

# BookletChart™



## Buffalo Harbor

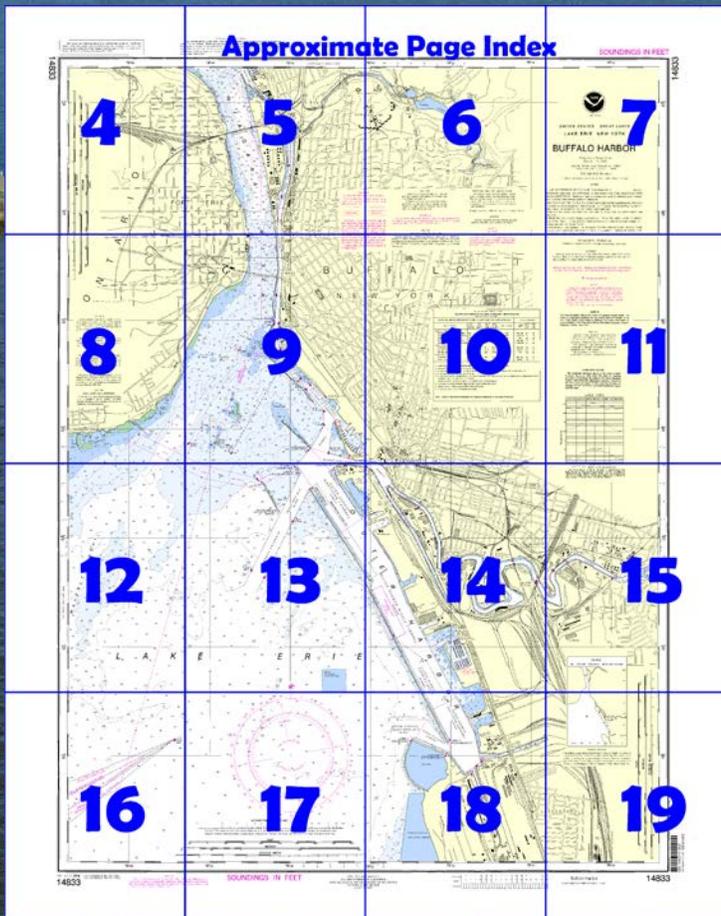
NOAA Chart 14833

*A reduced-scale NOAA nautical chart for small boaters*

*When possible, use the full-size NOAA chart for navigation.*



- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA's Office of Coast Survey, the nation's chartmaker



**Published by the  
National Oceanic and Atmospheric Administration  
National Ocean Service  
Office of Coast Survey  
[www.NauticalCharts.NOAA.gov](http://www.NauticalCharts.NOAA.gov)  
888-990-NOAA**

**What are Nautical Charts?**

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

**What is a BookletChart™?**

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

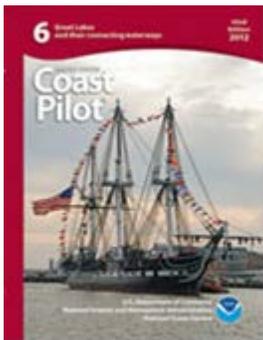
Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <http://www.NauticalCharts.NOAA.gov>.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

**Notice to Mariners Correction Status**

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

For latest Coast Pilot excerpt visit the Office of Coast Survey website at <http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=14833>.



**(Selected Excerpts from Coast Pilot)  
Niagara River above Niagara Falls.**—At its east end, Lake Erie becomes comparatively narrow and has its outlet in the Niagara River. From the head of the river, it is about 20 miles to the falls and rapids of **American Falls** and **Horseshoe Falls**. About 5 miles below the head, the river is divided into two channels by **Strawberry Island** and **Grand Island**. **Tonawanda Channel** and **Niagara River Channel**, the U.S. channels, lead to the east of these

islands, and **Chippawa Channel**, the Canadian channel, leads to the west of these islands. At the lower end of Grand Island, the channels rejoin and lead for about 3.5 miles to the falls.

The **International boundary** between the United States and Canada follows a general middle of the river course in the upper Niagara River from the head of the river downstream to the head of Grand Island where the river forks around the island. The boundary then follows Chippawa Channel and is generally less than 1,000 feet off the west shore of Grand Island until Chippawa Channel and Niagara River Channel join at the northwest end of Grand Island. The boundary again follows a general middle of the river course around the south side of **Goat Island** and over Niagara Falls.

**Chart Datum, Upper Niagara River.**—Depths and vertical clearances under overhead cables and bridges in the Niagara River from its confluence with Lake Erie to the head of navigation, the turning basin at Niagara Falls, NY, is as follows: from Lake Erie to the Black Rock Canal Lock is the Low Water Datum of Lake Erie, 569.2 feet (173.5 meters); from just below the Black Rock Canal Lock to the south end of Grand Island is the sloping surface of the river, when the water surface just below the lock is at 564.4 feet (172.03 meters) and the Huntley Station gauge (at Niagara Mohawk Power Corporation plant) reads 563.8 feet (171.85 meters); from the south end of Grand Island to the south end of Tonawanda Island is the sloping surface of the river, when the Huntley Station gauge reads 563.8 feet (171.85 meters) and the gauge at Tonawanda Island reads 563.4 feet (171.73 meters); from the south end of Tonawanda Island to the turning basin at Niagara Falls, NY, is the sloping surface of the river, when the gauge at Tonawanda Island reads 563.4 feet (171.73 meters) and the gauge at Power Plant Intakes reads 561.5 feet (171.13 meters). All elevations are above mean water level at Rimouski, QC, on International Great Lakes Datum 1985 (IGLD 1985). (See Chart Datum, Great Lakes System, indexed as such, chapter 1.)

**Fluctuations of Water Level.**—Variations in Lake Erie levels above or below Low Water Datum are reflected in Niagara River levels. The amount of the variation ranges from the full Lake Erie variation at the head of the river and gradually diminishes downstream to the vicinity of Chippawa, ON, just above Niagara Falls.

From Lake Erie, the fall of the Niagara River is about 10 feet to the head of the upper rapids near the junction with the Welland River. Just below the Welland River entrance, about 1.2 miles east of Goat Island, the Niagara waters begin their rapid descent to the level of Lake Ontario through the rapids above the falls, the great falls themselves, and the rapids below the falls.

**Currents.**—For about 1.7 miles, from its head to just above Peace Bridge, the river is wide, shallow, and rocky, and the current is from 2 to 3 mph. Just above the Peace Bridge, the river becomes a narrow gorge for about 2 miles to the lower end of Squaw Island. In the upper part of this gorge, the river is shallow, and the currents are about 8 mph at low to mean river stages and 9 mph at high stages. In the lower part of the gorge, the river is deeper and somewhat wider.

In 1986, with water level at 4.8 feet above low water datum, speed of the current was 7.7 to 9.7 knots.

Currents just below the International Bridge have speeds of 4 mph at low to mean river stages and 4.75 to 5 mph at high stages. In Tonawanda and Chippawa Channels, the currents vary from 1 to 4 mph.

**Channels.**—Black Rock Canal is the recommended route from Lake Erie to facilities in the Niagara River below **Squaw Island**. The channel formerly dredged in the open river west of Bird Island and Squaw Island has shoaled to depths of 10 feet or less. Great care should be exercised in navigating this section of the river.

**U.S. Coast Guard Rescue Coordination Center  
24 hour Regional Contact for Emergencies**

RCC Cleveland

Commander

9th CG District

Cleveland, OH

(216) 902-6117

# Navigation Managers Area of Responsibility



**NOAA's navigation managers** serve as ambassadors to the maritime community.

They help identify navigational challenges facing professional and recreational mariners, and provide NOAA resources and information for safe navigation. For additional information, please visit [nauticalcharts.noaa.gov/service/navmanagers](http://nauticalcharts.noaa.gov/service/navmanagers)

To make suggestions or ask questions online, go to [nauticalcharts.noaa.gov/inquiry](http://nauticalcharts.noaa.gov/inquiry).

To report a chart discrepancy, please use [ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx](http://ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx).

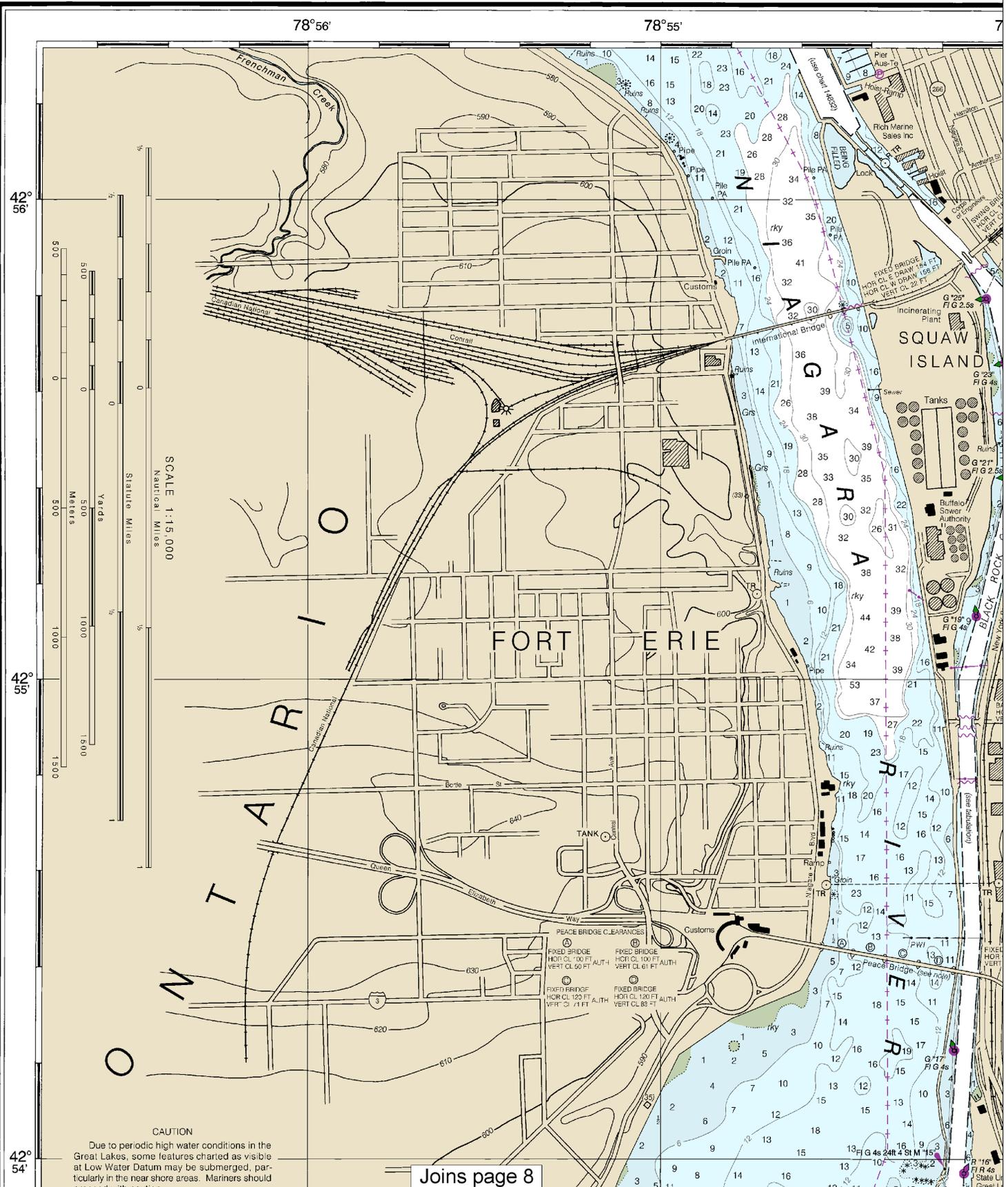
## Lateral System As Seen Entering From Seaward

on navigable waters except Western Rivers



For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area. These volumes are available online at <http://www.navcen.uscg.gov>

14833



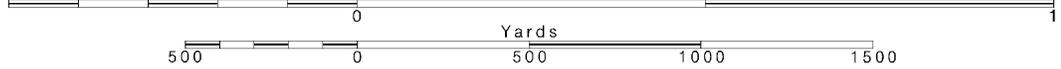
4

Note: Chart grid lines are aligned with true north.

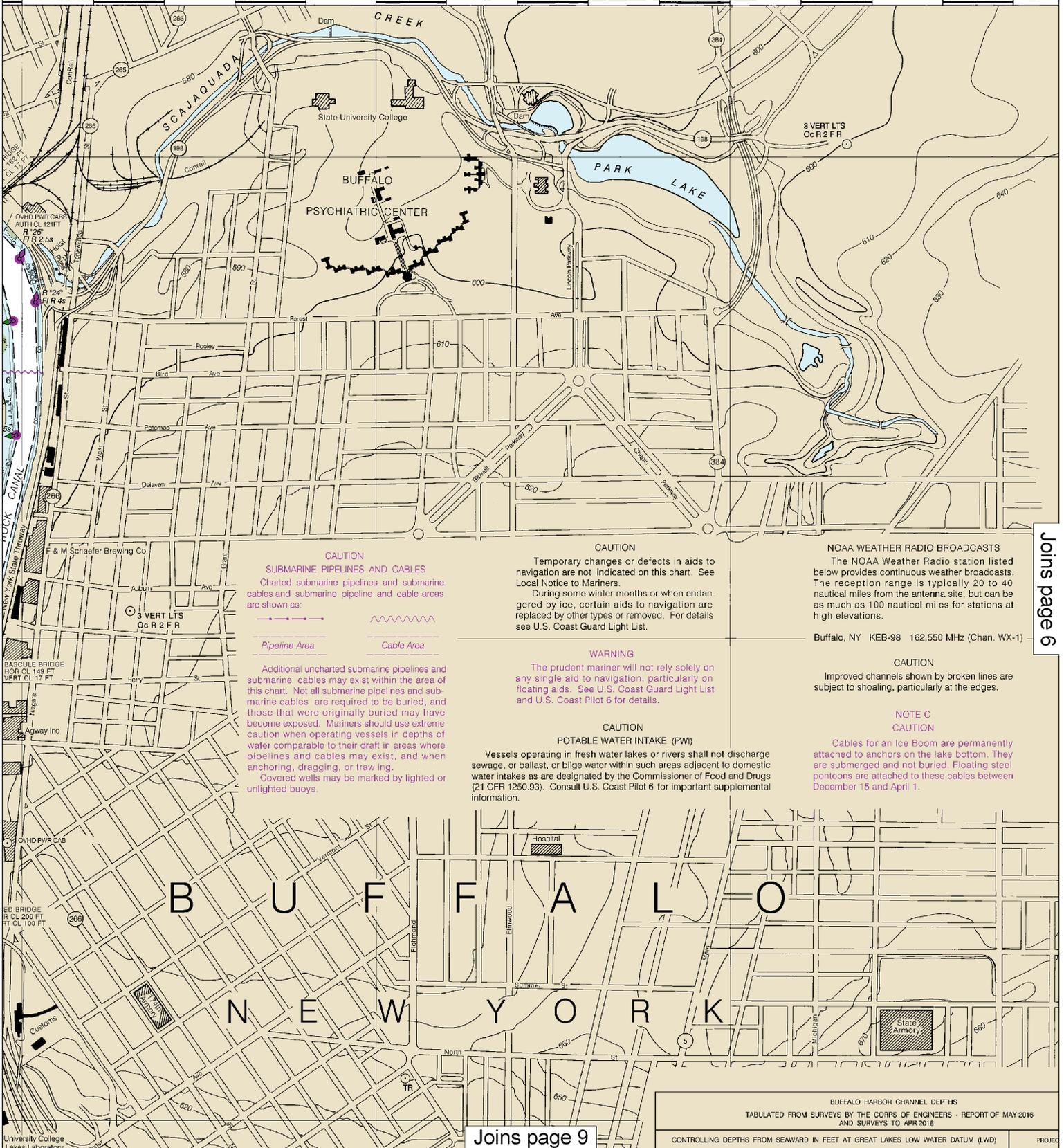
Printed at reduced scale.

SCALE 1:15,000  
Nautical Miles

See Note on page 5.



78°54' CONTINUED ON CHART 14832 78°53' 50' 40' 30' 20' 10' 78°52' 50'



**CAUTION**  
**SUBMARINE PIPELINES AND CABLES**  
 Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:

 Pipeline Area     
  Cable Area

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling.  
 Covered wells may be marked by lighted or unlighted buoys.

**CAUTION**  
 Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.  
 During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

**WARNING**  
 The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot 6 for details.

**CAUTION**  
**POTABLE WATER INTAKE (PWI)**  
 Vessels operating in fresh water lakes or rivers shall not discharge sewage, or ballast, or bilge water within such areas adjacent to domestic water intakes as are designated by the Commissioner of Food and Drugs (21 CFR 1250.93). Consult U.S. Coast Pilot 6 for important supplemental information.

**NOAA WEATHER RADIO BROADCASTS**  
 The NOAA Weather Radio station listed below provides continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Buffalo, NY KEB-98 162.550 MHz (Chan. WX-1)

**CAUTION**  
 Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

**NOTE C**  
**CAUTION**  
 Cables for an Ice Boom are permanently attached to anchors on the lake bottom. They are submerged and not buried. Floating steel pontoons are attached to these cables between December 15 and April 1.

Joins page 6

Joins page 9

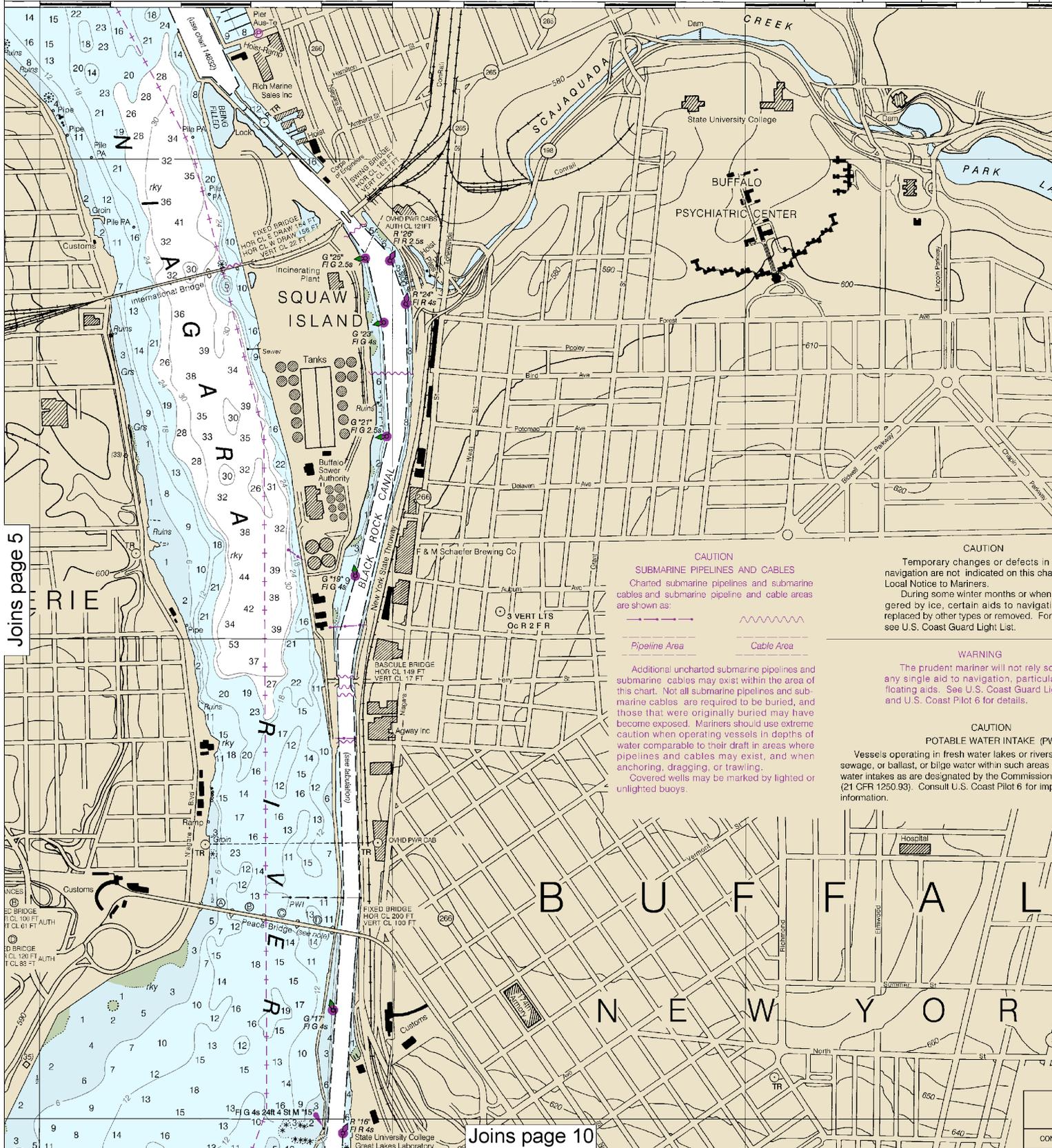
BUFFALO HARBOR CHANNEL DEPTHS  
 TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF MAY 2016  
 AND SURVEYS TO APR 2016

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT GREAT LAKES LOW WATER DATUM (LWD) PROJECT

This BookletChart was reduced to 75% of the original chart scale.  
 The new scale is 1:20000. Barscales have also been reduced and  
 are accurate when used to measure distances in this BookletChart.



78°55' 78°54' CONTINUED ON CHART 14832 78°53' 50' 40' 30' 20' 10'



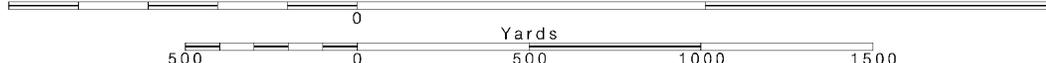
Joins page 5

Joins page 10

Printed at reduced scale.

SCALE 1:15,000 Nautical Miles

See Note on page 5.

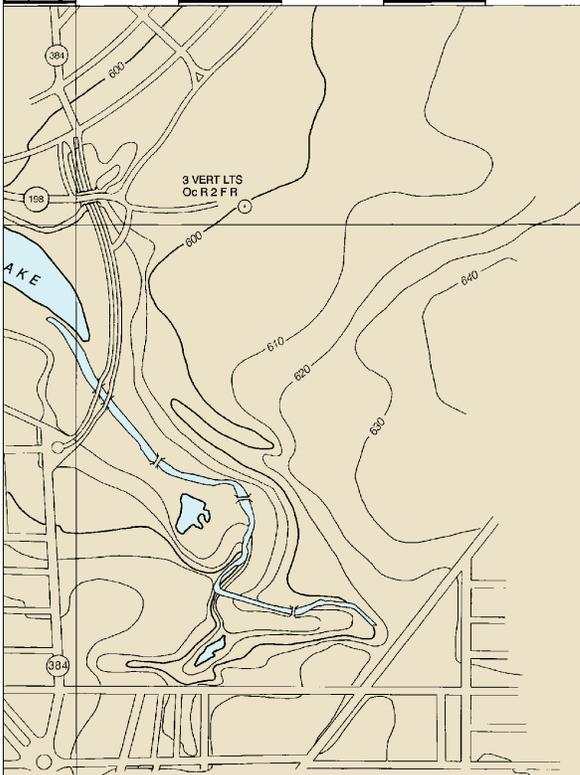


Note: Chart grid lines are aligned with true north.

78°52' 50"

78°51'

78°50'



UNITED STATES GREAT LAKES  
LAKE ERIE NEW YORK

# BUFFALO HARBOR

Polyconic Projection  
Scale 1:15,000

North American Datum of 1983  
(World Geodetic System 1984)

SOUNDINGS IN FEET

Additional information can be obtained at [nauticalcharts.noaa.gov](http://nauticalcharts.noaa.gov).

### NOTES

PLANE OF REFERENCE OF THIS CHART (Low Water Datum) . . . . . 569.2 ft.  
Referred to mean water level at Rimouski, Quebec International Great Lakes Datum (1985).

SAILING DIRECTIONS. Bearings of sailing courses are true and distances given thereon are in statute miles between points of departure.

AIDS TO NAVIGATION. Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation. See Canadian List of Lights, Buoys and Fog Signals for information not included in the U.S. Coast Guard Light List.

SYMBOLS AND ABBREVIATIONS. For complete list of symbols and abbreviations see Chart No. 1.

BRIDGE AND OVERHEAD CABLE CLEARANCES. When the water surface is above Low Water Datum, bridge and overhead clearances are reduced correspondingly. For clearances see U.S. Coast Pilot 6.

AUTHORITIES. Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corp of Engineers, Geological Survey, U.S. Coast Guard, and Canadian authorities.

### SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 6 for important supplemental information.

### COPYRIGHT

No copyright is claimed by the United States Government under Title 17 U.S.C. However, other nations may claim intellectual property rights on the compilation of data depicting the foreign waters shown on this chart.

Sailing courses and limits indicated in magenta are recommended by the Lake Carriers Association and the Canadian Shipowners Association.

Ⓟ Pump-out facilities

### NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 6. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 9th Coast Guard District in Cleveland, Ohio or at the Office of the District Engineer, Corps of Engineers in Buffalo, New York.  
Refer to charted regulation section numbers.

### MARINER ACTIVATED SOUND SIGNAL

BUFFALO HARBOR LIGHT - (MRASS) Horn is activated by keying mic 5 times on VHF-FM Ch 83A.

Aids to navigation are shown in detail. See Canadian List of Lights, Buoys and Fog Signals for information not included in the U.S. Coast Guard Light List.

**NOAA WEATHER RADIO BROADCASTS**  
The NOAA Weather Radio station listed below provides continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Buffalo, NY KEB-98 162.550 MHz (Chan. WX-1)

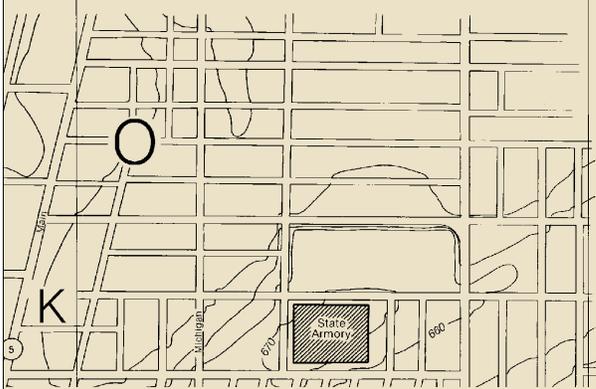
### CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

### NOTE C CAUTION

Cables for an Ice Boom are permanently attached to anchors on the lake bottom. They are submerged and not buried. Floating steel pontoons are attached to these cables between December 15 and April 1.

W) s shall not discharge adjacent to domestic water of Food and Drugs Department supplemental



### BUFFALO HARBOR CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF MAY 2016 AND SURVEYS TO APR 2016

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT GREAT LAKES LOW WATER DATUM (LWD)

PROJECT DIMENSIONS

Joins page 11

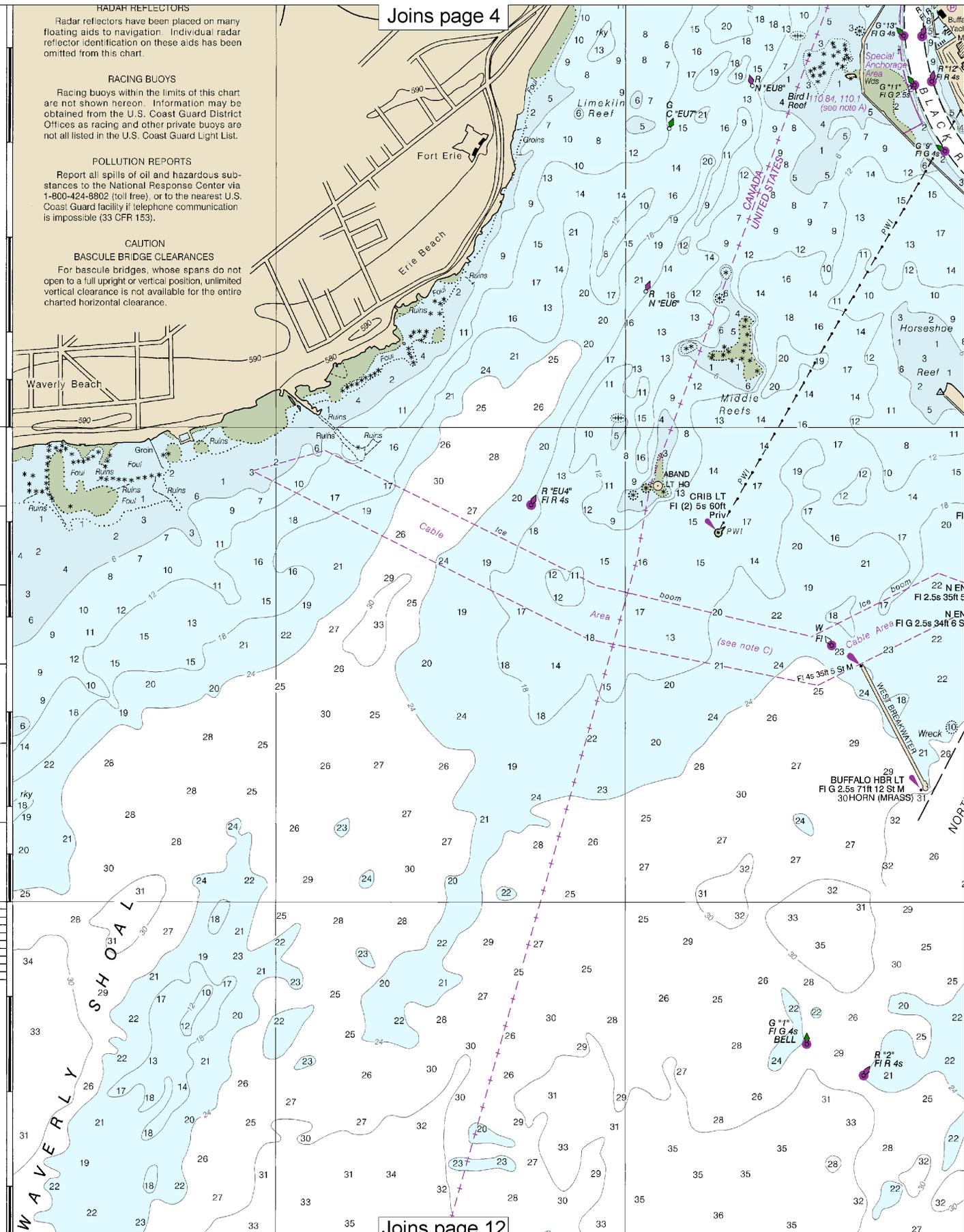
**RADAR REFLECTORS**  
Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

**RACING BUOYS**  
Racing buoys within the limits of this chart are not shown hereon. Information may be obtained from the U.S. Coast Guard District Offices as racing and other private buoys are not all listed in the U.S. Coast Guard Light List.

**POLLUTION REPORTS**  
Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

**CAUTION**  
**BASCULE BRIDGE CLEARANCES**  
For bascule bridges, whose spans do not open to a full upright or vertical position, unlimited vertical clearance is not available for the entire charted horizontal clearance.

Joins page 4



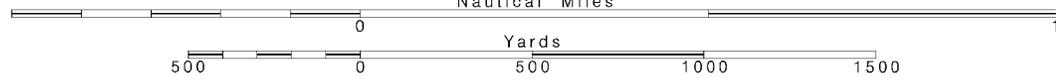
Joins page 12



Note: Chart grid lines are aligned with true north.

Printed at reduced scale. SCALE 1:15,000 Nautical Miles

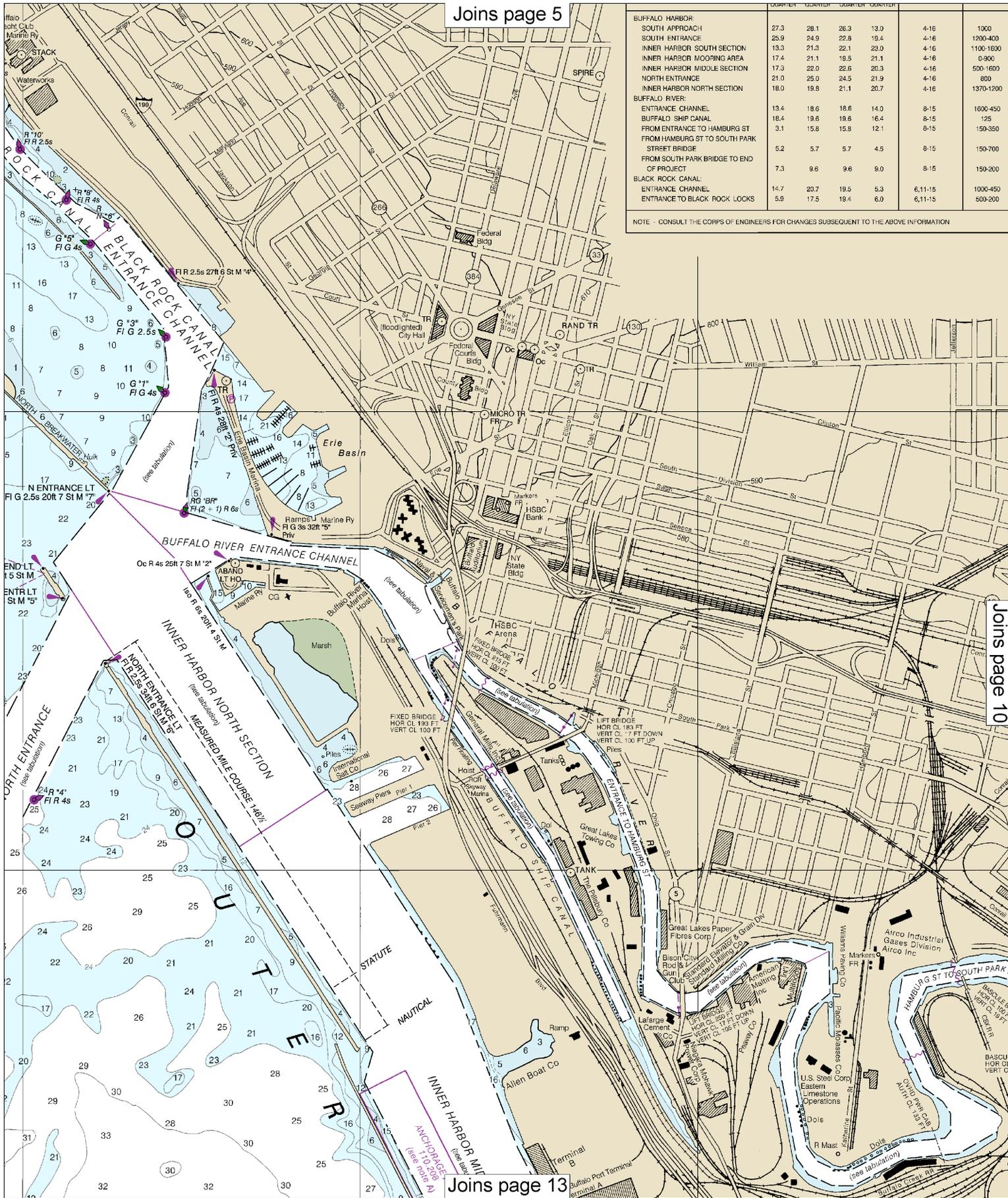
See Note on page 5.

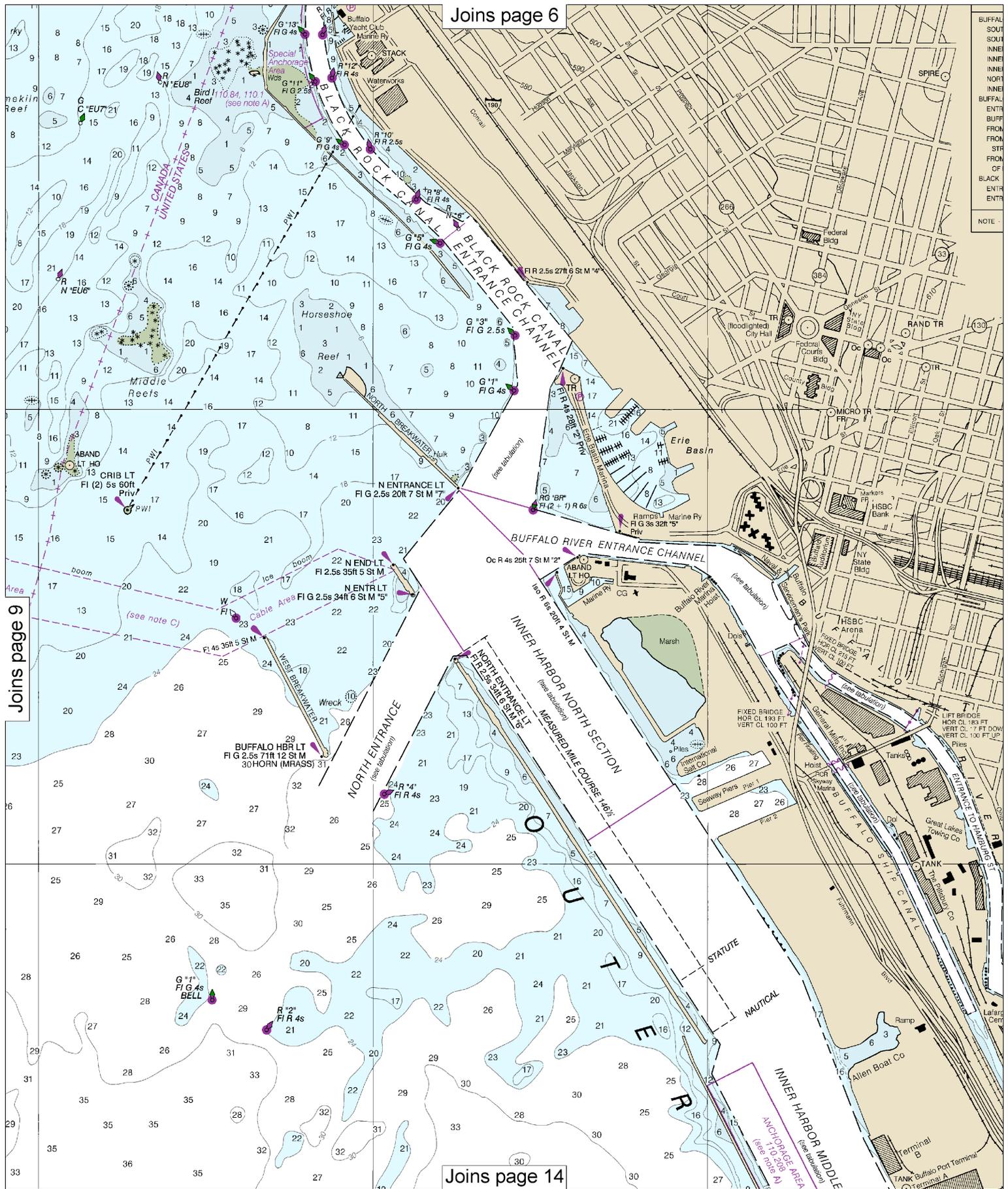


CONTINUED ON CHART 1-4832

	QUANTITY	COST PER UNIT	QUANTITY	COST PER UNIT		
<b>BUFFALO HARBOR</b>						
SOUTH APPROACH	27.3	28.1	26.3	13.0	4-16	1000
SOUTH ENTRANCE	25.9	24.9	22.8	19.4	4-16	1200-400
INNER HARBOR SOUTH SECTION	13.3	21.3	22.1	23.0	4-16	1100-1600
INNER HARBOR MOORING AREA	17.4	21.1	19.5	21.1	4-16	0-900
INNER HARBOR MIDDLE SECTION	17.3	22.0	22.6	20.3	4-16	500-1600
NORTH ENTRANCE	21.0	25.0	24.5	21.9	4-16	800
INNER HARBOR NORTH SECTION	18.0	19.8	21.1	20.7	4-16	1370-1200
<b>BUFFALO RIVER</b>						
ENTRANCE CHANNEL	13.4	19.6	18.6	14.0	8-15	1600-450
BUFFALO SHIP CANAL	18.4	19.8	19.8	16.4	8-15	125
FROM ENTRANCE TO HAMBURG ST	3.1	15.8	15.8	12.1	8-15	150-350
STREET BRIDGE	5.2	5.7	5.7	4.5	8-15	150-700
FROM SOUTH PARK BRIDGE TO END OF PROJECT	7.3	9.6	9.6	9.0	8-15	150-200
<b>BLACK ROCK CANAL:</b>						
ENTRANCE CHANNEL	14.7	20.7	19.5	5.3	6,11-15	1000-450
ENTRANCE TO BLACK ROCK LOCKS	5.9	17.5	18.4	6.0	6,11-15	500-200

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION





Joins page 6

Joins page 9

Joins page 14

BUFFALO SOUTH ENTRANCE FROM BLACK ENTRANCE FROM STR FROM OF BLACK ENTR

NOTE:

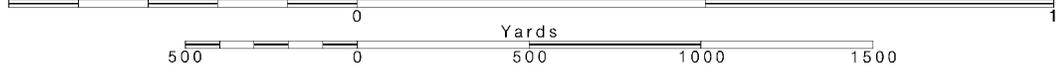
**10**

Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:15,000  
Nautical Miles

See Note on page 5.



	QUARTER	QUARTER	QUARTER	QUARTER		(FEET)		
ALO HARBOR								
OUTH APPROACH	27.3	28.1	26.3	13.0	4-16	1000	2000	30
OUTH ENTRANCE	25.9	24.9	22.8	19.4	4-16	1200-400	1950	29
NER HARBOR SOUTH SECTION	13.3	21.3	22.1	23.0	4-16	1100-1600	3900	28
NER HARBOR MOORING AREA	17.4	21.1	19.5	21.1	4-16	0-900	4200	23
NER HARBOR MIDDLE SECTION	17.3	22.0	22.6	20.3	4-16	500-1600	11150	27
OUTH ENTRANCE	21.0	25.0	24.5	21.9	4-16	800	3000	25
NER HARBOR NORTH SECTION	18.0	19.8	21.1	20.7	4-16	1370-1200	4800	23
ALO RIVER								
FRANCE CHANNEL	13.4	18.6	18.6	14.0	8-15	1600-450	4100	23
FRYDLO SHIP CANAL	18.4	19.6	19.6	16.4	8-15	125	5500	23
OM ENTRANCE TO HAMBURG ST	3.1	15.8	15.8	12.1	8-15	150-350	8700	23
OM HAMBURG ST TO SOUTH PARK STREET BRIDGE	5.2	5.7	5.7	4.5	8-15	150-700	14000	23
OM SOUTH PARK BRIDGE TO END OF PROJECT	7.3	9.6	9.6	9.0	8-15	150-200	3000	23
K ROCK CANAL								
FRANCE CHANNEL	14.7	20.7	19.5	5.3	6,11-15	1000-450	4860	21
FRANCE TO BLACK ROCK LOCKS	5.9	17.5	19.4	6.0	6,11-15	600-200	18530	21

CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Joins page 7

CAUTION

Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

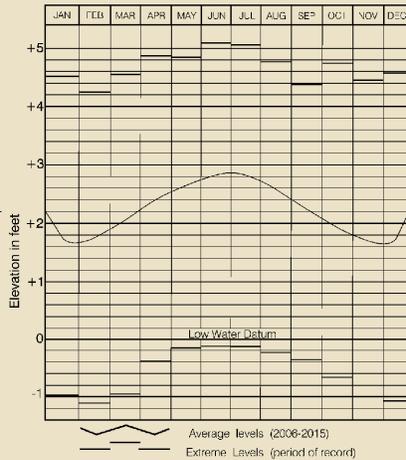
Station positions are shown thus:

⊙ (Accurate location)    ⊖ (Approximate location)

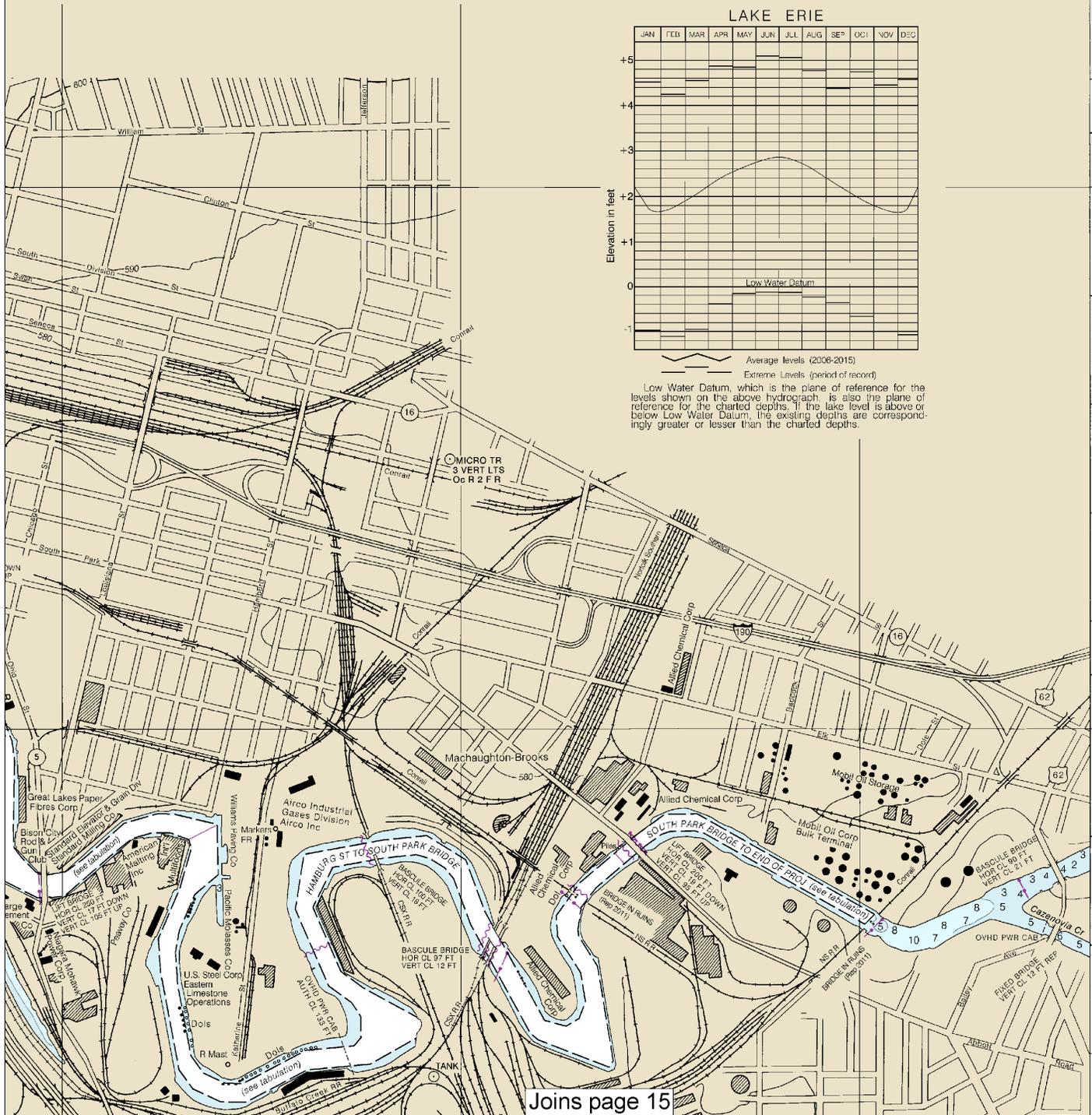
HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.207" northward and 0.868" eastward to agree with this chart.

LAKE ERIE



Low Water Datum, which is the plane of reference for the levels shown on the above hydrograph, is also the plane of reference for the charted depths. If the lake level is above or below Low Water Datum, the existing depths are correspondingly greater or lesser than the charted depths.



Joins page 15





Joins page 10

# ERRATA

Obstr Fish Haven (auth min 18ft)

MAGNETIC  
VAR 10° 30' W (2016)

NO ANNUAL CHANGE

SOUTH APPROACH  
(see tabulation)

SOUTH ENTRANCE  
(see tabulation)

S ENTR LT  
Fl-R 6s 36ft 8 St M 2'

SOUTH LIGHT  
Fl-R 2.5s 40ft 5'

Spill Area

DUMPING GROUND  
Least Depth 6 feet rep

WINDMILL

WINDMILL

WINDMILL

SCALE 1:15,000  
Nautical Miles

Statute Miles

Yards

Meters

78°55'

78°54'

78°53'

## SOUNDINGS IN FEET

Published at Washington, D.C.  
U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SERVICE  
COAST SURVEY

Published Notice to Mariners available at

# 14

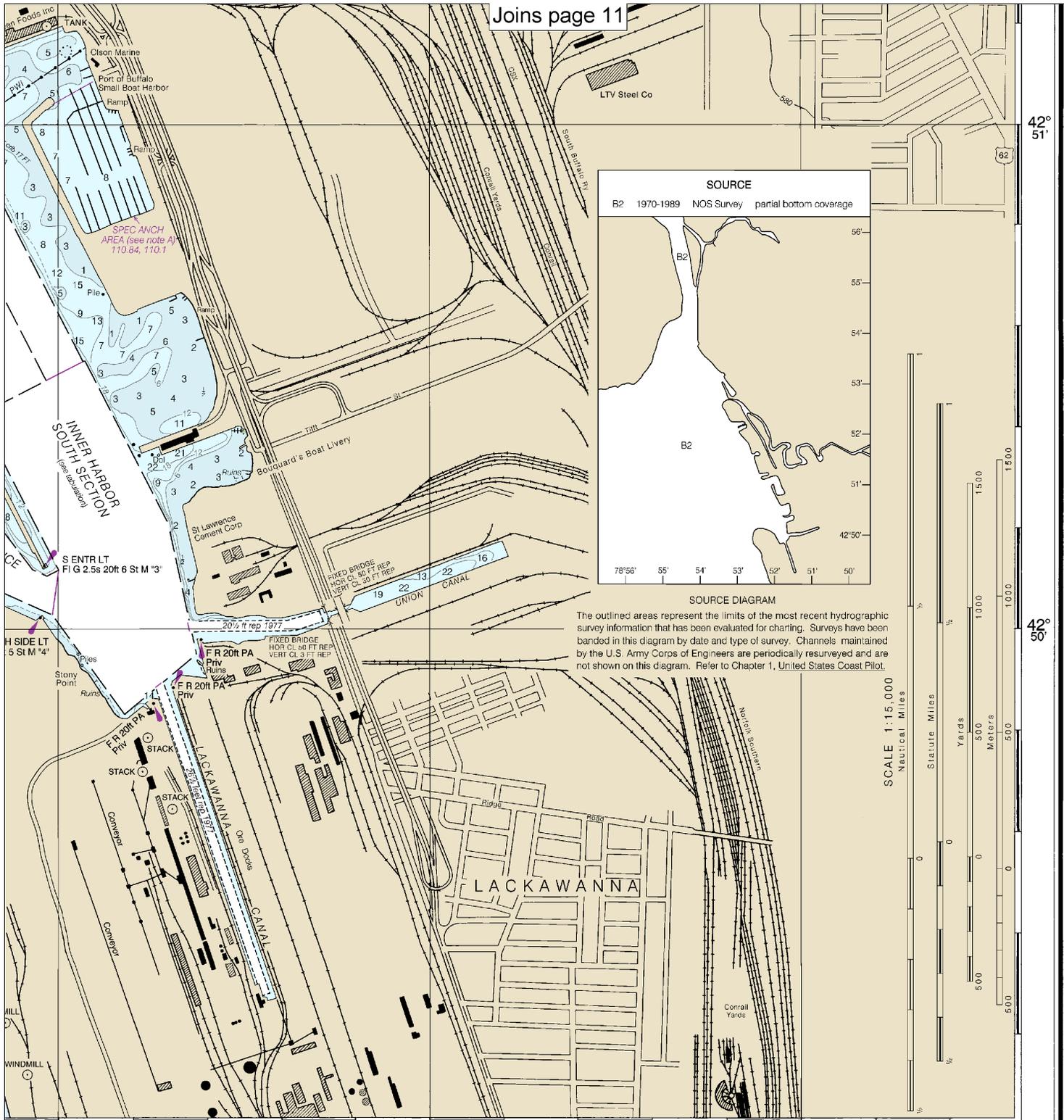
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:15,000  
Nautical Miles

See Note on page 5.

Yards



78°52'

78°51'

78°50'

890.2 X 665.5 mm

FATHOMS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
FEET	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102
METERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

Buffalo Harbor  
SOUNDINGS IN FEET-SCALE 1:15,000

14833



EMERGENCY INFORMATION

## VHF Marine Radio channels for use on the waterways:

**Channel 6** – Inter-ship safety communications.

**Channel 9** – Communications between boats and ship-to-coast.

**Channel 13** – Navigation purposes at bridges, locks, and harbors.

**Channel 16** – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.

**Channel 22A** – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.

**Channels 68, 69, 71, 72 and 78A** – Recreational boat channels.

**Getting and Giving Help** — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

## Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

**HAVE ALL PERSONS PUT ON LIFE JACKETS!**



**NOAA Weather Radio All Hazards (NWR)** is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.

<http://www.nws.noaa.gov/nwr/>

## Quick References

- Nautical chart related products and information — <http://www.nauticalcharts.noaa.gov>
- Interactive chart catalog — <http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml>
- Report a chart discrepancy — <http://ocsddata.ncd.noaa.gov/idrs/discrepancy.aspx>
- Chart and chart related inquiries and comments — <http://ocsddata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs>
- Chart updates (LNM and NM corrections) — [http://www.nauticalcharts.noaa.gov/mcd/updates/LNM\\_NM.html](http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html)
- Coast Pilot online — <http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm>
- Tides and Currents — <http://tidesandcurrents.noaa.gov>
- Marine Forecasts — <http://www.nws.noaa.gov/om/marine/home.htm>
- National Data Buoy Center — <http://www.ndbc.noaa.gov/>
- NowCoast web portal for coastal conditions — <http://www.nowcoast.noaa.gov/>
- National Weather Service — <http://www.weather.gov/>
- National Hurricane Center — <http://www.nhc.noaa.gov/>
- Pacific Tsunami Warning Center — <http://ptwc.weather.gov/>
- Contact Us — <http://www.nauticalcharts.noaa.gov/staff/contact.htm>



— For the latest news from Coast Survey, follow @NOAAcharts



This Booklet chart has been designed for duplex printing (printed on front and back of one sheet). If a duplex option is not available on your printer, you may print each sheet and arrange them back-to-back to allow for the proper layout when viewing.