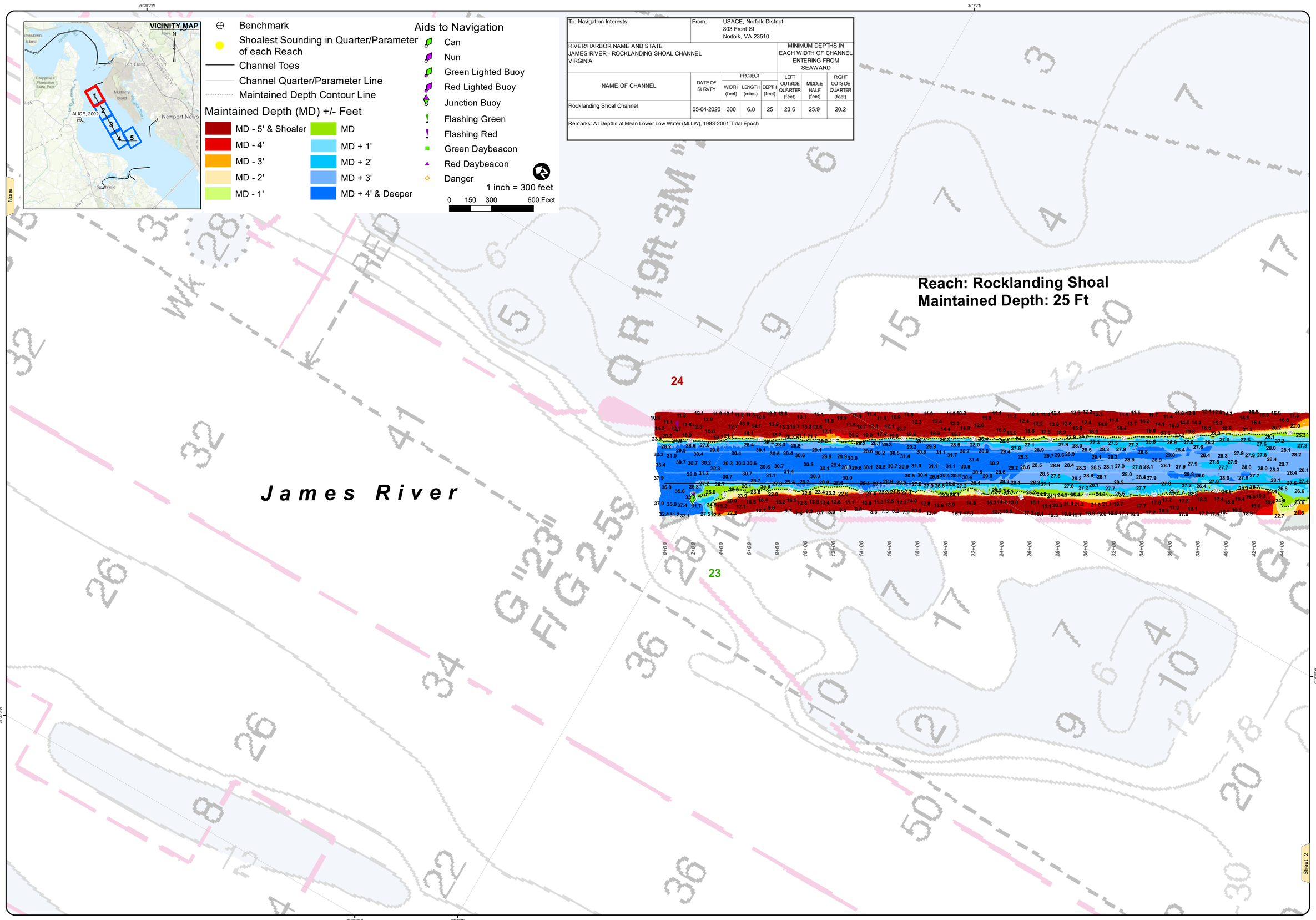


To: Navigation Interests	From: USACE, Norfolk District 803 Front St Norfolk, VA 23510						
RIVER/HARBOR NAME AND STATE JAMES RIVER - ROCKLANDING SHOAL CHANNEL VIRGINIA					MINIMUM DEPTHS IN EACH WIDTH OF CHANNEL ENTERING FROM SEAWARD		
NAME OF CHANNEL	DATE OF SURVEY	PROJECT WIDTH (feet)	PROJECT LENGTH (miles)	PROJECT DEPTH (feet)	LEFT OUTSIDE QUARTER (feet)	MIDDLE HALF (feet)	RIGHT OUTSIDE QUARTER (feet)
Rocklanding Shoal Channel	05-04-2020	300	6.8	25	23.6	25.9	20.2

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

US Army Corps of Engineers
Norfolk District

NOTES:

1. PROJECT: A CHANNEL 300 FEET WIDE AND 35 FEET DEEP, MAINTAINED AT A DEPTH OF 25 FT.
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 75 FT RADIUS GENERATED FROM HYDROSURVEY DATA
4. BACKGROUND: NOAA RNC GIS WEB SERVICE.
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.

VERTICAL REFERENCE DATUM: NOS MLLW
TIDAL EPOCH: 1983-2001
IMPLIED VERTICAL ACCURACY: +/- 0.5 FEET
VERTICAL CONTROL: LEICA SMART NET
TIDE APPLICATION: RTK/VDATUM MDL
SYSTEM/METHOD: MULTI-BEAM
BIN SIZE: 5x5'
BIN SELECTION METHOD: AVERAGE CELL CENTER

PROJECTED COORDINATE SYSTEM: STATE PLANE
DATUM NAME: NAD 83
HORIZONTAL ZONE: VIRGINIA SOUTH ZONE
PROJECTED COORDINATE UNITS: US SURVEY FEET
IMPLIED HORIZONTAL ACCURACY: +/- 1 FOOT
HORIZONTAL CONTROL: LEICA SMART NET

GEODETIC CONTROL MONUMENTS

MONUMENT	MLLW	NAVD88	MEAN RANGE OF TIDE	AREA
CE "ALICE, 2002"	8.35"	7.07'(GEOID18)	2.4'	0+00 to 360+00

JAMES RIVER
ROCKLANDING SHOAL CHANNEL
PROJECT CONDITION SURVEY

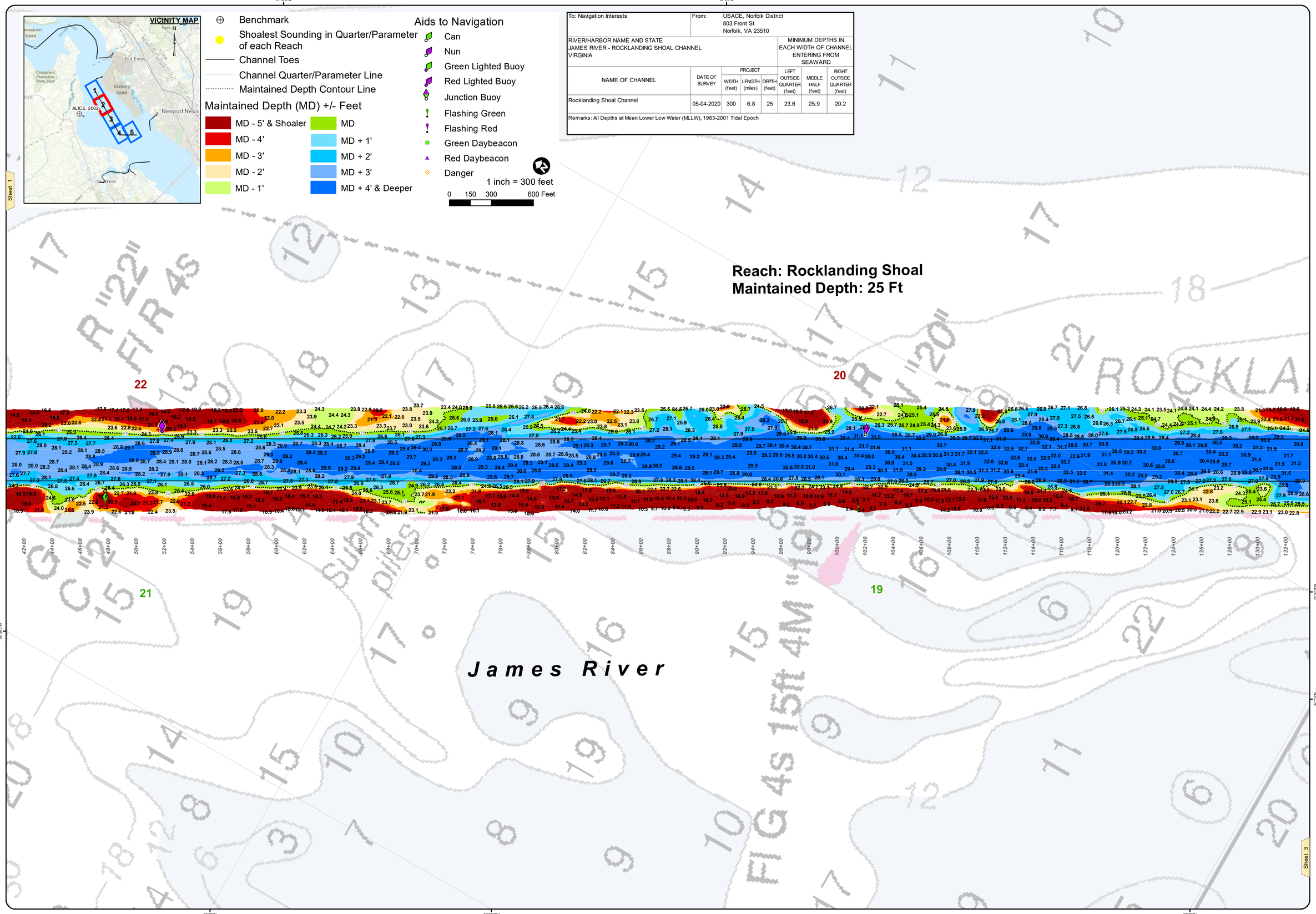
SURVEY DATES:
May 4, 5, 6 & 7, 2020

SURVEY BY: USACE Team Lead: Mike Williams
eHYDRO FILE: JR_01_RLS_20200504_CS

SHEET 1 of 5
Map Produced: 5/26/2020

APPROVED:
Jeff Swallow
Digitally signed by Jeff Swallow
Date: 2020.05.27 10:44:03 -04'00'
Chief, Navigation Analysis Section

APPROVED:
Eric Legaspi
Digitally signed by Eric Legaspi
Date: 2020.06.02 14:13:49 -04'00'
Chief, Navigation Support and Survey Section



To: Navigation Interests	From:	USACE, Norfolk District 803 Front St Norfolk, VA 23510					
RIVER/HARBOR NAME AND STATE JAMES RIVER - ROCKLANDING SHOAL CHANNEL 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)
Rocklanding Shoal Channel	05-04-2020	300	6.8	25	23.6	25.9	20.2

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

US Army Corps of Engineers
Norfolk District

NOTES:

1. PROJECT: A CHANNEL 300 FEET WIDE AND 35 FEET DEEP, MAINTAINED AT A DEPTH OF 25 FT.
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 75 FT RADIUS GENERATED FROM HYDROSURVEY DATA
4. BACKGROUND: NOAA RNC GIS WEB SERVICE.
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
IMPLIED HORIZONTAL ACCURACY: +/- 1 FOOT
HORIZONTAL CONTROL: LEICA SMART NET

VERTICAL REFERENCE DATUM: NOS MLLW
TIDAL EPOCH: 1983-2001
IMPLIED VERTICAL ACCURACY: +/- 0.5 FEET
VERTICAL CONTROL: LEICA SMART NET
TIDE APPLICATION: RTK/VDATUM MDL
SYSTEM/METHOD: MULTI-BEAM
BIN SIZE: 5x5'
BIN SELECTION METHOD: AVERAGE CELL CENTER

GEODETIC CONTROL MONUMENTS

MONUMENT	MLLW	NAVD88	MEAN RANGE OF TIDE	AREA
CE "ALICE, 2002"	8.35"	7.07'(GEOID18)	2.4'	0+00 to 360+00

JAMES RIVER
ROCKLANDING SHOAL CHANNEL
PROJECT CONDITION SURVEY

SURVEY DATES:
May 4, 5, 6 & 7, 2020

SURVEY BY: USACE Team Lead: Mike Williams
eHYDRO FILE: JR_01_RLS_20200504_CS

SHEET 2 of 5
Map Produced: 5/26/2020

APPROVED:
Chief, Navigation Analysis Section

APPROVED:
Chief, Navigation Support and Survey Section

Benchmark

Shoalest Sounding in Quarter/Parameter of each Reach

Channel Toes

Channel Quarter/Parameter Line

Maintained Depth Contour Line

Maintained Depth (MD) +/- Feet

- MD - 5' & Shoaler
- MD - 4'
- MD - 3'
- MD - 2'
- MD - 1'
- MD
- MD + 1'
- MD + 2'
- MD + 3'
- MD + 4' & Deeper

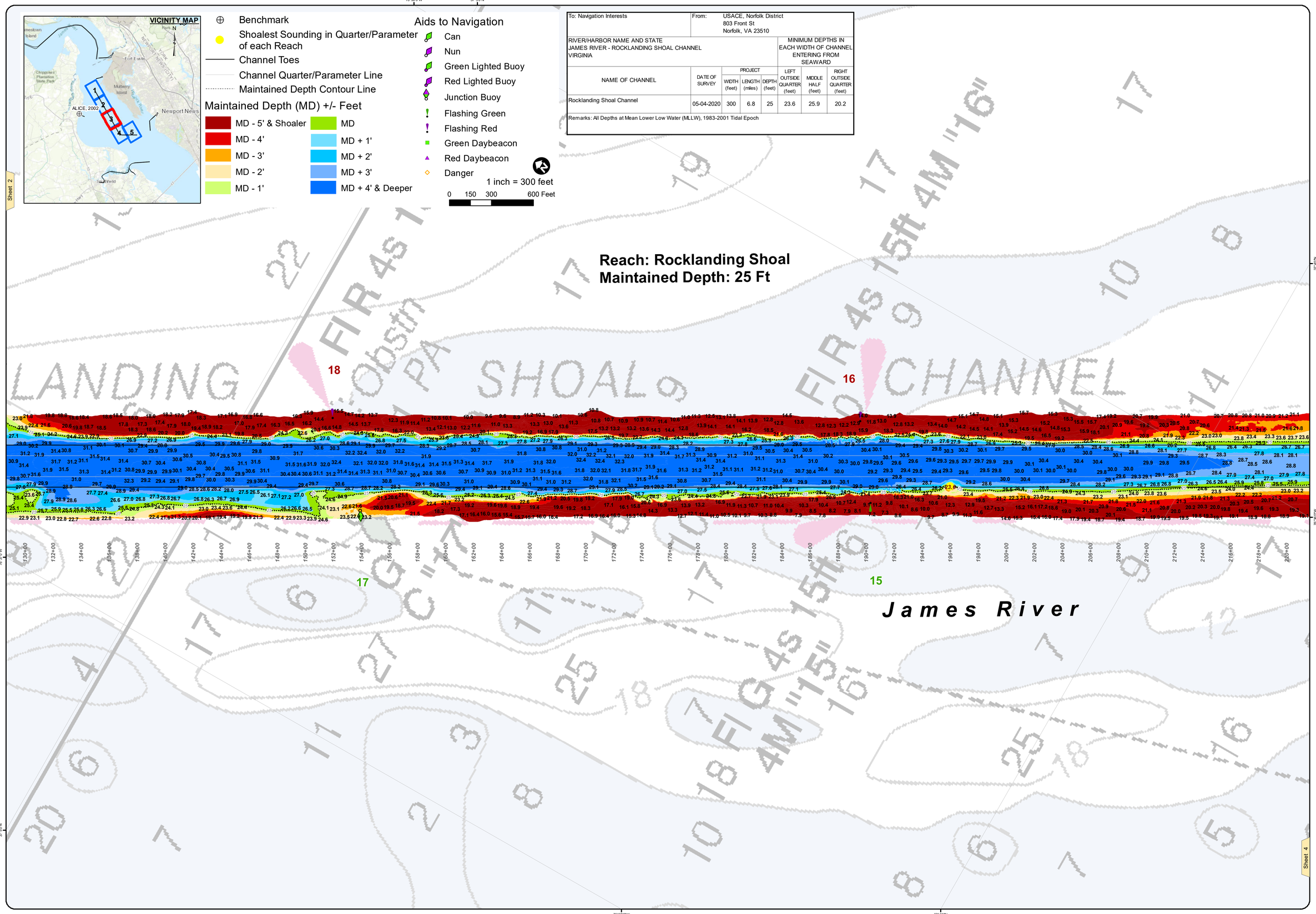
Aids to Navigation

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

1 inch = 300 feet

0 150 300 600 Feet

To: Navigation Interests		From: USACE, Norfolk District 803 Front St Norfolk, VA 23510					
RIVER/HARBOR NAME AND STATE JAMES RIVER - ROCKLANDING SHOAL CHANNEL 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)			
Rocklanding Shoal Channel	05-04-2020	300	6.8	25	23.6	25.9	20.2
Remarks: All Depths at Mean Lower Low Water (MLLW), 1983-2001 Tidal Epoch							



US Army Corps of Engineers Norfolk District

NOTES:

1. PROJECT: A CHANNEL 300 FEET WIDE AND 35 FEET DEEP, MAINTAINED AT A DEPTH OF 25 FT.
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 75 FT RADIUS GENERATED FROM HYDROSURVEY DATA
4. BACKGROUND: NOAA RNC GIS WEB SERVICE.
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
TOTAL FIELD AREA: 1.9 NM²
HORIZONTAL ZONE: VIRGINIA SOUTH ZONE
PROJECTED COORDINATE UNITS: US SURVEY FEET
MAPPED HORIZONTAL ACCURACY: +/- 1.0 FOOT
HORIZONTAL CONTROL: LEICA SMART NET

VERTICAL REFERENCE DATUM: NOS MLLW
TIDAL EPOCH: 1983-2001
IMPLIED VERTICAL ACCURACY: +/- 0.5 FEET
VERTICAL CONTROL: LEICA SMART NET
TIDE NOTE: TIDAL DATUM
SYSTEM/METHOD: MULTI-BEAM
BIN SIZE: 5x5
BIN SELECTION METHOD: AVERAGE CELL CENTER

GEODETIC CONTROL MONUMENTS

MONUMENT	MLLW	NAVD88	MEAN RANGE OF TIDE
CE "ALICE, 2002"	8.35'	7.07'(GEOID18)	2.4'

AREA 0+00 to 300+00

JAMES RIVER ROCKLANDING SHOAL CHANNEL

PROJECT CONDITION SURVEY

SURVEY DATES: May 4, 5, 6 & 7, 2020

SURVEY BY: USACE Team Lead: Mike Williams

eHYDRO FILE: JR_01_RLS_20200604_CS

SHEET 3 of 5

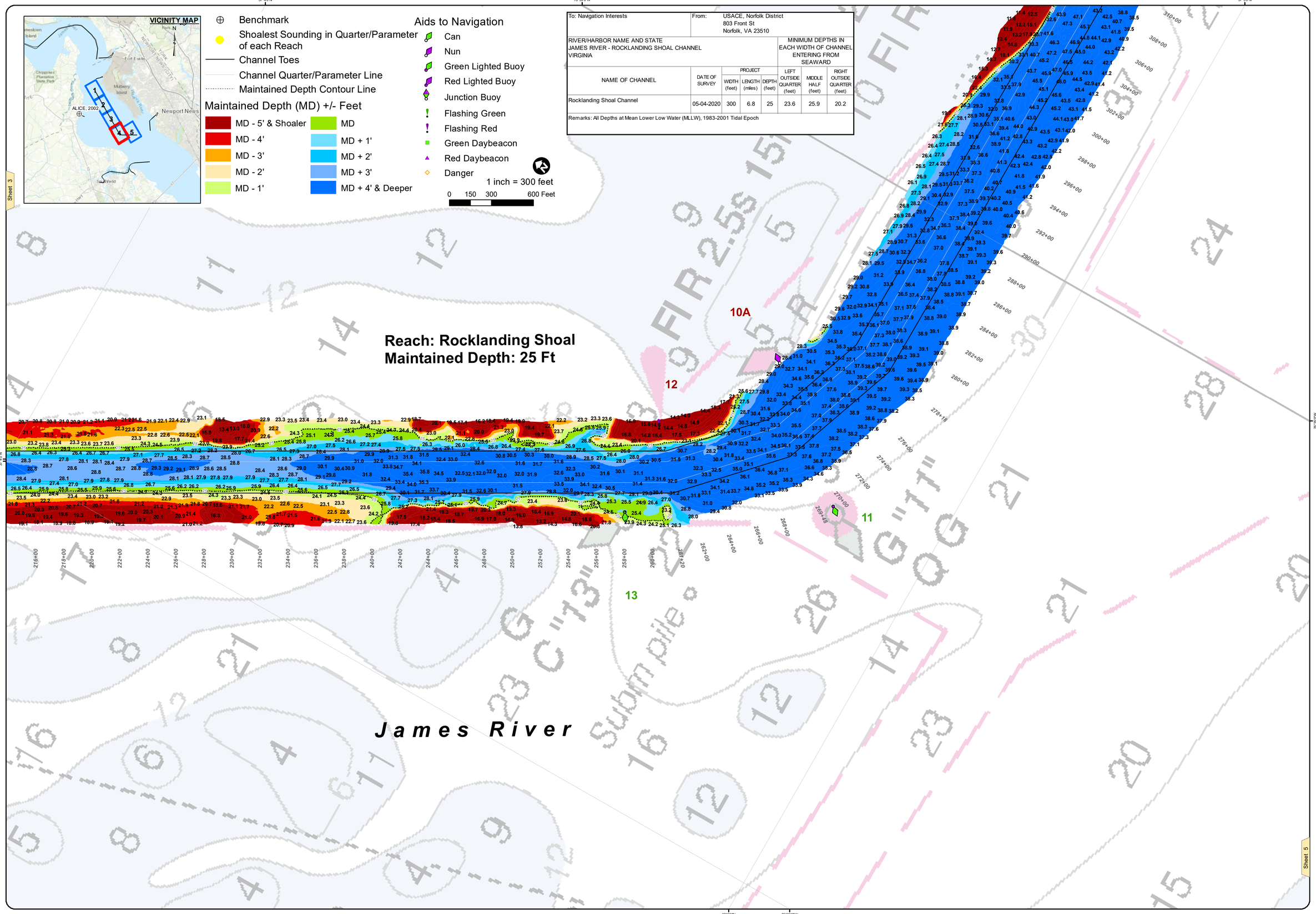
Map Produced: 5/26/2020

APPROVED:

Chief, Navigation Analysis Section

APPROVED:

Chief, Navigation Support and Survey Section



To: Navigation Interests		From: USACE, Norfolk District 803 Front St Norfolk, VA 23510					
RIVER/HARBOR NAME AND STATE JAMES RIVER - ROCKLANDING SHOAL CHANNEL 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)
Rocklanding Shoal Channel	05-04-2020	300	6.8	25	23.6	25.9	20.2
Remarks: All Depths at Mean Lower Low Water (MLLW), 1983-2001 Tidal Epoch							

US Army Corps of Engineers Norfolk District

NOTES:

1. PROJECT: A CHANNEL 300 FEET WIDE AND 35 FEET DEEP, MAINTAINED AT A DEPTH OF 25 FT.
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3. SOUNDINGS: SHOWN IN FEET CENTERED ON POINT OF SHOALEST DEPTH IN 75 FT RADIUS GENERATED FROM HYDROSURVEY DATA
4. BACKGROUND: NOAA RNC GIS WEB SERVICE.
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
COORDINATE SYSTEM NAME: NAD83
HORIZONTAL ZONE: VIRGINIA SOUTH ZONE
PROJECTED COORDINATE UNITS: US SURVEY FEET
INWATER HORIZONTAL ACCURACY: +/- 10 FEET
HORIZONTAL CONTROL: LEICA SMART NET

VERTICAL REFERENCE DATUM: NGS MLLW
VERTICAL DATUM NAME: MLLW
IMPLIED VERTICAL ACCURACY: +/- 0.5 FEET
VERTICAL CONTROL: LEICA SMART NET
WATER LEVEL CORRECTION SYSTEM/METHOD: MULTI-BEAM
BIN SIZE: 5x5
BIN SELECTION METHOD: AVERAGE CELL CENTER

GEODETIC CONTROL MONUMENTS

MONUMENT	MLLW	NAVD88	MEAN RANGE OF TIDE	AREA
CE ALICE, 2002*	8.35'	7.07 (GEOID18)	2.4	0+00 to 300+00

JAMES RIVER
ROCKLANDING SHOAL CHANNEL

PROJECT CONDITION SURVEY

SURVEY DATES:
May 4, 5 & 7, 2020

SURVEY BY: USACE Team Lead: Mike Williams
eHYDRO FILE: JR_01_RLS_20200604_CS

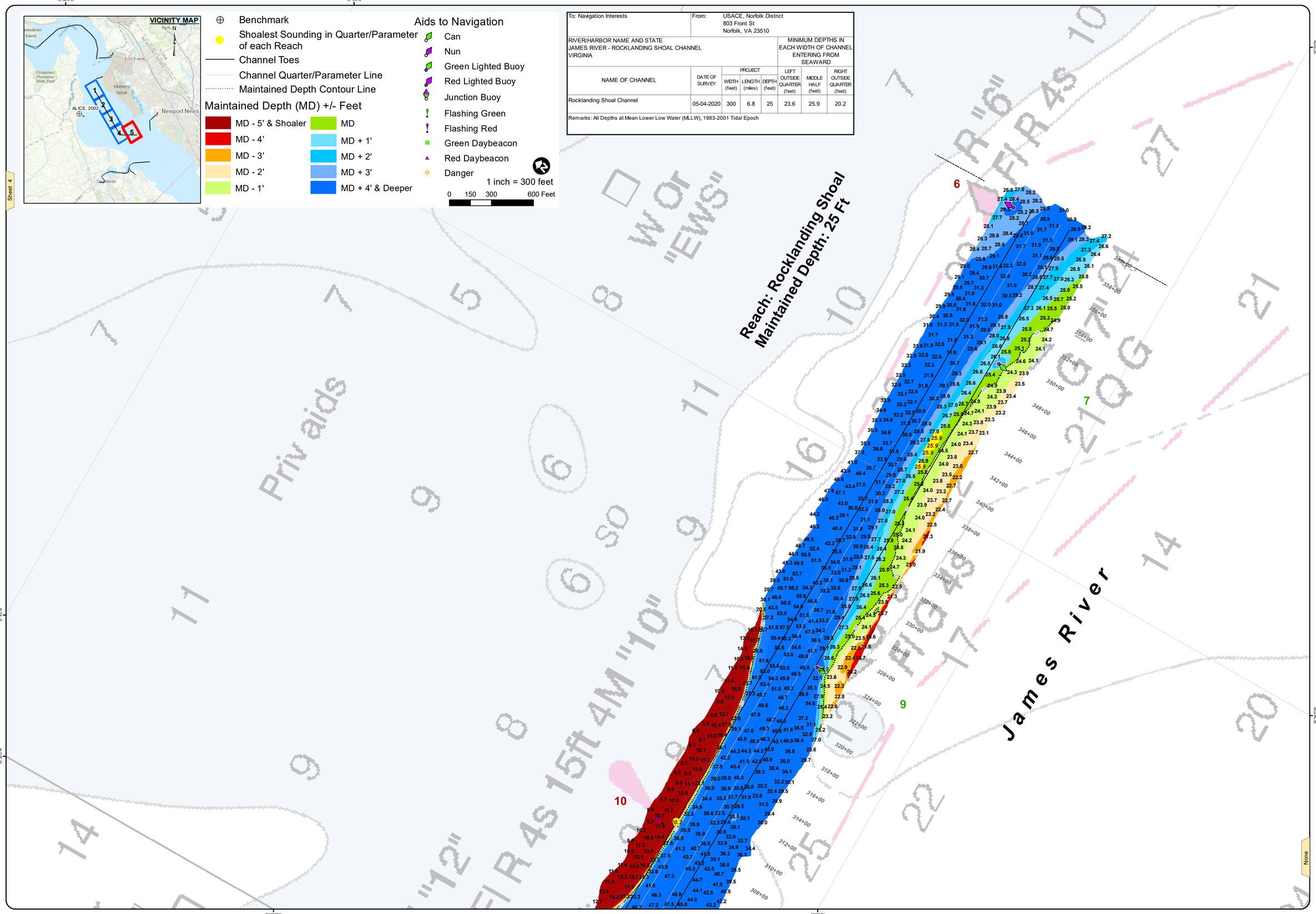
SHEET 4 of 5
Map Produced: 5/26/2020

APPROVED:

Chief, Navigation Analysis Section

APPROVED:

Chief, Navigation Support and Survey Section



To: Navigation Interests	From: USACE, Norfolk District 803 Front St Norfolk, VA 23510						
RIVER/HARBOR NAME AND STATE JAMES RIVER - ROCKLANDING SHOAL CHANNEL 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)
Rocklanding Shoal Channel	05-04-2020	300	6.8	25	23.6	25.9	20.2
Remarks: All Depths at Mean Lower Low Water (MLLW), 1983-2001 Tidal Epoch							

US Army Corps of Engineers
Norfolk District

NOTES:

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3. SOUNDINGS: SHOWN IN FEET CENTERED ON POINT OF SHOALEST DEPTH IN 75 FT RADIUS GENERATED FROM HYDROSURVEY DATA
4. BACKGROUND: NOAA RNC GIS WEB SERVICE.
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
IMPLIED HORIZONTAL ACCURACY: +/- 1 FOOT
HORIZONTAL CONTROL: LEICA SMART NET

VERTICAL REFERENCE DATUM: NOS MLLW
TIDAL EPOCH: 1983-2001
IMPLIED VERTICAL ACCURACY: +/- 0.5 FEET
VERTICAL CONTROL: LEICA SMART NET
TIDE APPLICATION: RTKVD/DATUM MDL
SYSTEM/METHOD: MULTI-BEAM
BIN SIZE: 5x5"
BIN SELECTION METHOD: AVERAGE CELL CENTER

GEODETIC CONTROL MONUMENTS

MONUMENT	MLLW	NAVD88	MEAN RANGE OF TIDE	AREA
CE "ALICE, 2002"	8.35"	7.07'(GEOID18)	2.4'	0+00 to 360+00

JAMES RIVER
ROCKLANDING SHOAL CHANNEL
PROJECT CONDITION SURVEY

SURVEY DATES:
May 4, 5, 6 & 7, 2020

SURVEY BY: USACE Team Lead: Mike Williams
eHYDRO FILE: JR_01_RLS_20200504_CS

SHEET 5 of 5
Map Produced: 5/26/2020

APPROVED:
Chief, Navigation Analysis Section

APPROVED:
Chief, Navigation Support and Survey Section