NOTES

1. THE SOUNDINGS INDICATED HEREON REPRESENT THE MINIMUM DEPTH FOUND IN THE 10 FOOT BY 10 FOOT AREA CENTERED AROUND THE TEXT. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SHOAL REMOVAL OPERATIONS AND NOTICES TO NAVIGATION INTERESTS.

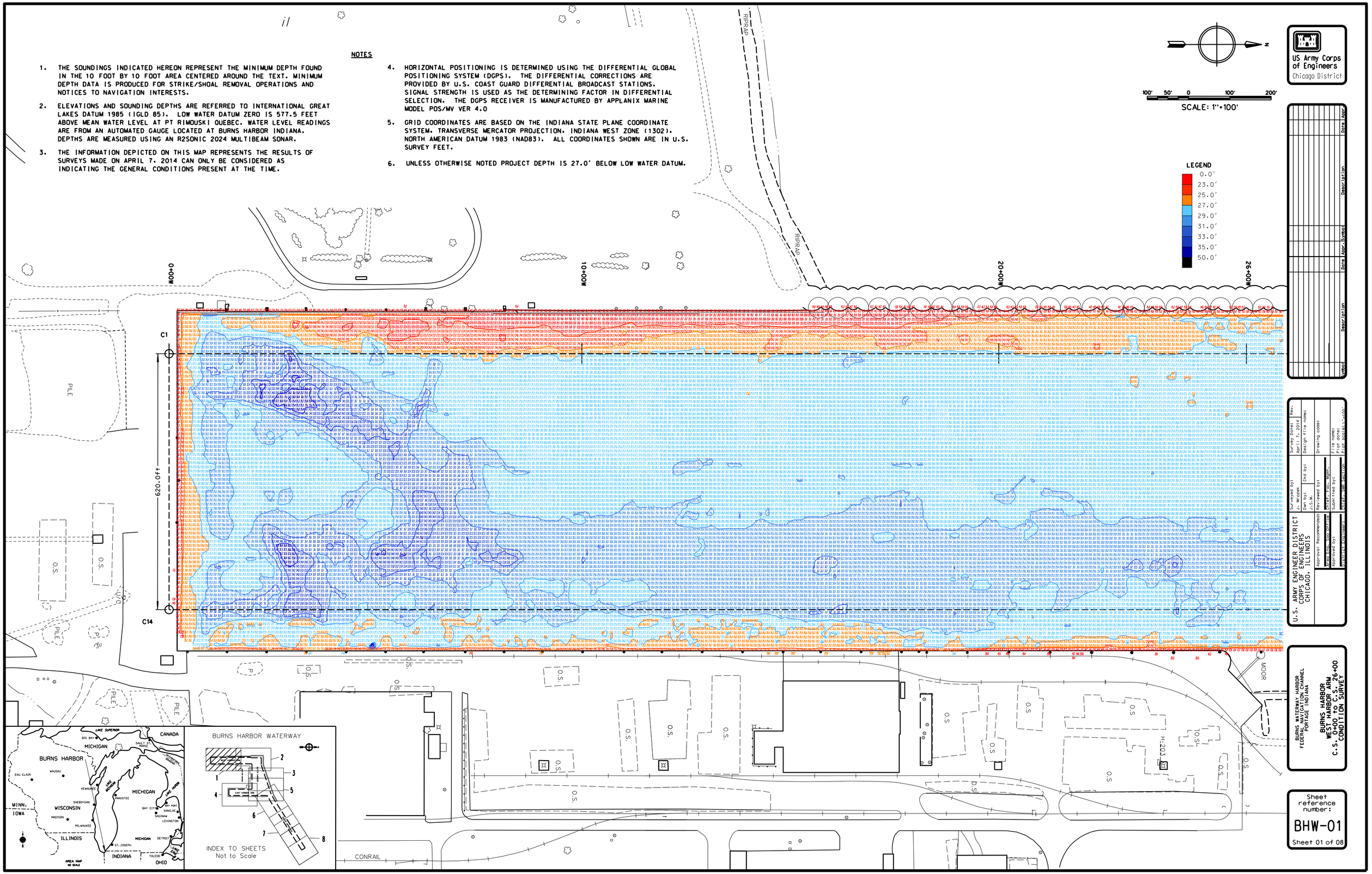
2. ELEVATIONS AND SOUNDING DEPTHS ARE REFERRED TO INTERNATIONAL GREAT LAKES DATUM 1985 (IGLD 85). LOW WATER DATUM ZERO IS 577.5 FEET ABOVE MEAN WATER LEVEL AT PT RIMOUSKI QUEBEC. WATER LEVEL READINGS ARE FROM AN AUTOMATED GAUGE LOCATED AT BURNS HARBOR INDIANA. DEPTHS ARE MEASURED USING AN R2SONIC 2024 MULTIBEAM SONAR.

3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON APRIL 7, 2014 CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS PRESENT AT THE TIME.

4. 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 APPLANIX MARINE MODEL POS/MV VER 4.0

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

6. UNLESS OTHERWISE NOTED PROJECT DEPTH IS 27.0' BELOW LOW WATER DATUM.



NOTES

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

N

100' 50' 0 100' 200'

SCALE: 1"=100'

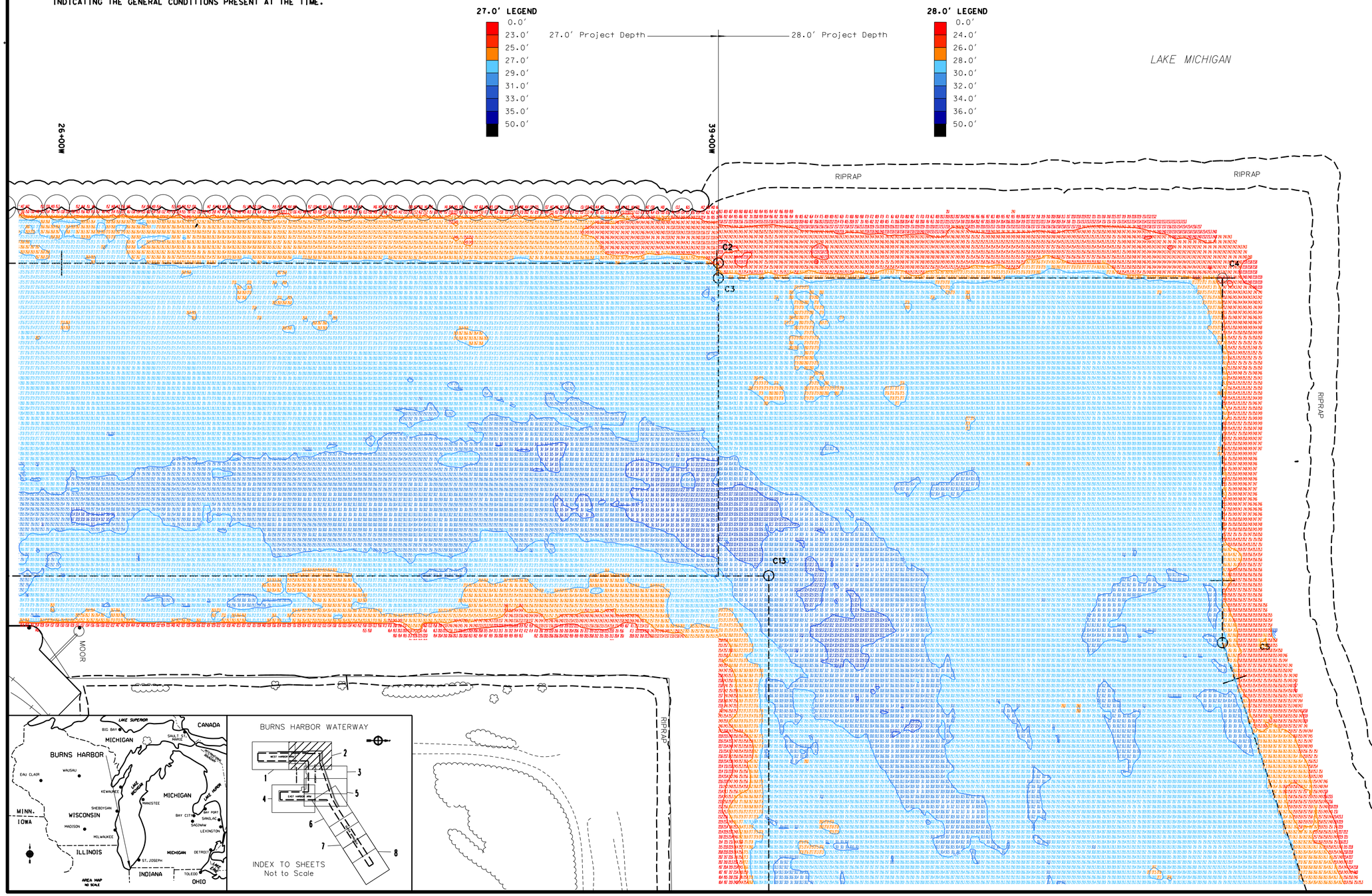
US Army Corps of Engineers
Chicago District

27.0' LEGEND

- 0.0'
- 23.0'
- 25.0'
- 27.0'
- 29.0'
- 31.0'
- 33.0'
- 35.0'
- 50.0'

28.0' LEGEND

- 0.0'
- 24.0'
- 26.0'
- 28.0'
- 30.0'
- 32.0'
- 34.0'
- 36.0'
- 50.0'



Symbol	Description	Date Appr.	Symbol	Description	Date Appr.

Survey Date: April 7, 2014	Rev.
Design File name:	
Drawing code:	
File name:	
Plot date:	
Plot scale: 1"=100'	

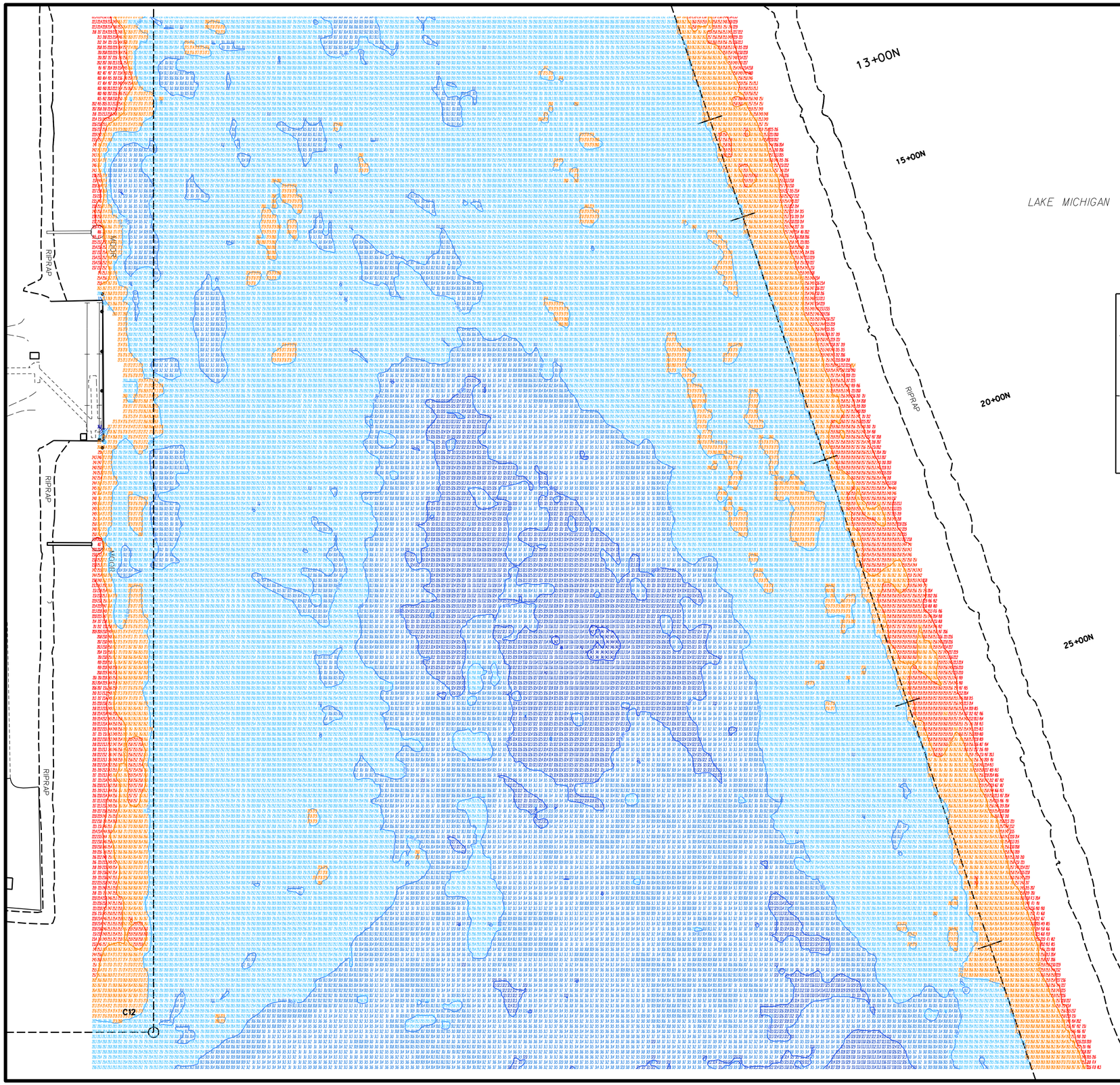
Surveyed by: J. Mrozek	
Dwn by:	Ckd by:
Reviewed by:	
Submitted by:	
Approved by:	
Approved: Recommended	
Marco Agosto, Chief, Hydraulics & Hydrology Section	
Jeffrey Rohrer, Chief, Navigation Section	

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CHICAGO, ILLINOIS

BURNS WATERWAY HARBOR
FEDERAL NAVIGATION CHANNEL
PORTAGE INDIANA

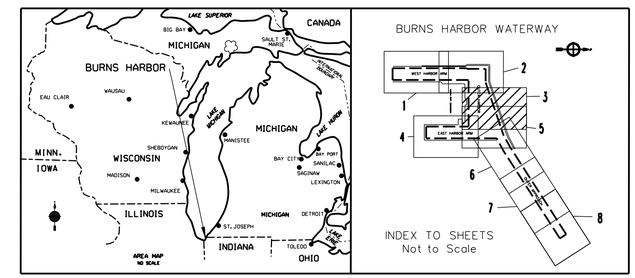
BURNS HARBOR
WEST HARBOR ARM
OUTER HARBOR
CONDITION SURVEY

Sheet reference number:
BHW-02
Sheet 02 of 08



US Army Corps of Engineers
Chicago District

100' 50' 0 100' 200'
SCALE: 1"=100'



LEGEND

- 0.0'
- 24.0'
- 26.0'
- 28.0'
- 30.0'
- 32.0'
- 34.0'
- 36.0'
- 50.0'

NOTES

1. THE SOUNDINGS INDICATED HEREON REPRESENT THE MINIMUM DEPTH FOUND IN THE 10 FOOT BY 10 FOOT AREA CENTERED AROUND THE TEXT. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SHOAL REMOVAL OPERATIONS AND NOTICES TO NAVIGATION INTERESTS.
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6. UNLESS OTHERWISE NOTED PROJECT DEPTH IS 28.0' BELOW LOW WATER DATUM.

Symbol	Description	Date Appr.

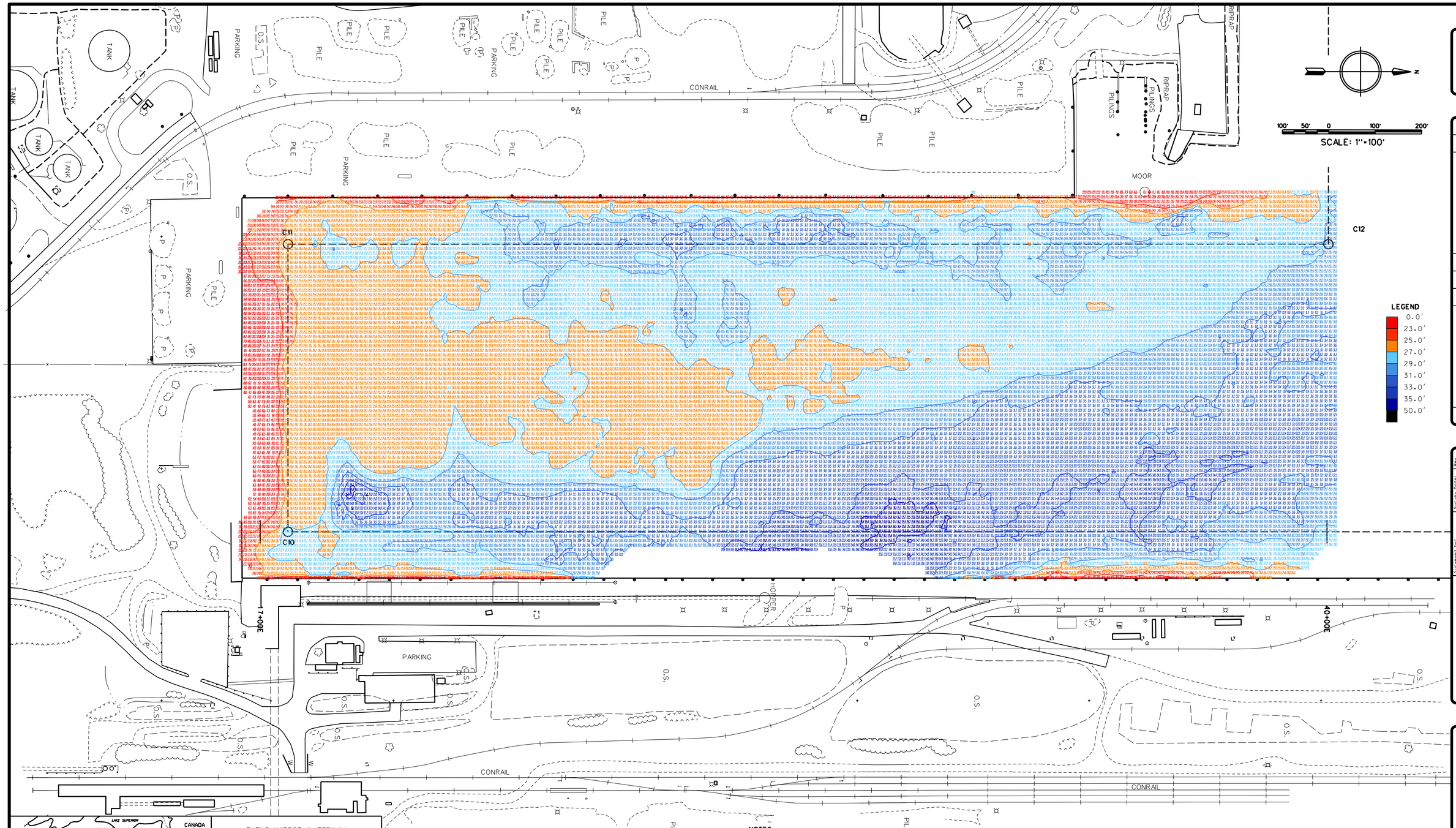
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CHICAGO, ILLINOIS

Surveyed by: J. McCook
Survey Date: April 8, 2013
Dwn by:
Chkd by:
Design file name:
Reviewed by:
Drawing code:
Chart Doc. Mgmt.
Approved by:
Approval Recommended:
Scanned by:
Project Mgr. Section
File name:
Plot date:
Plot scale: 1=100'

BURNS WATERWAY HARBOR
FEDERAL NAVIGATION CHANNEL
PORTAGE INDIANA

BURNS HARBOR
OUTER HARBOR
CONDITION SURVEY

Sheet reference number:
BHW-03
Sheet 03 of 08



US Army Corps of Engineers
Chicago District

Date	Description	Symbol

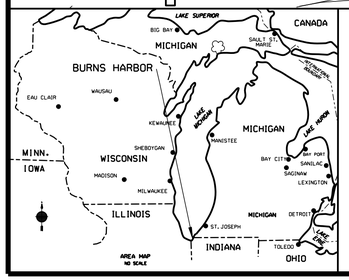
Surveyed by: J. Mrozek
Dwn by: M. Ryan
Ckd by:
Reviewed by:
Approval Recommended:
Survey Date: April 8, 2014
Rev.
Design file name:
Drawing code:
Grids: NAD83 Indiana West
Datum: NGVD29
Contr. Idn.
Scanned by:
Project Mgr. Section
File name:
Plot date:
Plot scale: 1=100'

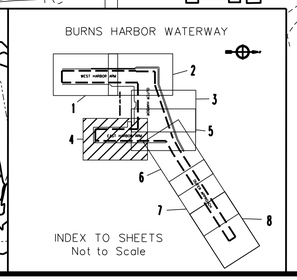
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CHICAGO, ILLINOIS

BURNS WATERWAY HARBOR
FEERE BAY CHANNEL
PORTAGE INDIANA

BURNS HARBOR
EAST HARBOR ARM
C.S. 17+00 TO C.S. 40+00
CONDITION SURVEY

Sheet reference number:
BHW-04
Sheet 04 of 08





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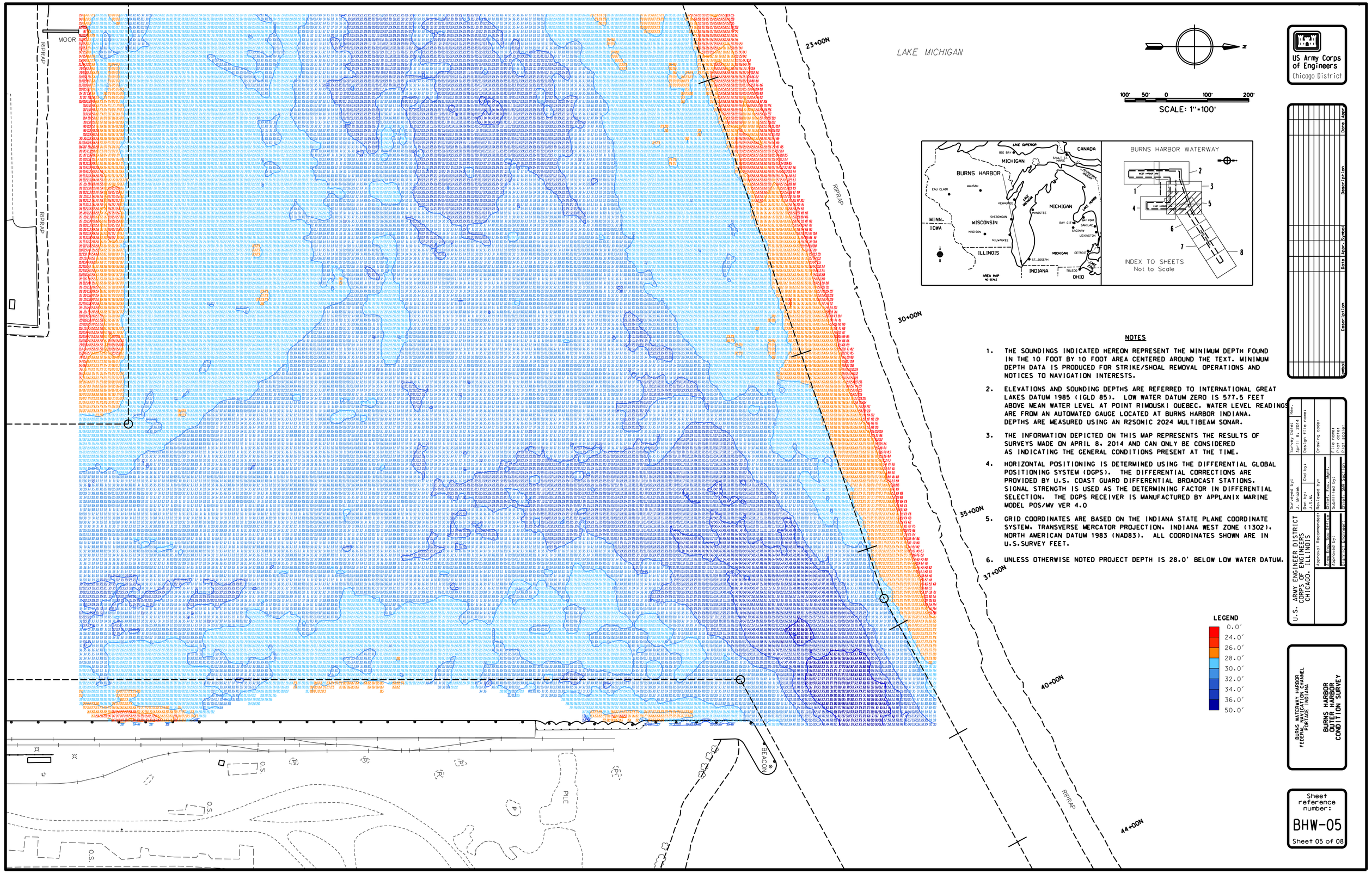
6. UNLESS OTHERWISE NOTED PROJECT DEPTH IS 27.0' BELOW LOW WATER DATUM.



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6. UNLESS OTHERWISE NOTED PROJECT DEPTH IS 28.0' BELOW LOW WATER DATUM.

No.	Date	Description	By

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CHICAGO, ILLINOIS

Surveyed by: J. Mrozek
Drawn by: J. Mrozek
Ckd by:
Reviewed by:
Approved: Recommended
Approved by: Marc Rosa, Chief, Hydraulics & Hydrology Section
Reviewed by: Michael Hollingsworth, Chief, Navigation Section
Submitted by: Chuck Fabian, Chief, Mgmt. Section
Survey Dates: April 8, 2014
Design File name:
Drawing code:
File name:
Plot date:
Plot scale:

BURNS WATERWAY HARBOR
FEDERAL NAVIGATION CHANNEL
PORTAGE INDIANA

BURNS HARBOR OUTER HARBOR CONDITION SURVEY

Sheet reference number:
BHW-05
Sheet 05 of 08

NOTES

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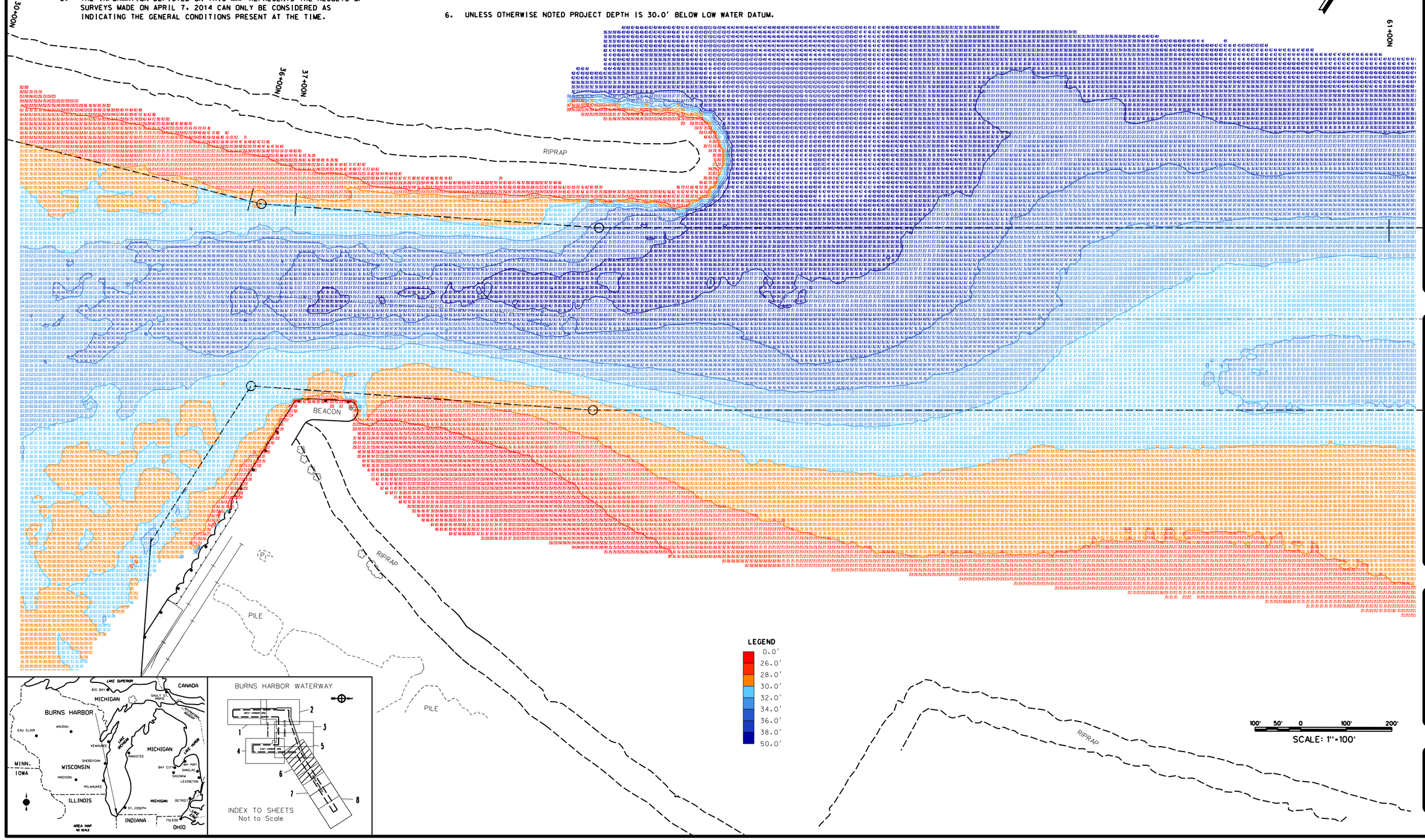
6. UNLESS OTHERWISE NOTED PROJECT DEPTH IS 30.0' BELOW LOW WATER DATUM.



US Army Corps of Engineers
Chicago District

Description	Date	Appr

Survey Date: Apr. 7, 2014
Design File Name:
Drawing Code:
File Name:
Plot Date: 4-28-14
Plot Scale: 1"=100'

Surveyed by: J. Mrozek
Dwn by: J.S.W.
Reviewed by:
Ckd by:
Submitted by:
Chief, Engineering Division

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CHICAGO, ILLINOIS

BURNS WATERWAY HARBOR
FEDERAL NAVIGATION CHANNEL
PORTAGE INDIANA

OUTER APPROACH
C.S. 36+00 to C.S. 61+00
2014 CONDITION SURVEY

Sheet reference number:
BHW-06
Sheet 06 of 08

NOTES

1. THE SOUNDINGS INDICATED HEREON REPRESENT THE MINIMUM DEPTH FOUND IN THE 10 FOOT BY 10 FOOT AREA CENTERED AROUND THE TEXT. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SHOAL REMOVAL OPERATIONS.

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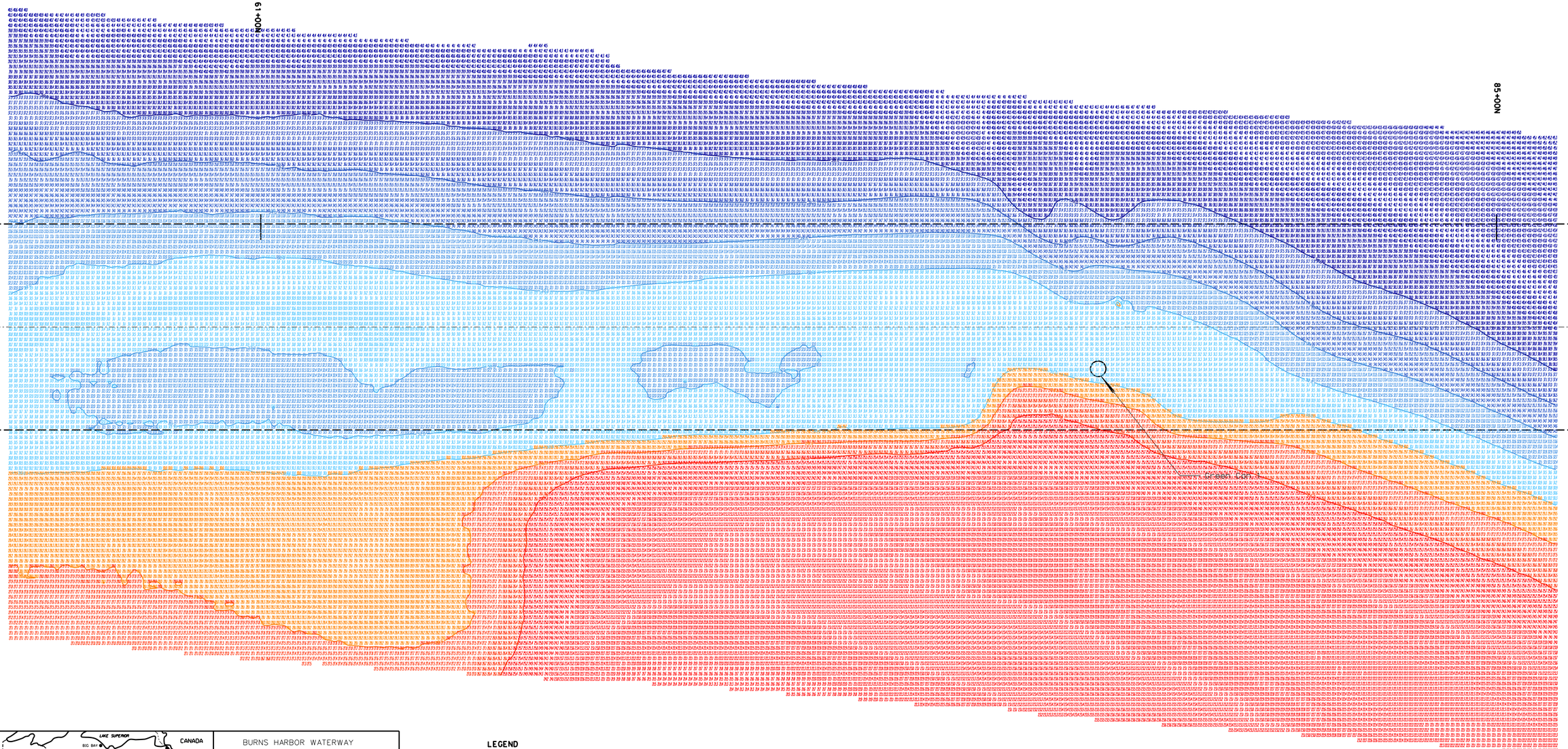
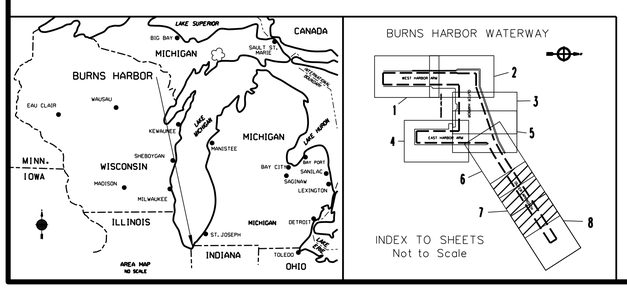
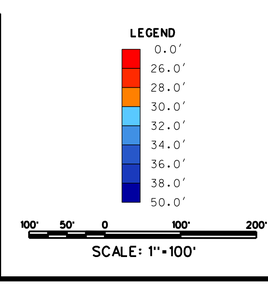
6. UNLESS OTHERWISE NOTED PROJECT DEPTH IS 30.0' BELOW LOW WATER DATUM.







US Army Corps of Engineers
Chicago District

Approved by:	Approved by:	Approved by:	Submitted by:	Submitted by:	Drawing code:	File name:	Plot date:	Plot scale:
Approval Recommended	Approval Recommended	Approval Recommended	Chief, Engineering Division	Chief, Hydraulics Section		BHW-07.dgn	4-28-14	1:50

Surveyed by:	Drawn by:	Checked by:	Traced by:	Reviewed by:
J. McCook	D. Wyman			

Survey Date	Design File name:	Drawing code:
April 7, 2014		

Rev.	Date	Description	Appr.

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CHICAGO, ILLINOIS

BURNS WATERWAY HARBOR
FEDERAL NAVIGATION CHANNEL
PORTAGE INDIANA

OUTER APPROACH
C.S. 61+00 to C.S. 85+00
2014 CONDITION SURVEY

Sheet reference number:
BHW-07

Sheet 07 of 08

NOTES

1. THE SOUNDINGS INDICATED HEREON REPRESENT THE MINIMUM DEPTH FOUND IN THE 10 FOOT BY 10 FOOT AREA CENTERED AROUND THE TEXT. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SHOAL REMOVAL OPERATIONS.

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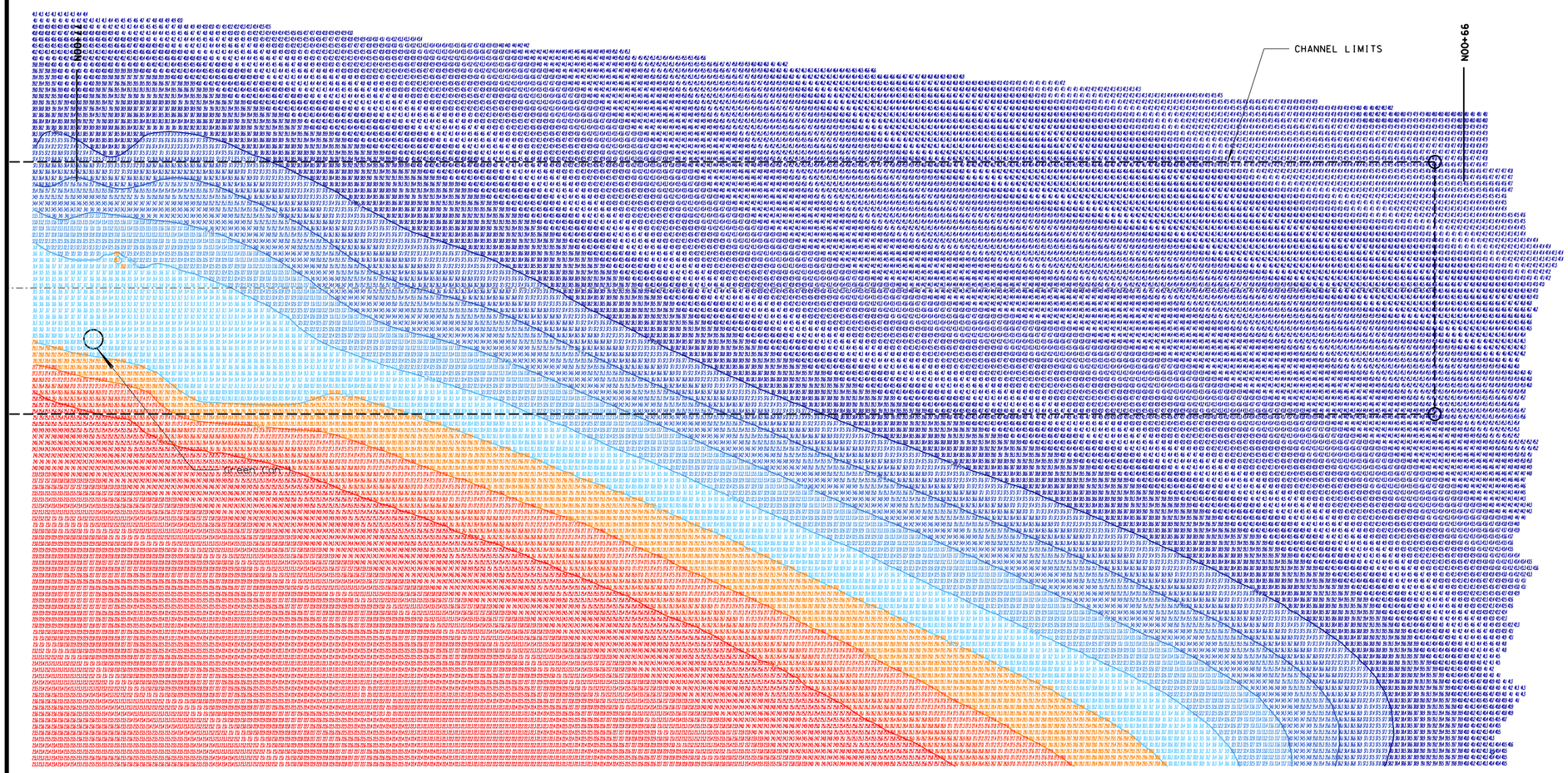
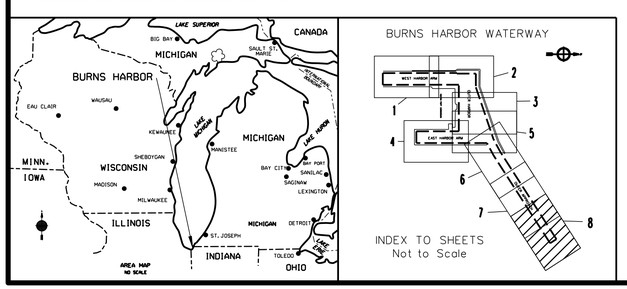
6. UNLESS OTHERWISE NOTED PROJECT DEPTH IS 30.0' BELOW LOW WATER DATUM.





LEGEND

- 0.0'
- 26.0'
- 28.0'
- 30.0'
- 32.0'
- 34.0'
- 36.0'
- 38.0'
- 50.0'

100' 50' 0 100' 200'

SCALE: 1"=100'

US Army Corps of Engineers
Chicago District

Symbol	Description	Date	Approv.

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CHICAGO, ILLINOIS

Surveyed by: J. Wrzosek		Survey Dates: Apr. 7, 2014	Rev.
Dwn by: J. S.		Design file name:	
Ckd by:			
Reviewed by:		Drawing code:	
Approval Recommended:		Chief, Foo. Mgmt.	File name:
Approved by:		Chief, Hydrographic Surveys & Nautical Cartography	Plot date: 4-28-14
Director of Engineering		Director, NOS-Geodesy	Plot scale: 1"=100'

BURNS WATERWAY HARBOR
FEDERAL NAVIGATION CHANNEL
PORTAGE INDIANA

OUTER APPROACH
C.S. 77+00 TO C.S. 99+00
CONDITION SURVEY

Sheet reference number:

BHW-08

Sheet 08 of 08