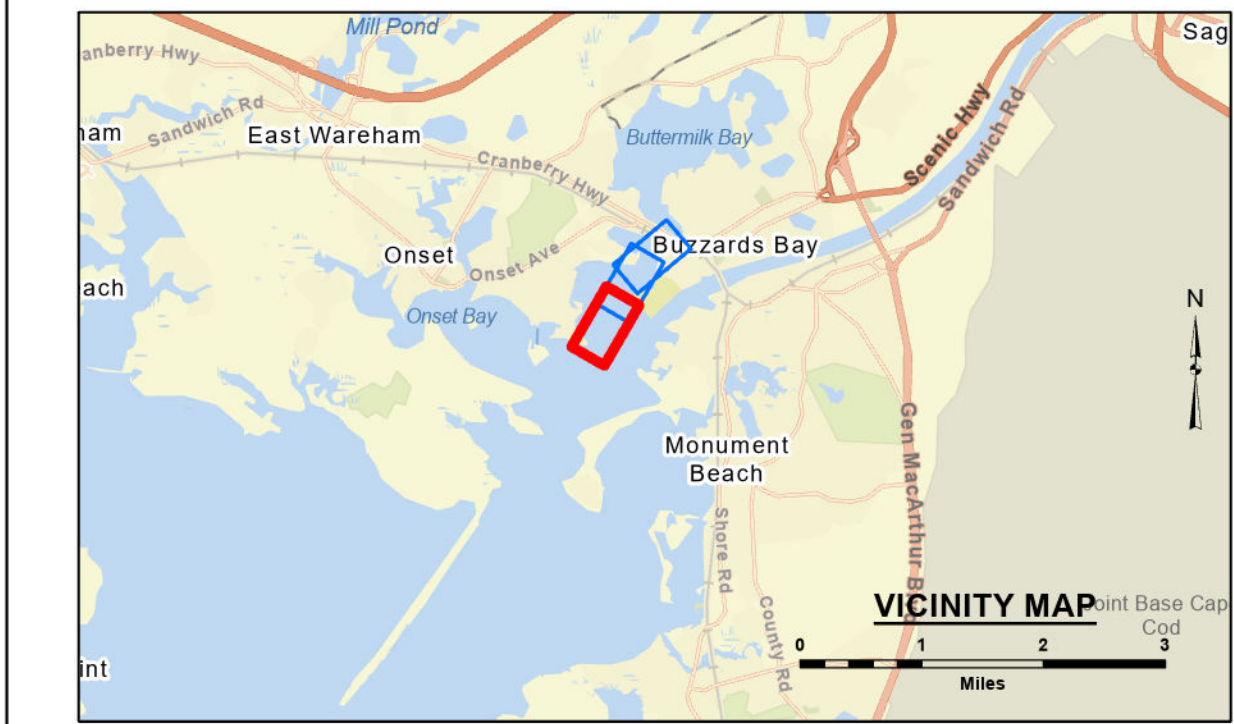
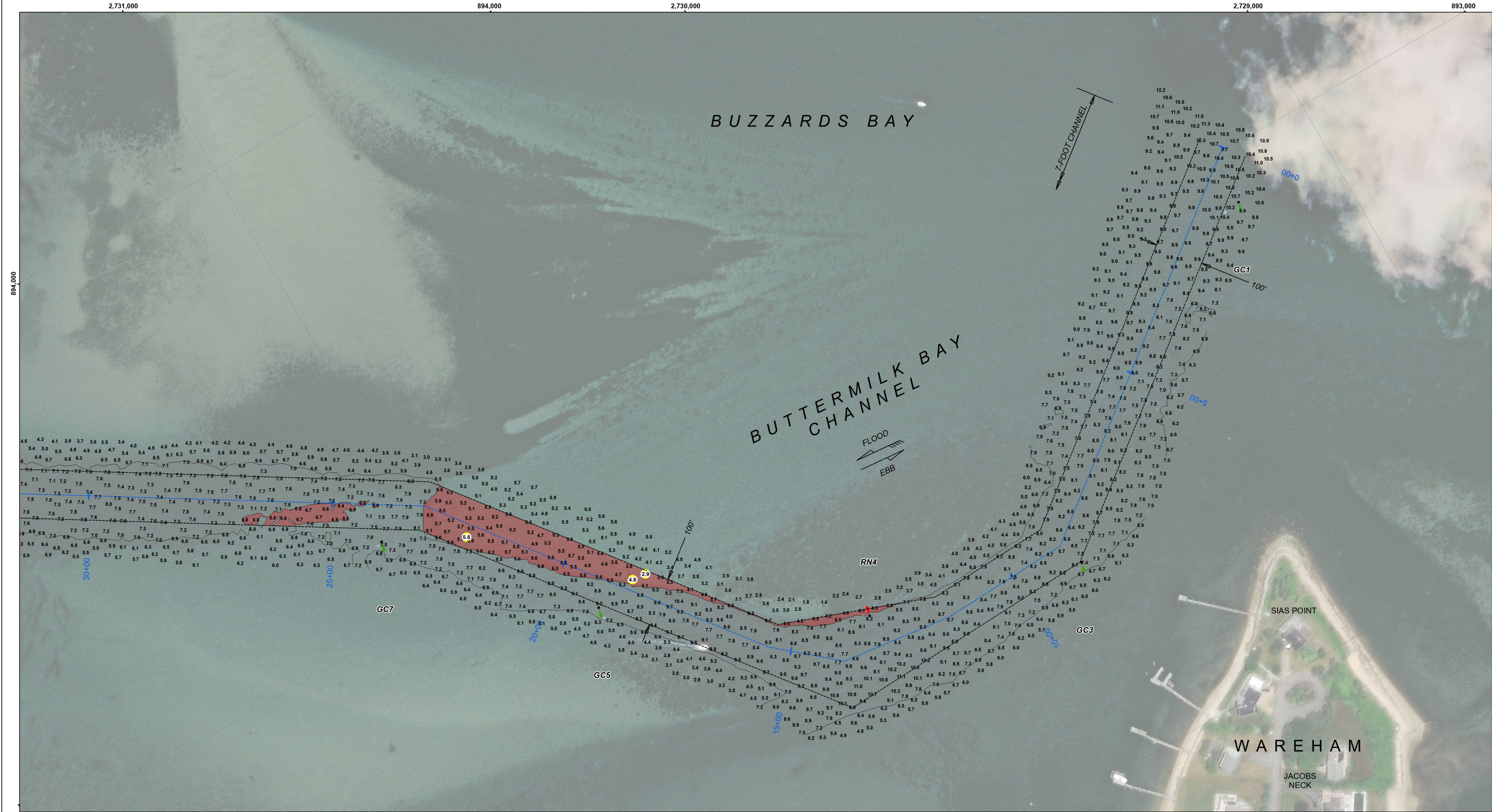




LEGEND

--- Federal Navigation Channel

- - - Channel Center Line

..... Cable or Pipe Area

— Contour Line

⊗ Obstruction Point

⊗ Fixed Navigation Aids

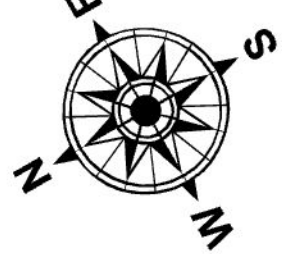
! Red Navigation Buoy

! Green Navigation Buoy

Shoaling Area

● Shoalest Sounding**

** Shoalest Sounding per Quarter per Reach



Notes:
Horizontal Datum: Mass Mainland, MA-2001 NAD 83
Distance Units: U.S. Survey Feet
Vertical Datum: MLLW
Depth Units: U.S. Survey Feet
Vessel Name: POPHAM BEACH
Sonar System: Reson T50 (Multibeam Sonar)
Sounding Frequency: 300 kHz
Survey Method: RTK GPS Tides
GPS System: Trimble SPS 855 (RTK)
RTK Base Station: MTS Smartnet Max
Software Used: Hypack
Sounding Sort Distance: 20'
Field Books: R&H 4981
Survey No.: MA_58_BUT_20231107_CS_085
Reference NOAA Chart No.: 13236

The information depicted on these charts represents the results of surveys made on the dates indicated, and can only be considered as indicating the conditions existing at that time.

General Notes
The sounding information shown on this map represents the SHOALEST soundings of those obtained from hydrographic surveys conducted during November 2023. The positions of aids to navigation were located during survey operations, are provided for information only and should not be used for navigation. Orthoimagery is from a variety of sources and dates and is intended to portray general characteristics of the shoreline and other features. Temporal changes may have occurred since this dataset was collected and some parts may no longer be an accurate representation of the conditions. The information depicted on this map should NOT be used to determine volumes as volumes are determined from more sounding information than shown.

Project Remarks
None

Water Level Information
Tides were recorded using RTK GPS. The MLLW to NAVD88 corrections for this project were obtained using NOAA's V-Datum Program. The V-Datum corrections range 2.29 feet to 2.35 feet, and are referenced from V-Datum model version 4.1. ME/NH/MA Region Version 2.3. NAVD88 is above MLLW. Therefore, the correction should be added to NAVD88 to convert to MLLW. Mean Range of Tide is 3.42 feet. No tide gauges were used on this project.



Accession: The United States Government furnishes these data and the recipient accepts and uses them with the express understanding that the data are not to be used for any purpose other than that for which they were originally collected. As such, it is only valid for its intended use, content, time and accuracy specifications. The user is responsible for the results of any use of the data for any other than its intended purpose.

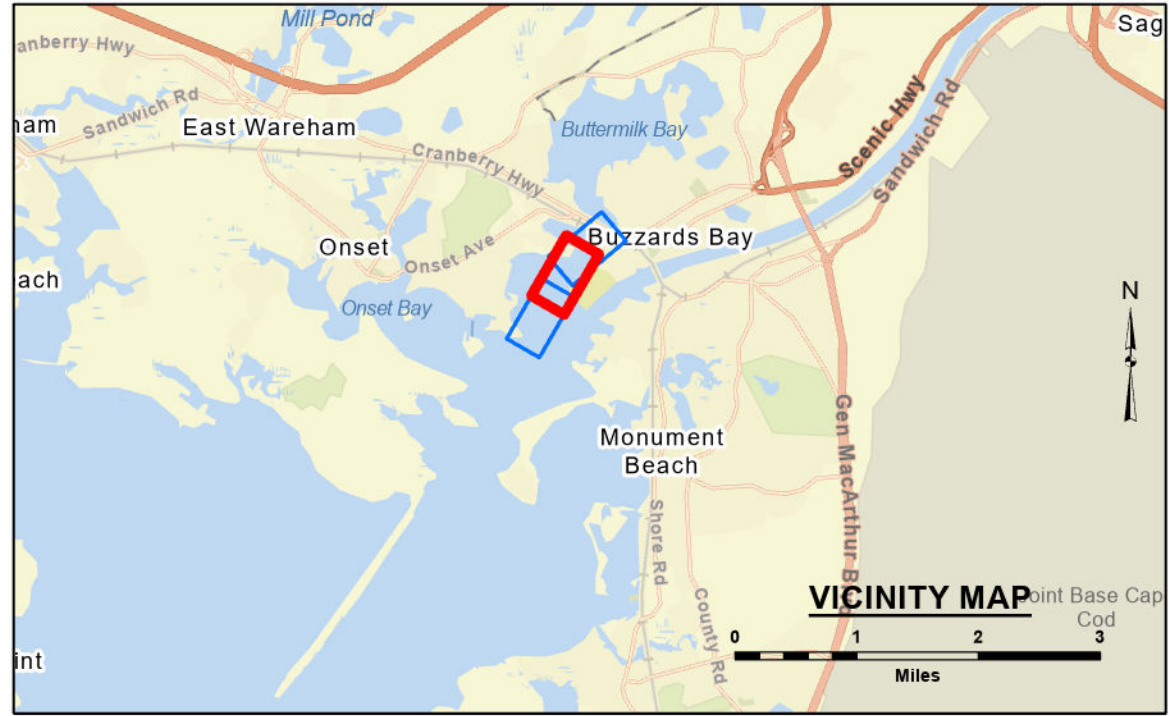
Distribution Liability: The data represents the results of data collection/processing for a specific US Army Corps of Engineers project. The data is not to be used for any purpose other than that for which it was originally collected. As such, it is only valid for its intended use, content, time and accuracy specifications. The user is responsible for the results of any use of the data for any other than its intended purpose.

U.S. ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT	SURVEYED BY: MJO	CHECKED BY: RD	ISSUE DATE: 11/16/2023
	SUBMITTED BY: Barrett Morse	APPROVED BY: NAE Survey	MAP DOCUMENT MA_58_BUT_20231107_CS_085
BUTTERMILK BAY CHANNEL BOURNE AND WAREHAM, MASSACHUSETTS CONDITION SURVEY		SHEET IDENTIFICATION Buttermilk Bay Channel Sheet 1 of 3	

6 AND 7-FOOT CHANNELS

File Name: MA_58_BUT_20231107_CS_085

SHEET IDENTIFICATION
Buttermilk Bay Channel
Sheet 1 of 3



LEGEND

--- Federal Navigation Channel

- - - Channel Center Line

..... Cable or Pipe Area

— Contour Line

⊗ Obstruction Point

⊗ Fixed Navigation Aids

! Red Navigation Buoy

! Green Navigation Buoy

Shoaling Area

● Shoalest Sounding**

** Shoalest Sounding per Quarter per Reach

GRAPHIC SCALE

1" = 100'

0 100 0 100 200 Feet

Notes:
Horizontal Datum: Mass Mainland, MA-2001 NAD 83
Distance Units: U.S. Survey Feet
Vertical Datum: MLLW
Depth Units: U.S. Survey Feet
Vessel Name: POPHAM BEACH
Sonar System: Reson T50 (Multibeam Sonar)
Sounding Frequency: 300 kHz
Survey Method: RTK GPS Tides
GPS System: Trimble SPS 855 (RTK)
RTK Base Station: MTS Smartnet Max
Software Used: Hypack
Sounding Sort Distance: 20'
Field Books: R&H 4981
Survey No.: MA_58_BUT_20231107_CS_085
Reference NOAA Chart No.: 13236

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Project Remarks
None

Water Level Information
Tides were recorded using RTK GPS. The MLLW to NAVD88 corrections for this project were obtained using NOAA's V-Datum Program. The V-Datum corrections range 2.29 feet to 2.35 feet, and are referenced from V-Datum model version 4.1. MEIN/HMA Region Version 2.3. NAVD88 is above MLLW. Therefore, the correction should be added to NAVD88 to convert to MLLW. Mean Range of Tide is 3.42 feet. No tide gauges were used on this project.

US Army Corps of Engineers
District: CENAE

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U.S. ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT

SUBMITTED BY: Barrett Morse	SURVEYED BY: MJO
APPROVED BY: NAE Survey	CHECKED BY: RD
DATE: 11/16/2023	ISSUE DATE: 11/16/2023

MAP DOCUMENT
MA_58_BUT_20231107_CS_085

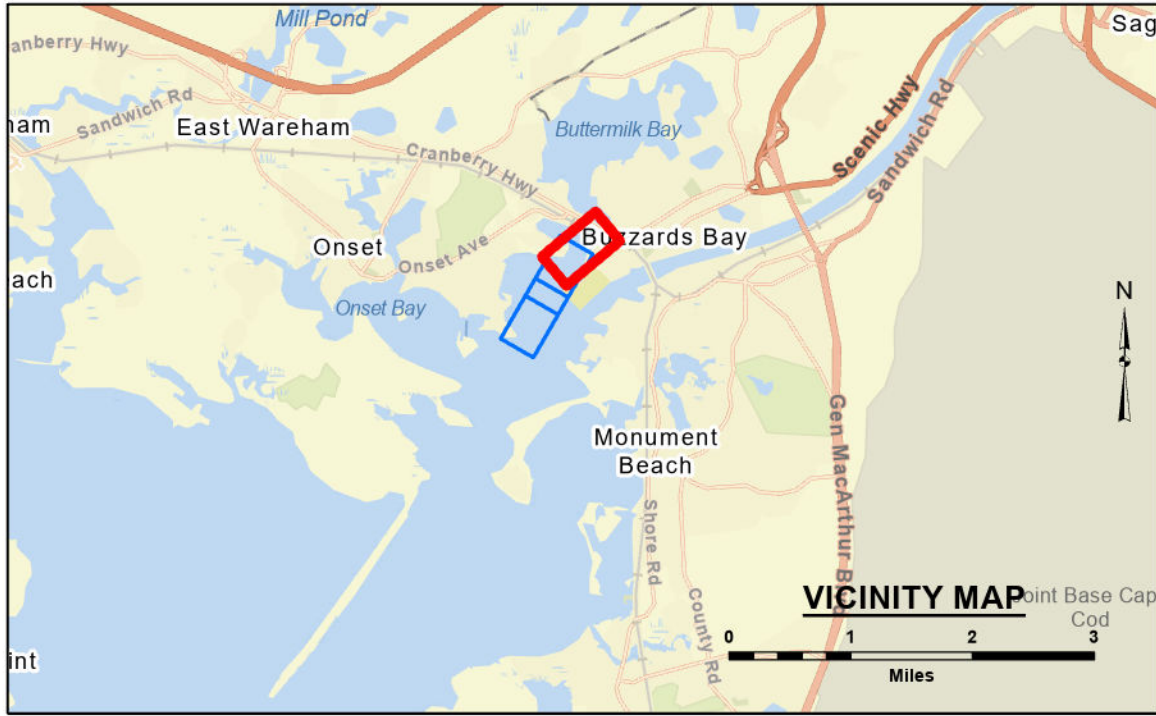
BUTTERMILK BAY CHANNEL
BOURNE AND WAREHAM, MASSACHUSETTS
CONDITION SURVEY

6 AND 7-FOOT CHANNELS

File Name: MA_58_BUT_20231107_CS_085

SHEET IDENTIFICATION
Buttermilk Bay Channel
Sheet 2 of 3

Revision Number: 5.23.8.1-5.23.8.1



LEGEND

--- Federal Navigation Channel

- - - Channel Center Line

..... Cable or Pipe Area

— Contour Line

⊗ Obstruction Point

⊗ Fixed Navigation Aids

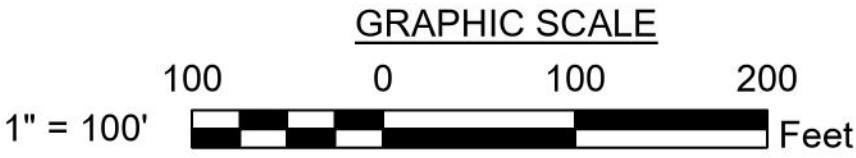
! Red Navigation Buoy

! Green Navigation Buoy

■ Shoaling Area

● Shoalest Sounding**

** Shoalest Sounding per Quarter per Reach



Notes:

Horizontal Datum: Mass Mainland, MA-2001 NAD 83

Distance Units: U.S. Survey Feet

Vertical Datum: MLLW

Depth Units: U.S. Survey Feet

Vessel Name: POPHAM BEACH

Sonar System: Reson T50 (Multibeam Sonar)

Sounding Frequency: 300 kHz

Survey Method: RTK GPS Tides

GPS System: Trimble SPS 855 (RTK)

RTK Base Station: MTS Smartnet Max

Software Used: Hypack

Sounding Sort Distance: 20'

Field Books: R&H 4981

Survey No.: MA_58_BUT_20231107_CS_085

Reference NOAA Chart No.: 13236

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Project Remarks

None

Water Level Information

Tides were recorded using RTK GPS. The MLLW to NAVD88 corrections for this project were obtained using NOAA's V-Datum Program. The V-Datum corrections range 2.29 feet to 2.35 feet, and are referenced from V-Datum model version 4.1. MEIN/HMA Region Version 2.3. NAVD88 is above MLLW. Therefore, the correction should be added to NAVD88 to convert to MLLW. Mean Range of Tide is 3.42 feet. No tide gauges were used on this project.

US Army Corps of Engineers
District: CENAE

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U.S. ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT	SUBMITTED BY: MJO	CHECKED BY: RD	ISSUE DATE: 11/16/2023
	APPROVED BY: NAE Survey		
	SITE: A151D	MAP DOCUMENT: MA_58_BUT_20231107_CS_085	

BUTTERMILK BAY CHANNEL
BOURNE AND WAREHAM, MASSACHUSETTS
CONDITION SURVEY

6 AND 7-FOOT CHANNELS

File Name: MA_58_BUT_20231107_CS_085

SHEET
IDENTIFICATION

Buttermilk Bay
Channel

Sheet 3 of 3