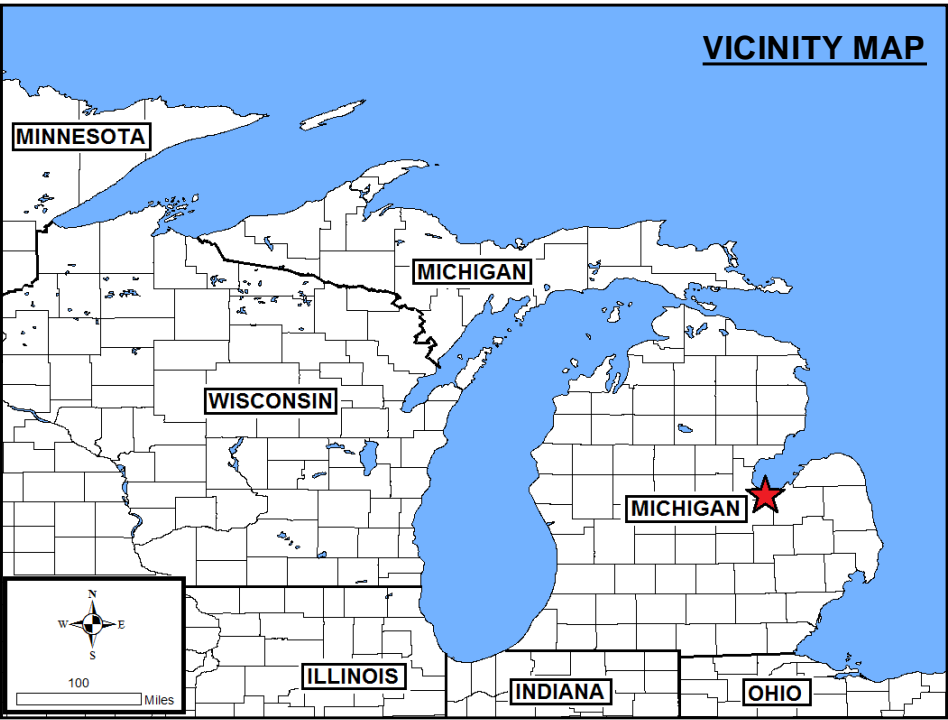
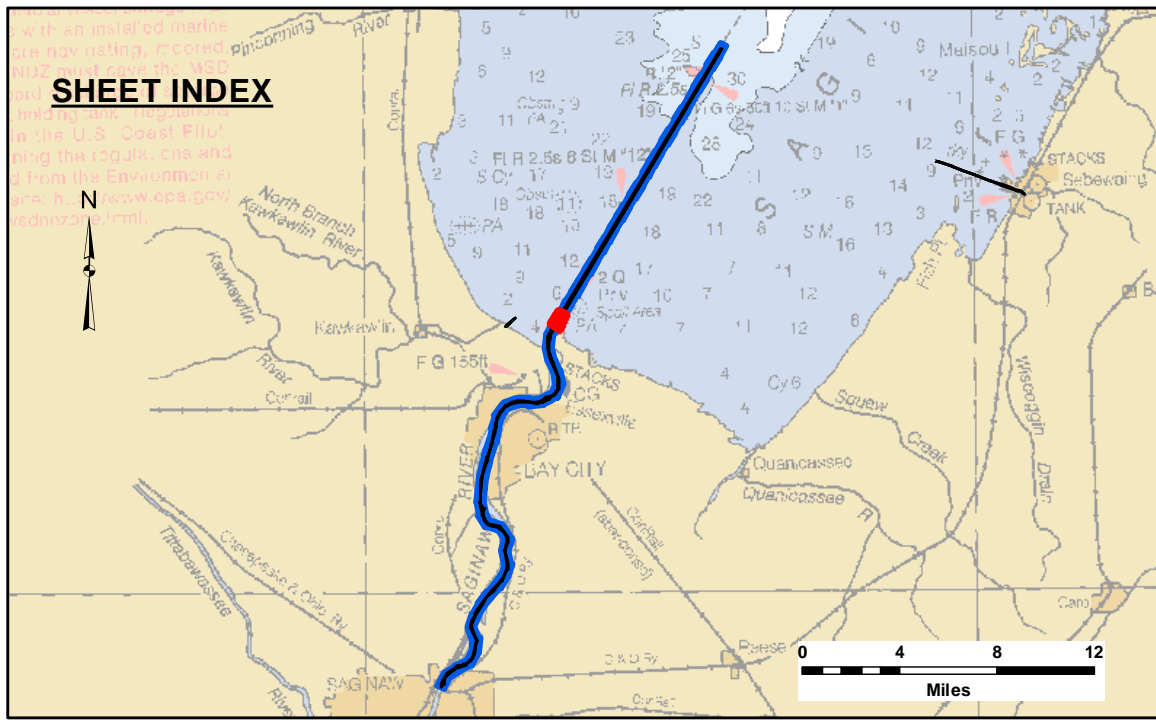
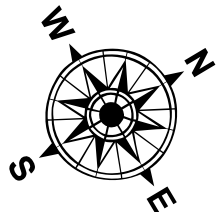
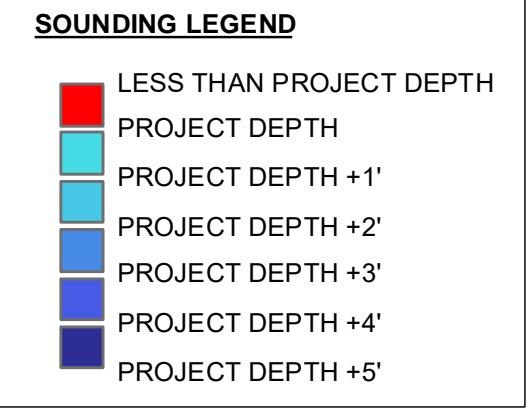


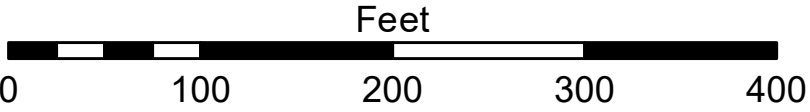
PROJECT DEPTH = 27.0'



- LEGEND**
- Cable Submarine
 - - Cable Overhead
 - Placement Area
 - └ Beacon, General
 - Contour Lines
 - ▭ Channel_Limits



1 inch = 100 feet



NOTES: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS AT THE TIME.

FOR MULTIBEAM SURVEYS: THE SOUNDINGS INDICATED HEREIN ARE GENERALIZED DEPTHS AND ARE NOT REPRESENTATIVE OF THE FULL DATASET. THE SOUNDINGS REPRESENT THE MINIMUM DEPTH FOUND WITHIN THE 10X10 FOOT AREA CENTERED ON THE TEXT. DERIVED FROM A 1X1 FOOT AVERAGE DATASET AT CELL CENTER. THIS MAP 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.

HORIZONTAL GRID DATUM BASED ON MICHIGAN STATE PLANE COORDINATE SYSTEM, LAMBERT PROJECTION, SOUTH ZONE (2113), NORTH AMERICAN DATUM 1983, U.S. SURVEY FOOT. ALL SOUNDINGS ARE REFERENCED TO INTERNATIONAL GREAT LAKES DATUM OF 1985 (IGLD85). PROJECT DEPTH RANGE FROM 20.0 TO 27.0'

TIDE VALUES ARE DERIVED FROM THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) WATER LEVEL STATIONS: ESSEXVILLE, MI (#9075935) ALONG WITH THE FOLLOWING GAGES: G. BOARD ON PILING NEAR CS 620+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, G. BOARD ON THE D-STREAM WESTERN PIER OF THE CENTRAL MICHIGAN R.R. BRIDGE [GAGE BOARD WAS ESTABLISHED FROM NGS BM HL MON 25 USE], G. BOARD ON THE DOWNSTREAM END OF THE CENTER PIER OF THE LAKE STATE RAILROAD BRIDGE [ESTABLISHED FROM NGS BM HL MON 16 USE (PID QJ0534)], G. BOARD ON THE D-STREAM END OF THE CTR PIER OF LAKE STATE R.R. BRIDGE, G. BOARD SET ON THE PILING AT THE MOUTH OF THE BLACK RIVER ON THE NORTH SIDE NEAR THE RAILROAD TRESTLE

POSITIONING: APPLINX POS-MV4 W/ VRS/RTK OR MARINESTAR GNSS. MOTION COMPENSATION: APPLINX POS-MV4 SONAR: RS2SONIC 2024 (MULTIBEAM) OR ODOM CV-300 (SINGLEBEAM) SOFTWARE: HYPACK

2010 AERIAL PHOTOGRAPHY DATA SOURCE: USGS ALL COORDINATES ARE IN U.S. SURVEY FEET.



By this data liability. The data represents the results of data collection and is not a warranty of accuracy. The U.S. Army Corps of Engineers activity and indicates the general existing conditions. The user is responsible for the results of the application of the data for other than its intended purpose. The user is responsible for the results of the application of the data for other than its intended purpose.

Access Copyrights: The United States Government furnishes these data and the recipient accepts and uses them with the express understanding that the data are not to be used for any purpose other than that for which they were provided. The user is responsible for the results of the application of the data for other than its intended purpose. The user is responsible for the results of the application of the data for other than its intended purpose.

Submitted:	Surveyed By:
Recommended:	Plotted By:
Approved:	Checked By:

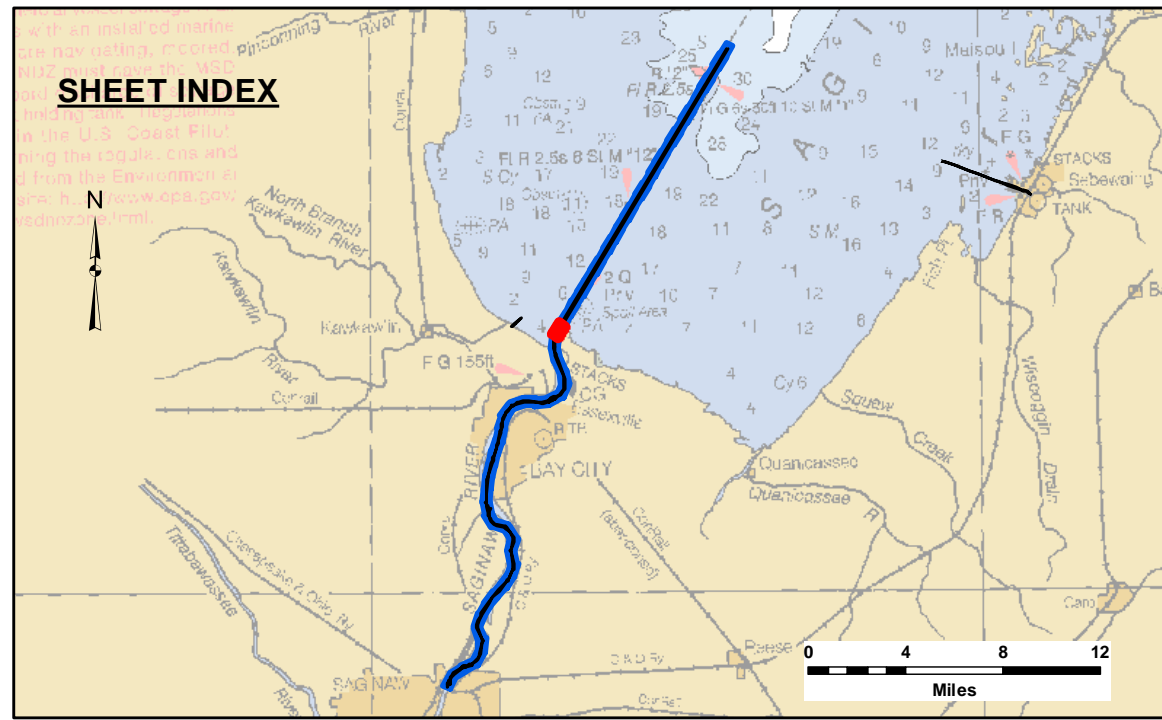
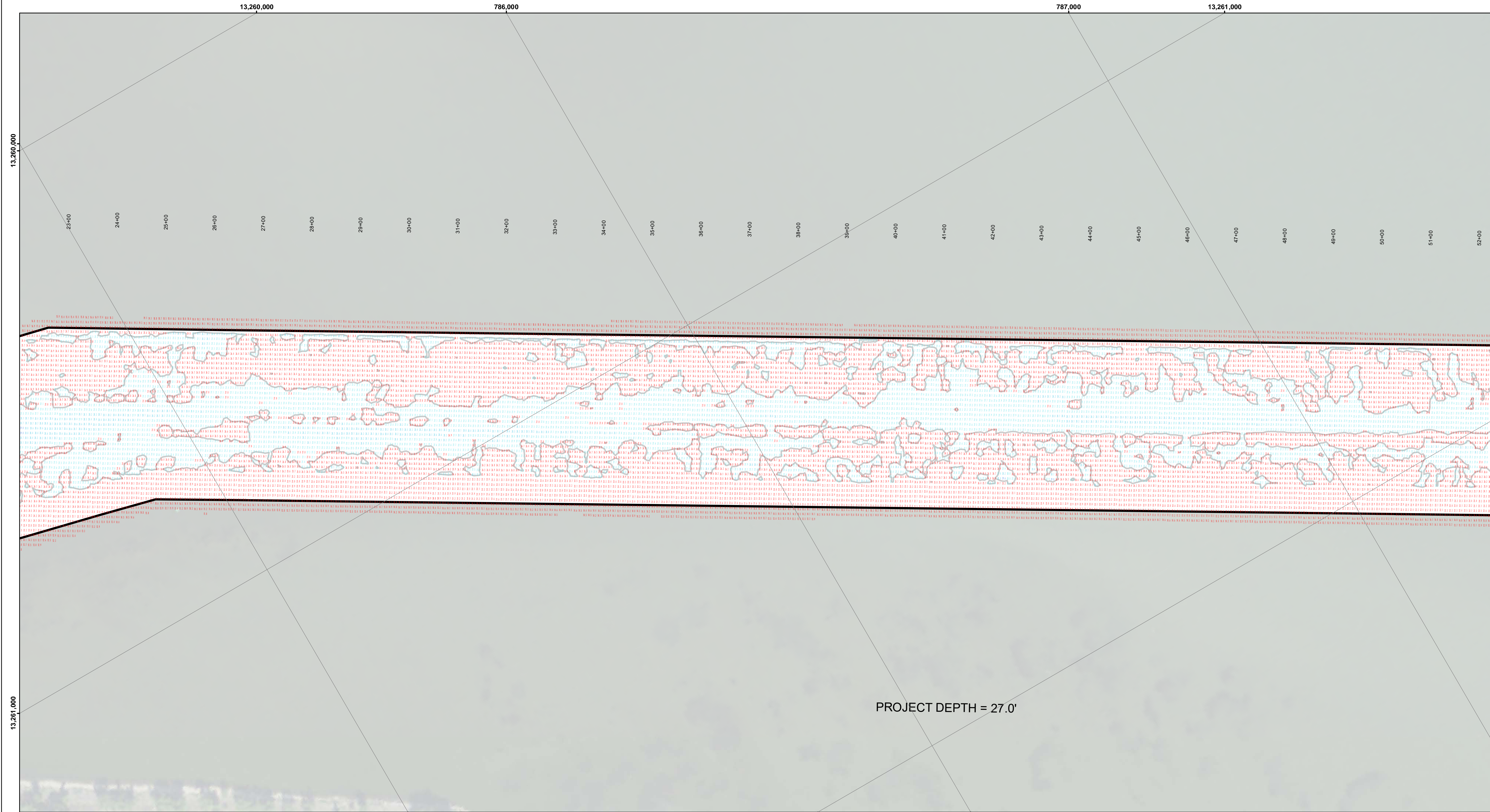
U.S. ARMY CORPS OF ENGINEERS
DETROIT DISTRICT

Saginaw, MI
Saginaw River
SH_01_SAG_20201008_AD
08 October 2020

Chief, Survey Section
Chief, Technical Services

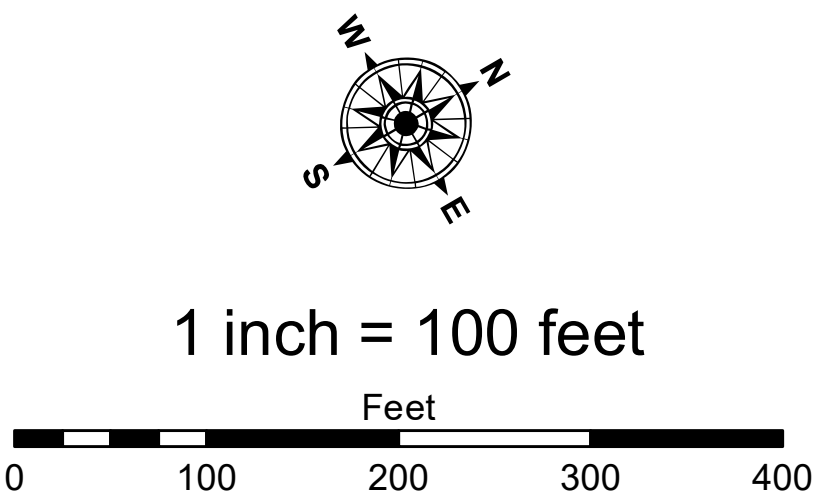
Saginaw, MI
Saginaw River
SH_01_SAG_20201008_AD
08 October 2020

Sheet
Reference
Number
26 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'
 - PROJECT DEPTH +2'
 - PROJECT DEPTH +3'
 - PROJECT DEPTH +4'
 - PROJECT DEPTH +5'



NOTES: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS AT THE TIME.

FOR MULTIBEAM SURVEYS: THE SOUNDINGS INDICATED HEREIN ARE GENERALIZED DEPTHS AND ARE NOT REPRESENTATIVE OF THE FULL DATASET. THE SOUNDINGS REPRESENT THE MINIMUM DEPTH FOUND WITHIN THE 10X10 FOOT AREA CENTERED ON THE TEXT. DERIVED FROM A 1X1 FOOT AVERAGE DATASET AT CELL CENTER. THIS MAP 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.

HORIZONTAL GRID DATUM BASED ON MICHIGAN STATE PLANE COORDINATE SYSTEM, LAMBERT PROJECTION, SOUTH ZONE (2113), NORTH AMERICAN DATUM 1983, U.S. SURVEY FOOT.
ALL SOUNDINGS ARE REFERENCED TO INTERNATIONAL GREAT LAKES DATUM OF 1985 (IGLD85).
PROJECT DEPTH RANGE FROM 20.0' TO 27.0'

TIDE VALUES ARE DERIVED FROM THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) WATER LEVEL STATIONS: ESSEXVILLE, MI (#9075935) ALONG WITH THE FOLLOWING GAGES: G. BOARD ON PILING NEAR CS 620+00, TBM ZILL RAMP, TBM CHEB, TBM CASS RAMP, TBM RAILROAD (ESTABLISHED FROM COE VERTICAL CO BM 36), TBM SAIL AT THE FOOT OF THE 5TH STREET, G. BOARD ON THE D-STREAM WESTERN PIER OF THE CENTRAL MICHIGAN R.R. BRIDGE [GAGE BOARD WAS ESTABLISHED FROM NGS BM HL MON 25 USE], G. BOARD ON THE DOWNSTREAM END OF THE CENTER PIER OF THE LAKE STATE RAILROAD BRIDGE [ESTABLISHED FROM NGS BM HL MON 16 USE (PID QJ0534)], G. BOARD ON THE D-STREAM END OF THE CTR PIER OF LAKE STATE R.R. BRIDGE, G. BOARD SET ON THE PILING AT THE MOUTH OF THE BLACK RIVER ON THE NORTH SIDE NEAR THE RAILROAD TRESTLE

POSITIONING: APPLANIX POS-MV4 W/ VRS/IRTK OR MARINESTAR GNSS.
MOTION COMPENSATION: APPLANIX POS-MV4
SONAR: RS20NHC 2024 (MULTIBEAM) OR ODOM CV-300 (SINGLEBEAM)
SOFTWARE: HYPACK

2010 AERIAL PHOTOGRAPHY DATA SOURCE: USGS
ALL COORDINATES ARE IN U.S. SURVEY FEET.



The data is publicly available. The data represents the results of data collection and processing for a specific project. The U.S. Army Corps of Engineers activity and indicates the general existing conditions. The data is not intended for use in any other project. The user is responsible for the results of any of the application of the data for other than its intended purpose.

Access Constraints: The United States Government furnishes these data and the recipient accepts and uses them with the express understanding that the data is not to be used for any other purpose, expressed, or implied concerning the accuracy, completeness, readability, usability or suitability for any particular purpose of the recipient. The data is not to be used for any other purpose, expressed, or implied concerning the accuracy, completeness, readability, usability or suitability for any particular purpose of the recipient. The data is not to be used for any other purpose, expressed, or implied concerning the accuracy, completeness, readability, usability or suitability for any particular purpose of the recipient. The data is not to be used for any other purpose, expressed, or implied concerning the accuracy, completeness, readability, usability or suitability for any particular purpose of the recipient.

Submitted:	Surveyed By:
Recommended:	Plotted By:
Approved:	Checked By:

U.S. ARMY CORPS OF ENGINEERS
DETROIT DISTRICT

Saginaw, MI
Saginaw River
SH_01_SAG_20201008_AD
08 October 2020

Sheet
Reference
Number
27 of 62

Revision Number:
4.1-20191105

