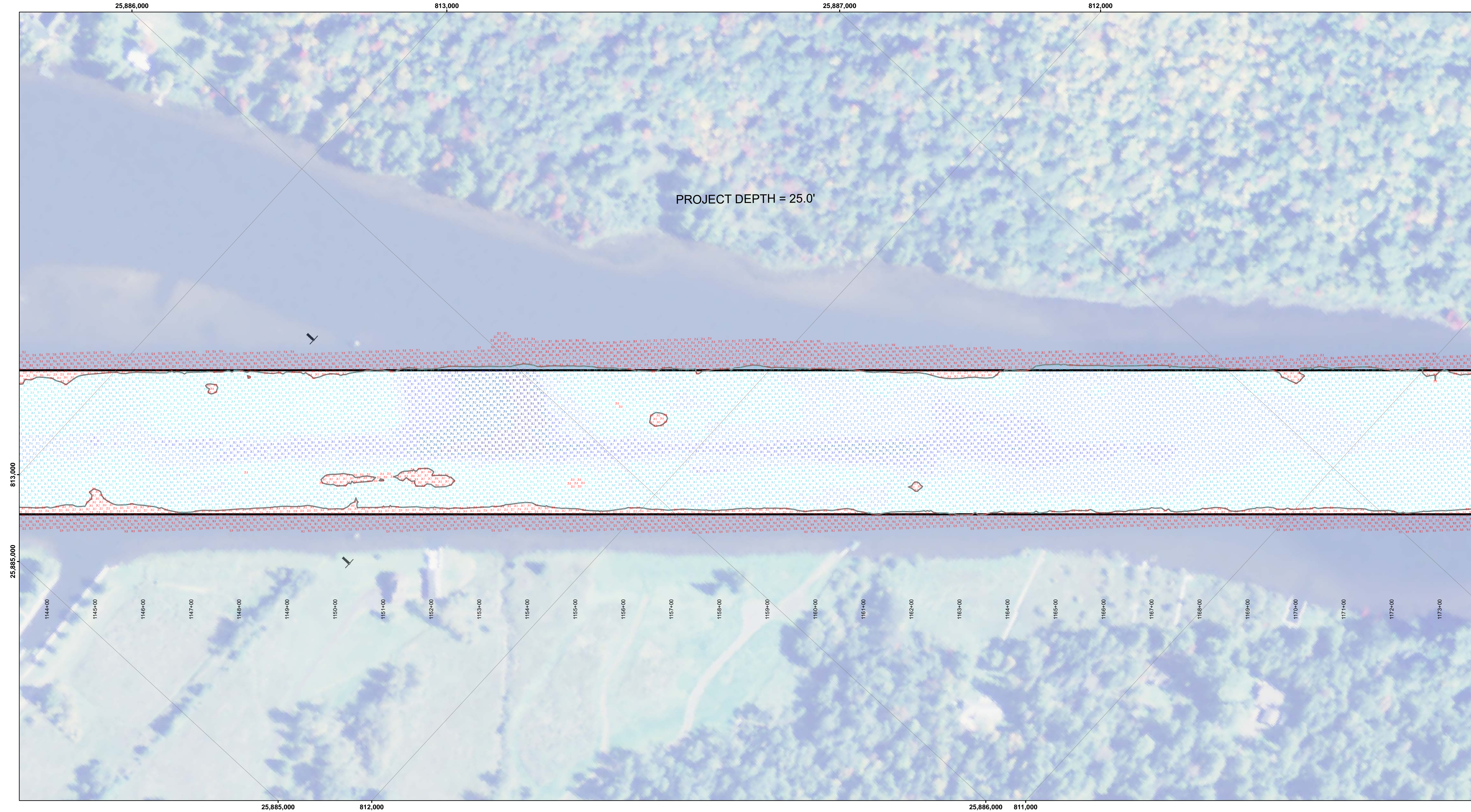
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**Keweenaw Waterway, MI**  
**Keweenaw Waterway**  
**KW\_01\_NAW\_20221115\_CS**  
**15 November 2022**

**Sheet  
Reference  
Number**  
**30 of 37**





**LEGEND**

- ..... Cable Submarine
- Cable Overhead
- Channel\_Limits
- Contour Lines

**SOUNDING LEGEND**

- LESS THAN PROJECT DEPTH
- PROJECT DEPTH
- PROJECT DEPTH +1'
- PROJECT DEPTH +2'
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1 inch = 100 feet

Feet

0 100 200 300 400 500 600

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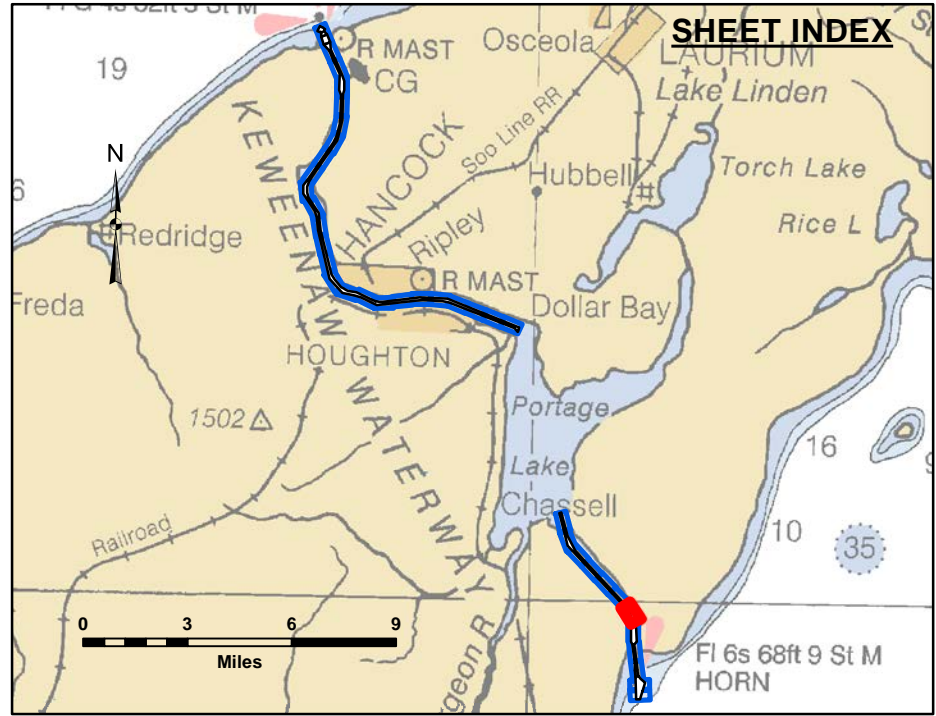
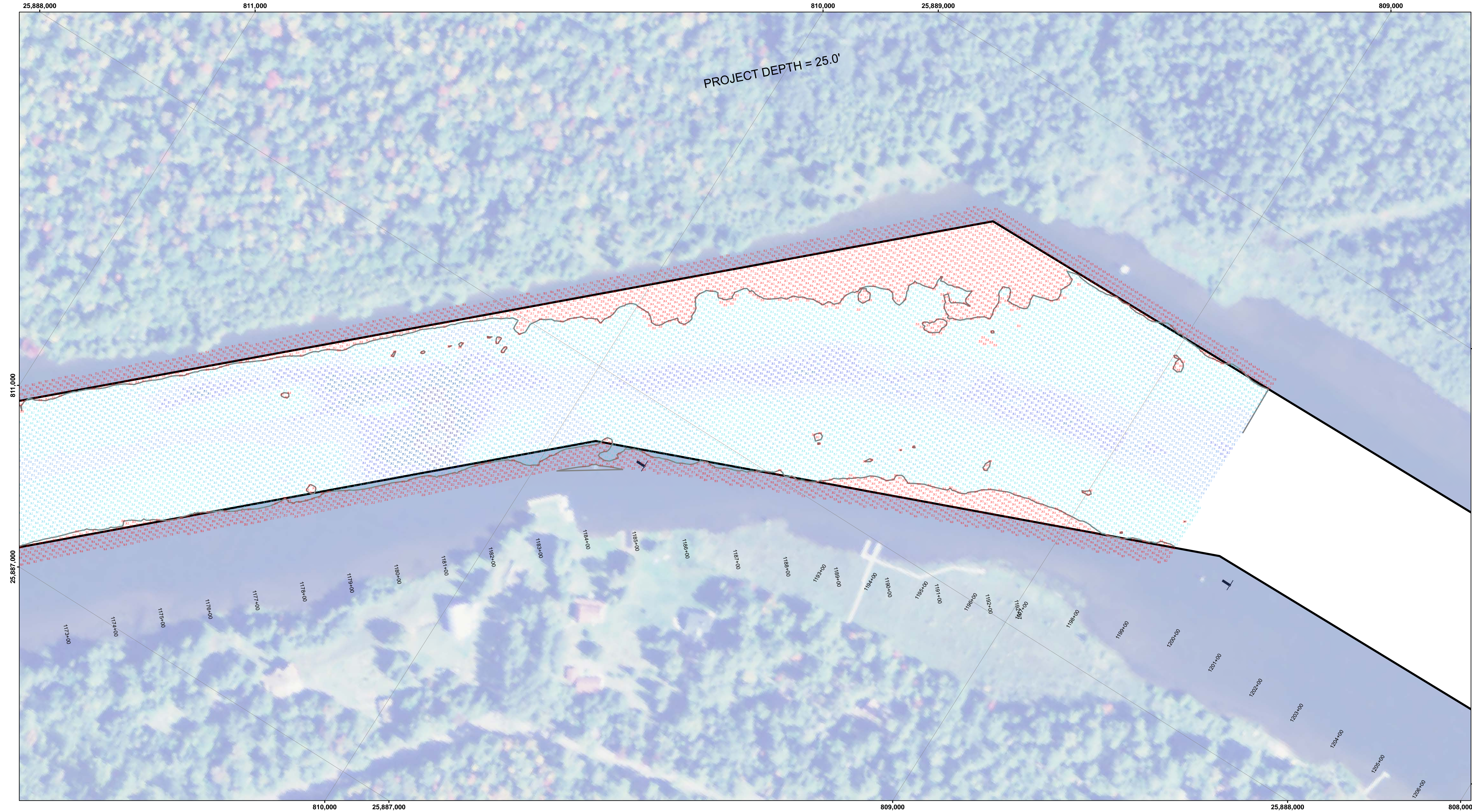
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**Keweenaw Waterway, MI**  
**Keweenaw Waterway**  
**KW\_01\_NAW\_20221115\_CS**  
**15 November 2022**

**Sheet  
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**31 of 37**



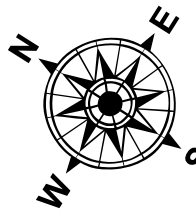


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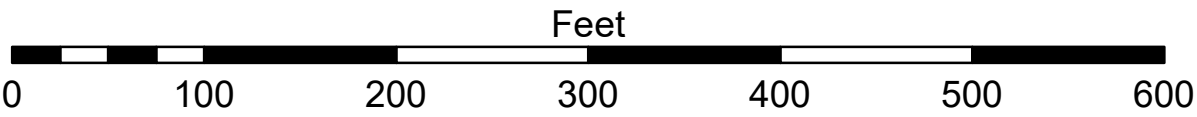
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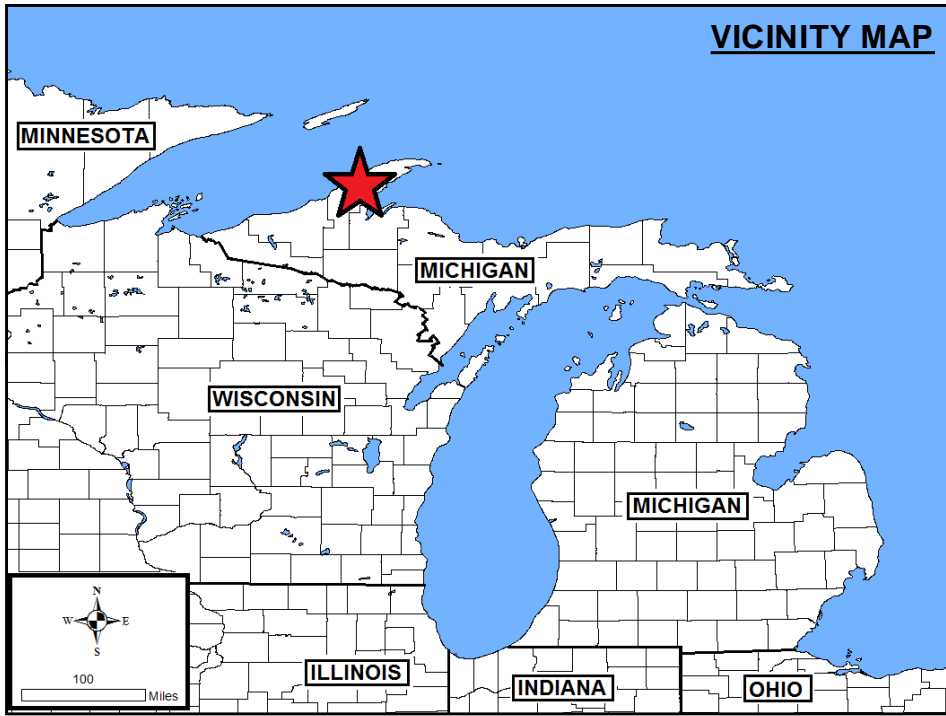
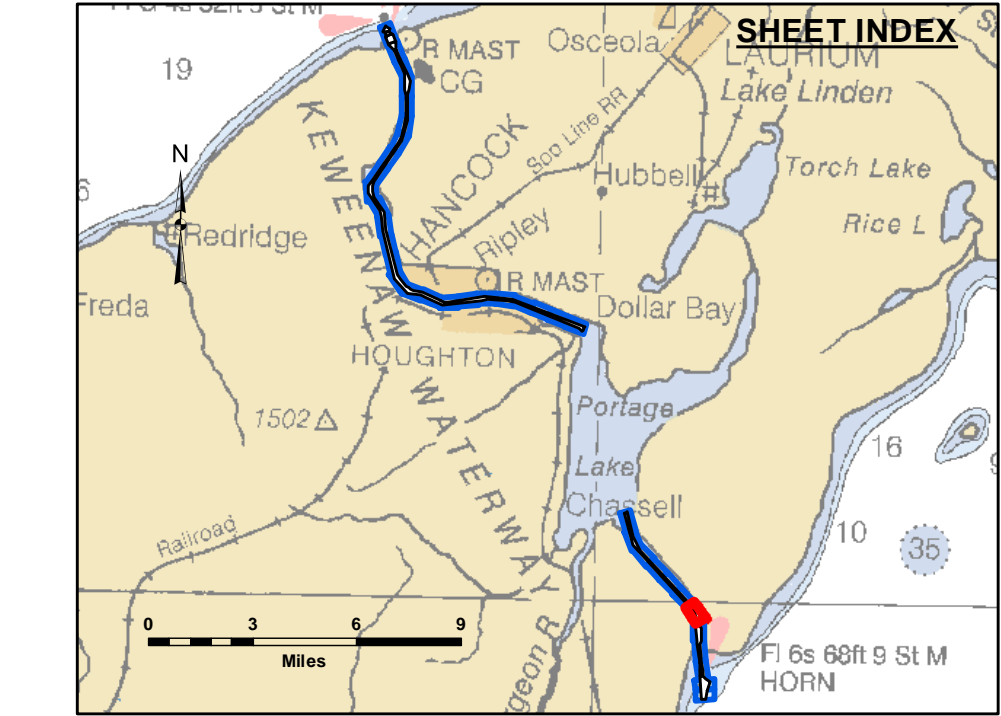
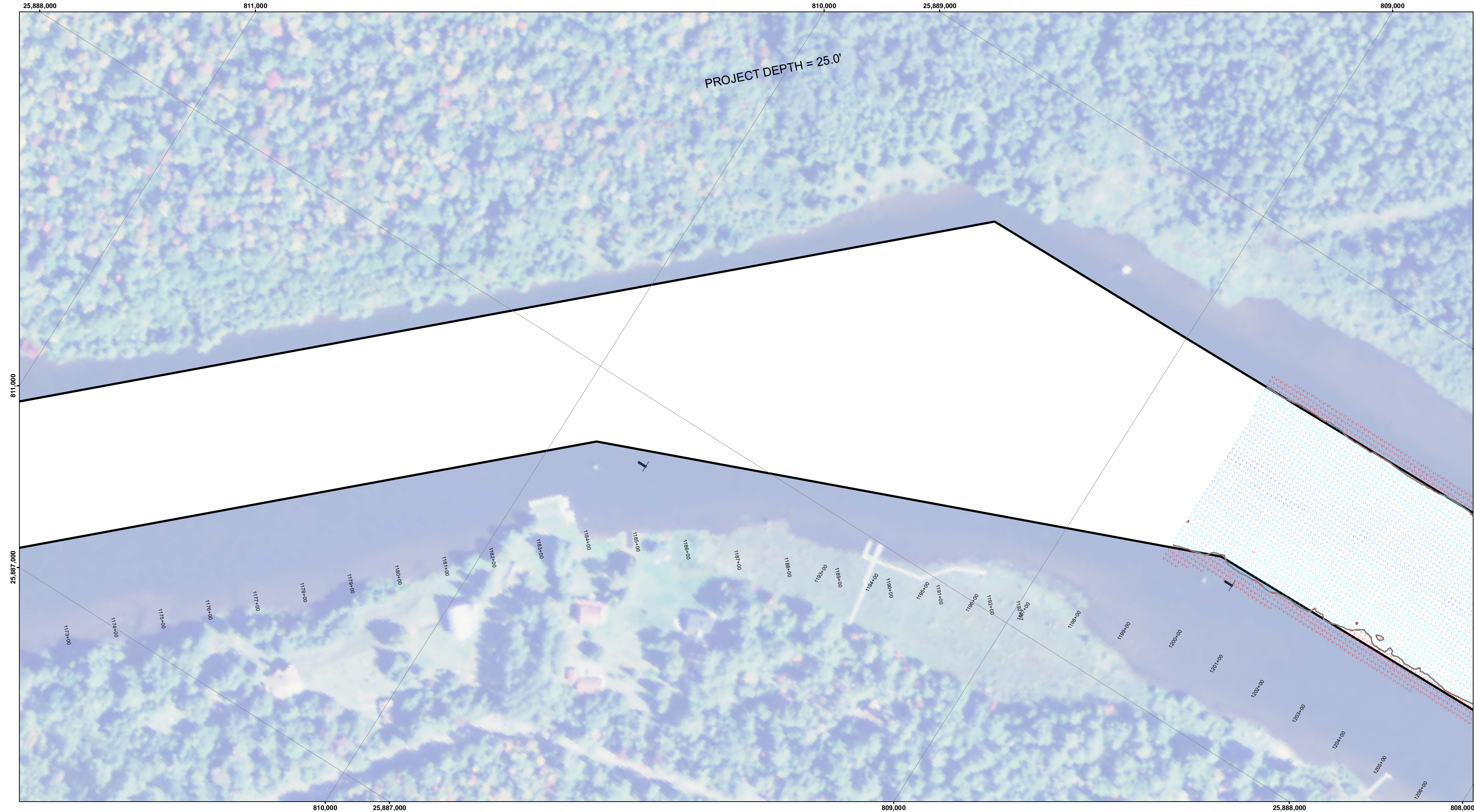
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**KW\_01\_NAW\_20221115\_CS**  
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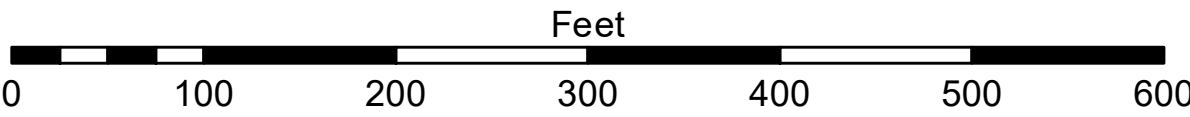
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**Keweenaw Waterway, MI**  
**Keweenaw Waterway**  
**KW\_01\_NAW\_20221114\_CS**  
**14 November 2022**

**Sheet Reference Number**  
**32 of 37**





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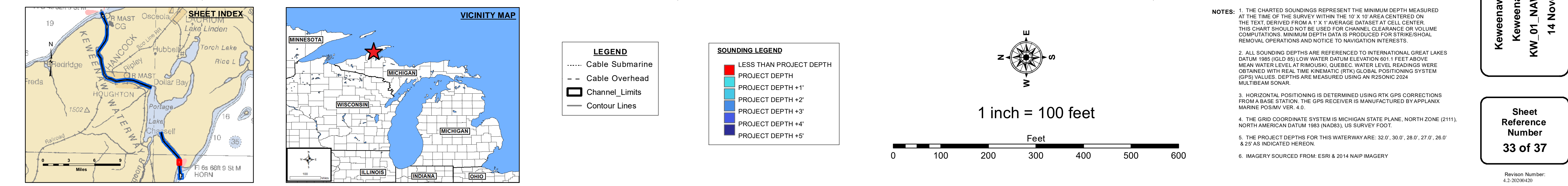
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Recommended: Chief, Survey Section	Plotted By: _____
Approved: Chief, Technical Services	Checked By: _____

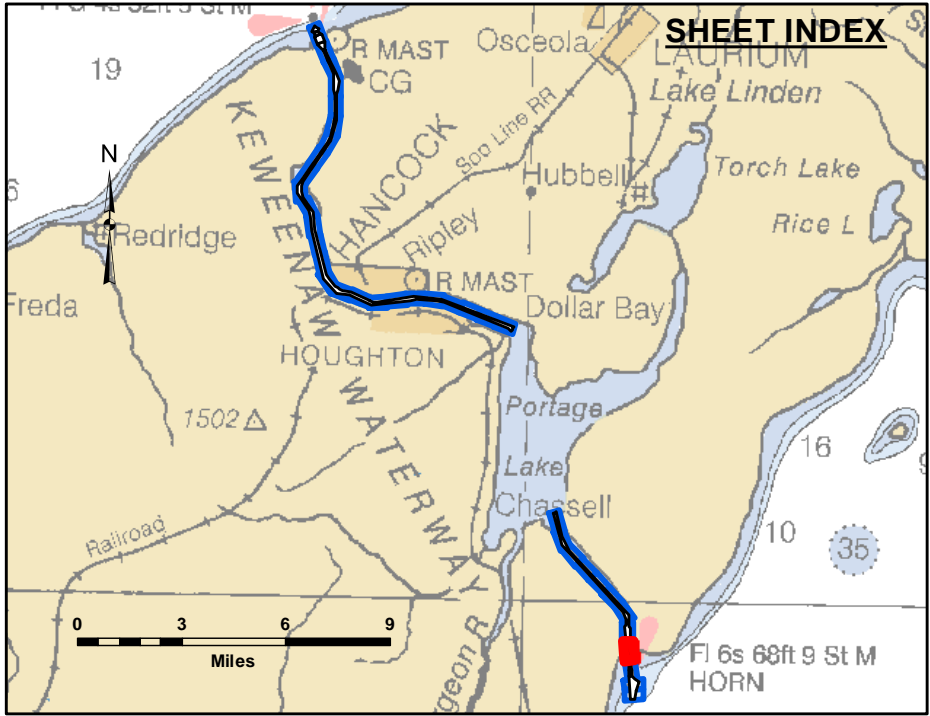
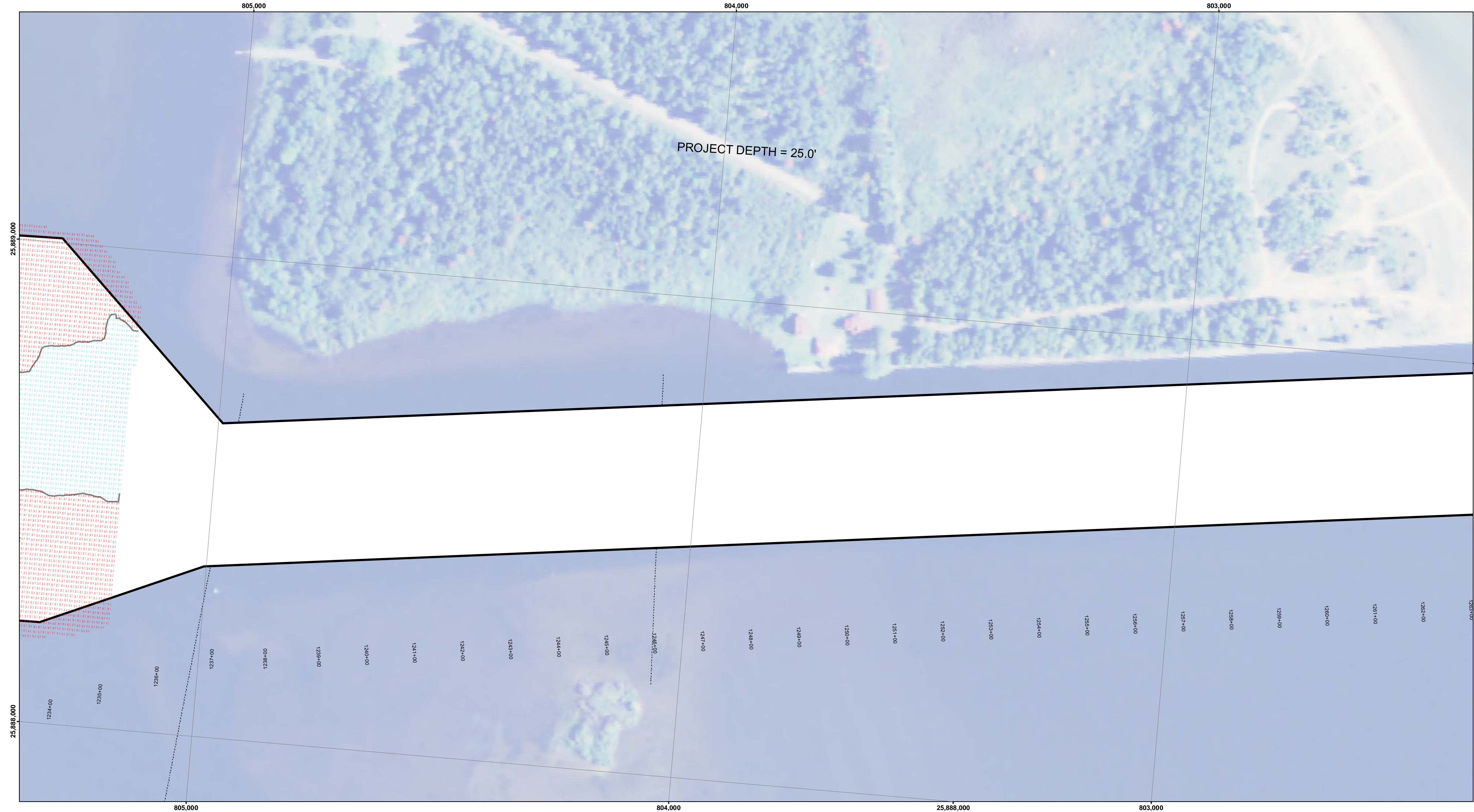
**Keweenaw Waterway, MI  
Keweenaw Waterway  
W\_01\_NAW\_20221114\_CS  
14 November 2022**

Sheet  
Reference  
Number  
**33 of 37**

Revision Number:  
4.2-20200420





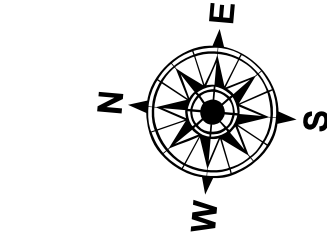


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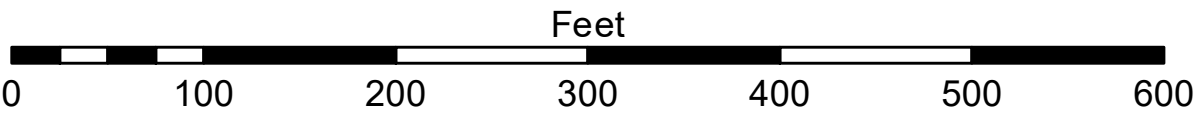
- ..... Cable Submarine
- Cable Overhead
- Channel\_Limits
- Contour Lines

**SOUNDING LEGEND**

- LESS THAN PROJECT DEPTH
- PROJECT DEPTH
- PROJECT DEPTH + 1'
- PROJECT DEPTH + 2'
- PROJECT DEPTH + 3'
- PROJECT DEPTH + 4'
- PROJECT DEPTH + 5'



1 inch = 100 feet



- NOTES:**
1. THE CHARTED SOUNDINGS REPRESENT THE MINIMUM DEPTH MEASURED AT THE TIME OF THE SURVEY WITHIN THE 10 X 10 AREA CENTERED ON THE TEXT. DERIVED FROM A 1" X 1" AVERAGE DATASET AT CELL CENTER. THIS CHART SHOULD NOT BE USED FOR CHANNEL CLEARANCE OR VOLUME COMPUTATIONS. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SOAL REMOVAL OPERATIONS AND NOTICE TO NAVIGATION INTERESTS.
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  3. HORIZONTAL POSITIONING IS DETERMINED USING RTK GPS CORRECTIONS FROM A BASE STATION. THE GPS RECEIVER IS MANUFACTURED BY APPLANIX MARINE POS/MV VER. 4.0.
  4. THE GRID COORDINATE SYSTEM IS MICHIGAN STATE PLANE, NORTH ZONE (2111), NORTH AMERICAN DATUM 1983 (NAD83), US SURVEY FOOT.
  5. THE PROJECT DEPTHS FOR THIS WATERWAY ARE: 32.0', 30.0', 28.0', 27.0', 26.0' & 25' AS INDICATED HEREON.
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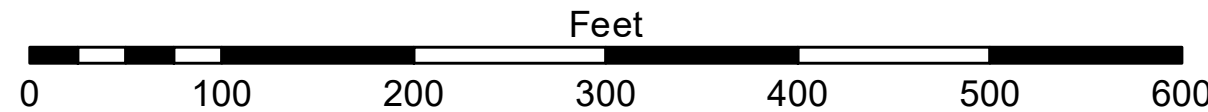
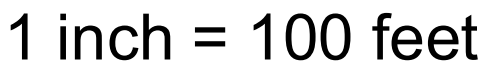
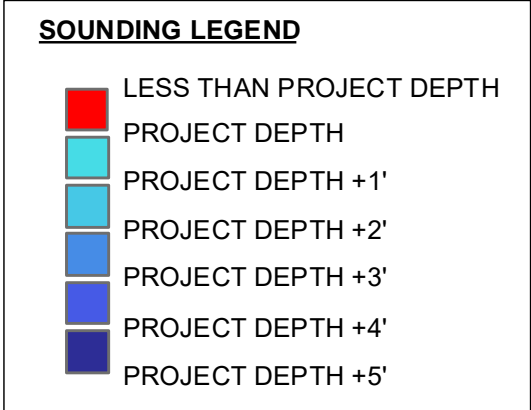
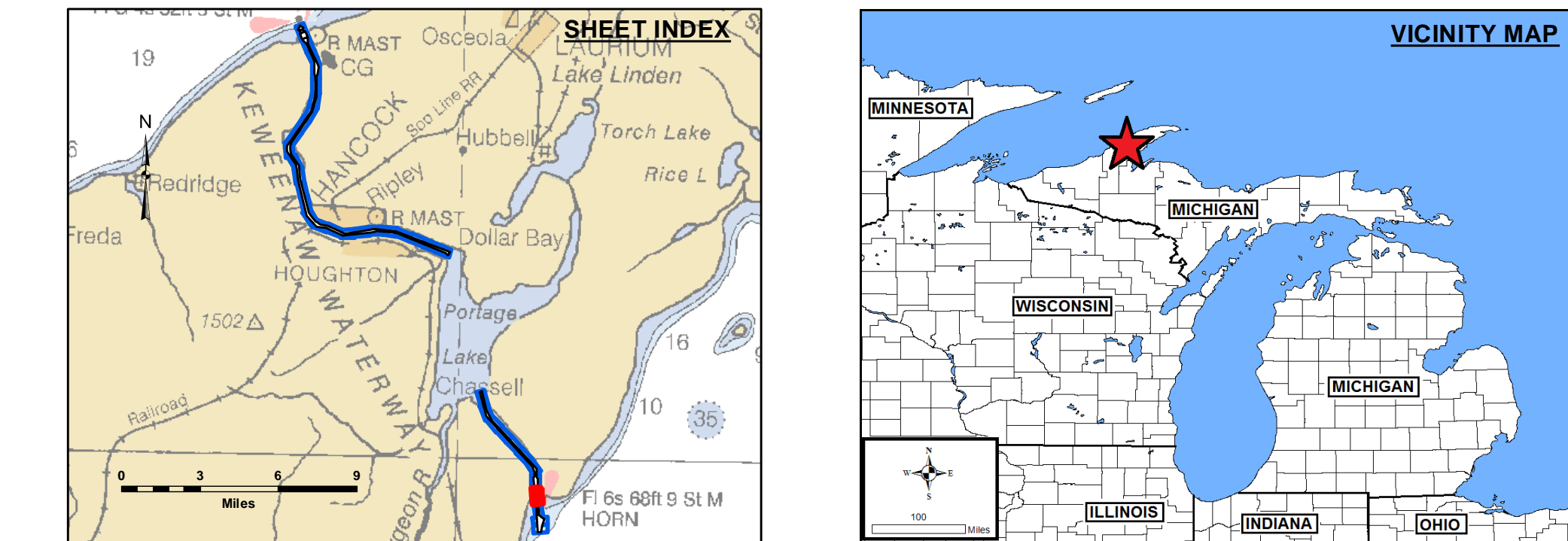
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Recommended:	Plotted By:	
Approved:	Checked By:	

**Keweenaw Waterway, MI**  
**Keweenaw Waterway**  
**KW\_01\_NAW\_20221114\_CS**  
**14 November 2022**

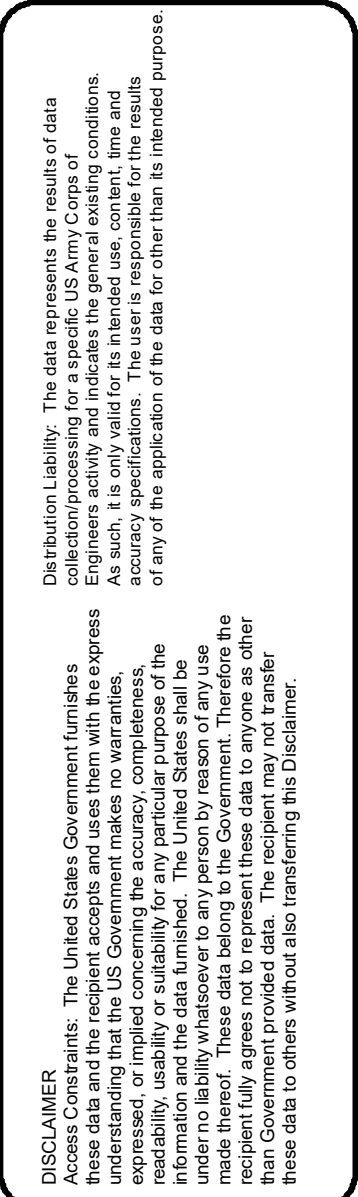
**Sheet Reference Number**  
**34 of 37**





**NOTES:**

1. THE CHARTED SOUNDINGS REPRESENT THE MINIMUM DEPTH MEASURED AT THE TIME OF THE SURVEY WITHIN THE 10' X 10' AREA CENTERED ON THE TEXT. DERIVED FROM A 1" X 1" AVERAGE DATASET AT CELL CENTER. THIS CHART SHOULD NOT BE USED FOR CHANNEL CLEARANCE OR VOLUME COMPUTATIONS. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SWAL REMOVAL OPERATIONS AND NOTICE TO NAVIGATION INTERESTS.
2. ALL SOUNDING DEPTHS ARE REFERENCED TO INTERNATIONAL GREAT LAKES DATUM 1985 (IGLD 85) LOW WATER DATUM ELEVATION 601.1 FEET ABOVE MEAN WATER LEVEL AT RIMOUSKI, QUEBEC. WATER LEVEL READINGS WERE OBTAINED WITH REAL TIME KINEMATIC (RTK) GLOBAL POSITIONING SYSTEM (GPS) VALUES. DEPTHS ARE MEASURED USING AN RZSONIC 2024 MULTIBEAM SONAR.
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4. THE GRID COORDINATE SYSTEM IS MICHIGAN STATE PLANE, NORTH ZONE (2111) NORTH AMERICAN DATUM 1983 (NAD83). US SURVEY FOOT.
5. THE PROJECT DEPTHS FOR THIS WATERWAY ARE: 32.0', 30.0', 28.0', 27.0', 26.0' & 25' AS INDICATED HEREON.
6. IMAGERY SOURCED FROM: ESRI & 2014 NAIP IMAGERY



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Surveyed by:

Plotted By:

1

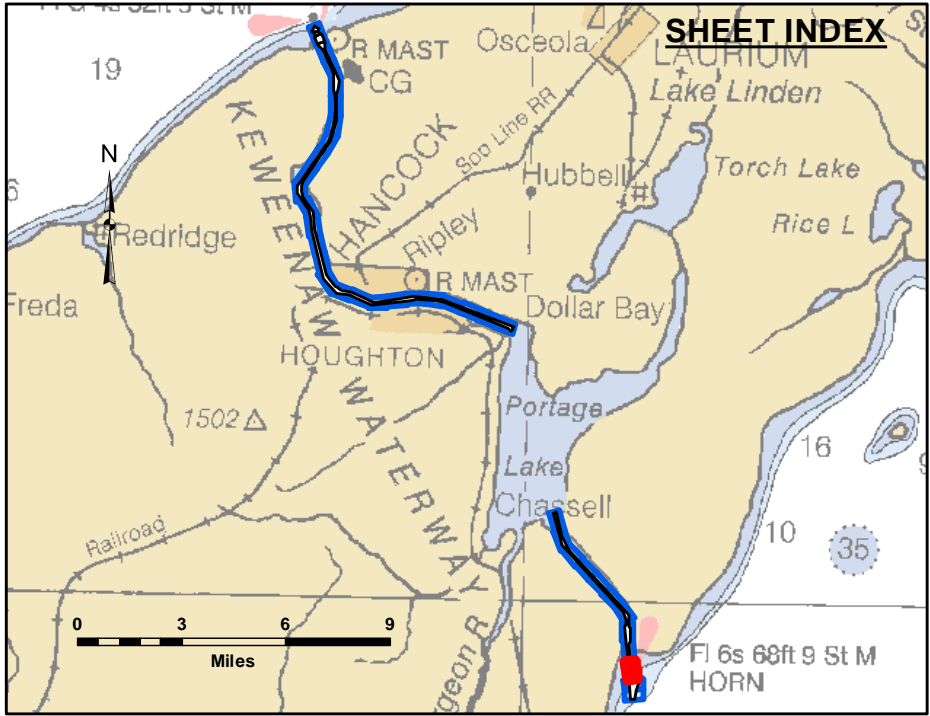
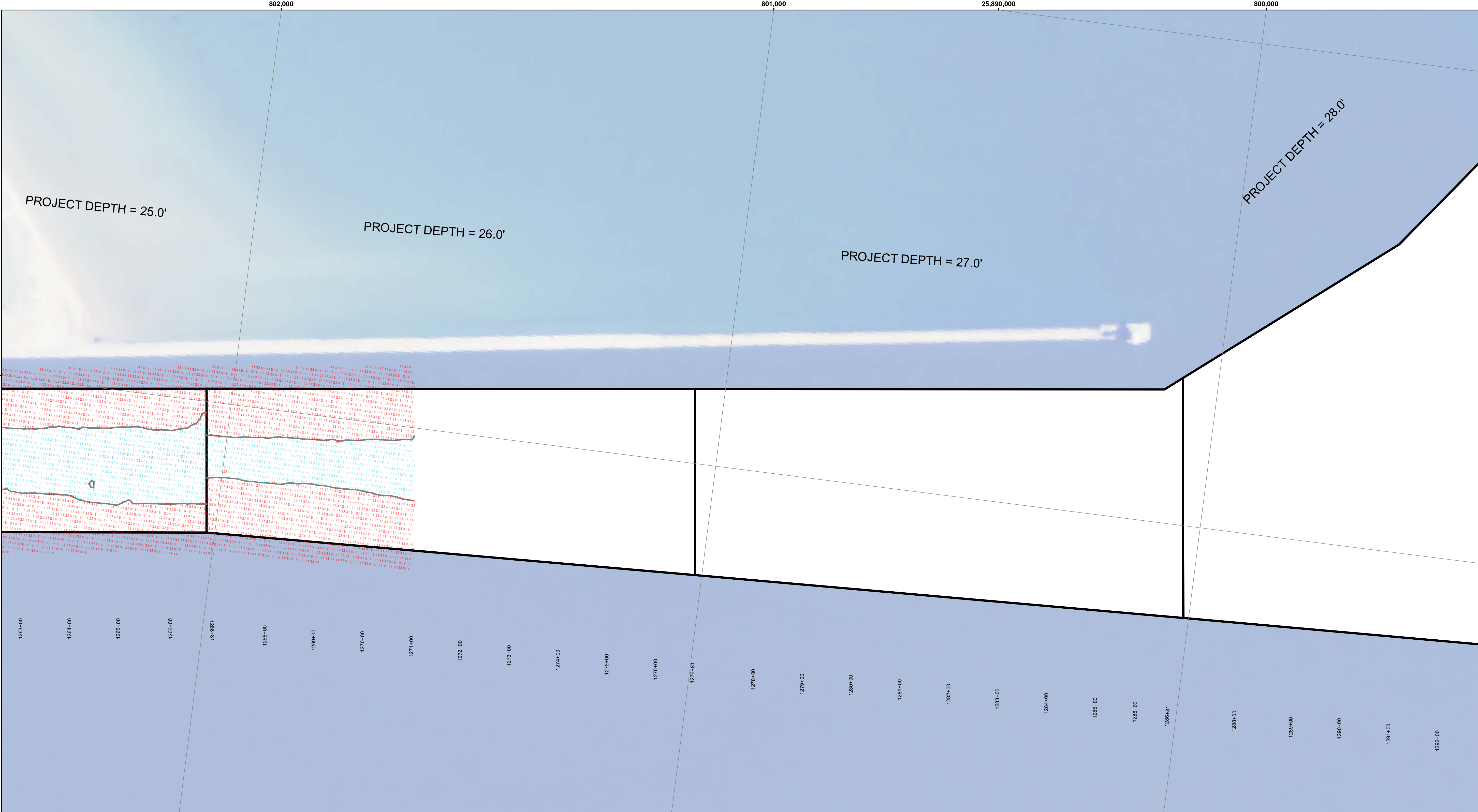
Checked By: \_\_\_\_\_

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**Keweenaw Waterway, MI**  
**Keweenaw Waterway**  
**KW\_01\_NAW\_20221028\_C**  
**28 October 2022**

Sheet  
Reference  
Number  
**34 of 37**





**LEGEND**

- ..... Cable Submarine
- - Cable Overhead
- Channel\_Limits
- Contour Lines

**SOUNDING LEGEND**

- LESS THAN PROJECT DEPTH
- PROJECT DEPTH
- PROJECT DEPTH +1'
- PROJECT DEPTH +2'
- PROJECT DEPTH +3'
- PROJECT DEPTH +4'
- PROJECT DEPTH +5'

1 inch = 100 feet

Feet

0 100 200 300 400 500 600

- NOTES:**
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  6. IMAGERY SOURCED FROM: ESRI & 2014 NAIP IMAGERY

  
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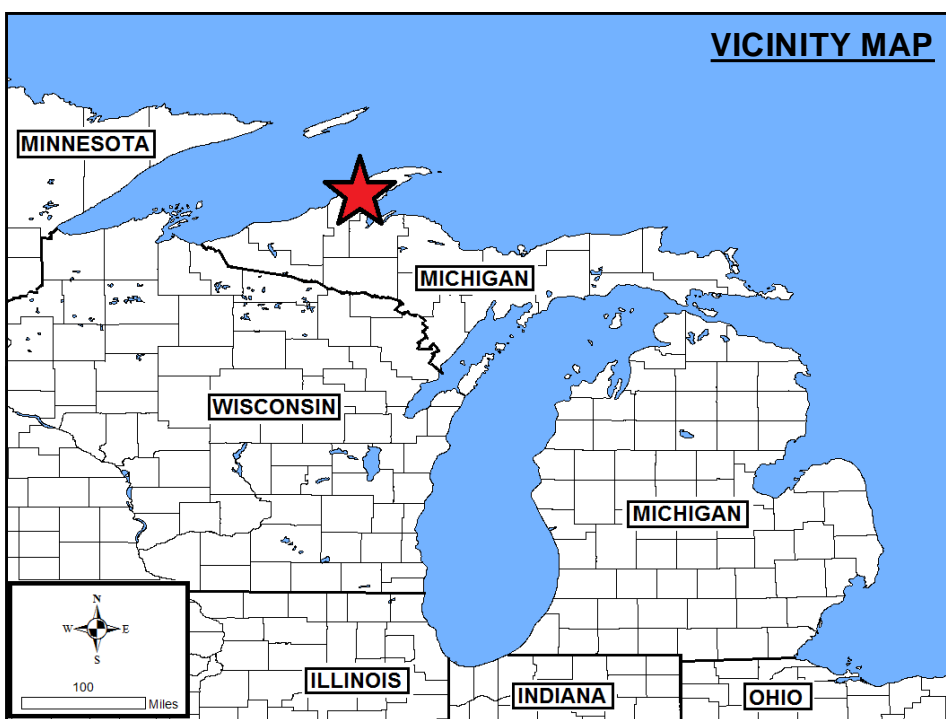
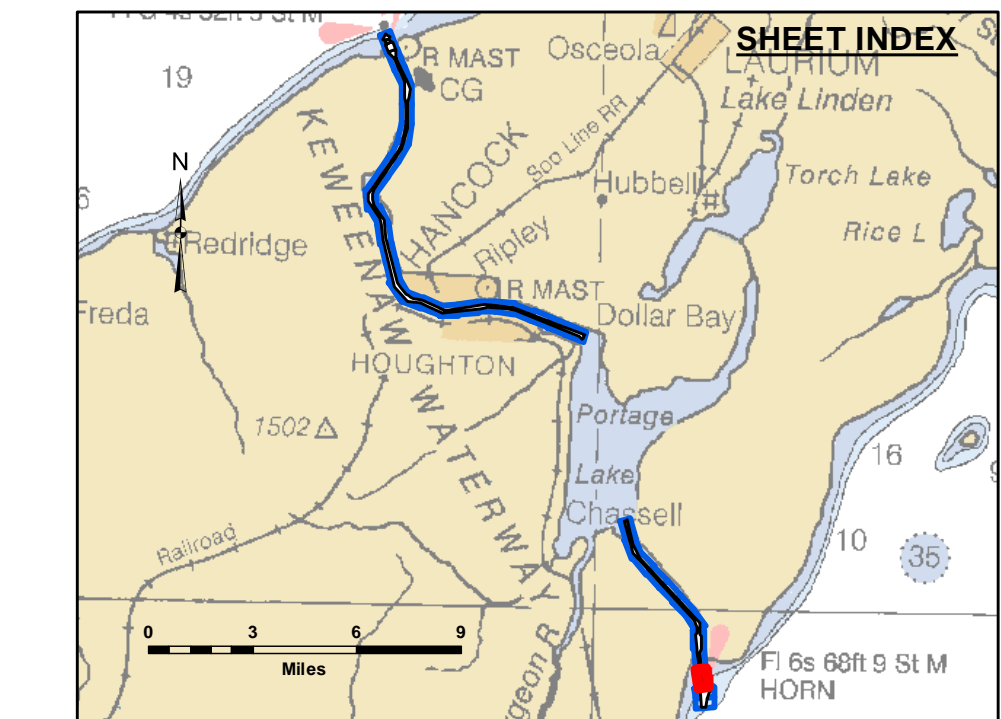
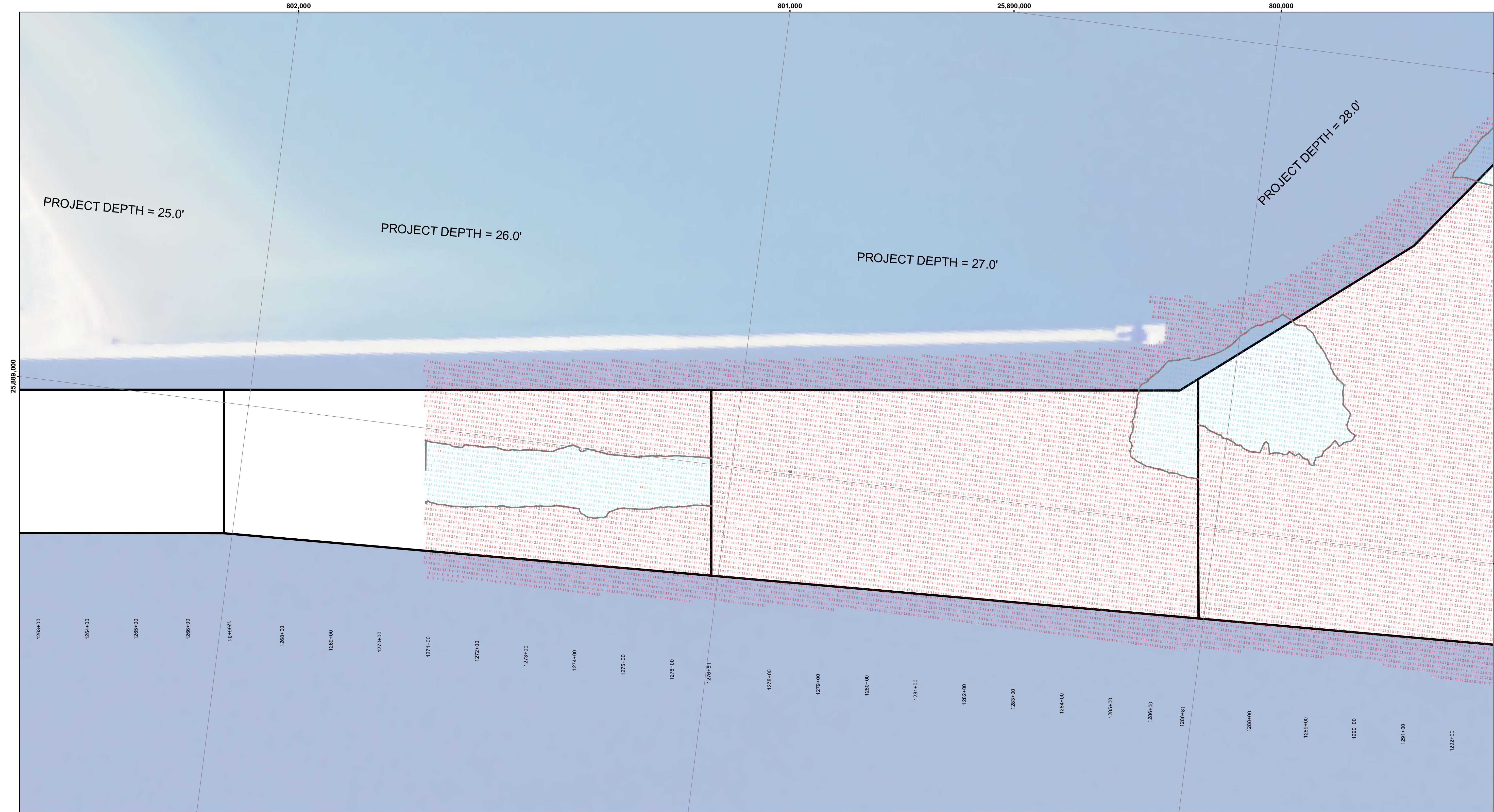
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Recommended:	Plotted By:
Approved:	Checked By:
Chief, Survey Section	
Chief, Technical Services	

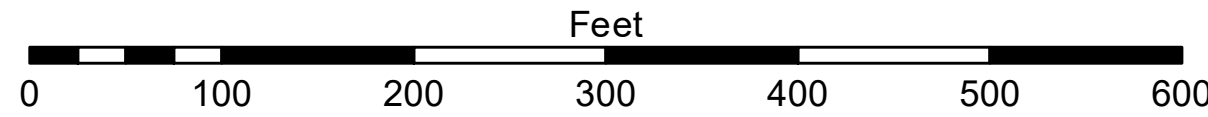
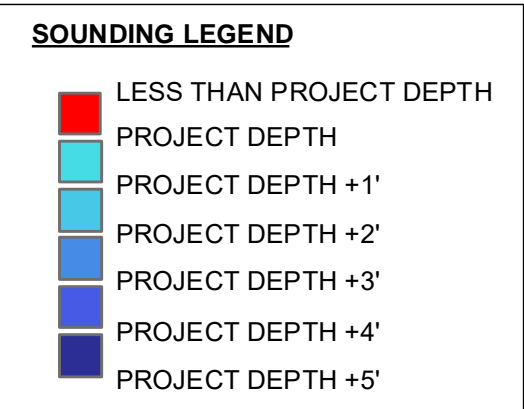
**Keweenaw Waterway, MI**  
**Keweenaw Waterway**  
**KW\_01\_NAW\_20221028\_CS**  
**28 October 2022**

**Sheet  
Reference  
Number**  
**35 of 37**





- LEGEND**
- ..... Cable Submarine
  - Cable Overhead
  - Channel\_Limits
  - Contour Lines



- NOTES:**
1. THE CHARTED SOUNDINGS REPRESENT THE MINIMUM DEPTH MEASURED AT THE TIME OF THE SURVEY WITHIN THE 10' X 10' AREA CENTERED ON THE TEXT. DERIVED FROM A 1' X 1' AVERAGE DATASET AT CELL CENTER. THIS CHART SHOULD NOT BE USED FOR CHANNEL CLEARANCE OR VOLUME COMPUTATIONS. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SOAL REMOVAL OPERATIONS AND NOTICE TO NAVIGATION INTERESTS.
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Keweenaw Waterway, MI  
Keweenaw Waterway  
KW\_01\_NAW\_20221020\_CS  
20 October 2022

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Number  
35 of 37

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CORPS OF ENGINEERS  
DETROIT DISTRICT

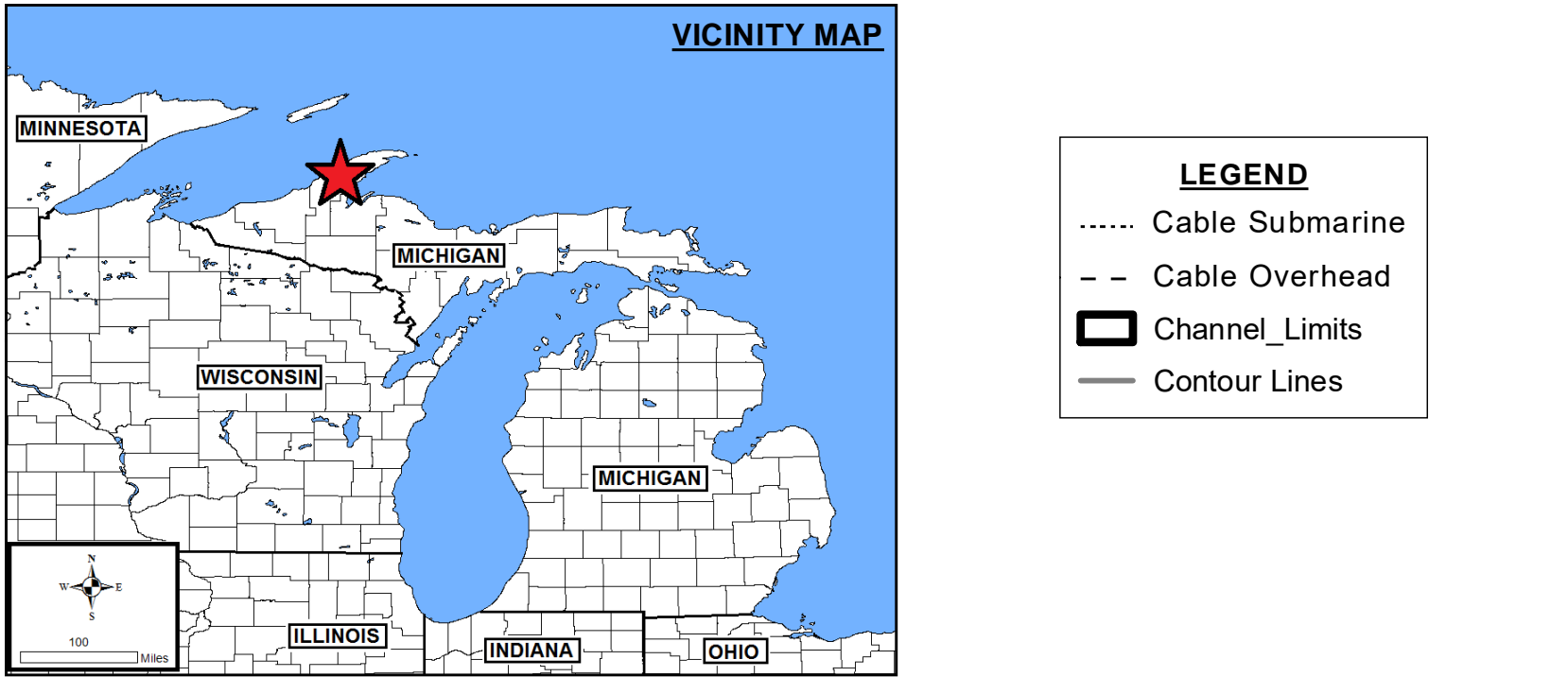
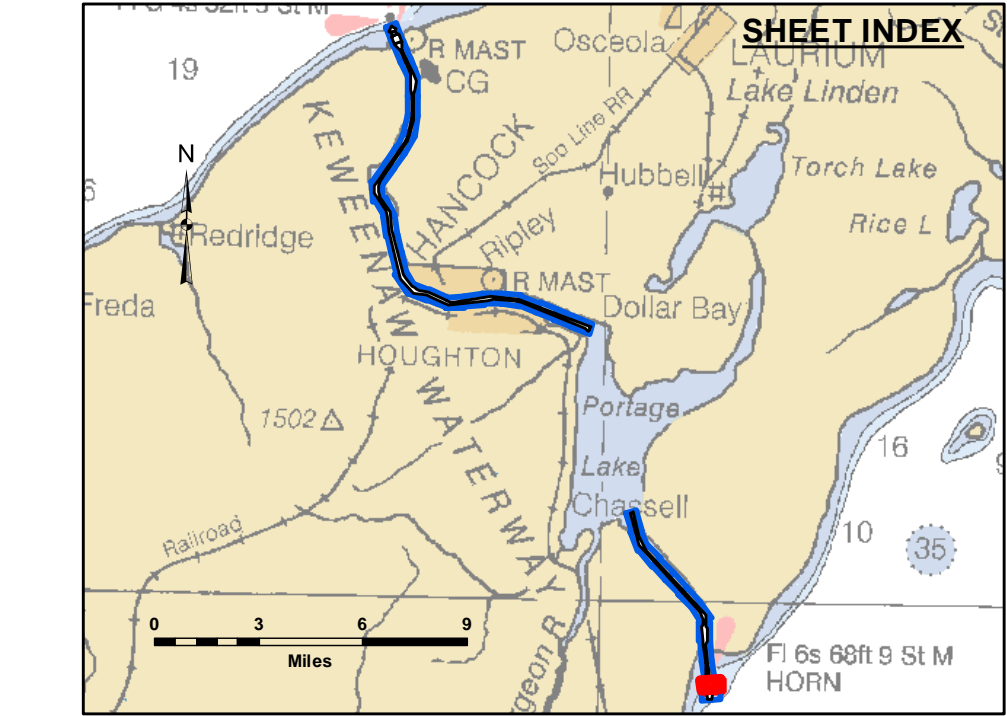
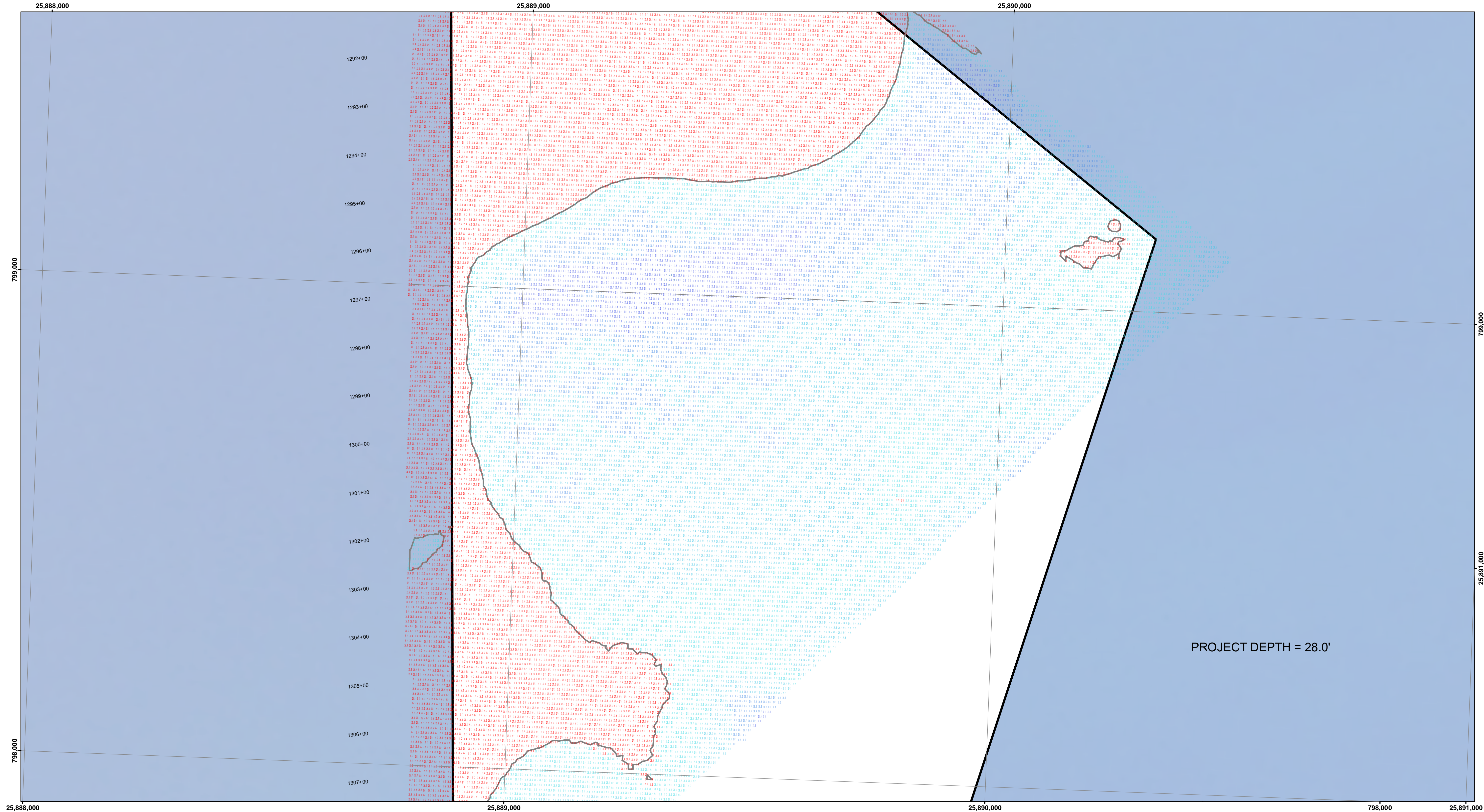
Submitted: \_\_\_\_\_  
Recommended: Chief, Survey Section  
Approved: \_\_\_\_\_  
Chief, Technical Services

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Plotted By: \_\_\_\_\_  
Checked By: \_\_\_\_\_

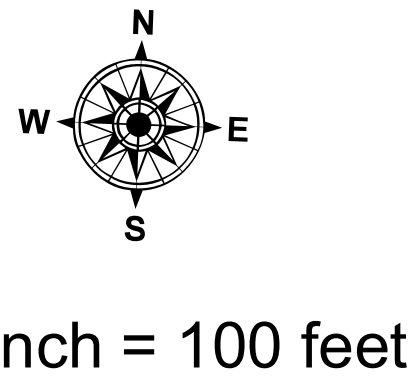


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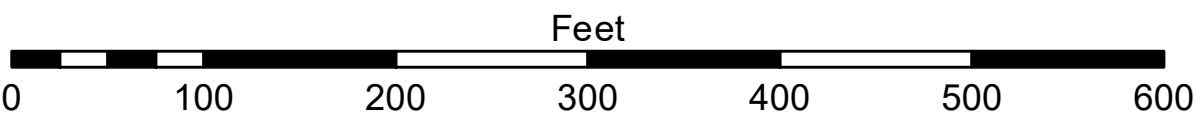




- LEGEND**
- ..... Cable Submarine
  - Cable Overhead
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  - Contour Lines
- SOUNDING LEGEND**
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Surveyed By: \_\_\_\_\_  
Plotted By: \_\_\_\_\_  
Checked By: \_\_\_\_\_  
Submitted: \_\_\_\_\_  
Recommended: \_\_\_\_\_  
Approved: \_\_\_\_\_  
Chief, Survey Section  
Chief, Technical Services

Keweenaw Waterway, MI  
Keweenaw Waterway  
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20 October 2022

Sheet  
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Number  
36 of 37



