NOTES

1. ELEVATIONS AND SOUNDING DEPTHS ARE REFERRED TO INTERNATIONAL GREAT LAKES DATUM 1985 (IGLD 85). LOW WATER DATUM ZERO IS 577.5 FEET ABOVE MEAN WATER LEVEL AT FATHER POINT QUEBEC. WATER LEVEL READINGS ARE FROM AN AUTOMATED GAUGE LOCATED AT MICHIGAN CITY INDIANA. DEPTHS ARE MEASURED USING A INNERSPACE 448 SINGLEBEAM SONAR.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON APRIL 4. 2013 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS PRESENT AT THE TIME.

3. HORIZONTAL POSITIONING IS DETERMINED USING THE DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS). THE DIFFERENTIAL CORRECTIONS ARE PROVIDED BY U.S. COAST GUARD DIFFERENTIAL BROADCAST STATIONS. SIGNAL STRENGTH IS USED AS THE DETERMINING FACTOR IN DIFFERENTIAL SELECTION. THE DGPS RECEIVER IS MANUFACTURED BY TRIMBLE MODEL SPS.

4. GRID COORDINATES ARE BASED ON THE INDIANA STATE PLANE COORDINATE SYSTEM. TRANVERSE MERCATOR PROJECTION. INDIANA WEST ZONE (1302). NORTH AMERICAN DATUM 1983 (NAD83). ALL COORDINATES SHOWN ARE IN U.S. SURVEY FEET.

5. UNLESS OTHERWISE NOTED PROJECT DEPTH IS 12.0' BELOW LOW WATER DATUM.

SURVEYED ON: 04 APRIL 2013
POSITIONING METHOD: DGPS, USING C.G. BEACON CORRECTIONS
SPS 351 TRIMBLE GPS RECEIVER
448 INNERSPACE SOUNDER, 208 kHz TRANSDUCER
VESSEL: 21' LAUNCH 3033

CHANNEL LIMITS SHOWN THUS: - - - - - - - - - - - - - -

12' LEGEND	10' LEGEND
0.0'	0.0'
12.0'	10.0'
12.5'	10.5'
13.0'	11.0'
13.5'	11.5'
14.0'	12.0'
14.5'	12.5'
15.0'	13.0'
15.5'	13.5'
50.0'	50.0'

US Army Corps of Engineers
Detroit District

Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

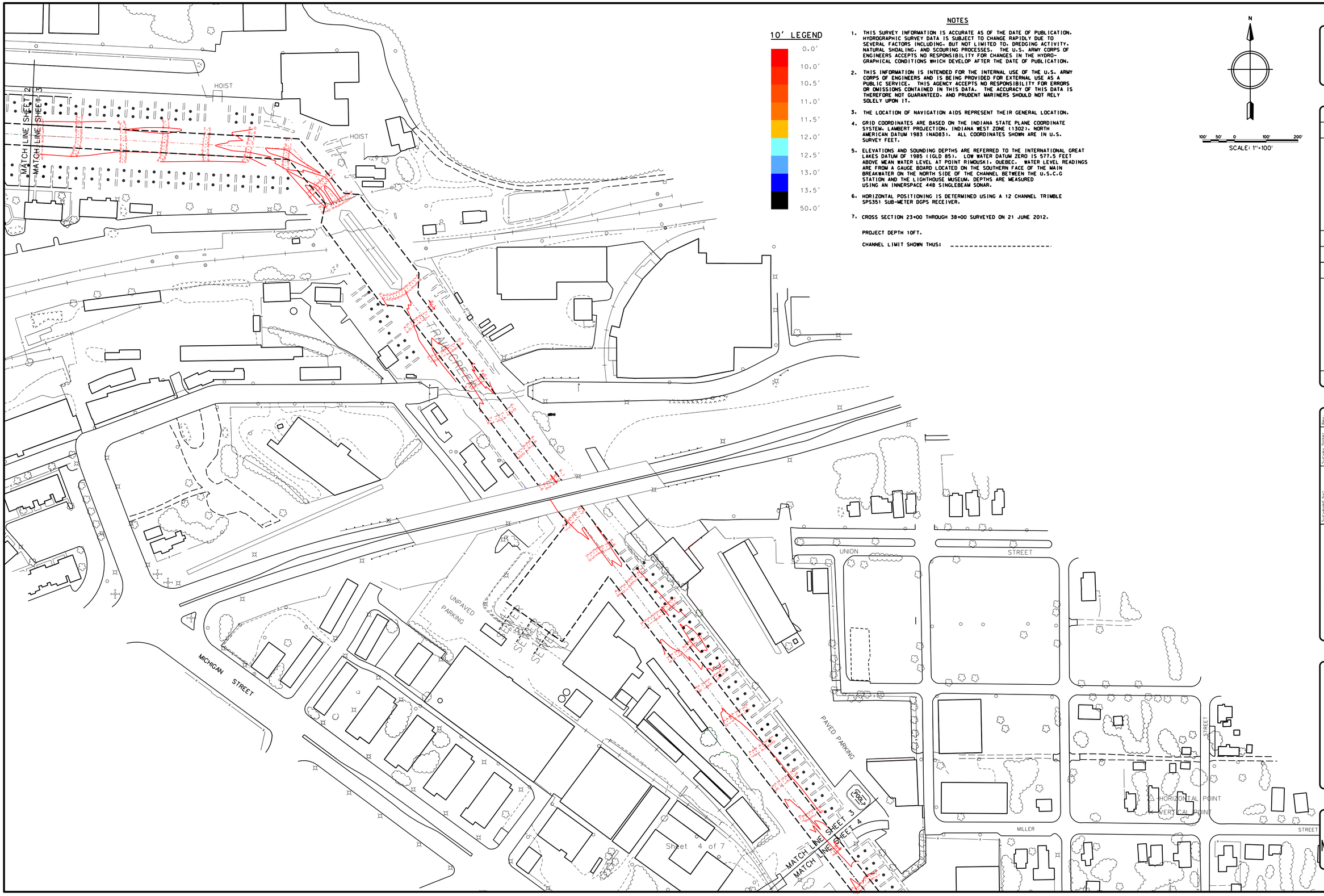
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
DETROIT, MICHIGAN

Surveyed by: Eric Schmidt
Drawn by:
Checked by:
Approved by: District Engineer
Rev.
Survey Date: 4 APRIL 2013
Design file name:
Drawing code:
File name:
Plot date: 04/09/2013
Plot scale: 1" = 100'

LAKE MICHIGAN AREA OFFICE
MICHIGAN CITY, TRAIL CREEK

APRIL, 2013
CONDITION SURVEY

Sheet reference number:
MCTC-02
Sheet 2 of 4



10' LEGEND

	0.0'
	10.0'
	10.5'
	11.0'
	11.5'
	12.0'
	12.5'
	13.0'
	13.5'
	50.0'

NOTES

1. THIS SURVEY INFORMATION IS ACCURATE AS OF THE DATE OF PUBLICATION. HYDROGRAPHIC SURVEY DATA IS SUBJECT TO CHANGE RAPIDLY DUE TO SEVERAL FACTORS INCLUDING. BUT NOT LIMITED TO. DREDGING ACTIVITY. NATURAL SHOALING. AND SCOURING PROCESSES. THE U.S. ARMY CORPS OF ENGINEERS ACCEPTS NO RESPONSIBILITY FOR CHANGES IN THE HYDROGRAPHICAL CONDITIONS WHICH DEVELOP AFTER THE DATE OF PUBLICATION.
2. THIS INFORMATION IS INTENDED FOR THE INTERNAL USE OF THE U.S. ARMY CORPS OF ENGINEERS AND IS BEING PROVIDED FOR EXTERNAL USE AS A PUBLIC SERVICE. THIS AGENCY ACCEPTS NO RESPONSIBILITY FOR ERRORS OR OMISSIONS CONTAINED IN THIS DATA. THE ACCURACY OF THIS DATA IS THEREFORE NOT GUARANTEED. AND PRUDENT MARINERS SHOULD NOT RELY SOLELY UPON IT.
3. THE LOCATION OF NAVIGATION AIDS REPRESENT THEIR GENERAL LOCATION.
4. GRID COORDINATES ARE BASED ON THE INDIANA STATE PLANE COORDINATE SYSTEM. LAMBERT PROJECTION. INDIANA WEST ZONE (1302). NORTH AMERICAN DATUM 1983 (NAD83). ALL COORDINATES SHOWN ARE IN U.S. SURVEY FEET.
5. ELEVATIONS AND SOUNDING DEPTHS ARE REFERRED TO THE INTERNATIONAL GREAT LAKES DATUM OF 1985 (IGLD 85). LOW WATER DATUM ZERO IS 577.5 FEET ABOVE MEAN WATER LEVEL AT POINT RIMOUSKI. QUEBEC. WATER LEVEL READINGS ARE FROM A GAUGE BOARD LOCATED ON THE SOUTHERN FACE OF THE MAIN BREAKWATER ON THE NORTH SIDE OF THE CHANNEL BETWEEN THE U.S.C.G STATION AND THE LIGHTHOUSE MUSEUM. DEPTHS ARE MEASURED USING AN INNERSPACE 448 SINGLEBEAM SONAR.
6. HORIZONTAL POSITIONING IS DETERMINED USING A 12 CHANNEL TRIMBLE SPS351 SUB-METER DGPS RECEIVER.
7. CROSS SECTION 23+00 THROUGH 38+00 SURVEYED ON 21 JUNE 2012.

PROJECT DEPTH 10FT.

CHANNEL LIMIT SHOWN THUS: _____

N

100' 50' 0 100' 200'

SCALE: 1"=100'

US Army Corps of Engineers
Detroit District

Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

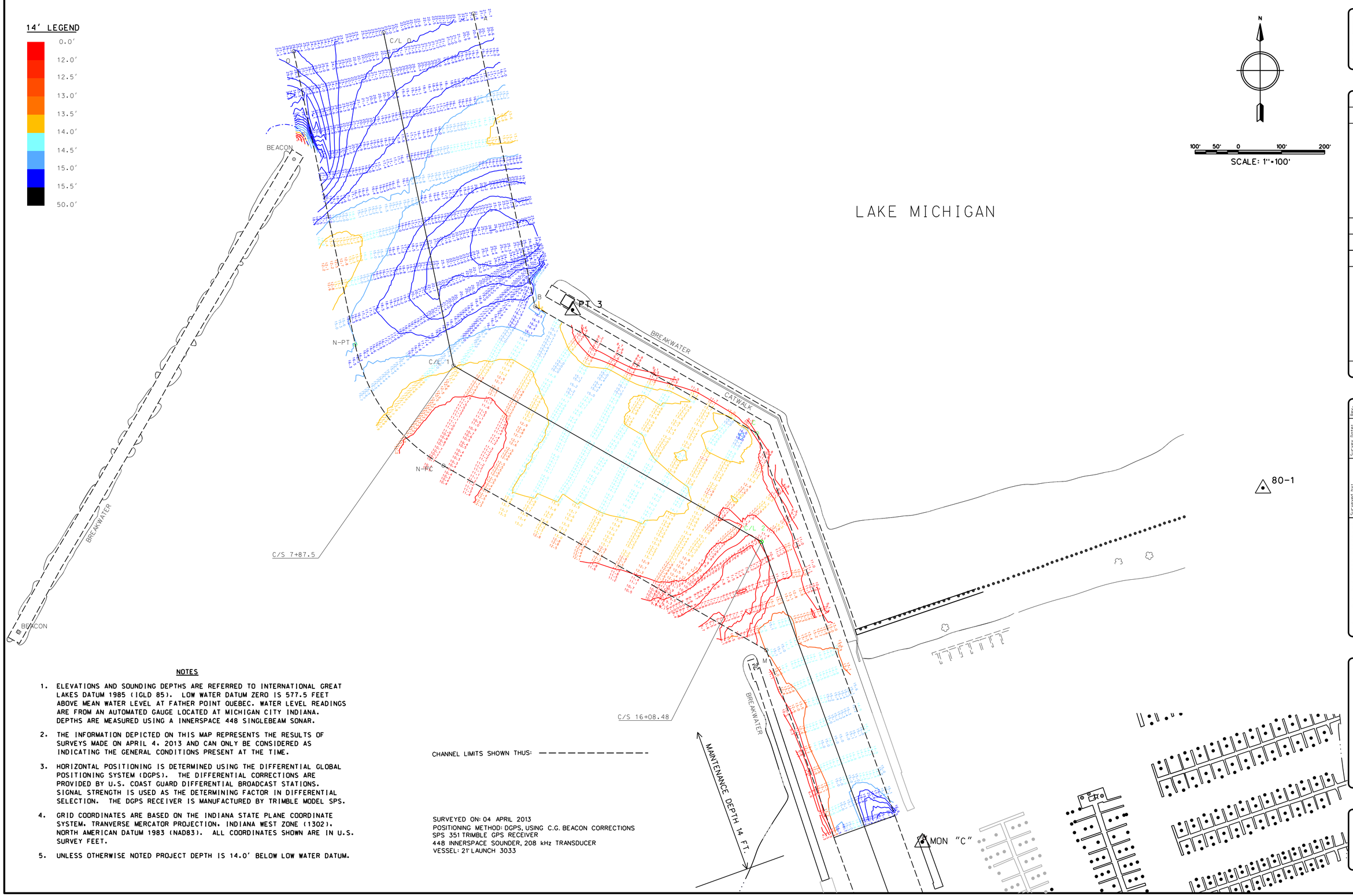
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
DETROIT, MICHIGAN

Surveyed by: Brian Kaplan
Drawn by: Brian Kaplan
Chkd by:
Des by: E.D.S.
Reviewed by:
Approval Recommended: Area Eng. MAJ. Jeffrey
Approved by: District Engineer
Drawing code:
Design file name:
Drawing name: Dist. Eng. Appr.
Submitted by: Dist. ASB Section
Survey dates: 4-5 April 2013
Rev.
File name:
Plot date: 04/09/2013
Plot scale: 1" = 100'

LAKE MICHIGAN AREA OFFICE
MICHIGAN CITY, TRAIL CREEK

APRIL 2013
CONDITION SURVEY

Sheet reference number:
MCTC-03
Sheet 3 of 4



CHANNEL LIMITS SHOWN THUS: - - - - - - - - - - - - -

SURVEYED ON: 04 APRIL 2013
POSITIONING METHOD: DGPS, USING C.G. BEACON CORRECTIONS
SPS 351 TRIMBLE GPS RECEIVER
448 INNERSPACE SOUNDER, 208 kHz TRANSDUCER
VESSEL: 21' LAUNCH 3033

NOTES

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5. UNLESS OTHERWISE NOTED PROJECT DEPTH IS 14.0' BELOW LOW WATER DATUM.

Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
DETROIT, MICHIGAN

Surveyed by: Eric Gowell
Survey Date: April 4, 2013
Rev.
Dwn by: E.G.S.
Cod by:
Design file name:
Drawing code:
Reviewed by: Chief, Eng. Mgmt.
File name:
Plot date:
Plot scale:
Approval Recommended: Chief, Eng. MMX
Submitted by: Chief, SAS Section
Approved by: District Engineer

CHICAGO DISTRICT
FEDERAL NAVIGATION CHANNEL
MICHIGAN CITY

MICHIGAN CITY
2013 PRIOR SURVEY

Sheet reference number:
MCH-01
Sheet 1 of 2