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.

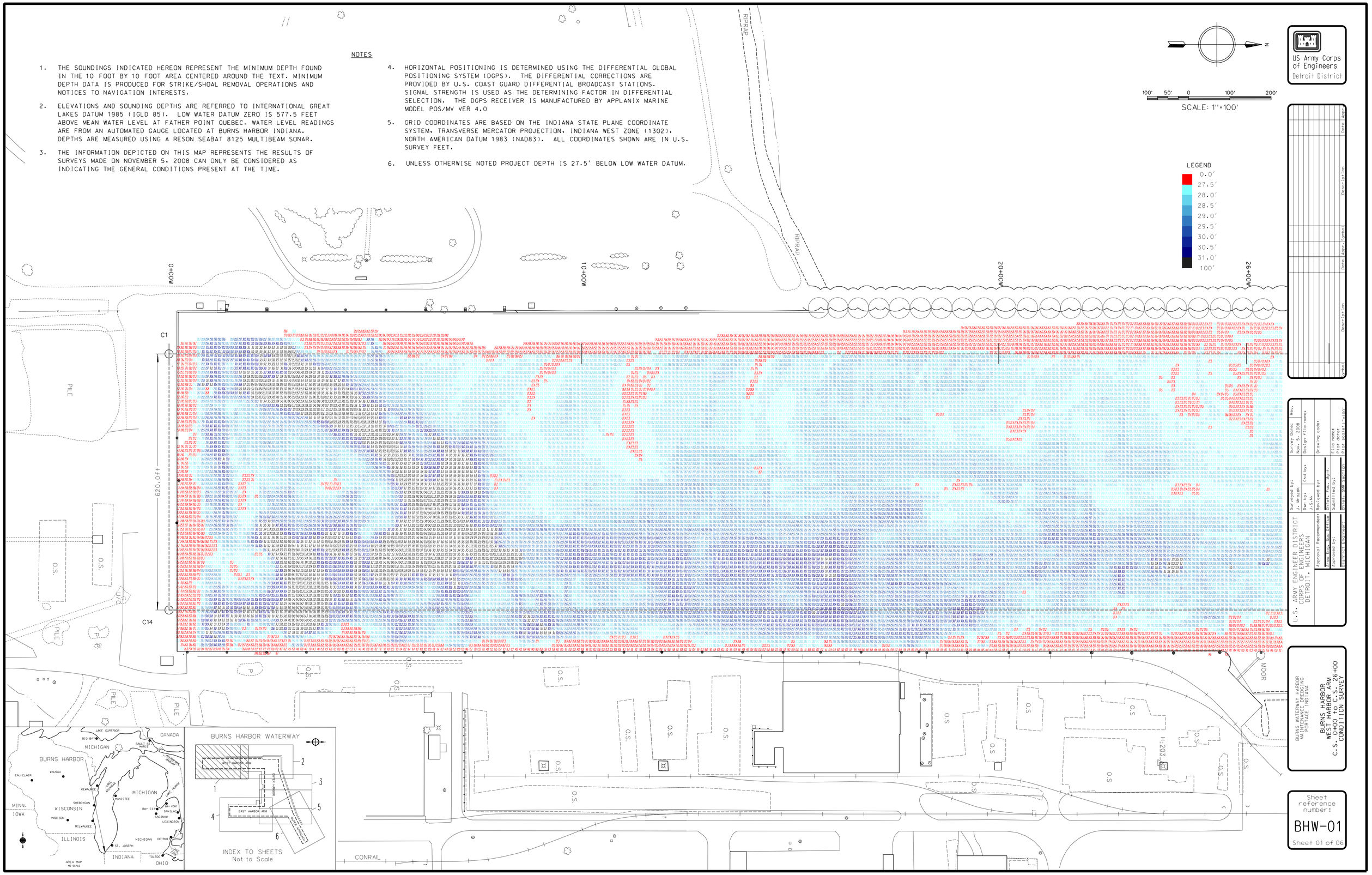
2. ELEVATIONS AND SOUNDING DEPTHS ARE REFERRED TO INTERNATIONAL GREAT LAKES DATUM 1985 (IGLD 85). LOW WATER DATUM ZERO IS 577.5 FEET ABOVE MEAN WATER LEVEL AT FATHER POINT QUEBEC. WATER LEVEL READINGS ARE FROM AN AUTOMATED GAUGE LOCATED AT BURNS HARBOR INDIANA. DEPTHS ARE MEASURED USING A RESON SEABAT 8125 MULTIBEAM SONAR.

3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON NOVEMBER 5, 2008 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.



NOTES

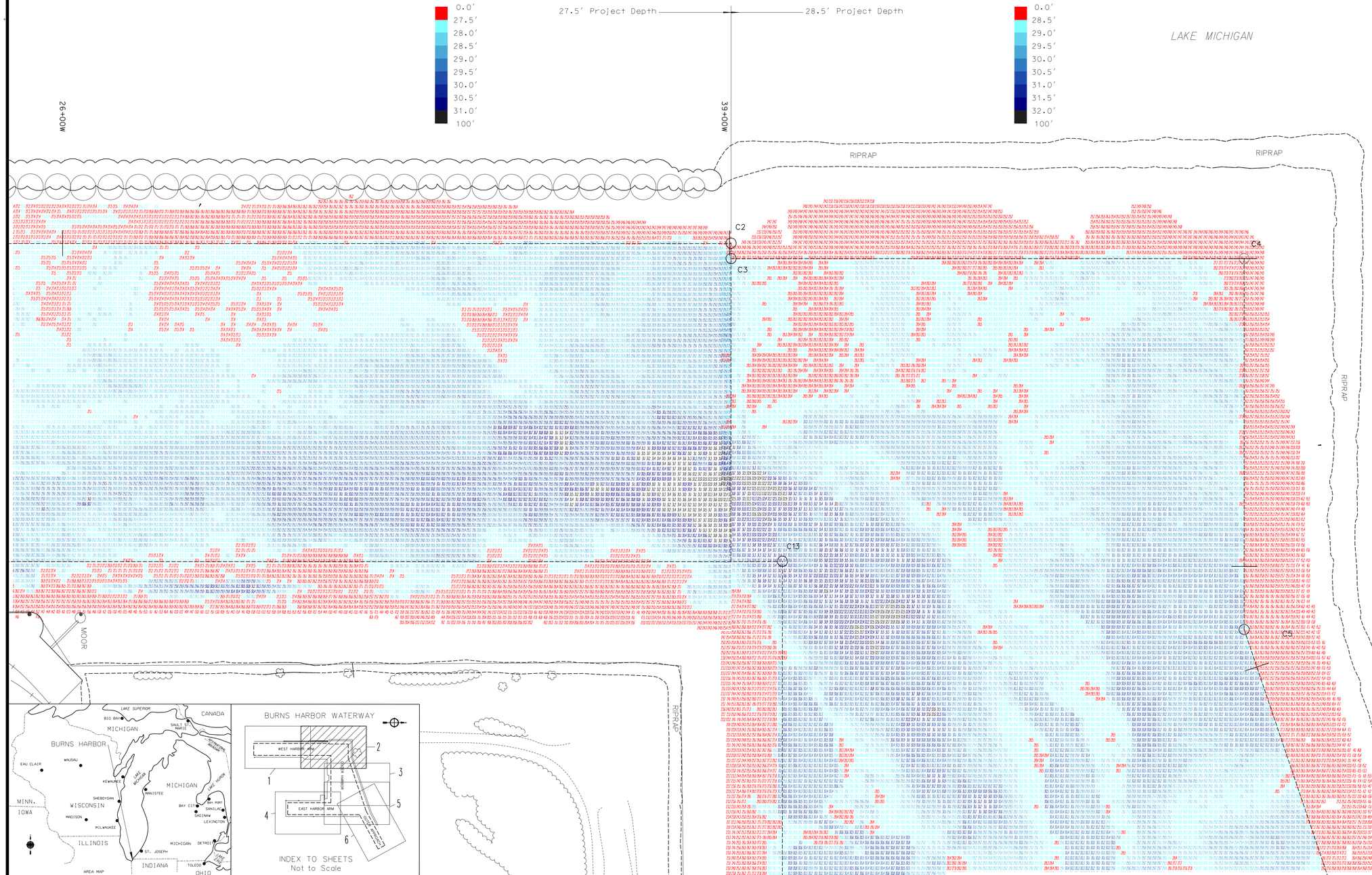
1. THE SOUNDINGS INDICATED HEREON REPRESENT THE MINIMUM DEPTH FOUND IN THE 10 FOOT BY 10 FOOT AREA CENTERED AROUND THE TEXT. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SHOAL REMOVAL OPERATIONS AND NOTICES TO NAVIGATION INTERESTS.

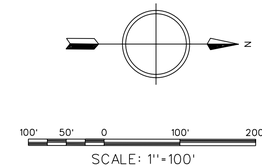
2. ELEVATIONS AND SOUNDING DEPTHS ARE REFERRED TO INTERNATIONAL GREAT LAKES DATUM 1985 (IGLD 85). LOW WATER DATUM ZERO IS 577.5 FEET ABOVE MEAN WATER LEVEL AT FATHER POINT QUEBEC. WATER LEVEL READINGS ARE FROM AN AUTOMATED GAUGE LOCATED AT BURNS HARBOR INDIANA. DEPTHS ARE MEASURED USING A RESON SEABAT 8125 MULTIBEAM SONAR.

3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON JUNE 26, AND NOVEMBER 5, 2008 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.





US Army Corps of Engineers
Detroit District

Rev.	Date	Description	Appr.

Rev.	Date	Description	Appr.

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

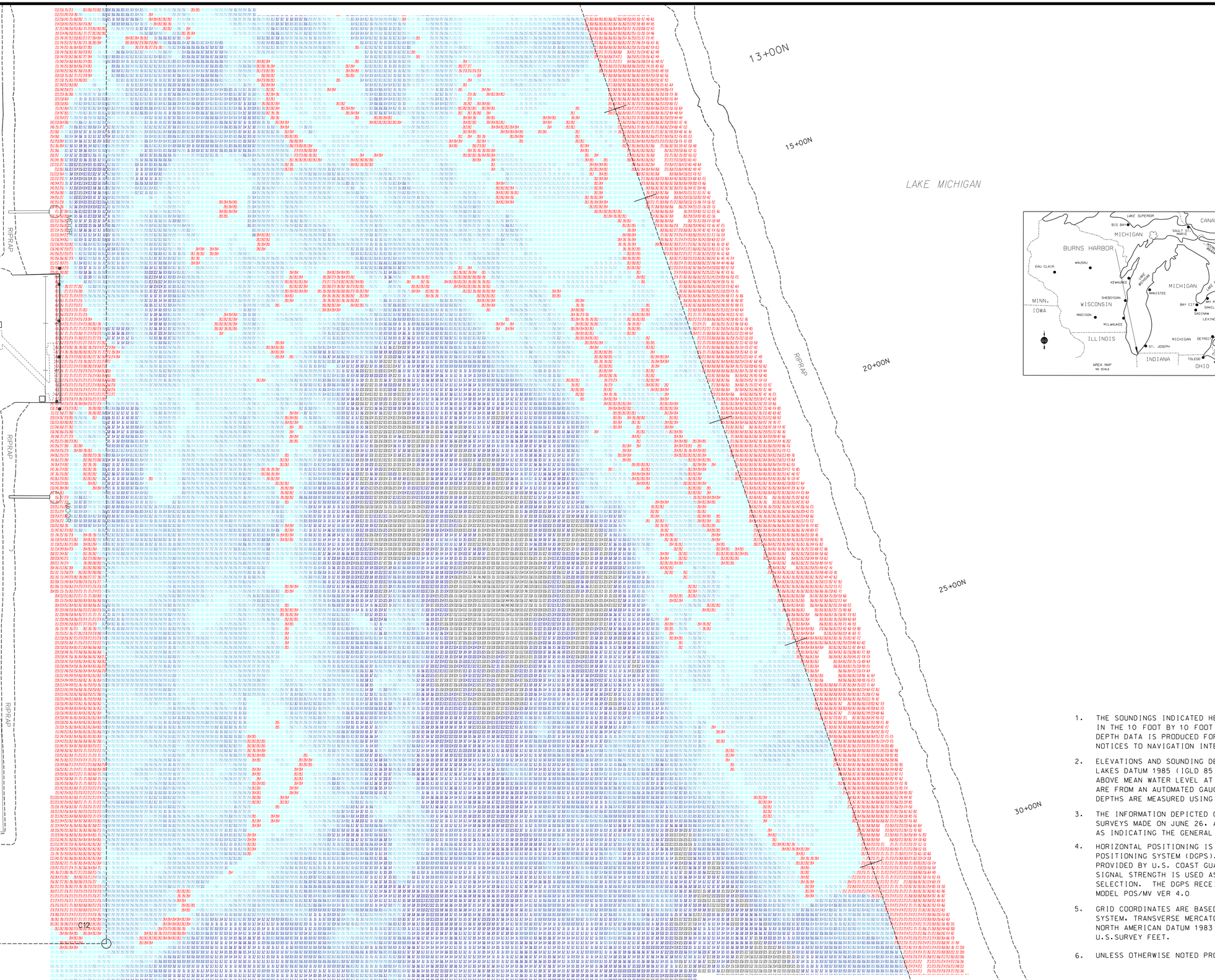
Surveyed by: J. Morzek
Drawn by: J. Morzek
Checked by: J. Morzek
Reviewed by: M. Wyatt
Submitted by: M. Wyatt
Approval Recommended: M. Wyatt
Approved by: M. Wyatt
Survey Dates: Nov. 5, 2008
Design file name:
Drawing code:
File name: Plot date: 11-13-08
Plot scale: 1"=100'

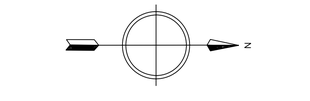
BURNS WATERWAY HARBOR
MAINTENANCE DREDGING
PORTAGE INDIANA

BURNS HARBOR
WEST HARBOR ARM
OUTER HARBOR
CONDITION SURVEY

Sheet reference number:
BHW-02

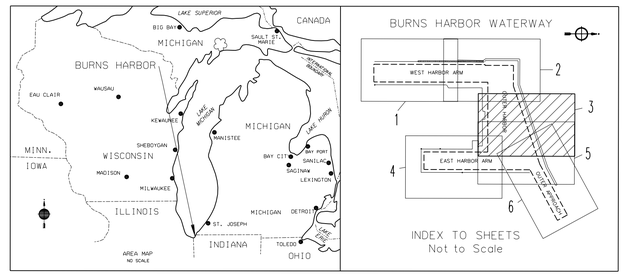
Sheet 02 of 06





100' 50' 0 100' 200'

SCALE: 1"=100'



US Army Corps of Engineers
Detroit District

Date	Description	Date	Description

LEGEND

- 0.0'
- 28.5'
- 29.0'
- 29.5'
- 30.0'
- 30.5'
- 31.0'
- 31.5'
- 32.5'
- 100'

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

Surveyed by: J. Mrozek		Survey Dates: Nov. 5, 2008	Rev.
Dwn by:	Ckd by:	Design file name:	
Reviewed by:		Drawing code:	
Chief, Eco. Mgmt.		File name:	
Chief, Hydraulics		Plot date: 11-14-08	
Chief, Hydrology		Plot scale: 1"=100'	
Chief, Coastal Engineering			
Approval Recommended:			

BURNS WATERWAY HARBOR
LAKE MICHIGAN, PORTAGE
PORTAGE, INDIANA

BURNS HARBOR
OUTER HARBOR
CONDITION SURVEY

Sheet reference number:
BHW-03
Sheet 03 of 06

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.

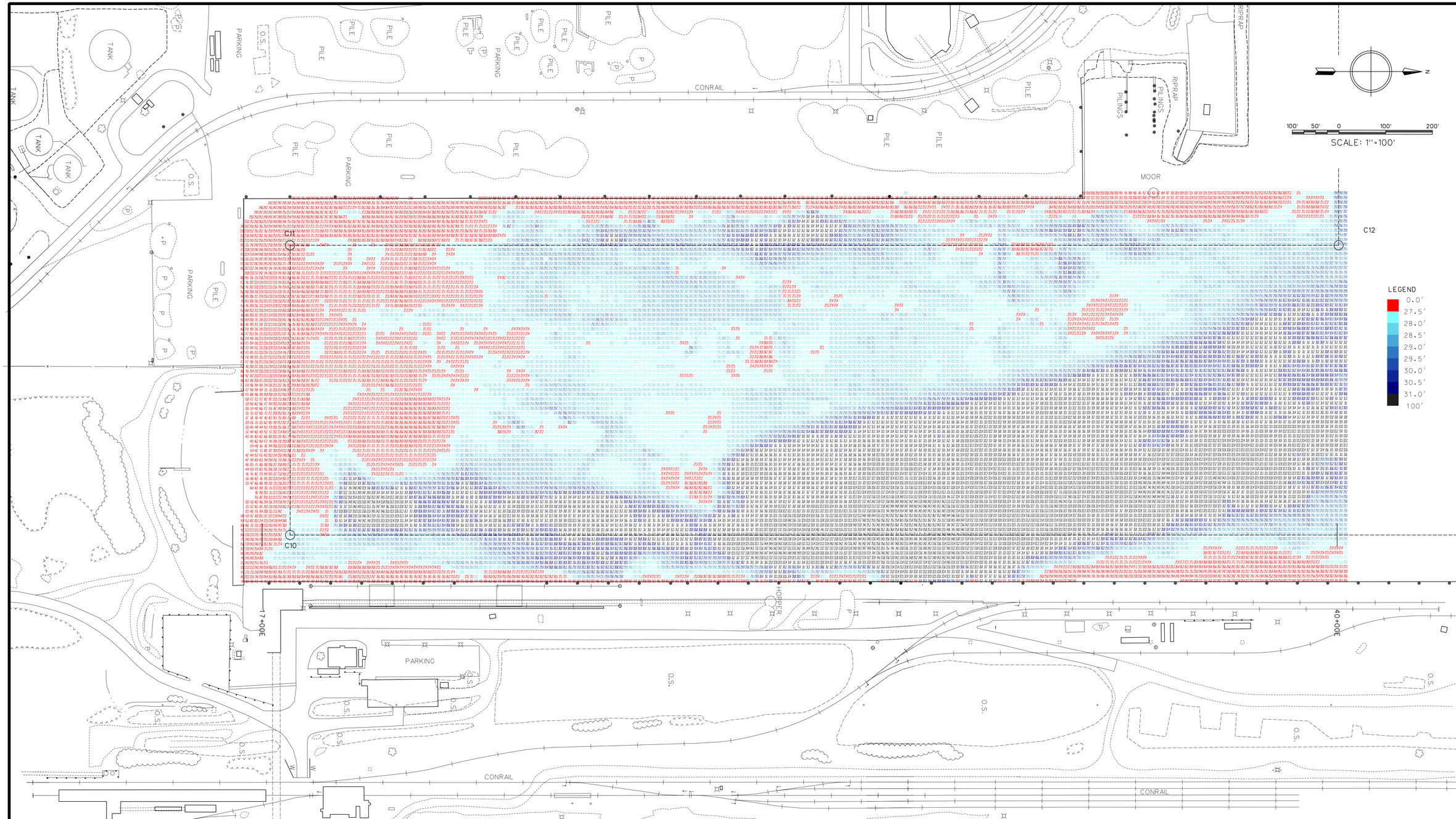
2. ELEVATIONS AND SOUNDING DEPTHS ARE REFERRED TO INTERNATIONAL GREAT LAKES DATUM 1985 (IGLD 85). LOW WATER DATUM ZERO IS 577.5 FEET ABOVE MEAN WATER LEVEL AT FATHER POINT QUEBEC. WATER LEVEL READINGS ARE FROM AN AUTOMATED GAUGE LOCATED AT BURNS HARBOR INDIANA. DEPTHS ARE MEASURED USING A RESON SEABAT 8125 MULTIBEAM SONAR.

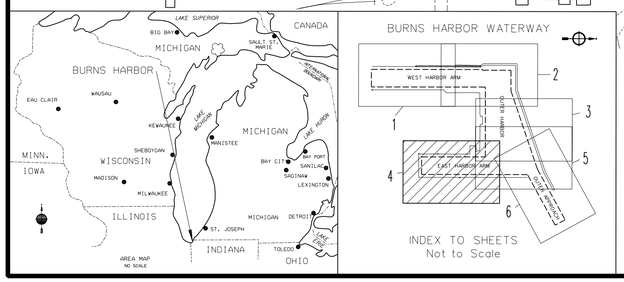
3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON JUNE 26, AND NOV. 5, 2008 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS PRESENT AT THE TIME.

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 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 28.5' BELOW LOW WATER DATUM.





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 A RESON SEABAT 8125 MULTIBEAM SONAR.

3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON JUNE 26, 2008 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.

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

Date	Description

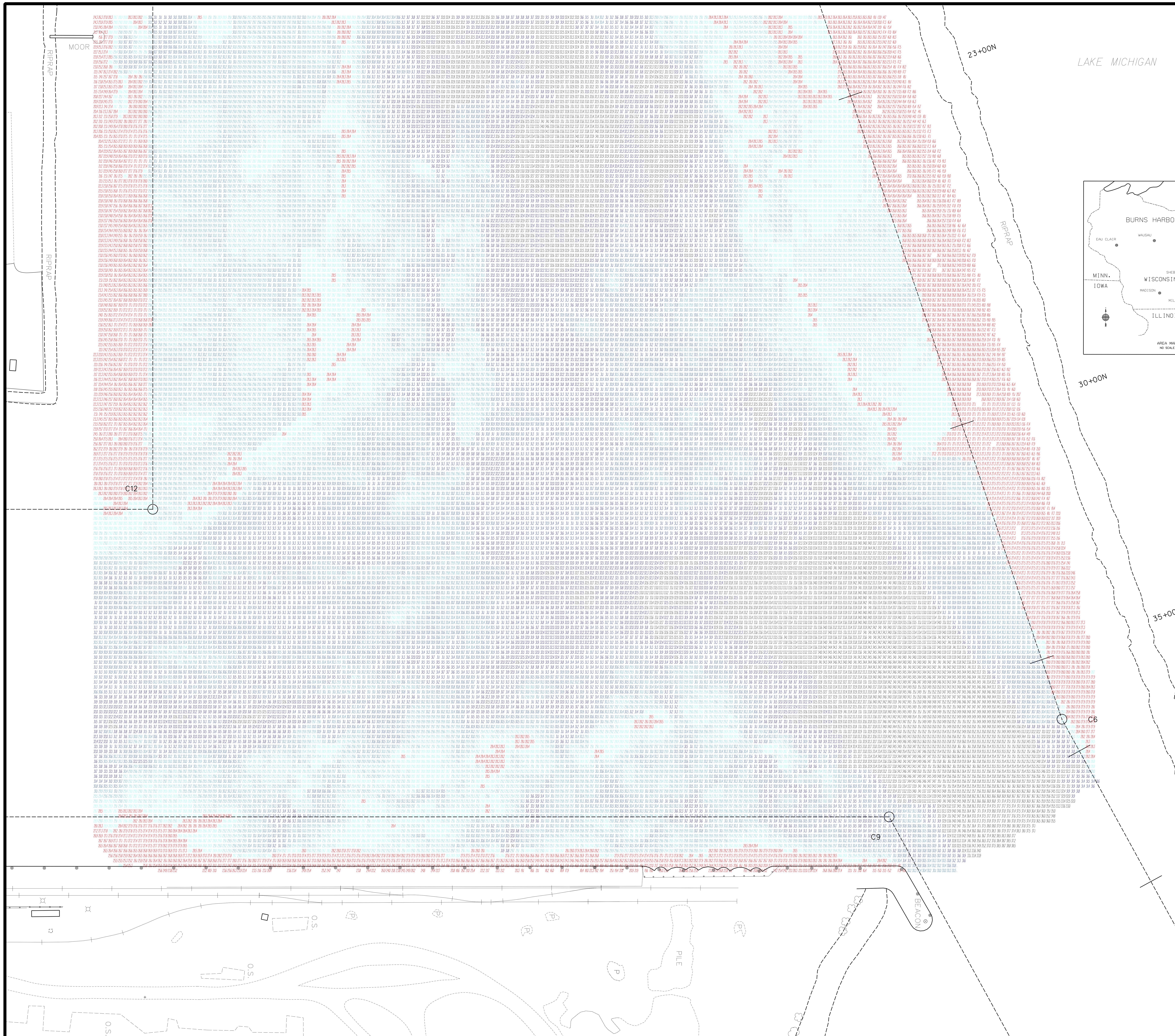
Survey Dates: June 26, 2008
Rev.
Design File name: BHW-04.dgn
Drawing code: Sheet 4
Surveyed by: W. Wrzesk
Dwn by: M. Kaiser
Chd by:
Reviewed by:
Chief, Fac. Mgmt.
Chief, Sdr Section
Approved by:
Supervisor by:
Transfer Engineer
Approval Recommended:
Trans Eng. Sec Ldr
Supervisor by:
Transfer Engineer
File name:
Plot date: 7-24-08
Plot scale: 1"=100'

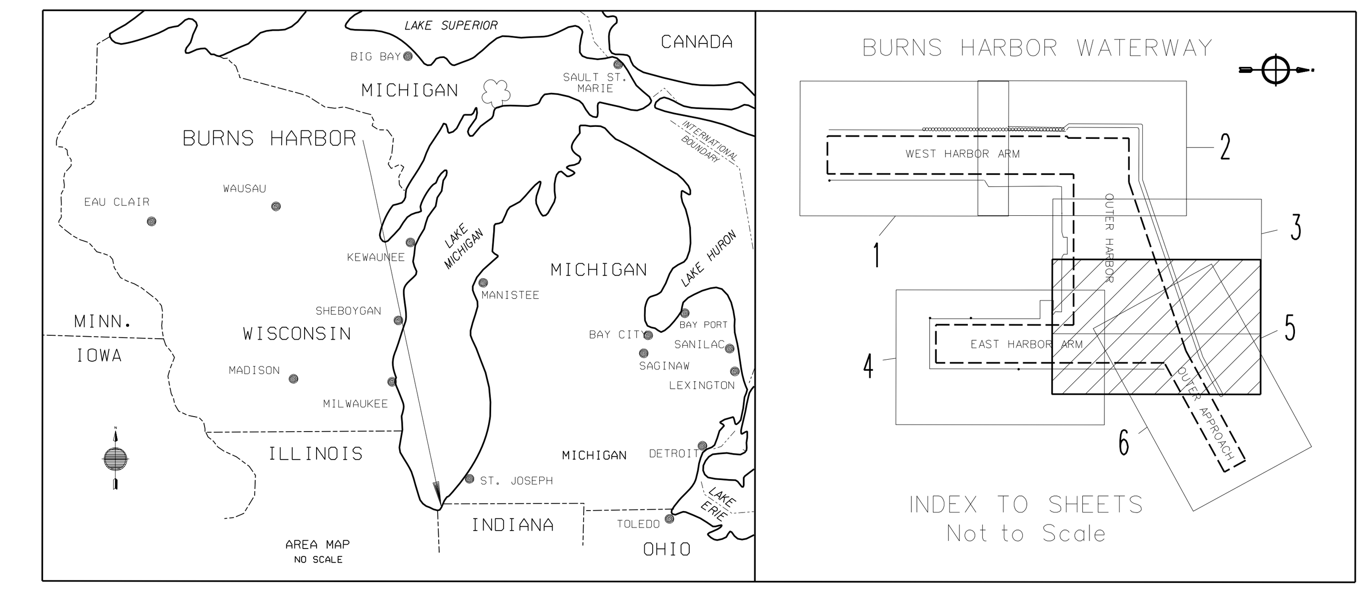
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
DETROIT, MICHIGAN

BURNS WATERWAY HARBOR
WATERWAY IMPROVEMENT
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 06





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 A RESON SEABAT 8125 MULTIBEAM SONAR.
3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON JUNE 26 AND NOV. 5, 2008 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 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 28.5' BELOW LOW WATER DATUM.

LEGEND

Color	Depth
Red	0.0' – 28.5'
	28.5' – 29.0'
	29.0' – 29.5'
	29.5' – 30.0'
	30.0' – 30.5'
	30.5' – 31.0'
	31.0' – 31.5'
	31.5' – 32.5'
	32.5' – 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

Survey Date: Nov. 5, 2008	Rev.		
Design file name:			
Drawing code:			
File name: Plot date: 11-14-08 Plot scale: 1"=100'			
Surveyed by: J. Mrozek			
Dwn by: J.S.M.	Ckd by:		
Reviewed by: Chief, Fac. Mgmt.			
Submitted by: Chief, SMR Section			
Approval Recommended: Area Eng. Soo Office			
Approved by: District Engineer			

BURNS WATERWAY HARBOR
MAINTENANCE DREDGING
PORTAGE INDIANA

BURNS HARBOR
OUTER HARBOR
CONDITION SURVEY

Sheet reference number:

BHW-05

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.

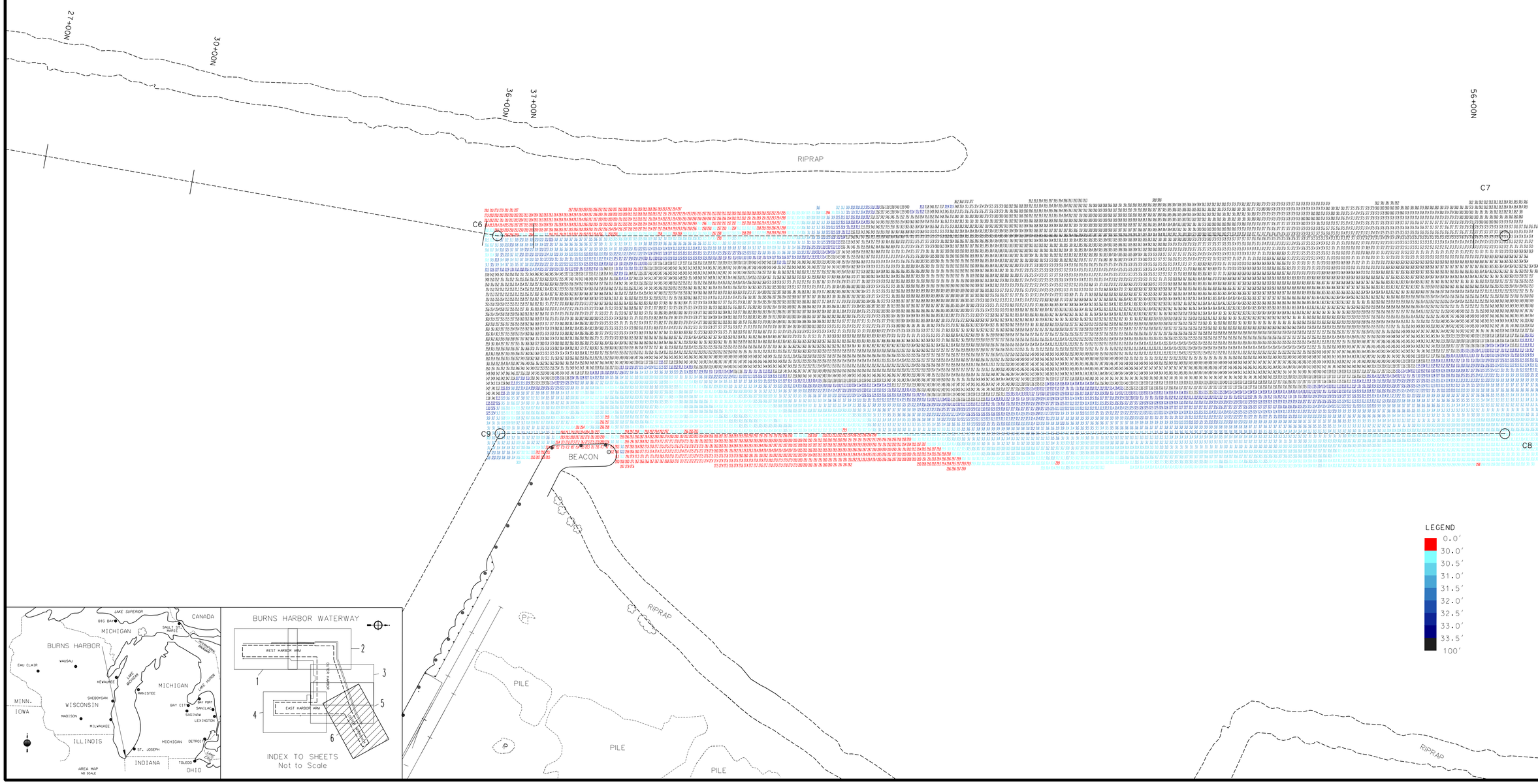
2. ELEVATIONS AND SOUNDING DEPTHS ARE REFERRED TO INTERNATIONAL GREAT LAKES DATUM 1985 (IGLD 85). LOW WATER DATUM ZERO IS 577.5 FEET ABOVE MEAN WATER LEVEL AT FATHER POINT QUEBEC. WATER LEVEL READINGS ARE FROM AN AUTOMATED GAUGE LOCATED AT BURNS HARBOR INDIANA. DEPTHS ARE MEASURED USING A RESON SEABAT 8125 MULTIBEAM SONAR.

3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON NOVEMBER 23, 2008 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 30.0' BELOW LOW WATER DATUM.



US Army Corps of Engineers
Detroit District

Mark	Description	Date	Approved

Surveyed by: J. Wrobek	Survey Dates: Nov. 23, 2008
Dwn by:	Chkd by:
Rev'wed by:	Design File name: Sheet 6
Drawing Code:	
Contrd by:	File name:
Chkd by: Mgmt.	Plot date: 11-25-08
Chkd by: Supervisor	Plot scale: 1"=100'

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

Recommended: Project Engineer
Approved by: Chief, Navigation Branch
Approved by: Operations Engineer

BURNS WATERWAY HARBOR
NAVIGATION DREDGING
PORTAGE INDIANA

BURNS HARBOR
OUTER APPROACH
C.S. 37+00 to C.S. 56+00
CONDITION SURVEY

Sheet reference number:
BHW-06
Sheet 06 of 06