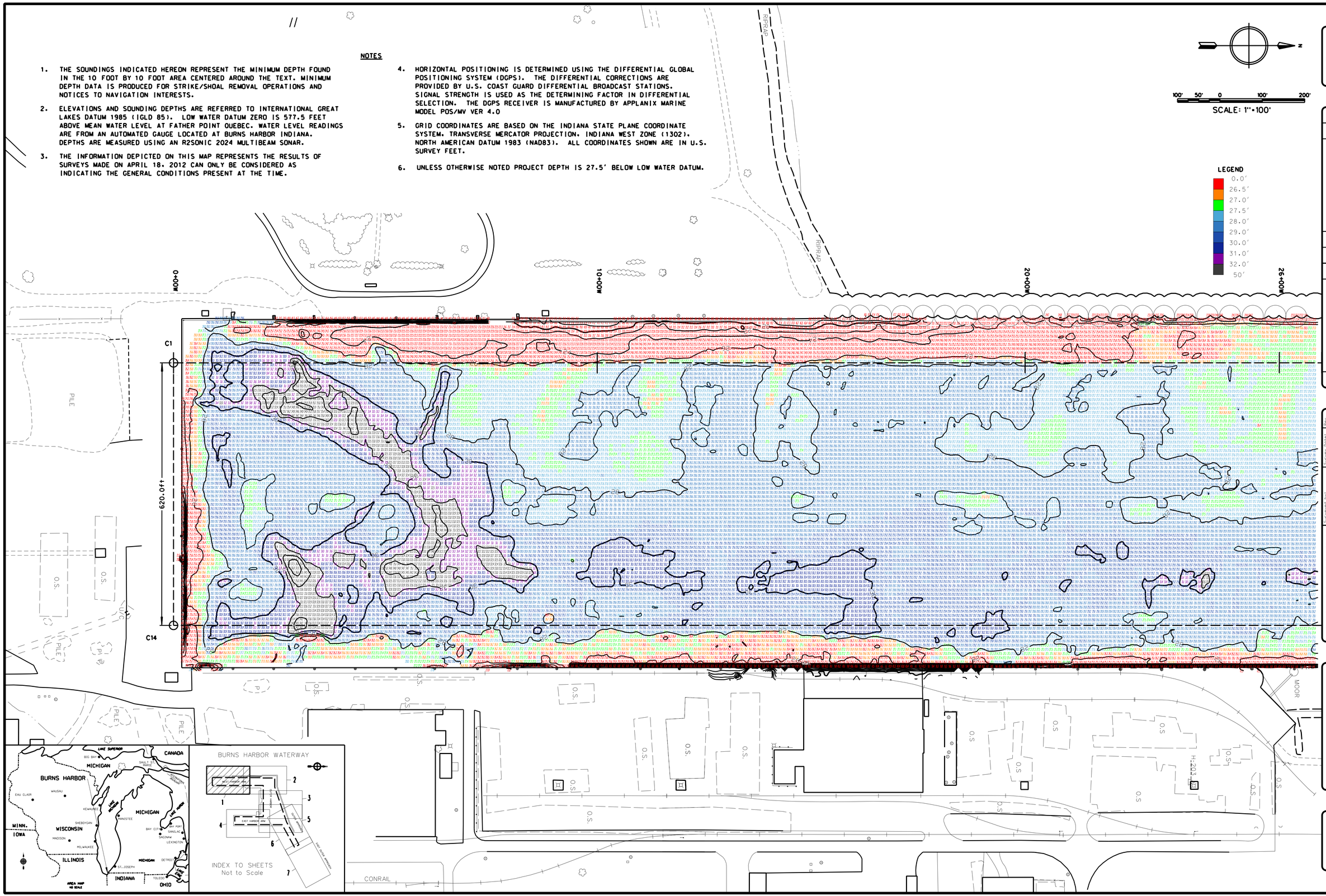
NOTES

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 FATHER POINT 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 18, 2012 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 27.5' BELOW LOW WATER DATUM.



US Army Corps of Engineers
Chicago District

Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

Surveyed by: Jon Mc Kaak
Drawn by: Rick Sale
Ckd by:
Submitted by:
Recommended by:
Approved by:
Survey Date: April 18, 2012
Rev.
Design File name:
Drawing code:
File name:
Plot date:
Plot scale: 1"=100'
Scale 1:1200 Units
Horizontal Datum: NAD83
Vertical Datum: IGLD85

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

BURNS WATERWAY HARBOR
FEDERAL NAVIGATION CHANNEL
PORTAGE INDIANA

BURNS HARBOR
WEST HARBOR ARM
C.S. 0+00 TO C.S. 26+00
CONDITION SURVEY

Sheet reference number:
BHW-01
Sheet 01 of 07

NOTES

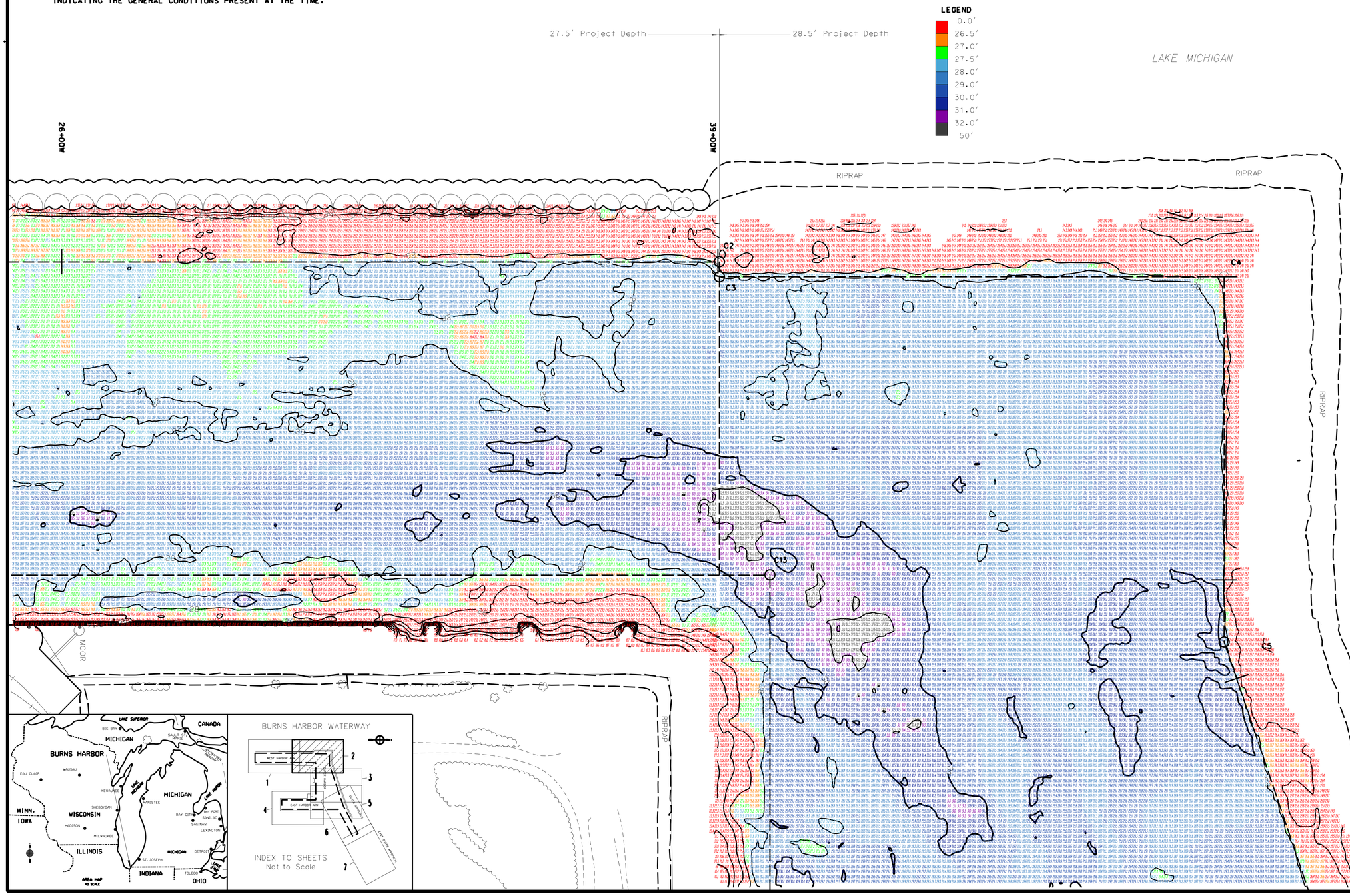
1. THE SOUNDINGS INDICATED HEREON REPRESENT THE MINIMUM DEPTH FOUND IN THE 10 FOOT BY 10 FOOT AREA CENTERED AROUND THE TEXT. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SHOAL REMOVAL OPERATIONS AND NOTICES TO NAVIGATION INTERESTS.

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 FATHER POINT 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 19, 2012 AND 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 3.0

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.



SCALE: 1"=100'

US Army Corps of Engineers
Chicago District

Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

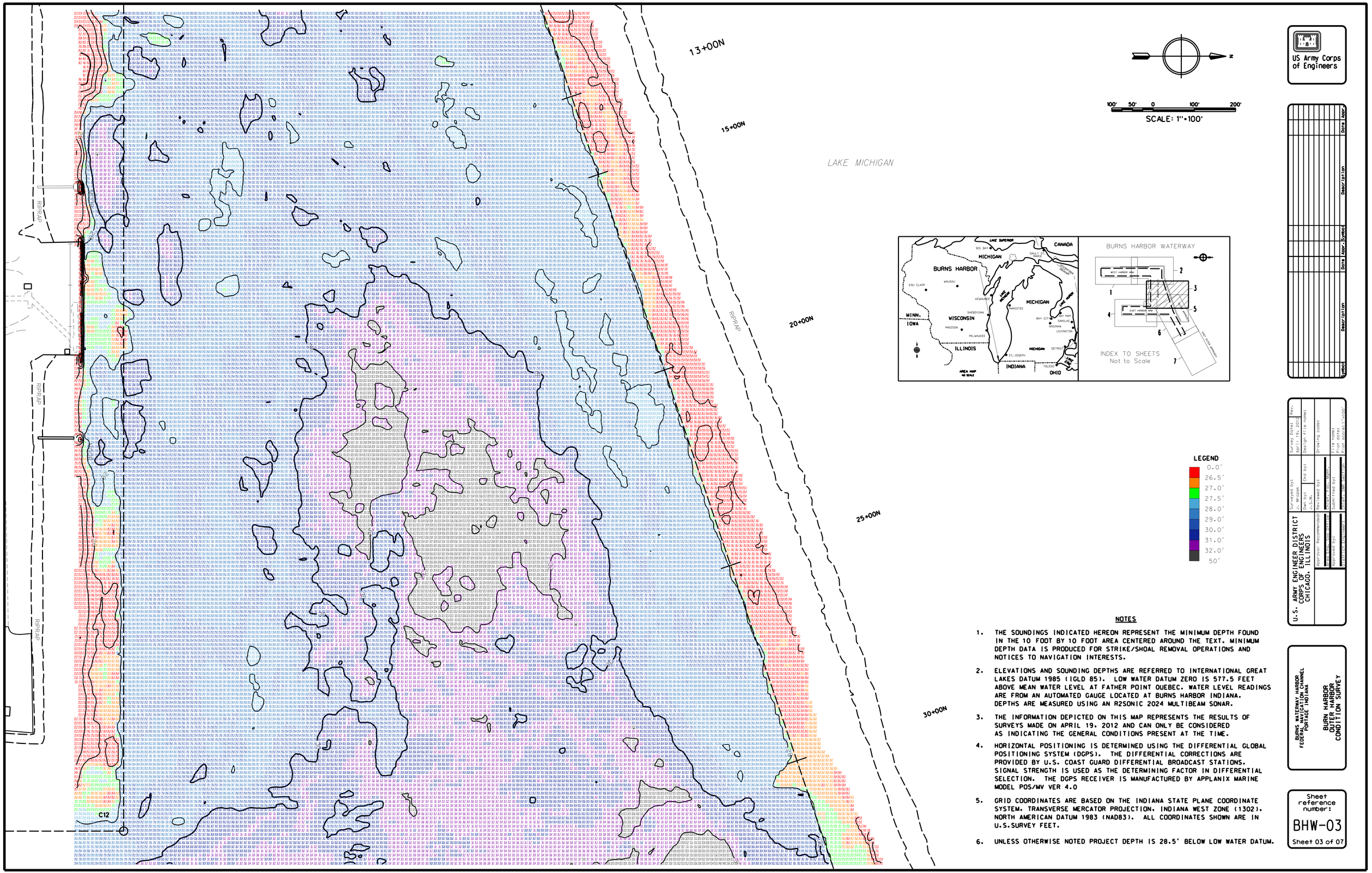
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CHICAGO, ILLINOIS

Surveyed by: J. Wrasek
Drawn by: J. Wrasek
Checked by: J. Wrasek
Submitted by: Recommended: Approved by:
Survey Dates: April 19, 2012
Design File name:
Drawing code:
Date: Rev.
Plot date:
Plot scale: 1"=100'
File name:
Plot date:
Plot scale: 1"=100'

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 07



US Army Corps of Engineers

Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

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

Surveyed by: J. Mrozek		Survey Date: April 19, 2012	Rev.
Dwn by: J. Mrozek	Ckd by:	Design File name:	
Reviewed by:		Drawing code:	
Approval Recommended:			
Approved by:		Chart Folder: Hydro	
Project Manager:		Chart Title:	File name:
Project Engineer:			Plot date:
			Plot scale: 1=100'

BURNS WATERWAY HARBOR
FEDERAL NAVIGATION CHANNEL
PORTAGE INDIANA

BURN HARBOR
OUTER HARBOR
CONDITION SURVEY

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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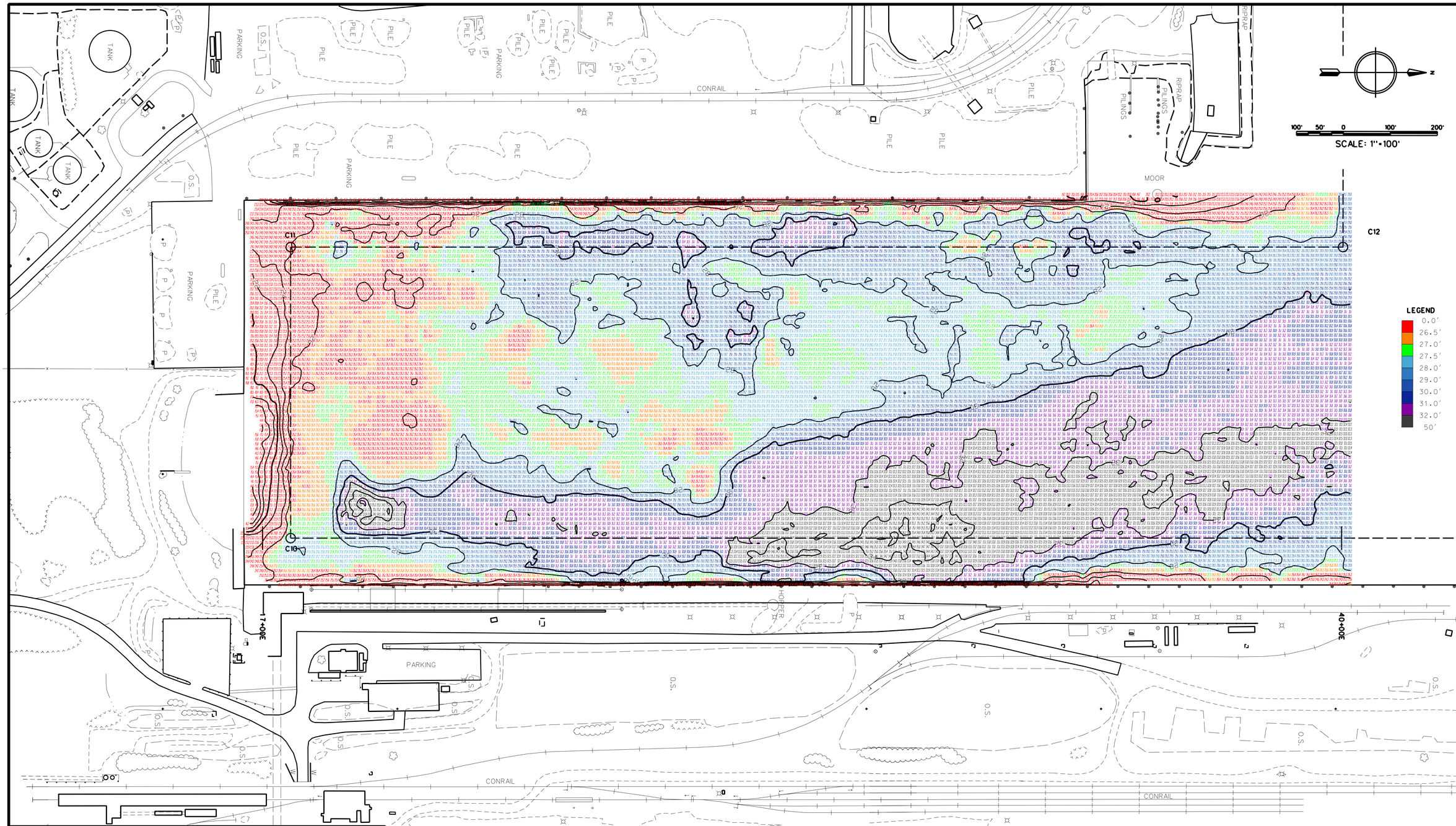
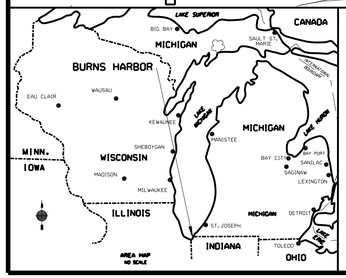
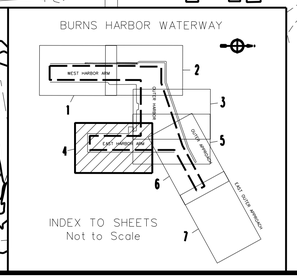
5. GRID COORDINATES ARE BASED ON THE INDIANA STATE PLANE COORDINATE SYSTEM. TRANSVERSE MERCATOR PROJECTION. INDIANA WEST ZONE (1302). NORTH AMERICAN DATUM 1983 (NAD83). ALL COORDINATES SHOWN ARE IN U.S.SURVEY FEET.
6. UNLESS OTHERWISE NOTED PROJECT DEPTH IS 28.5' BELOW LOW WATER DATUM.

Sheet reference number:
BHW-03
Sheet 03 of 07







NOTES

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3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON APRIL 20. 2012 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS PRESENT AT THE TIME.

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6. UNLESS OTHERWISE NOTED PROJECT DEPTH IS 27.5' BELOW LOW WATER DATUM.

US Army Corps of Engineers
Chicago District

Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

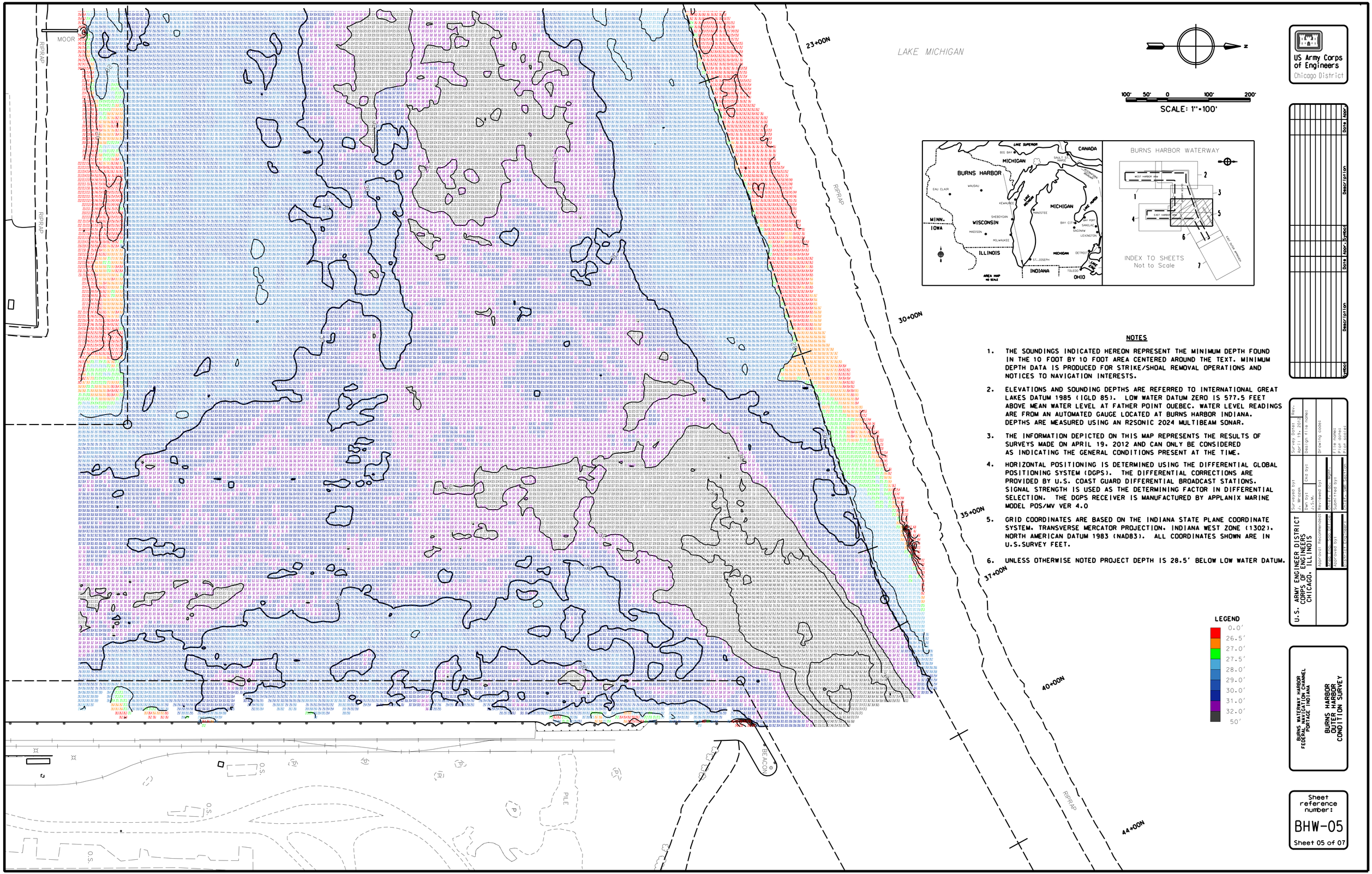
Surveyed by: J. Mrozek
Dwn by: S. Yu
Ckd by:
Designed by:
Approved by:
Approved Recommended:
Survey Date: April 20, 2012
Design file name:
Drawing code:
File name:
Plot date:
Plot Scale: 1"=100'
Chart date:
Chart scale:
Verified by:
Verified by:

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

BURNS WATERWAY HARBOR
FEDERAL NAVIGATION CHANNEL
PORTAGE INDIANA

BURNS HARBOR
EAST HARBOR ARM
C.S. 11+40.0 TO C.S. 40+00
CONDITION SURVEY

Sheet reference number:
BHW-04
Sheet 04 of 07



NOTES

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6. UNLESS OTHERWISE NOTED PROJECT DEPTH IS 28.5' BELOW LOW WATER DATUM.

Symbol	Description	Date	Appr.

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

Surveyed by: J. Morales
Drawn by: J. Morales
Ckd by:
Survey Date: April 19, 2012
Design File name:
Drawing code:
Rev.
Approved by:
Contract No.
File name:
Plot date:
Plot scale:
Recommended:
Chief, Hydrographic Surveys Section
Submitted by:
Chief, Hydrographic Surveys Section
Approved by:
Chief, Navigation Branch

BURNS WATERWAY HARBOR
FEDERAL NAVIGATION CHANNEL
PORTAGE INDIANA

BURNS HARBOR
OUTER HARBOR
CONDITION SURVEY

Sheet reference number:
BHW-05
Sheet 05 of 07

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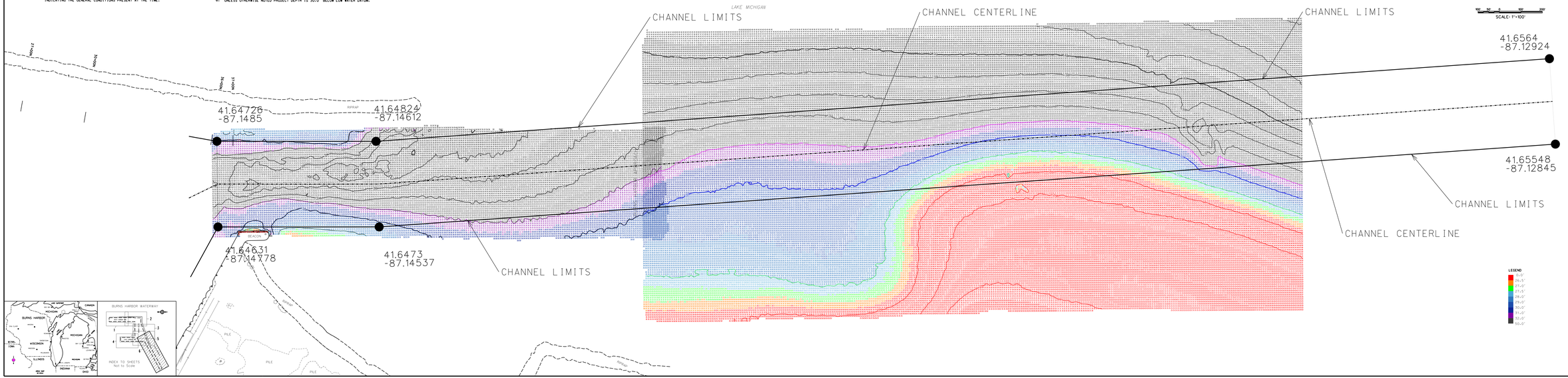
6. UNLESS OTHERWISE NOTED PROJECT DEPTH IS 30.0' BELOW LOW WATER DATUM.



US Army Corps of Engineers
Chicago District

U.S. ARMY ENGINEER DISTRICT
CHICAGO, ILLINOIS

DATE: OCTOBER 2012
SURVEY: 12-0418
DATUM: IGLD 1985
SCALE: 1"=100'
DRAWN BY: JAMES
CHECKED BY: JAMES
APPROVED BY: JAMES
DATE: 10/18/2012

LAKE MICHIGAN HYDRO
BURNS HARBOR, INDIANA
SURVEY NO.12-0418

DATE: OCTOBER 2012
SURVEY: 12-0418
DATUM: IGLD 1985
SCALE: 1"=100'
DRAWN BY: JAMES
CHECKED BY: JAMES
APPROVED BY: JAMES
DATE: 10/18/2012

Sheet reference number

BHW-06

Sheet 06 of 06