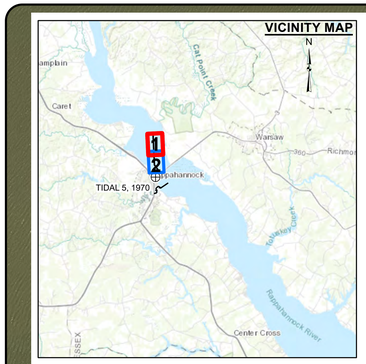


Benchmark

Shoalest Sounding in Quarter/Parameter of each Reach

Channel Toes

Channel Quarter/Parameter Line

Maintained Depth Contour Line

Bathymetry (Depths in Feet)

- 0' - 1.9'
- 2' - 2.9'
- 3' - 3.9'
- 4' - 4.9'
- 5' - 5.9'
- 6' - 6.9'
- 7' - 7.9'
- 8' - 9.9'
- 10' - 11.9'
- 12' and Deeper

1 INCH = 200 FEET

Aids to Navigation

- Can
- Nun
- Green Lighted Buoy
- Red Lighted Buoy
- Junction Buoy
- Flashing Green
- Flashing Red
- Green Daybeacon
- Red Daybeacon
- Danger

0 100 200 400 Feet

To: Navigation Interests	From:	USACE, Norfolk District 803 Front St Norfolk, VA 23510					
RIVER/HARBOR NAME AND STATE RAPPAHANNOCK RIVER - MANGORIGHT BAR VIRGINIA					MINIMUM DEPTHS IN EACH WIDTH OF CHANNEL ENTERING FROM SEAWARD		
NAME OF CHANNEL	DATE OF SURVEY	PROJECT			LEFT OUTSIDE QUARTER (feet)	MIDDLE HALF (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)			
Rappahannock River Mangoright Bar	04-15-2024	200	1.9	6.0	8.5	8.5	8.4
Remarks: All Depths at Mean Lower Low Water (MLLW), 1983-2001 Tidal Epoch							

MATCH SHEET 2

Rappahannock River

Reach: Mangoright Bar
Maintained Depth: 6 Feet

US Army Corps of Engineers
Norfolk District

NOTES:
1. PROJECT: A CHANNEL 12 FEET DEEP (MAINTAINED AT 6 FEET) AND 200 FEET WIDE FROM THE MOUTH TO PORT ROYAL, VA. A DISTANCE OF 21 STATUTE MILES, THENCE 150 FEET WIDE FOR 1.9 STATUTE MILES. THE CONSTRUCTION OF 20,401 LINEAR FEET OF CRIB AND PILE DIKES AND 1,906 LINEAR FEET OF RIPRAP STONE DIKE.
2. NOT FOR NAVIGATION USE. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATE(S) INDICATED & CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. SOUNDINGS: SHOWN IN FEET CENTERED ON POINT OF SHOALEST DEPTH IN 15 FT RADIUS GENERATED FROM HYDROGRAPHIC DATA.
4. BACKGROUND: VGIN MOST RECENT IMAGERY.
5. AIDS TO NAVIGATION LOCATED WITH SURVEY VESSEL +/- 10 FEET ON DATE OF SURVEY.
6. SURVEY X,Y,Z (".XYZ) AND METADATA (*.MET) FILE NAME REFERENCED BY eHYDRO FILE NAME.

VERTICAL REFERENCE DATUM: MLW, MLLW, NAVD88, NGVD29, LWRP, OTHER
TIDAL EPOCH: 1983-2001
POSITIONING SYSTEM: PPKNOAA VDATUM(0-1.09)
SYSTEM METHOD: MULTI-BEAM
BIN SELECTION METHOD: AVERAGE CELL CENTER
AREA SURVEYED: -32+00 to 70+00

GEODETIC CONTROL MONUMENTS

MONUMENT	DATUM	ELEVATION
CE TIDAL 5, 1970	NAVD88	3.39'(GEOID18)

MEAN RANGE OF TIDE
MLLW 4.46'
1.74'

PROJECTED COORDINATE SYSTEM: STATE PLANE
DATUM NAME: NAD83
HORIZONTAL ZONE: VIRGINIA SOUTH ZONE
PROJECTED COORDINATE UNITS: US SURVEY FEET
VERTICAL DATUM: MLLW
IMPLIED VERTICAL ACCURACY: +/- 0.5 FEET

RAPPAHANNOCK RIVER
MANGORIGHT BAR
PROJECT CONDITION SURVEY

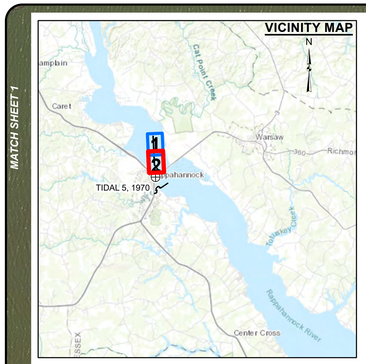
SURVEY DATE:
April 15, 2024

SURVEY BY: Waterway Surveys & Engineering Team Lead: George Rollins
eHYDRO FILE: RR_05_RMG_20240415_CS

SHEET 1 of 2
Map Produced: 6/11/2024

APPROVED:
Jeff Swallow
Digitally signed by Jeff Swallow
Date: 2024.07.02 06:57:26 -04'00'
Chief, Navigation Analysis Section

APPROVED:
Eric Legaspi
Digitally signed by Eric Legaspi
Date: 2024.06.03 11:53:44 -04'00'
Chief, Navigation Support and Survey Section



MATCH SHEET 1

Benchmark
Shoalest Sounding in Quarter/Parameter of each Reach
Channel Toes
Channel Quarter/Parameter Line
Maintained Depth Contour Line

Bathymetry (Depths in Feet)

0' - 1.9'	6' - 6.9'
2' - 2.9'	7' - 7.9'
3' - 3.9'	8' - 9.9'
4' - 4.9'	10' - 11.9'
5' - 5.9'	12' and Deeper

1 INCH = 200 FEET

Aids to Navigation
Can
Nun
Green Lighted Buoy
Red Lighted Buoy
Junction Buoy
Flashing Green
Flashing Red
Green Daybeacon
Red Daybeacon
Danger

0 100 200 400 Feet

37°56'40"N
37°56'15"N
76°53'45"W
76°53'15"W

To: Navigation Interests
From: USACE, Norfolk District
803 Front St
Norfolk, VA 23510

RIVER/HARBOR NAME AND STATE
RAPPAHANNOCK RIVER - MANGORIGHT BAR
VIRGINIA

MINIMUM DEPTHS IN EACH WIDTH OF CHANNEL ENTERING FROM SEAWARD

NAME OF CHANNEL	DATE OF SURVEY	PROJECT WIDTH (feet)	PROJECT LENGTH (miles)	PROJECT DEPTH (feet)	LEFT OUTSIDE QUARTER (feet)	MIDDLE HALF (feet)	RIGHT OUTSIDE QUARTER (feet)
Rappahannock River Mangoright Bar	04-15-2024	200	1.9	6.0	8.5	8.5	8.4

Remarks: All Depths at Mean Lower Low Water (MLLW), 1983-2001 Tidal Epoch

Rappahannock River

Reach: Mangoright Bar
Maintained Depth: 6 Feet

US Army Corps of Engineers
Norfolk District

NOTES:
1. PROJECT: A CHANNEL 12 FEET DEEP (MAINTAINED AT 6 FEET) AND 200 FEET WIDE FROM THE MOUTH TO PORT ROYAL, VA. AND THENCE 7 FEET DEEP AND 100 FEET WIDE TO FREDERICKSBURG, VA., A DISTANCE OF 80 MILES. THE CONSTRUCTION OF 20,401 LINEAR FEET OF CRIB AND PILE DIKES AND 1,900 LINEAR FEET OF RIPRAP STONE DIKE.
2. NOT FOR NAVIGATION USE. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATE(S) INDICATED & CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. SOUNDINGS: SHOWN IN FEET CENTERED ON POINT OF SHOALEST DEPTH IN 15 FT RADIUS GENERATED FROM HYDROGRAPHIC DATA.
4. BACKGROUND: VGIN MOST RECENT IMAGERY.
5. AIDS TO NAVIGATION LOCATED WITH SURVEY VESSEL +/- 10 FEET ON DATE OF SURVEY.
6. SURVEY XYZ (*.XYZ) AND METADATA (*.MET) FILE NAME REFERENCED BY eHYDRO FILE NAME.

PROJECTED COORDINATE SYSTEM: STATE PLANE
DATUM NAME: NAD 83
HORIZONTAL ZONE: VIRGINIA SOUTH ZONE
PROJECTED COORDINATE UNITS: US SURVEY FEET
NAD 83 HORIZONTAL ACCURACY: +/- 0.5 FEET
IMPLIED VERTICAL ACCURACY:

GEODETIC CONTROL MONUMENTS

MONUMENT	MLLW	NAVD88
CE TIDAL 5, 1970*	4.48'	3.39'(GEOID18)

VERTICAL REFERENCE DATUM: MLLW
TIDAL EPOCH: 1983-2001
POSITIONING SYSTEM: PPKNOAA VDATUM(A-1.09)
SYSTEM METHOD: MULTI-BEAM
BIN SELECTION METHOD: SVP
AREA SURVEYED: AVERAGE CELL CENTER -32+00 to 70+00

MEAN RANGE OF TIDE
1.74

RAPPAHANNOCK RIVER
MANGORIGHT BAR
PROJECT CONDITION SURVEY

SURVEY DATE:
April 15, 2024

SURVEY BY: Waterway Surveys & Engineering Team Lead: George Rollins
eHYDRO FILE: RR_05_RMG_20240415_CS

SHEET 2 of 2
Map Produced: 6/11/2024

APPROVED:
Chief, Navigation Analysis Section

APPROVED:
Chief, Navigation Support and Survey Section