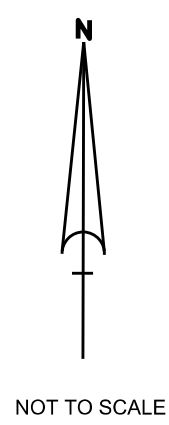
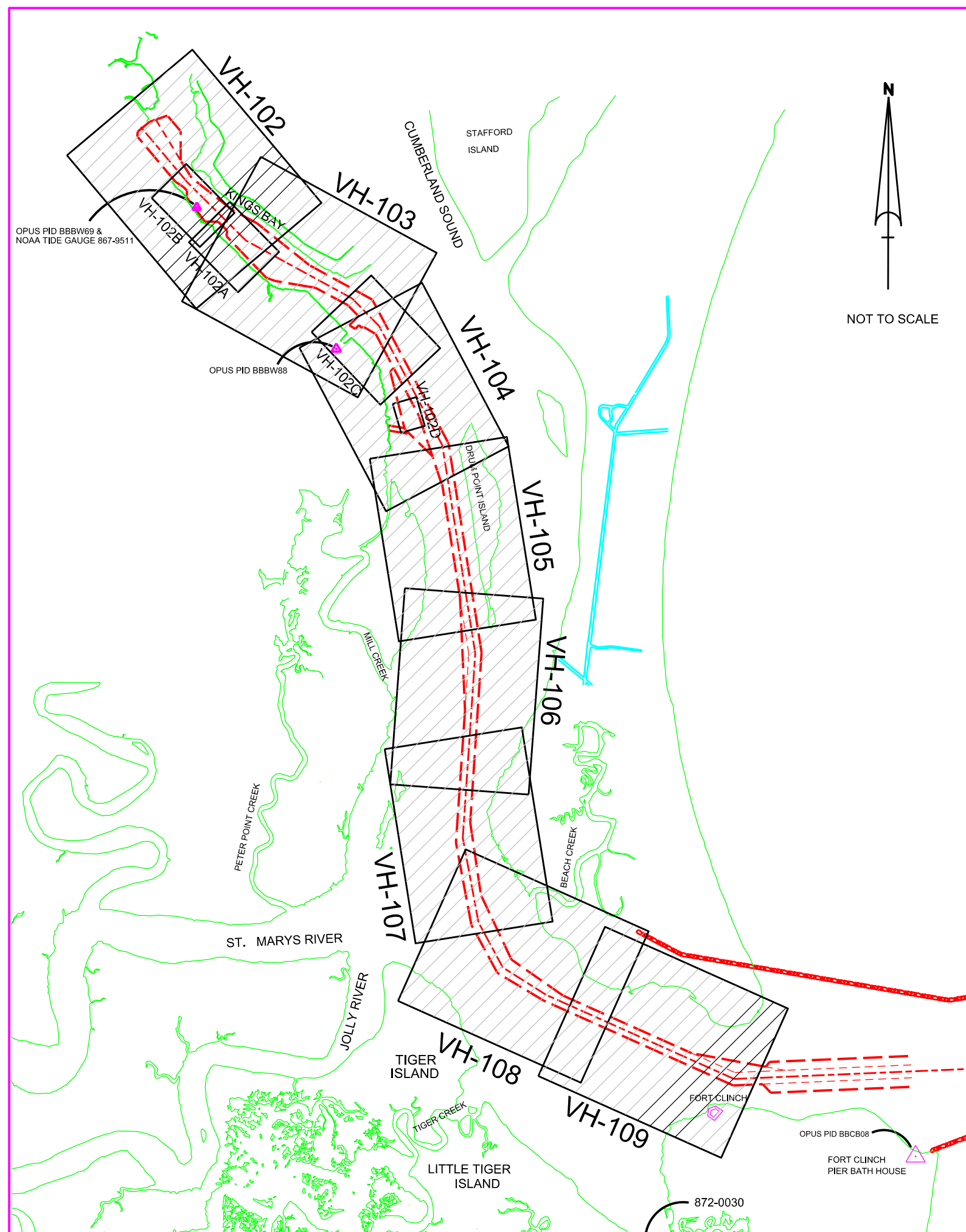


# U.S. NAVY SUBMARINE BASE KINGS BAY, GEORGIA KINGS BAY INNER CHANNEL HYDROGRAPHIC EXAMINATION SURVEY 1ST QUARTER FY14



LEGEND	
+BM	BENCHMARK
⬆	LIGHTED BEACON
▲	GREEN DAY BEACON
▲	RED DAY BEACON
⬆	RED LIGHTED BUOY
⬆	GREEN LIGHTED BUOY
⬆	CAN BUOY
⬆	NUN BUOY
⬆	TIDE STAFF

DEPTH COLOR CODE	
<39.9	Red
40.0-41.9	Orange
42.0-45.9	Yellow
46.0-48.9	Green
>49.0	Blue



- SURVEY NOTES:**
- REFER TO SURVEY NO. 14-004.
  - SOUNDINGS ARE IN FEET AND TENTHS AND REFER TO MEAN LOWER LOW WATER (MLLW) TIDAL DATUM.
  - ALL ELEVATIONS ARE BELOW THE CHART DATUM UNLESS PRECEDED BY A (+) SIGN.
  - TIDAL REDUCTIONS WERE OBTAINED UTILIZING REAL-TIME KINEMATIC (RTK) GPS USING A HYPACK KINEMATIC TIDAL DATUM MODEL (KINGSBAY-2013 06 10.KTD).
  - PLANE COORDINATES ARE BASED ON THE TRANSVERSE MERCATOR PROJECTION FOR THE EAST ZONE OF GEORGIA AND REFERENCED TO NORTH AMERICAN DATUM OF 1983 (NAD83).
  - ALL AZIMUTHS ARE GRID; RECKONED CLOCKWISE FROM SOUTH.
  - ALL STATIONING REFERS TO THE CENTERLINE OF THE CHANNEL.
  - THIS SURVEY WAS PERFORMED USING REAL-TIME KINEMATIC (RTK) GPS POSITIONING WITH THE FOLLOWING REFERENCE BASE LOCATIONS:
    - REFERENCE BASE LOCATED AT "BATH HOUSE ARP" (OPUS PID # BBC808), FOR RANGE-A THRU RANGE-C.
    - REFERENCE BASE LOCATED AT "SITE-B" (OPUS PID # BBBW88), FOR RANGE-D THRU RANGE-G (OUTSIDE WRA).
    - REFERENCE BASE LOCATED AT "9511-F" (OPUS PID # BBBW69), FOR RANGE-G THRU RANGE-I (INSIDE WRA).
  - DEPTHS DEPICTED BY THIS SURVEY ARE REFERENCED TO MLLW, AS REPORTED BY THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA). NOAA'S VDATUM MODEL WAS USED AND CALIBRATED TO THE PUBLISHED MLLW HEIGHTS OF THE BENCH MARKS ASSOCIATED WITH THE TIDE GAUGE SITES SPECIFIED BELOW:
    - NOAA TIDAL STATION 872-0030, FERNANDINA, FL, FOR RANGE-A THRU RANGE-G (OUTSIDE WRA)
    - NOAA TIDAL STATION 867-9511, KINGS BAY, GA, FOR RGE-G THRU RGE-I (INSIDE WRA)
  - VERTICAL MEASUREMENTS WERE MADE USING A RESON 7101 MULTIBEAM SYSTEM AND A ROSS MODEL 835 SMARTSOUNDER WITH A DUAL-FREQUENCY (28/200KHZ) TRANSDUCER. SOUNDINGS SHOWN ARE IN HIGH FREQUENCY FROM RANGE-A THRU RANGE-D AND LOW FREQUENCY FROM RANGE-E THRU RANGE-I.
 

VESSEL	DATE OF SURVEY	AREA SURVEYED
SB-36	5 NOV 2013	RGE - G (INSIDE WRA), RGE - H, EHW - 1 & WARPING WHARF
SB-36	6 NOV 2013	RGE - H, RGE - I, REFIT WHARF, RGE - G (OUTSIDE WRA) & RGE - F
SB-36	7 NOV 2013	RGE - A, RGE - A1, RGE - A2 & RGE - B
SB-36	14 NOV 2013	RGE - C & RGE - D
SB-36	15 NOV 2013	RGE - F, RGE - E, ARDM YOLK & MSF
SB-36	16 NOV 2013	RGE - D, SITE - 6 & RGE - E
  - AIDS TO NAVIGATION WERE LOCATED DURING THIS SURVEY.
  - THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED ABOVE AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS AT THAT TIME. THIS CHART IS SOLELY FOR THE DISTRIBUTION OF AVAILABLE DEPTHS AT THE TIME OF THE SURVEY AND IS NOT TO BE USED FOR NAVIGATION.
  - SURVEY ACCURACY PERFORMANCE STANDARDS, QUALITY CONTROL, AND QUALITY ASSURANCE REQUIREMENTS WERE FOLLOWED IN ACCORDANCE WITH USACE EM 1110-2-1003, HYDROGRAPHIC SURVEYING, 1 JAN 02 AND EM 1110-2-6056, STANDARDS AND PROCEDURES FOR REFERENCING PROJECT ELEVATION GRADES TO NATIONWIDE VERTICAL DATUMS, 31 DEC 10.

US Army Corps of Engineers  
Jacksonville District

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DEPENDS ON YOU

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DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS  
JACKSONVILLE, FLORIDA

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1-4004-CBS-ARBOR.DGN  
KINGSBAY-14-004.DGN  
INDEX.DGN

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1-4004-CBS-ARBOR.DGN  
KINGSBAY-14-004.DGN  
INDEX.DGN

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U.S. NAVY SUBMARINE BASE  
KINGS BAY, GEORGIA

**1ST QUARTER FY14 EXAMINATION SURVEY  
44, 45 & 46 FOOT PROJECT  
INDEX AND LOCATION  
PLAN**

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Scale: AS SHOWN

Drawing no.

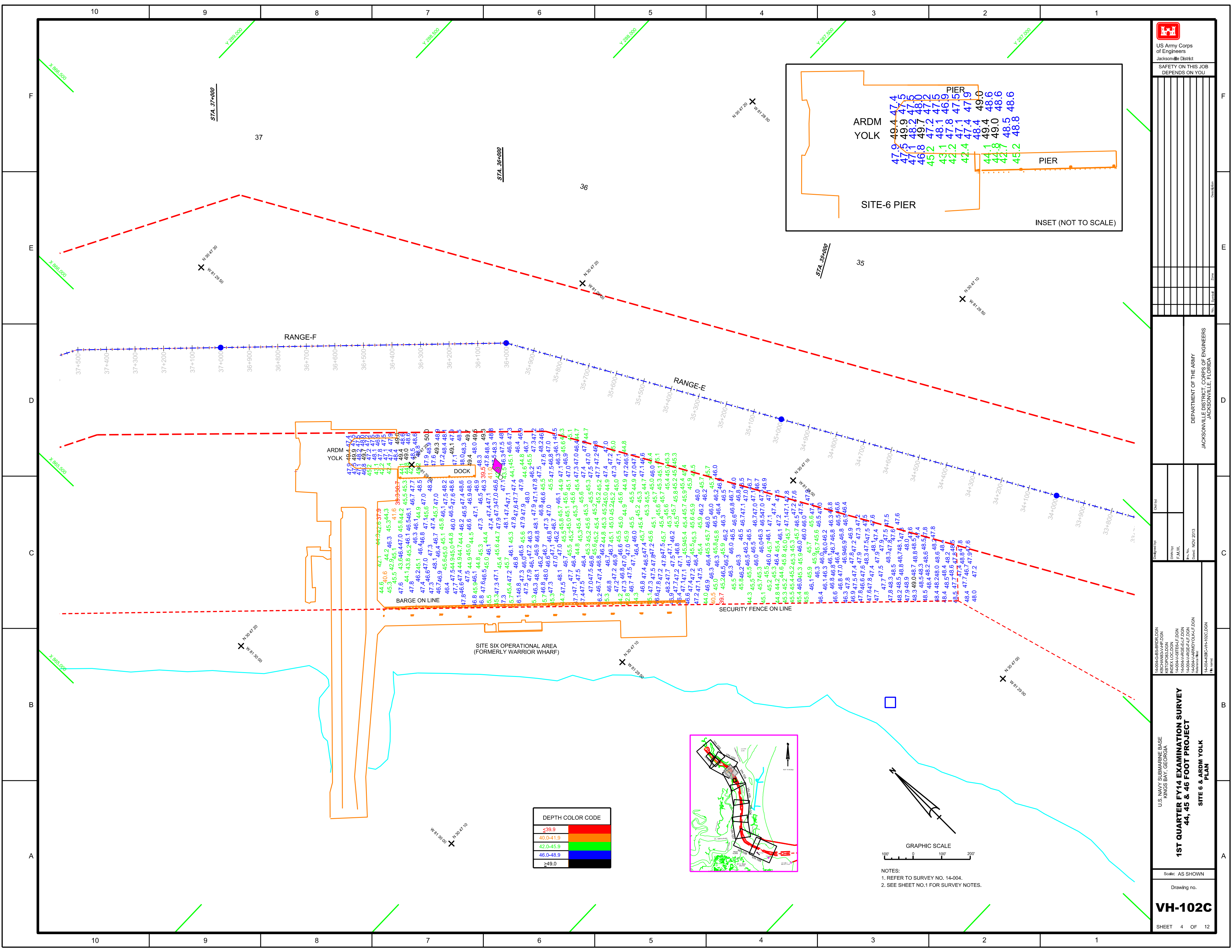
**VH-101**

SHEET 1 OF 12

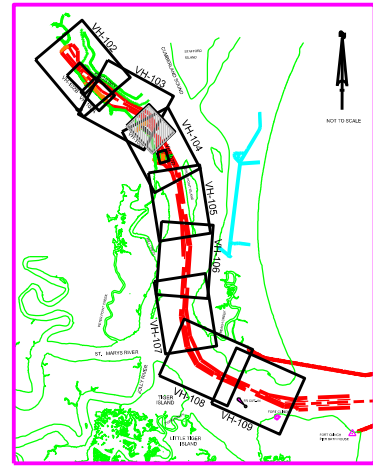




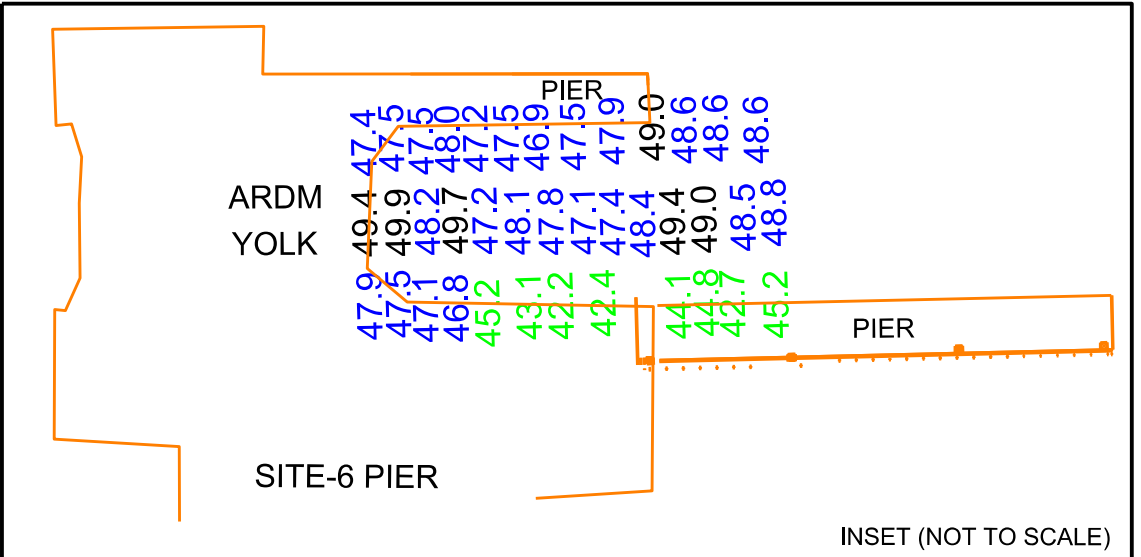





DEPTH COLOR CODE	
<39.9	Red
40.0-41.9	Orange
42.0-45.9	Yellow
46.0-48.9	Green
>49.0	Blue



NOTES:  
 1. REFER TO SURVEY NO. 14-004.  
 2. SEE SHEET NO.1 FOR SURVEY NOTES.





US Army Corps of Engineers  
 Jacksonville District  
 SAFETY ON THIS JOB  
 DEPENDS ON YOU

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14-004-CBS-BRDOR.DGN  
 KSCDHANVAHP.DGN  
 INDXL.DGN  
 14-004-VSITE4-F.DGN  
 14-004-VSITE5-F.DGN  
 14-004-VARMDYOLK-F.DGN  
Reference files:  
 14-004-RBC-VH-102C.DGN

Checked By: \_\_\_\_\_  
 Drawn By: F.A.W.  
 Plot No.: \_\_\_\_\_  
 Date: NOV 2013

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**1ST QUARTER FY14 EXAMINATION SURVEY**  
**44, 45 & 46 FOOT PROJECT**  
**SITE 6 & ARDM YOLK**  
**PLAN**

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U.S. NAVY, SUBMARINE BASE  
 KINGS BAY, GEORGIA

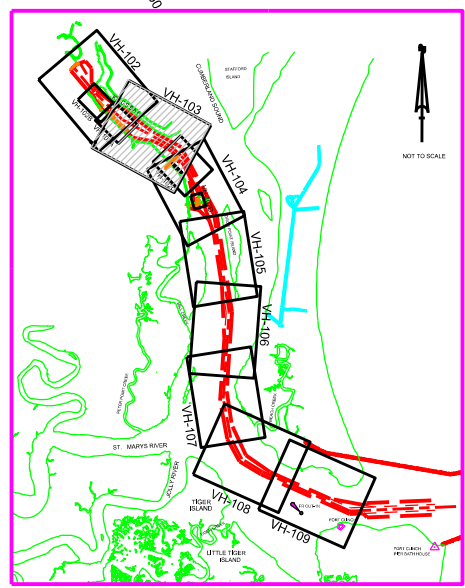
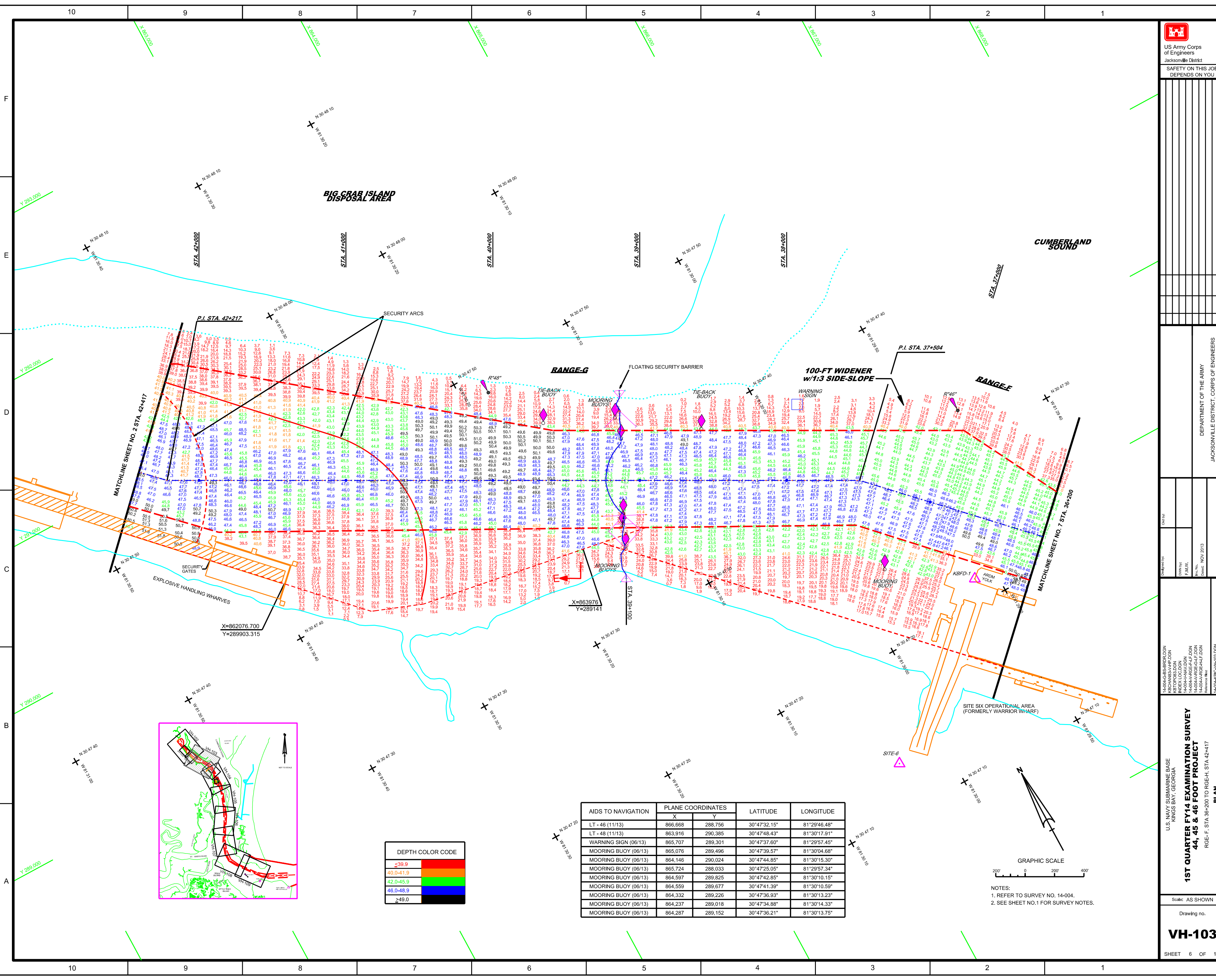
Scale: AS SHOWN  
 Drawing no.  
**VH-102C**  
 SHEET 4 OF 12

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DEPARTMENT OF THE ARMY  
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS  
 JACKSONVILLE, FLORIDA



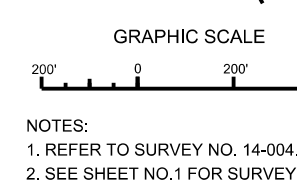




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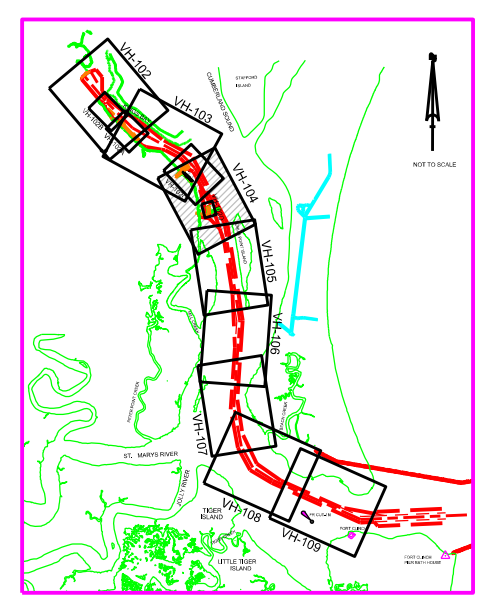
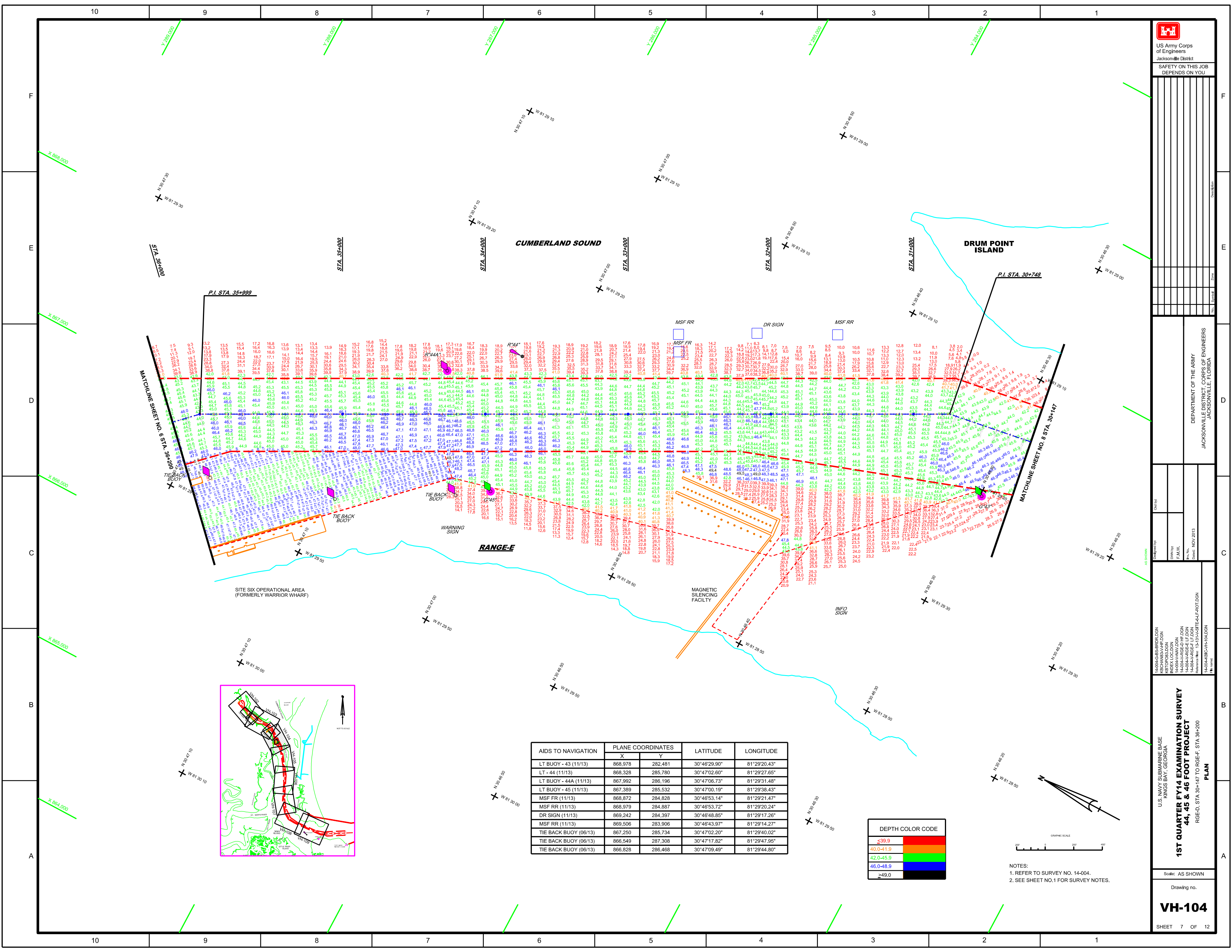
≤39.9	Red
40.0-41.9	Orange
42.0-45.9	Yellow
46.0-48.9	Green
≥49.0	Blue

AIDS TO NAVIGATION	PLANE COORDINATES		LATITUDE	LONGITUDE
	X	Y		
LT - 46 (11/13)	866,668	288,756	30°47'32.15"	81°29'46.48"
LT - 48 (11/13)	863,916	290,385	30°47'48.43"	81°30'17.91"
WARNING SIGN (06/13)	865,707	289,301	30°47'37.60"	81°29'57.45"
MOORING BUOY (06/13)	865,076	289,496	30°47'39.57"	81°30'04.68"
MOORING BUOY (06/13)	864,146	290,024	30°47'44.85"	81°30'15.30"
MOORING BUOY (06/13)	865,724	288,033	30°47'25.05"	81°29'57.34"
MOORING BUOY (06/13)	864,597	289,825	30°47'42.85"	81°30'10.15"
MOORING BUOY (06/13)	864,559	289,677	30°47'41.39"	81°30'10.59"
MOORING BUOY (06/13)	864,332	289,226	30°47'36.93"	81°30'13.23"
MOORING BUOY (06/13)	864,237	289,018	30°47'34.88"	81°30'14.33"
MOORING BUOY (06/13)	864,287	289,152	30°47'36.21"	81°30'13.75"

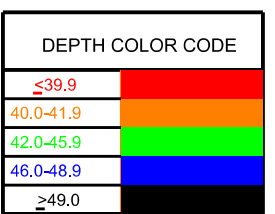


NOTES:  
1. REFER TO SURVEY NO. 14-004.  
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

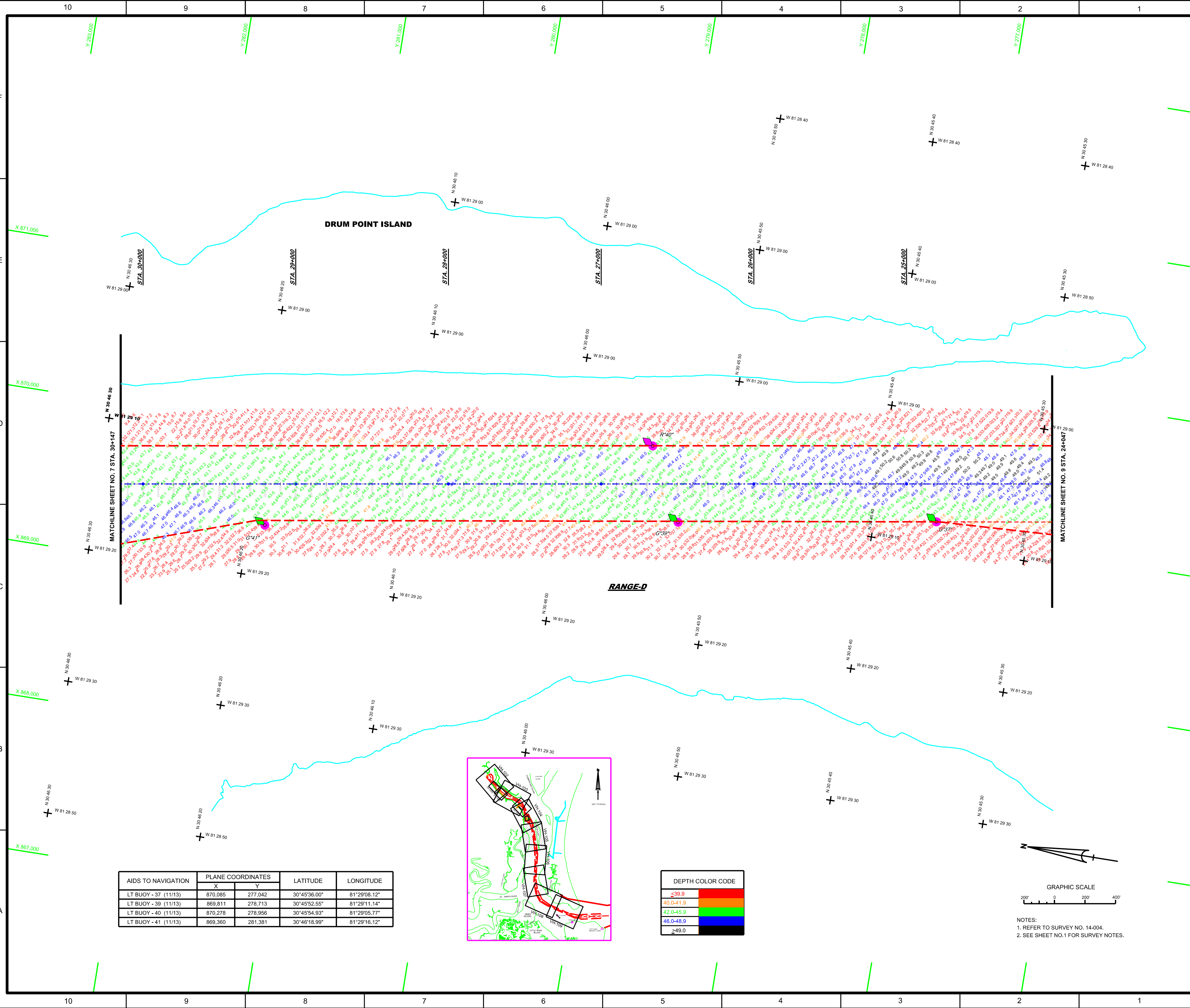




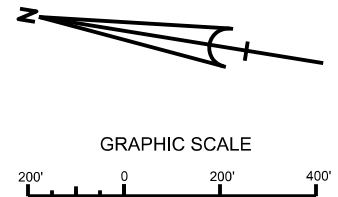
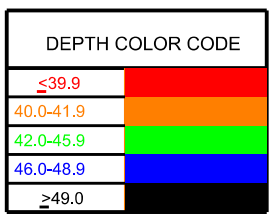
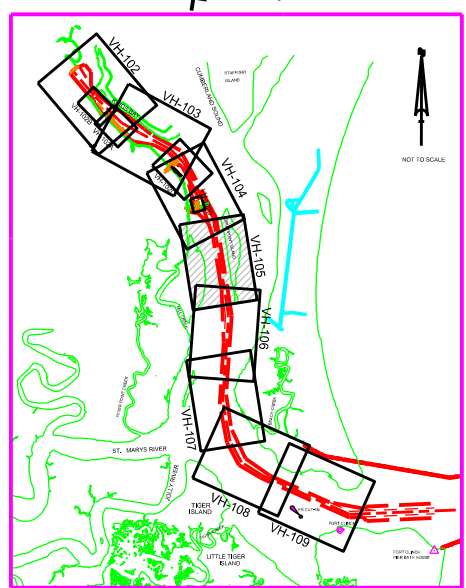
AIDS TO NAVIGATION	PLANE COORDINATES		LATITUDE	LONGITUDE
	X	Y		
LT BUOY - 43 (11/13)	868,978	282,481	30°46'29.90"	81°29'20.43"
LT - 44 (11/13)	868,328	285,780	30°47'02.66"	81°29'27.65"
LT BUOY - 44A (11/13)	867,992	286,196	30°47'06.73"	81°29'31.48"
LT BUOY - 45 (11/13)	867,389	285,532	30°47'00.19"	81°29'38.43"
MSF FR (11/13)	868,872	284,828	30°46'53.14"	81°29'21.47"
MSF RR (11/13)	868,979	284,887	30°46'53.72"	81°29'20.24"
DR SIGN (11/13)	869,242	284,397	30°46'48.85"	81°29'17.26"
MSF FR (11/13)	869,506	283,906	30°46'43.97"	81°29'14.27"
TIE BACK BUOY (06/13)	867,250	285,734	30°47'02.20"	81°29'40.02"
TIE BACK BUOY (06/13)	866,549	287,308	30°47'17.82"	81°29'47.95"
TIE BACK BUOY (06/13)	866,828	286,468	30°47'09.49"	81°29'44.80"



NOTES:  
1. REFER TO SURVEY NO. 14-004.  
2. SEE SHEET NO.1 FOR SURVEY NOTES.



AIDS TO NAVIGATION	PLANE COORDINATES		LATITUDE	LONGITUDE
	X	Y		
LT BUOY - 37 (11/13)	870,085	277,042	30°45'36.00"	81°29'08.12"
LT BUOY - 39 (11/13)	869,811	278,713	30°45'52.55"	81°29'11.14"
LT BUOY - 40 (11/13)	870,278	278,956	30°45'54.93"	81°29'05.77"
LT BUOY - 41 (11/13)	869,360	281,381	30°46'18.99"	81°29'16.12"



NOTES:  
1. REFER TO SURVEY NO. 14-004.  
2. SEE SHEET NO.1 FOR SURVEY NOTES.









**US Army Corps of Engineers**  
Jacksonville District

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DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
JACKSONVILLE, FLORIDA

Scale: AS SHOWN

Drawing no.  
**VH-108**

SHEET 11 OF 12

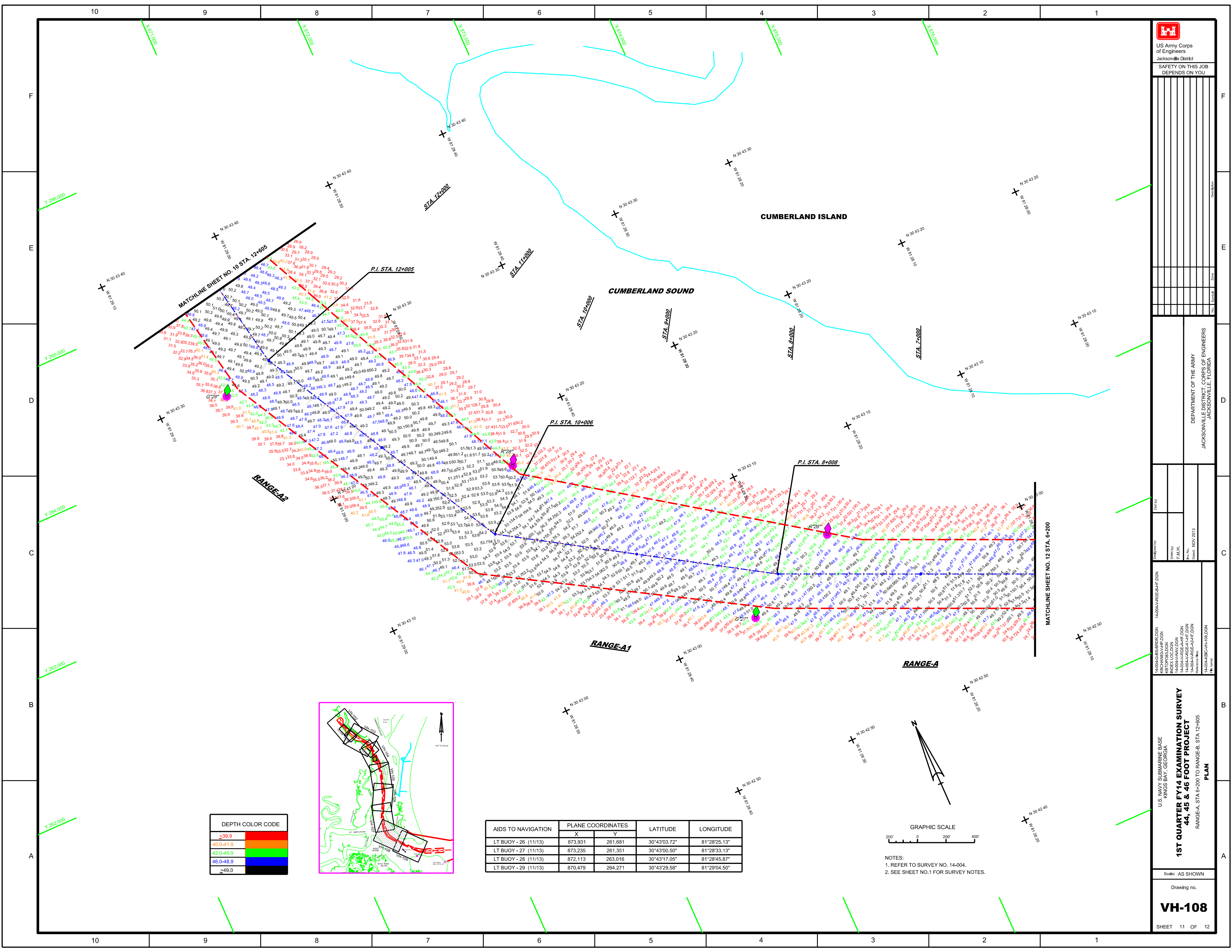
U.S. NAVY'S SUBMARINE BASE  
KINGS BAY, GEORGIA

**1ST QUARTER FY14 EXAMINATION SURVEY**  
**44, 45 & 46 FOOT PROJECT**  
**PLAN**

RANGE-A, STA 6+200 TO RANGE-B, STA 12+605

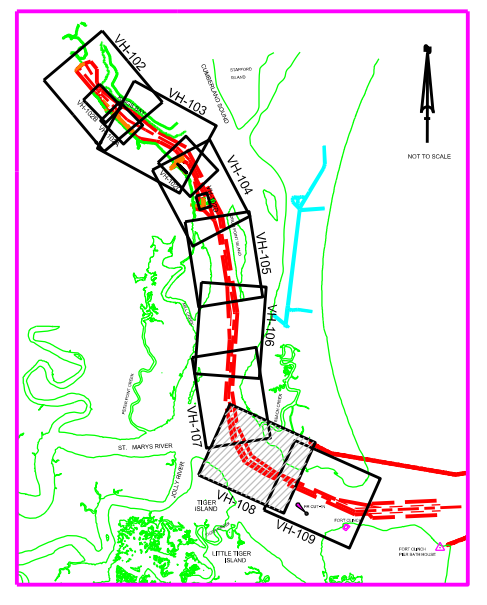
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14-004-CBS-BRD-DGN  
KSC14NVA4P.DGN  
INDEX.LODDGN  
14-004-VAN.DGN  
14-004-VAR-A-H-F.DGN  
14-004-VAR-C-H-F.DGN  
Reference Files:  
14-004-RBC-VH-108.DGN

Checked by:  
14-004-VAR-B-H-F.DGN  
Designed by:  
14-004-VAR-B-H-F.DGN  
Drawn by:  
F.A.M.W.  
Field No.  
14-004-VAR-B-H-F.DGN  
Date:  
NOV 2013

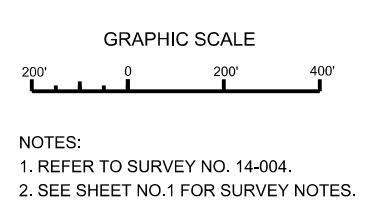


**DEPTH COLOR CODE**

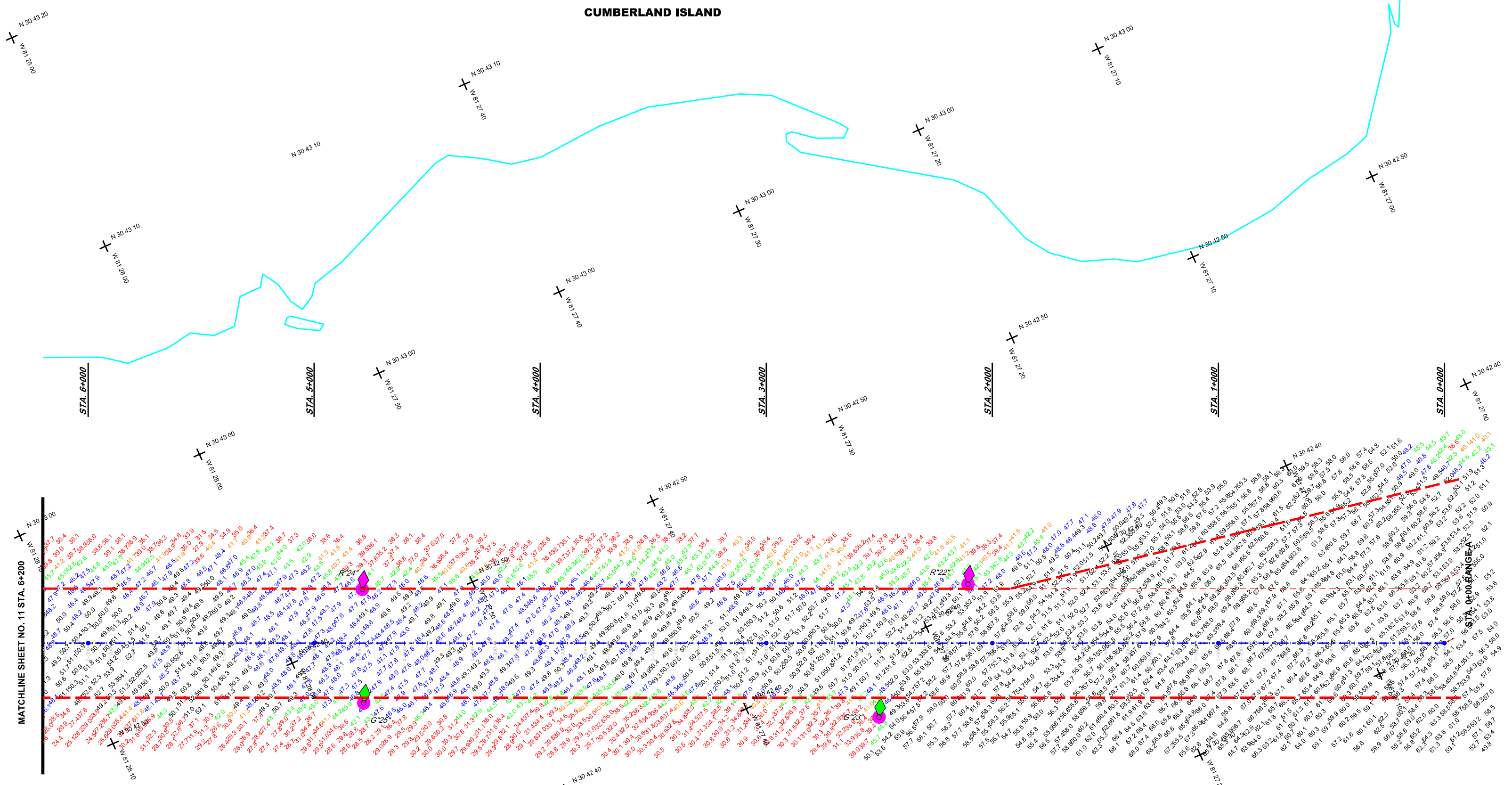
≤39.9	Red
40.0-41.9	Orange
42.0-45.9	Yellow
46.0-48.9	Green
≥49.0	Blue



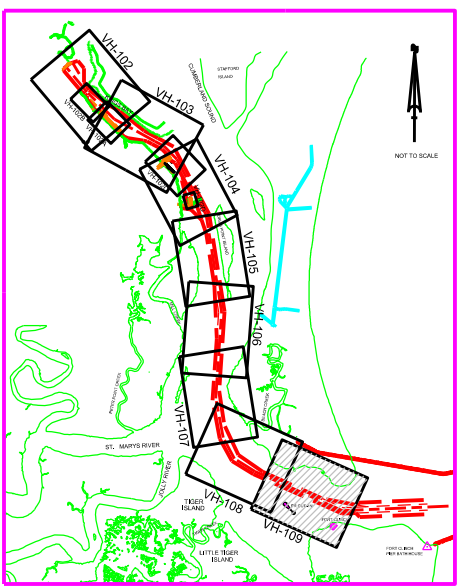
AIDS TO NAVIGATION	PLANE COORDINATES		LATITUDE	LONGITUDE
	X	Y		
LT BUOY - 26 (11/13)	873,931	261,681	30°43'03.72"	81°28'25.13"
LT BUOY - 27 (11/13)	873,235	261,351	30°43'00.50"	81°28'33.13"
LT BUOY - 28 (11/13)	872,113	263,016	30°43'17.05"	81°28'45.87"
LT BUOY - 29 (11/13)	870,479	264,271	30°43'29.58"	81°29'04.50"



CUMBERLAND ISLAND

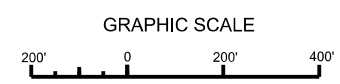


MATCHLINE SHEET NO. 11 STA. 6+200



DEPTH COLOR CODE	
≤39.9	Red
40.0-41.9	Orange
42.0-45.9	Yellow
46.0-48.9	Green
≥49.0	Blue

ADS TO NAVIGATION	PLANE COORDINATES	LATITUDE	LONGITUDE	
LY BODY+32 (1113)	233.70	284.15	07 24 12.00	81 27 27.20
LY BODY+43 (1113)	233.70	283.00	07 24 12.00	81 27 24.10
LY BODY+26 (1113)	233.70	282.00	07 24 12.00	81 27 24.10



NOTES:  
1. REFER TO SURVEY NO. 14-004.  
2. SEE SHEET NO.1 FOR SURVEY NOTES.

Scale: AS SHOWN

Drawing no.

**VH-109**

SHEET 12 OF 12

DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
JACKSONVILLE, FLORIDA

14-004-CBS-BRDR.DGN  
KSCHEINBAVHP.DGN  
INDEX.LOCDGN  
14-004-NAV.DGN  
14-004-RANGE-C-HP.DGN

U.S. NAVY'S SUBMARINE BASE  
KINGS BAY, GEORGIA  
**1ST QUARTER FY14 EXAMINATION SURVEY  
44, 45 & 46 FOOT PROJECT**  
RANGE-A, STA 0+000 TO STA 6+200  
**PLAN**