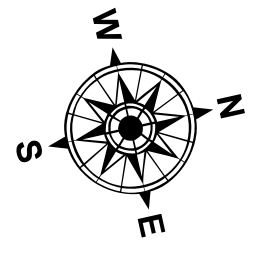
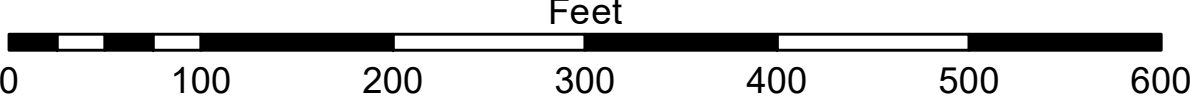


- LEGEND**
- ..... Cable Submarine
  - - Cable Overhead
  - Placement Area
  - ⊥ Beacon, General
  - Contour Lines
  - ▭ Channel\_Limits

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



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- NOAA GAGE AT ESSEXVILLE (#9075035)

2010 AERIAL PHOTOGRAPHY DATA SOURCE: USGS

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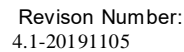
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Submitted:	Surveyed By:
Recommended:	Plotted By:
Approved:	Checked By:
Chief, Survey Section	
Chief, Technical Services	

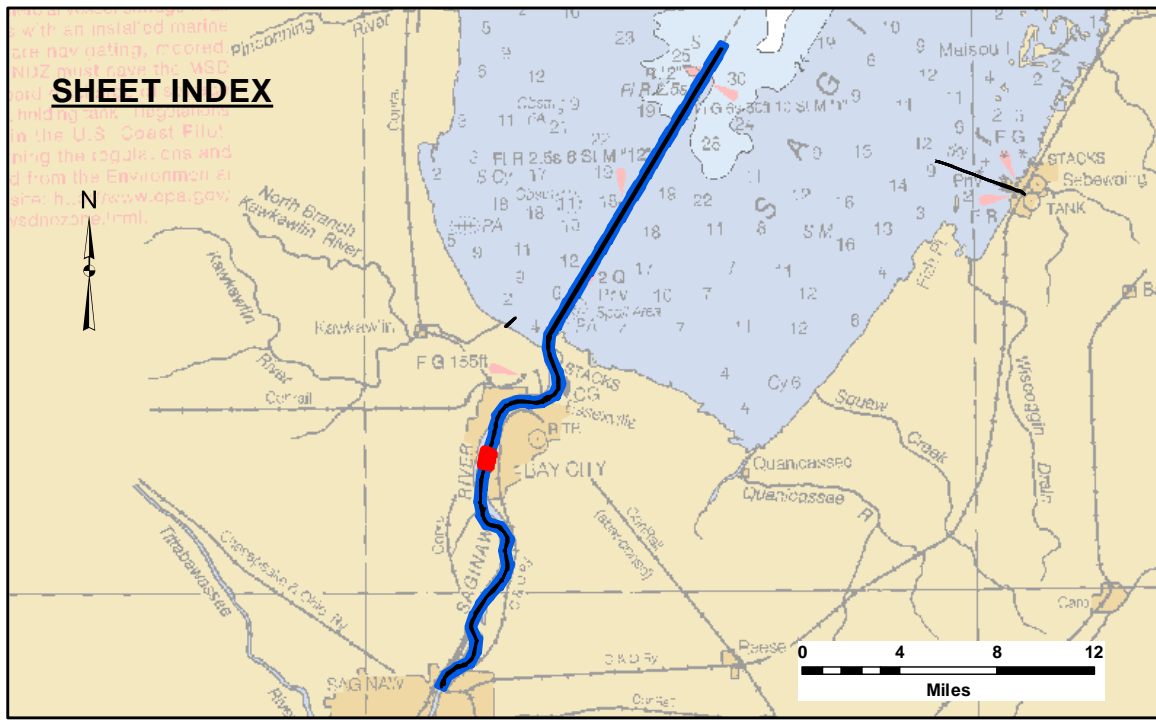
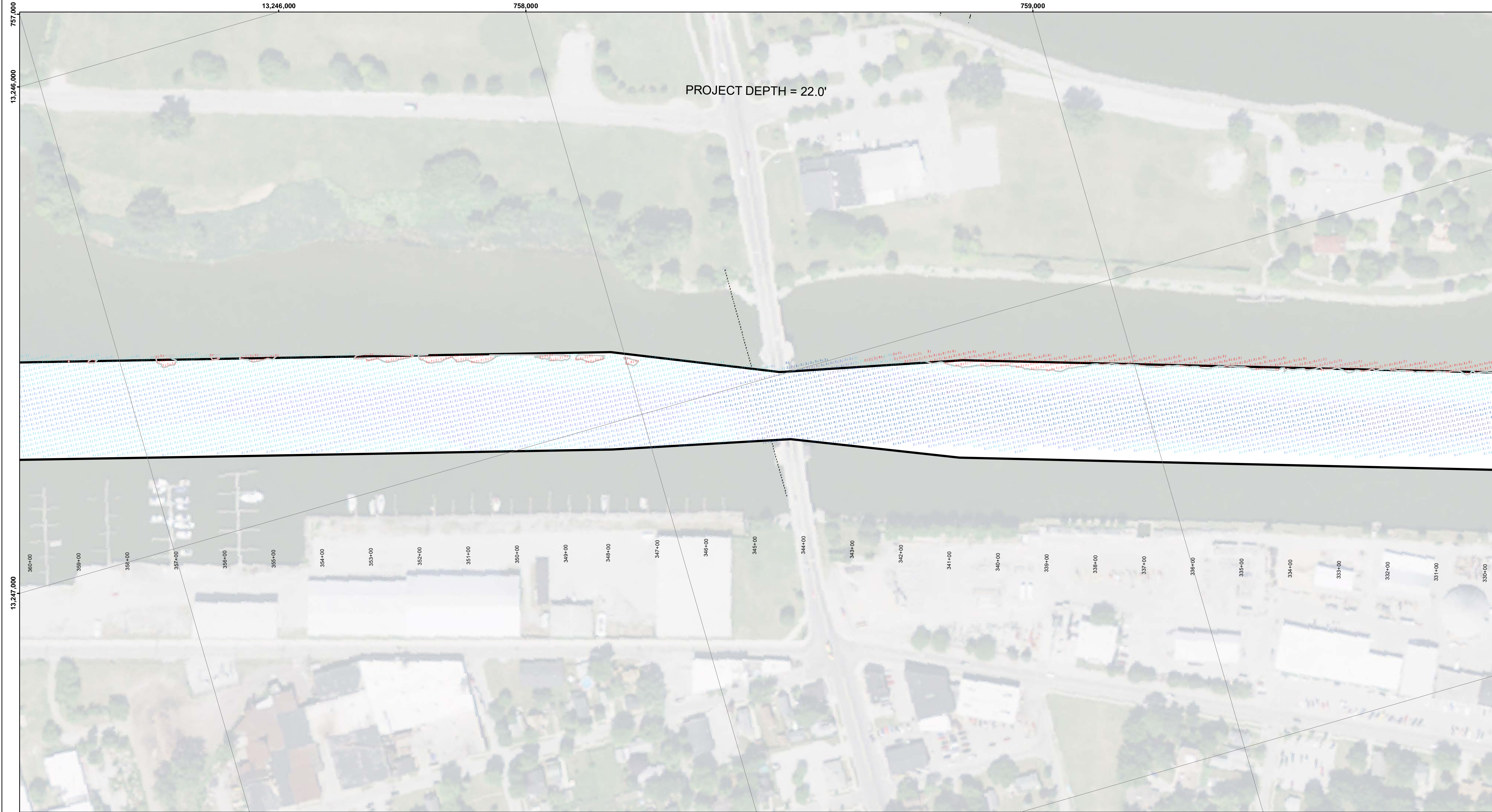
Saginaw, MI  
Saginaw River  
SH\_01\_SAG\_20200528\_CS  
28 May 2020

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Number  
39 of 62



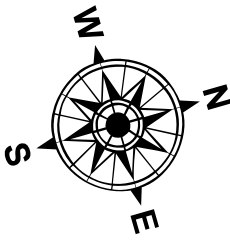




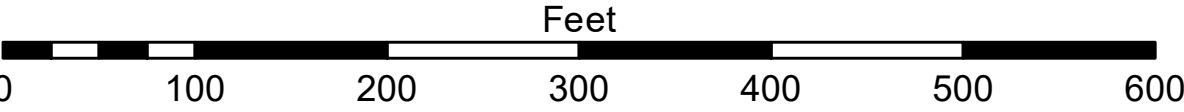


- LEGEND**
- ..... Cable Submarine
  - - Cable Overhead
  - Placement Area
  - ┆ Beacon, General
  - Contour Lines
  - ▭ Channel\_Limits

- SOUNDING LEGEND**
- LESS THAN PROJECT DEPTH
  - PROJECT DEPTH
  - PROJECT DEPTH +1'
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- NOAA GAGE AT ESSEXVILLE (#9075035)

2010 AERIAL PHOTOGRAPHY DATA SOURCE: USGS

ALL COORDINATES ARE IN U.S. SURVEY FEET .

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

Saginaw, MI  
Saginaw River  
SH\_01\_SAG\_20200528\_CS  
28 May 2020

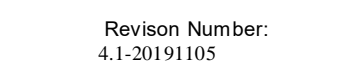
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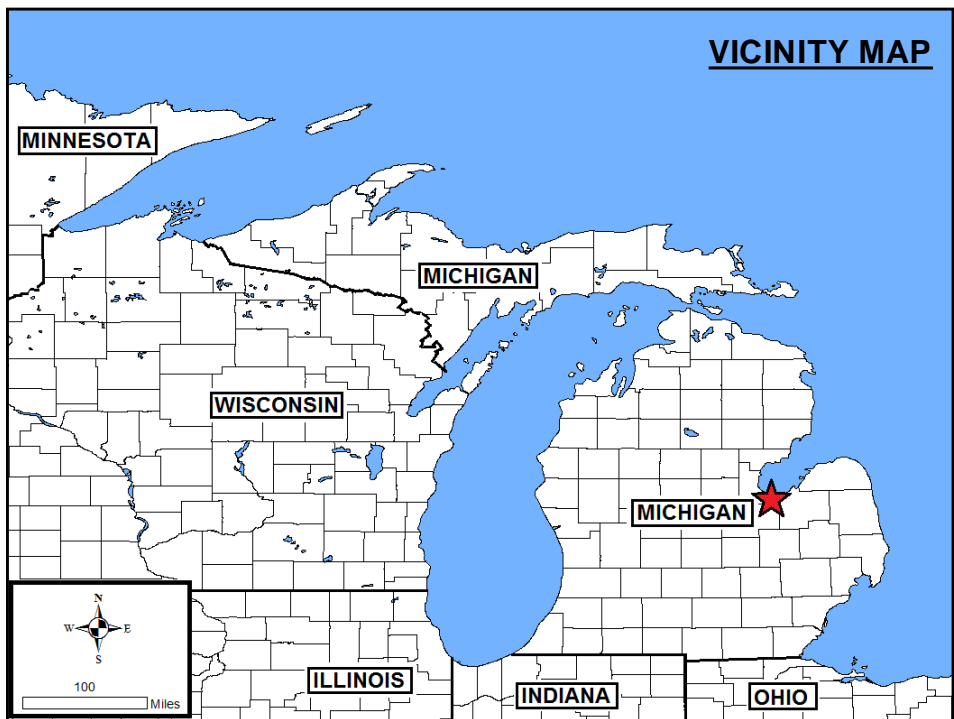
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Saginaw, MI  
Saginaw River  
SH\_01\_SAG\_20200528\_CS  
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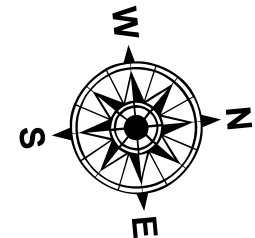
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Revision Number:  
4.1-20191105

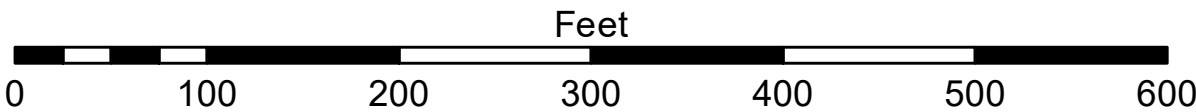


- LEGEND**
- ..... Cable Submarine
  - - Cable Overhead
  - Placement Area
  - ⊥ Beacon, General
  - Contour Lines
  - ▭ Channel\_Limits

- 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



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WHEELER EMPLOYING THE FOLLOWING COMPONENTS: POSITIONING: MARINESTAR GNSS  
MOTION COMPENSATION: APPLANIX POS-MV, SONAR : R2SONIC 2024, SOFTWARE: HYPACK

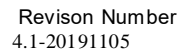
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- G. BOARD ON PILING NEAR CS 820+00
- TBM ZILL RAMP, TBM CHEB, TBM CASS RAMP
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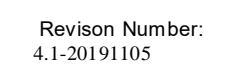
2010 AERIAL PHOTOGRAPHY DATA SOURCE: USGS

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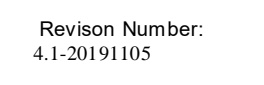








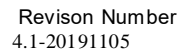




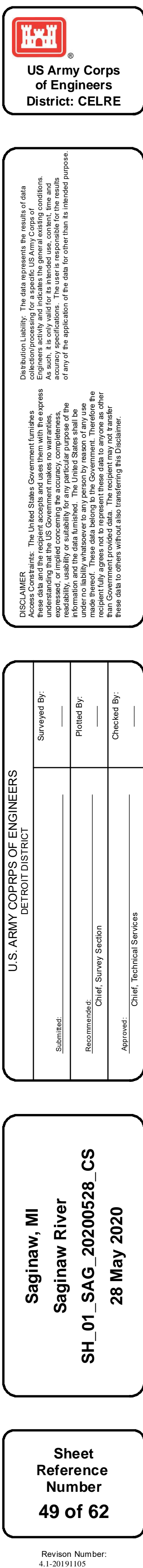




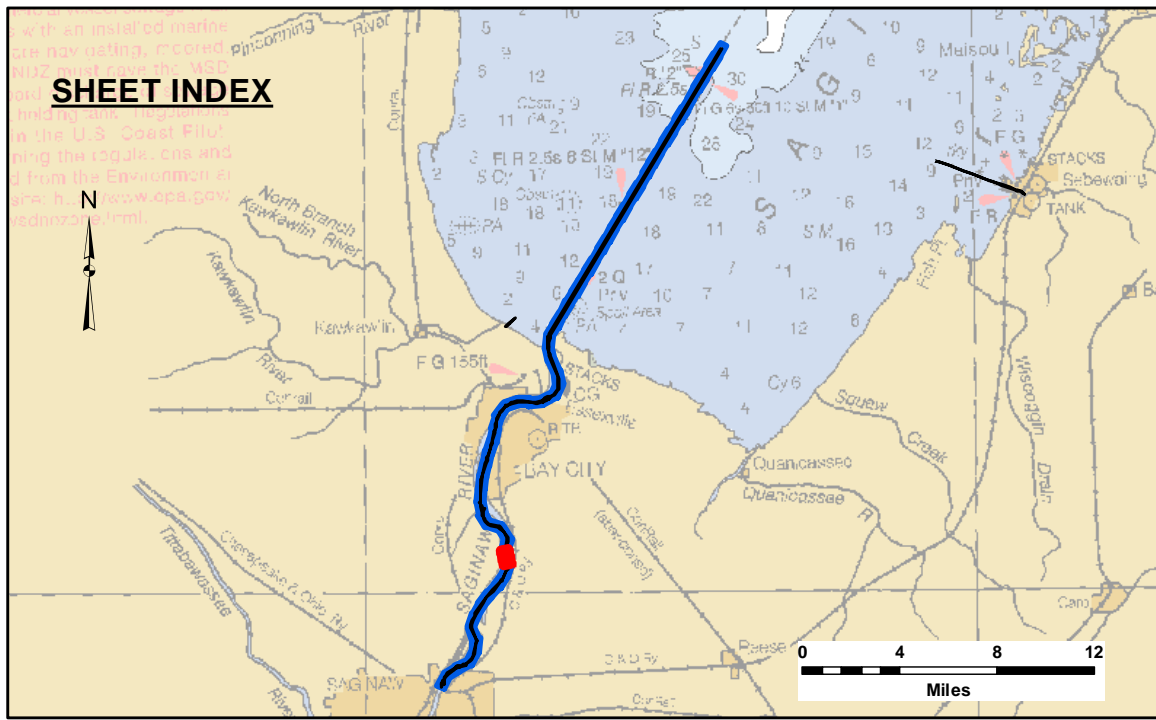
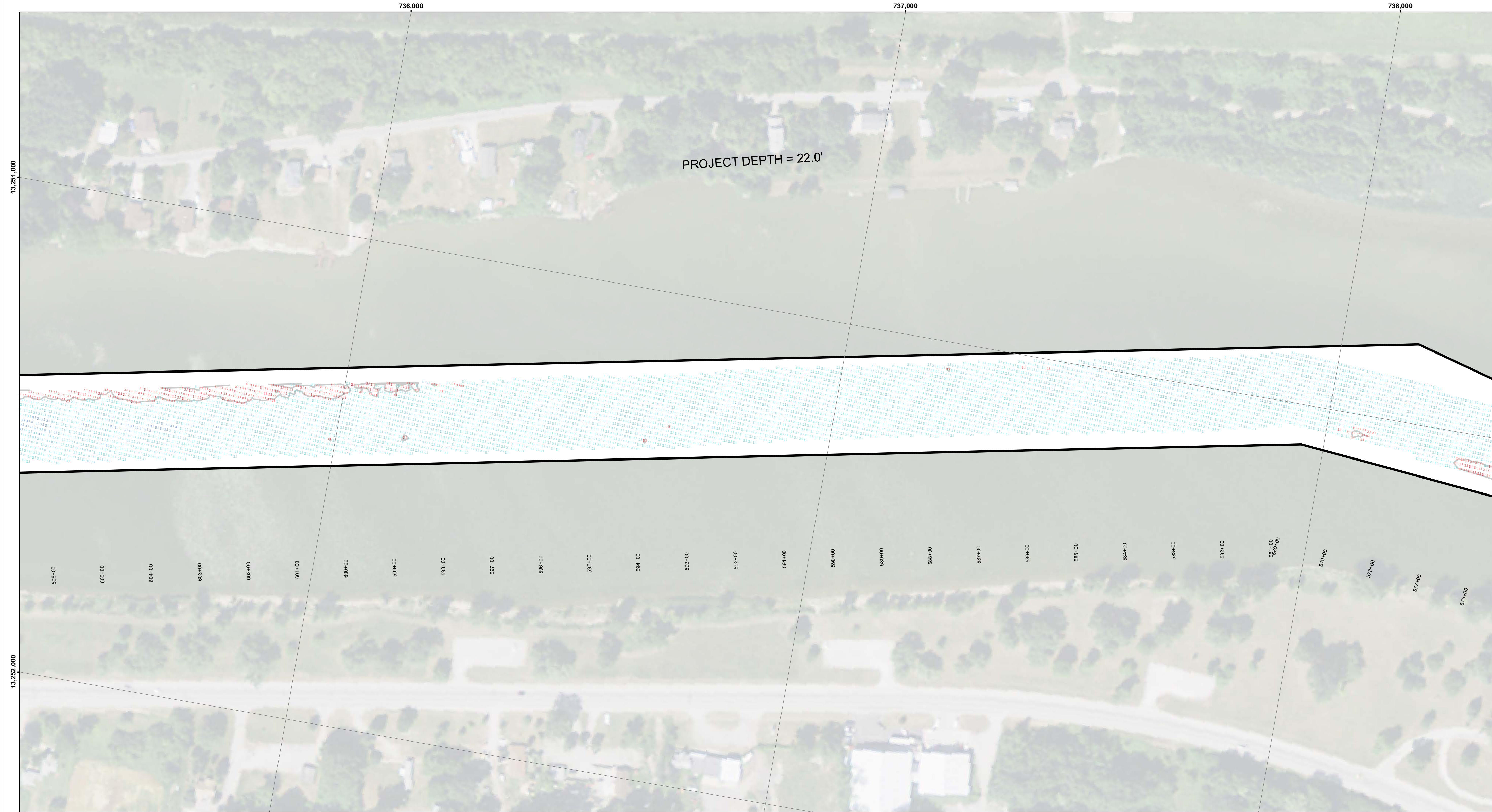






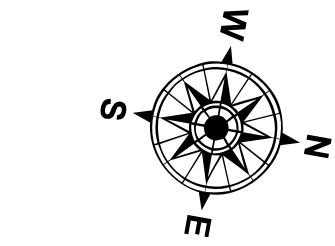




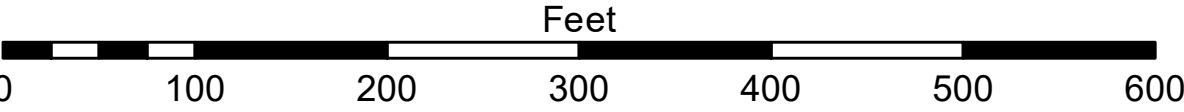


- LEGEND**
- ..... Cable Submarine
  - Cable Overhead
  - Placement Area
  - ┆ Beacon, General
  - Contour Lines
  - ▭ Channel\_Limits

- SOUNDING LEGEND**
- LESS THAN PROJECT DEPTH
  - PROJECT DEPTH
  - PROJECT DEPTH +1'
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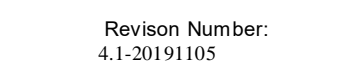
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U.S. ARMY CORPS OF ENGINEERS DETROIT DISTRICT	
Submitted: _____	Surveyed By: _____
Recommended: _____	Plotted By: _____
Approved: _____	Checked By: _____
Chief, Technical Services	

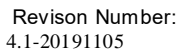
**Saginaw, MI**  
**Saginaw River**  
**SH\_01\_SAG\_20200528\_CS**  
**28 May 2020**

**Sheet Reference Number**  
**50 of 62**

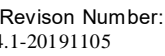




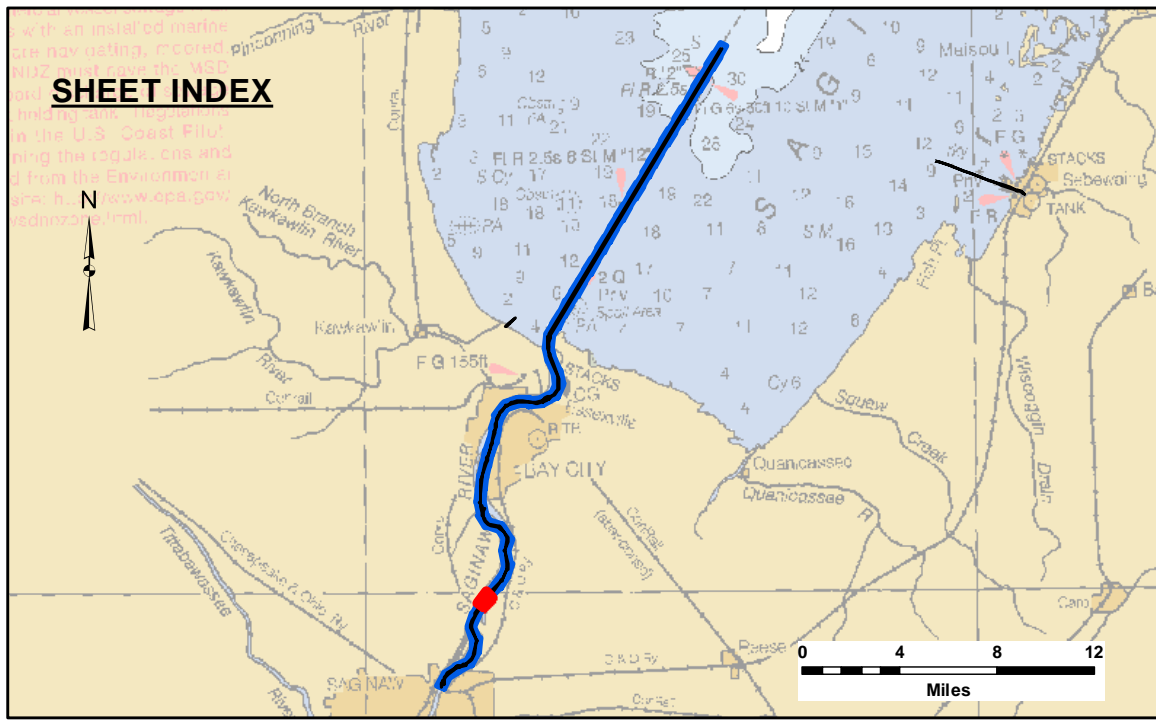
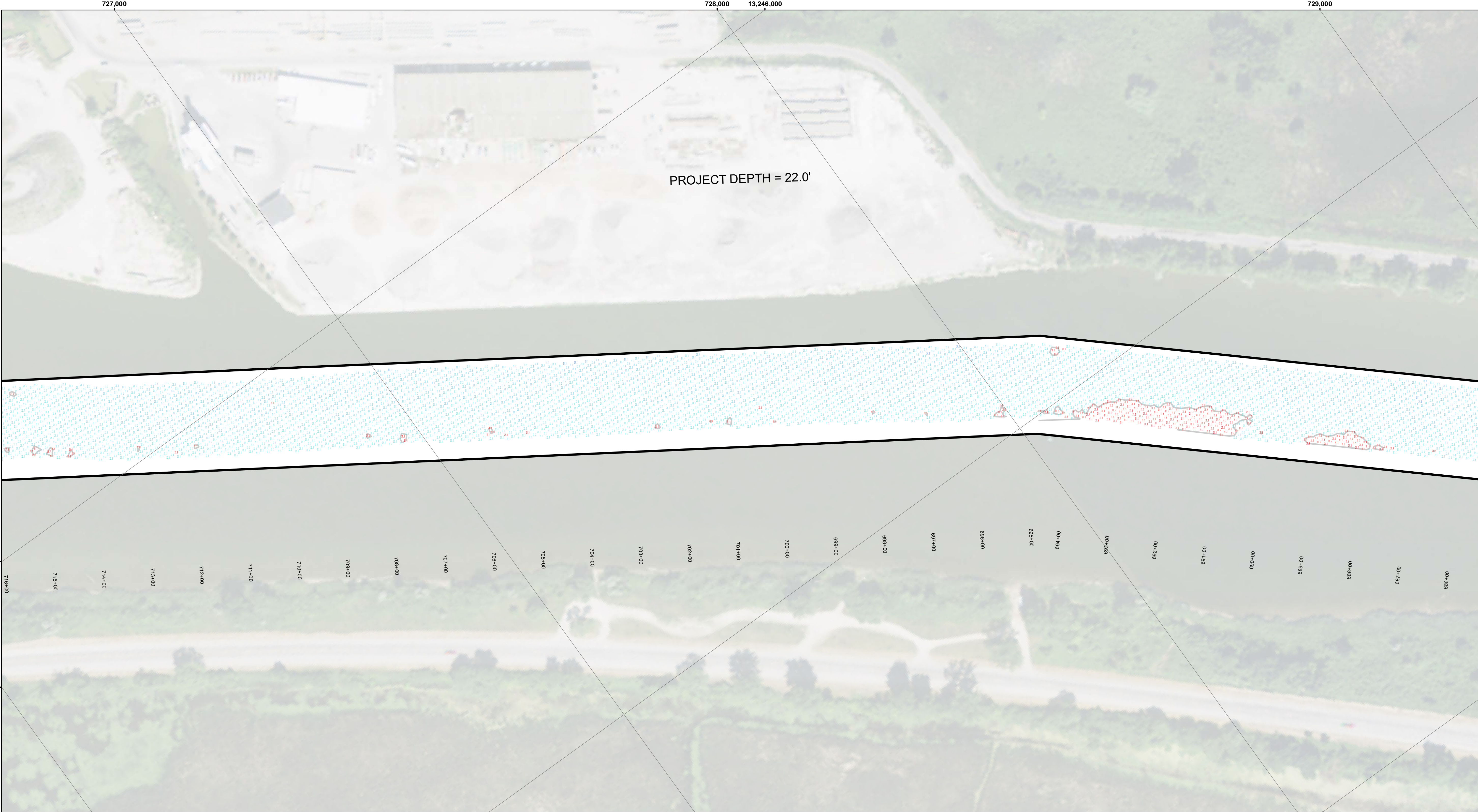












**LEGEND**

- ..... Cable Submarine
- - Cable Overhead
- Placement Area
- ┆ Beacon, General
- Contour Lines
- ▭ Channel\_Limits

**SOUNDING LEGEND**

- LESS THAN PROJECT DEPTH
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**US Army Corps of Engineers**  
District: CELRE

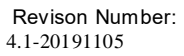
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Submitted:	Surveyed By:	
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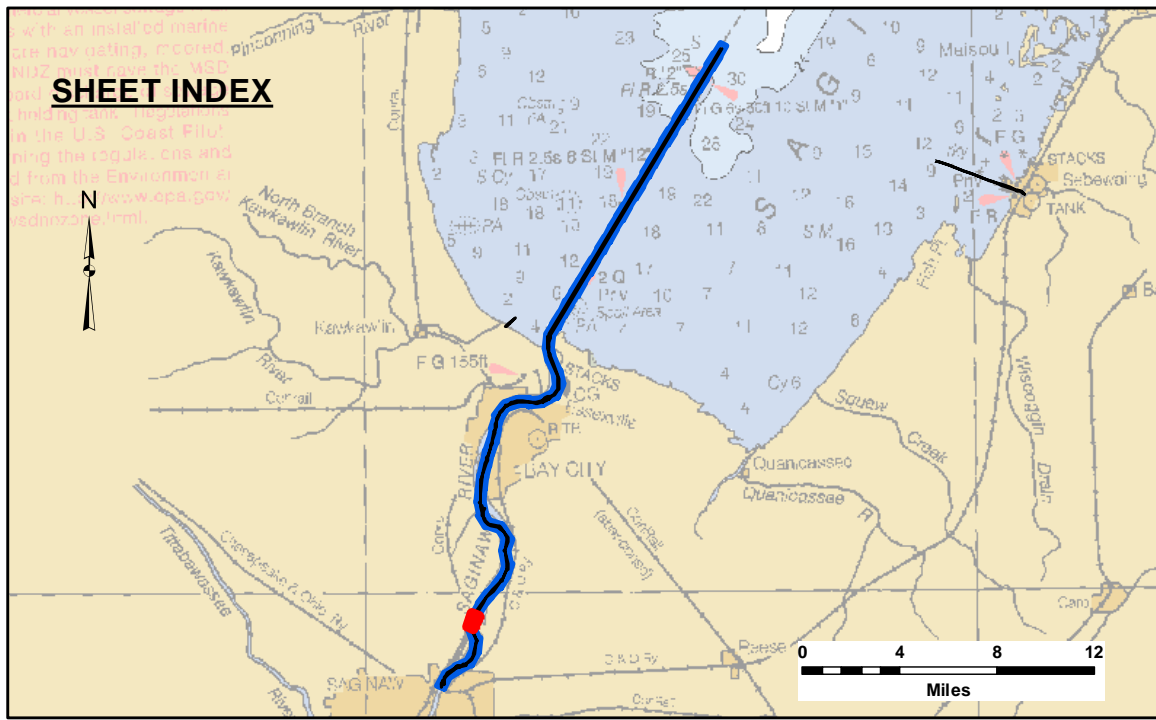
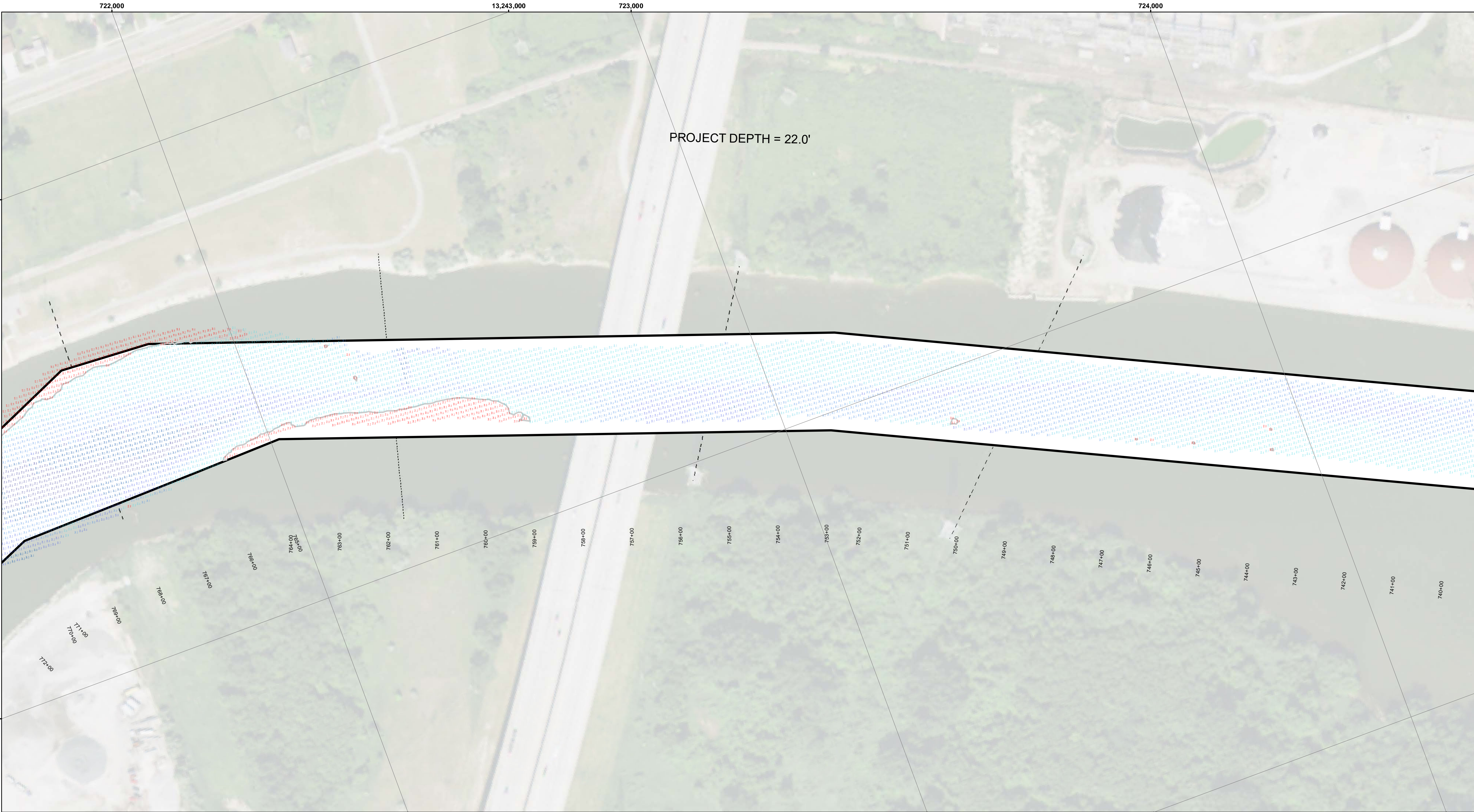
**Saginaw, MI**  
**Saginaw River**  
**SH\_01\_SAG\_20200528\_CS**  
**28 May 2020**

**Sheet Reference Number**  
**54 of 62**









**LEGEND**

- ..... Cable Submarine
- - Cable Overhead
- Placement Area
- ┆ Beacon, General
- Contour Lines
- ▭ Channel\_Limits

**SOUNDING LEGEND**

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Feet

0 100 200 300 400 500 600

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-G.B.OARD ON THE D.STREAM WESTERN PIER OF THE CENTRAL MICHIGAN R. R. BRIDGE. GAGE BOARD WAS ESTABLISHED FROM NGS BM HLM ON 26 US E  
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**US Army Corps of Engineers**  
District: CELRE

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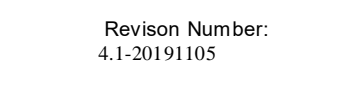
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Recommended:	Chief, Survey Section		
Approved:	Chief, Technical Services		

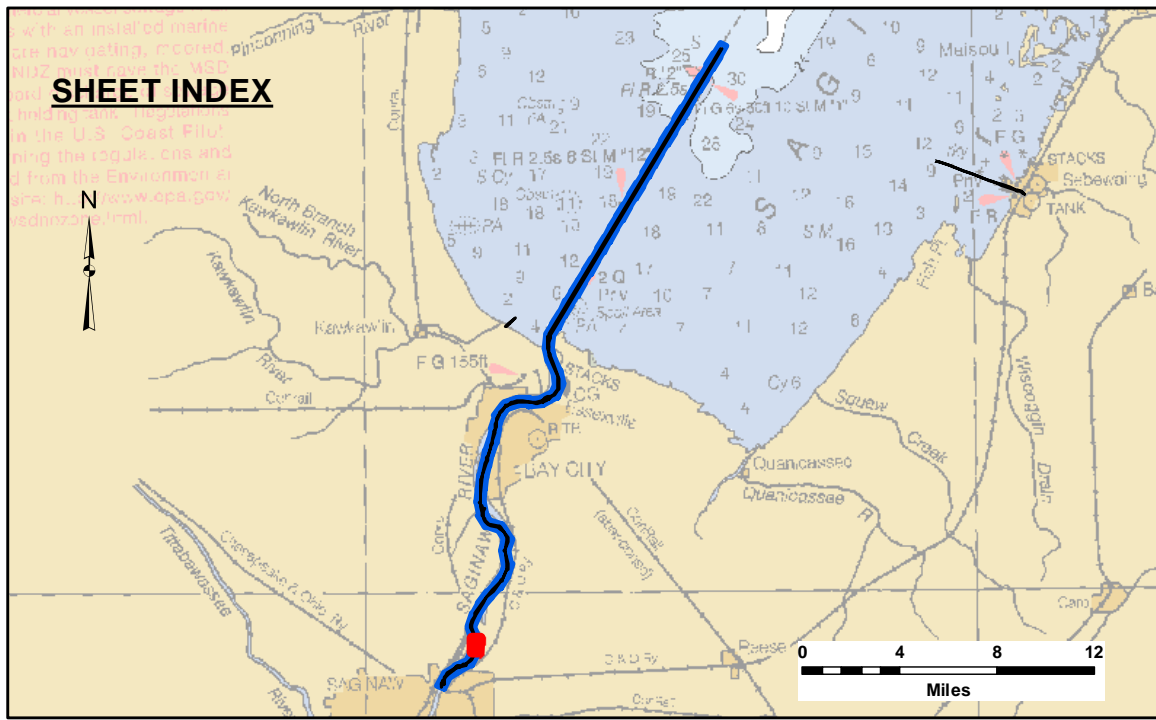
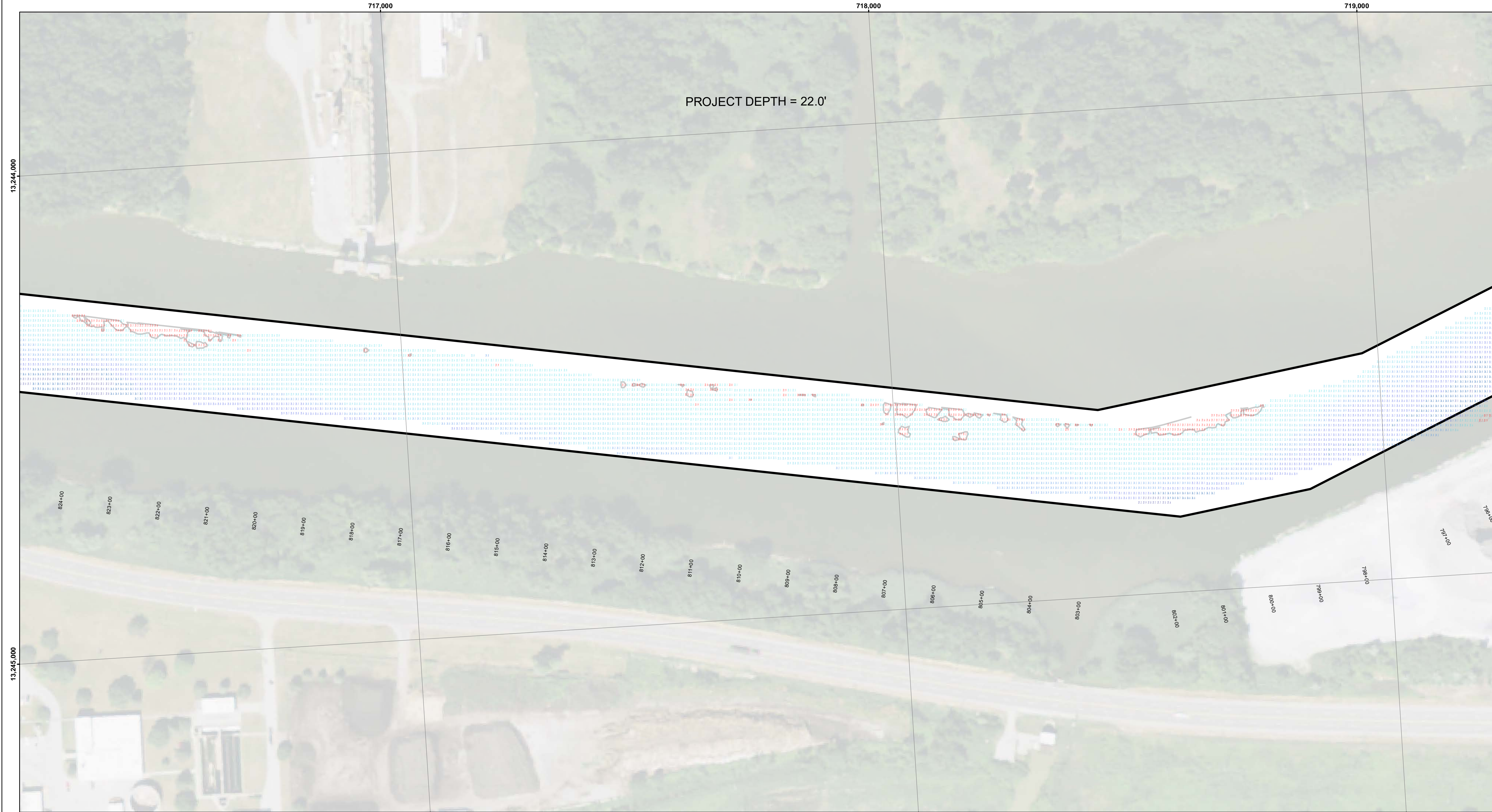
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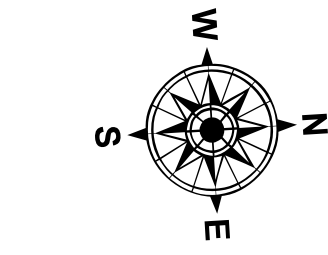




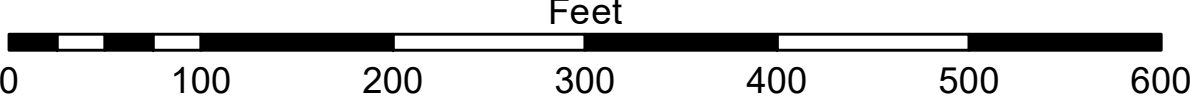


- LEGEND**
- ..... Cable Submarine
  - Cable Overhead
  - Placement Area
  - ┆ Beacon, General
  - Contour Lines
  - ▭ Channel\_Limits

- 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:** THE SOUNDINGS AND ASSOCIATED INFORMATION REPRESENTED HEREIN ARE THE RESULT OF SURVEYS MADE ON THE DATE AS INDICATED AND CAN ONLY BE CONSIDERED REPRESENTATIVE OF THE GENERAL CONDITIONS EXISTING AT THE TIME OF SURVEY.

HORIZONTAL DATUM : MICHIGAN S TATE PLANE COORDINATE SYSTEM , MICHIGAN SOUTH ZONE #2113, NORTH AMERICAN DATUM (NAD) OF 1983. VERTICAL DATUM : INTERNATIONAL GREAT LAKES DATUM (IGLD) OF 1985.

PROJECT DEPTH RANGE FROM 20.0' T O 27.0'

THE ABOVE SURVEY WAS CONDUCTED USING THE U.S.A.C.E. SURVEY VESSEL WHEELER EMPLOYING THE FOLLOWING COMPONENTS: POSITIONING: MARINESTAR GNSS, MOTION COMPENSATION: APPLANIX POS-MV, SONAR : R2SONIC 2024, SOFTWARE: HYPACK

GAGES USED:

- G. BOARD ON PILING NEAR CS 820+00
- TBM ZILL RAMP, TBM CHEB, TBM CASS RAMP
- TBM RAILROAD (ESTABLISHED FROM COE VERTICAL CP BM 36)
- TBM SAIL AT THE FOOT OF THE 5TH STREET BRIDGE
- G.B.OARD ON THE D.STREAM WESTERN PIER OF THE CENTRAL MICHIGAN R. R. BRIDGE. GAGE BOARD WAS ESTABLISHED FROM NGS BM HLM ON 25 US E
- G.B.OARD ON THE DOWNSTREAM END OF THE CENTER PIER OF THE LAKE STATE RAILROAD BRIDGE [ESTABLISHED FROM NGS BM HLM ON 16 US E (PID QJ 0534)]
- G.B.OARD ON THE D.STREAM END OF THE CTR PIER OF LAKE STATE R. R. BRIDGE
- NOAA GAGE AT ESSEXVILLE (#9075035)

2010 AERIAL PHOTOGRAPHY DATA SOURCE: USGS

ALL COORDINATES ARE IN U.S. SURVEY FEET .



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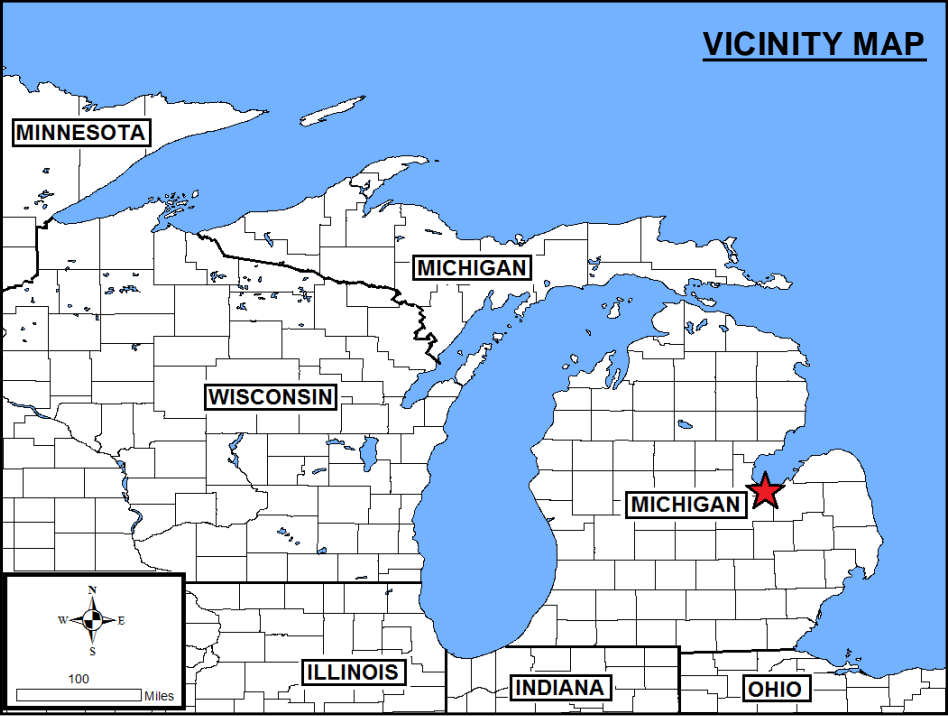
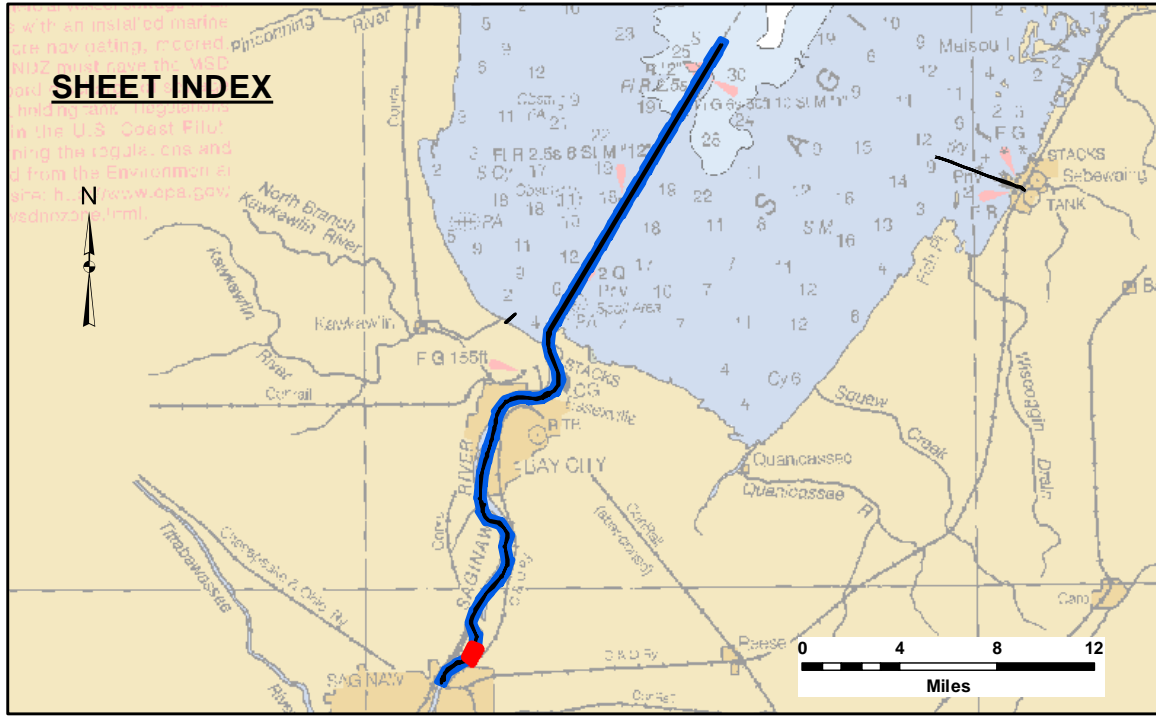
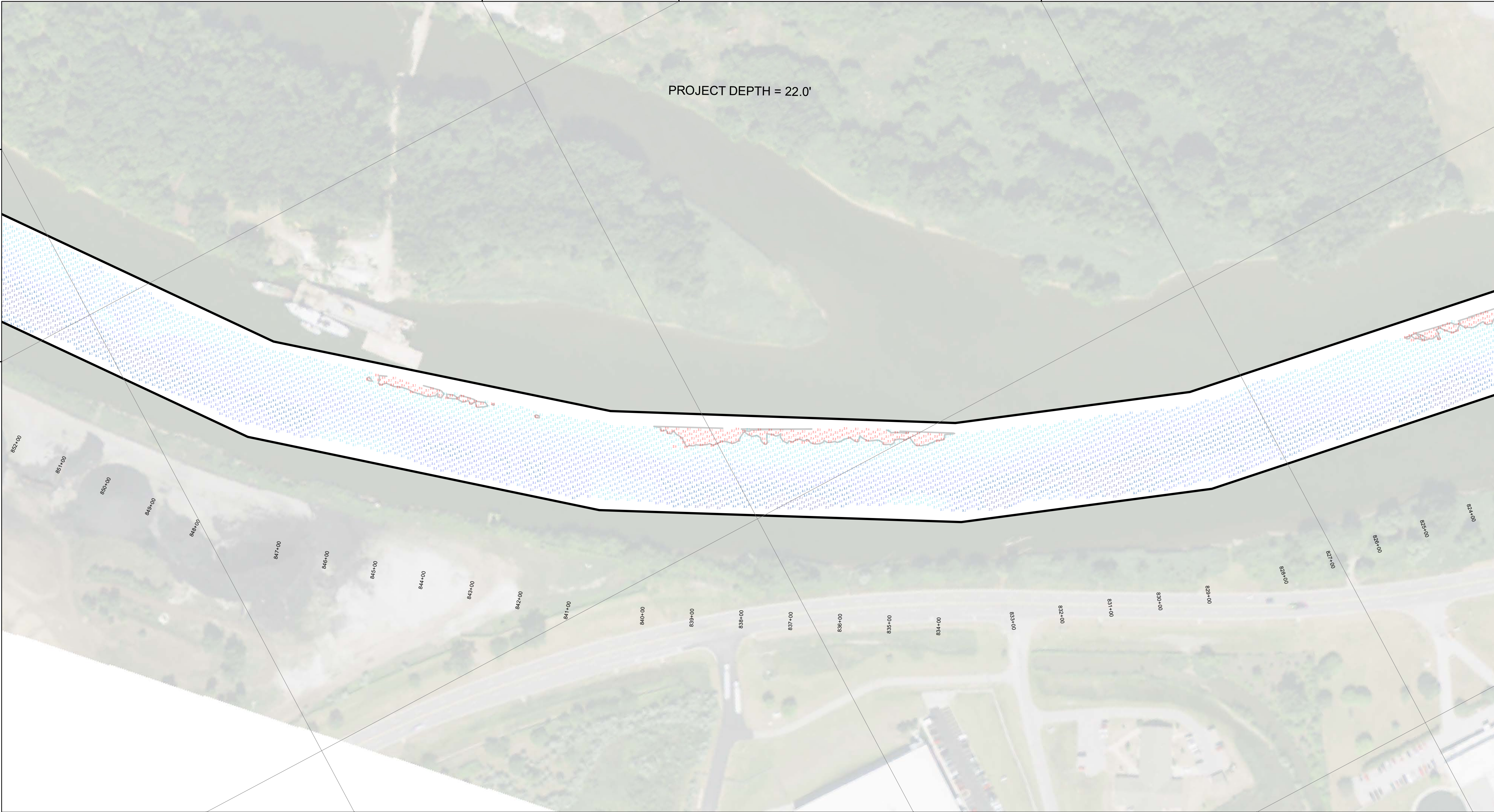
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Recommended:	Plotted By:	
Approved:	Chief, Survey Section	
	Chief, Technical Services	

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4.1-20191105





**LEGEND**

- ..... Cable Submarine
- - Cable Overhead
- Placement Area
- ┆ Beacon, General
- Contour Lines
- ▭ Channel\_Limits

**SOUNDING LEGEND**

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- PROJECT DEPTH
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Feet

0 100 200 300 400 500 600

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ALL COORDINATES ARE IN U.S. SURVEY FEET .

  
**US Army Corps  
of Engineers**  
District: CELRE

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Submitted:	Surveyed By:	
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Approved:	Checked By:	

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