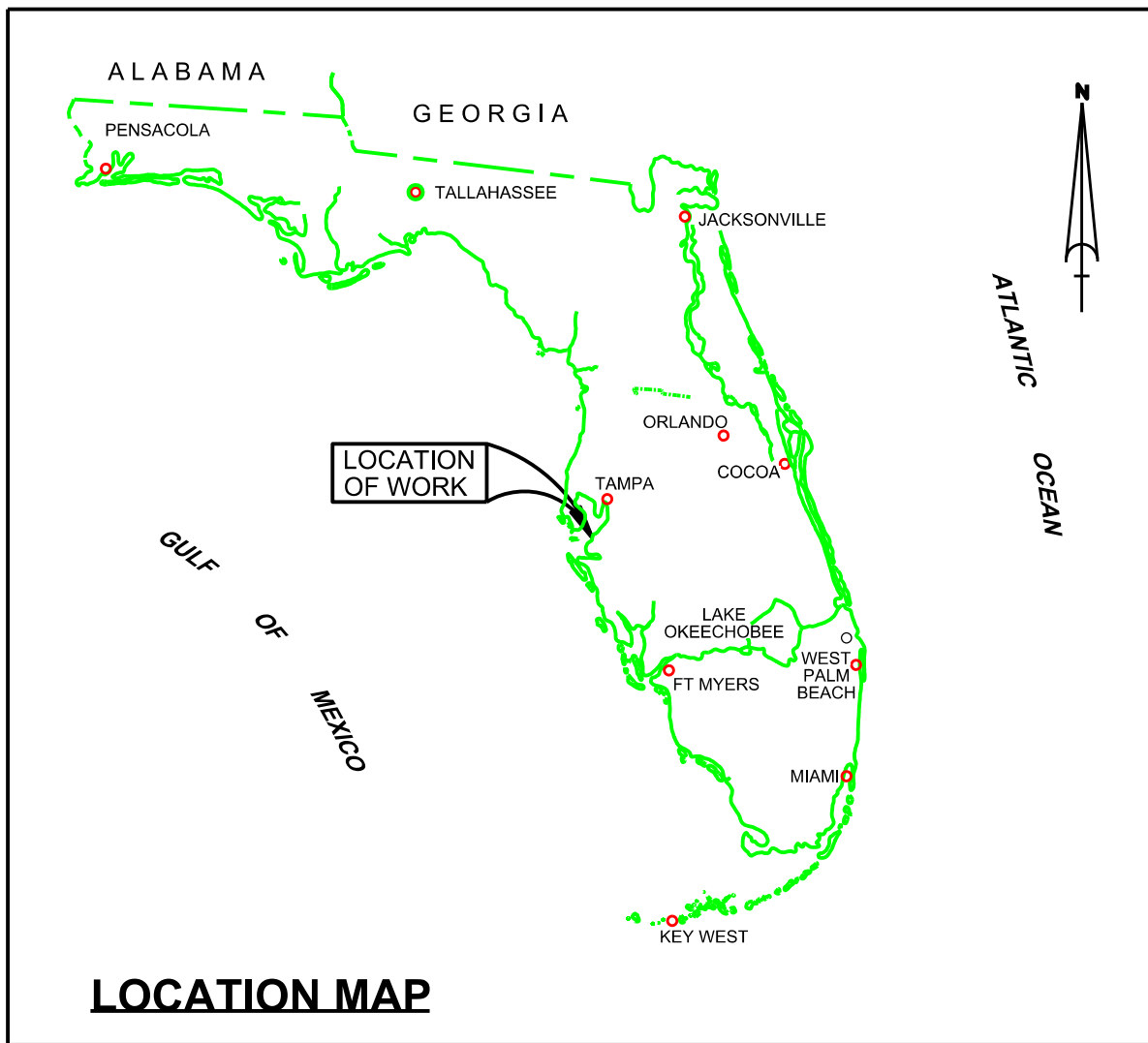
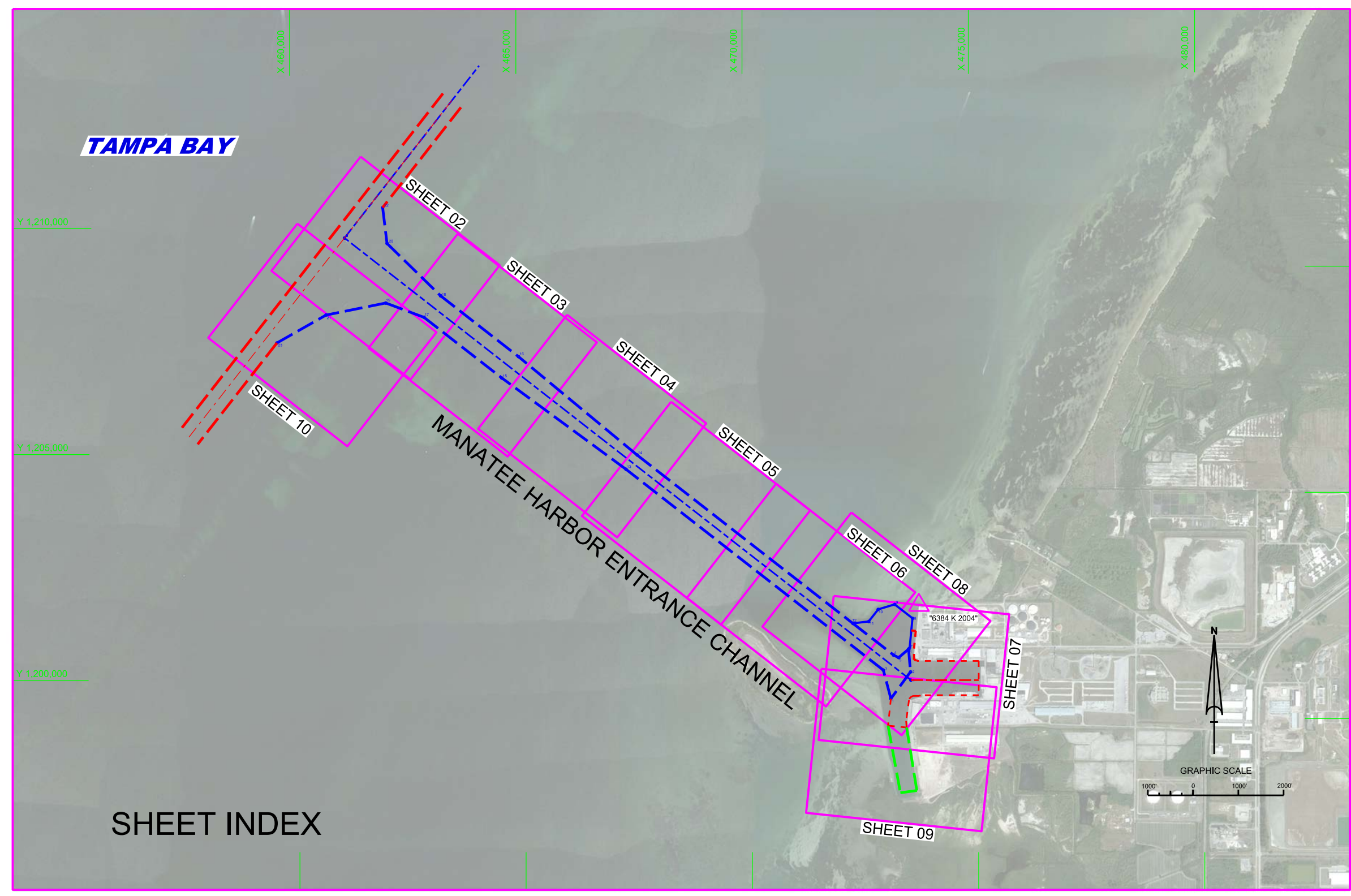


10 9 8 7 6 5 4 3 2 1



MANATEE HARBOR MANATEE COUNTY, FLORIDA EXAMINATION SURVEY FY14 40-FOOT PROJECT



- SURVEY NOTES**
- REFER TO SURVEY NO. 13-093.
 - ALL ELEVATIONS ARE BELOW THE CHART DATUM UNLESS PRECEDED BY A (+) SIGN.
 - PLANE COORDINATES ARE BASED ON THE TRANSVERSE MERCATOR PROJECTION FOR THE WEST ZONE OF FLORIDA AND REFERENCED TO NORTH AMERICAN DATUM OF 1983 (NAD83).
 - DEPTHS DEPICTED BY THIS SURVEY ARE REFERENCED TO MLLW, TIDAL EPOCH 1983-2001 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 BENCHMARKS ASSOCIATED WITH THE TIDE GAGE SITE SPECIFIED BELOW:
 NOAA TIDAL STATION 872-6384, PORT MANATEE, TAMPA BAY, FL
 - TIDAL REDUCTIONS WERE OBTAINED UTILIZING A REAL-TIME KINEMATIC (RTK) GPS AND REFERENCED TO MLLW UTILIZING A HYPACK KINEMATIC TIDAL DATUM (KTD) MODEL. KTD FILE NAME IS: "SPC-FL-WEST-2010-12-07.KTD".
 - 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 LOCATION:
 REFERENCE BASE LOCATED AT "6384 K 2004" (OPUS PID: BBT27)
 TIDE STAFF WAS SET IN THE NORTHERN MOST BULKHEAD OF MANATEE HARBOR
 - VERTICAL MEASUREMENTS WERE MADE USING A ROSS MODEL 835C SMART SOUNDER WITH A DUAL-FREQUENCY TRANSDUCER PERATING AT 28 AND 200 KHZ. ALL SOUNDINGS SHOWN ARE IN HIGH FREQUENCY.
- | VESSEL | DATE OF SURVEY | CUT |
|-----------------|---------------------|----------------------------------|
| SV JACKSONVILLE | 30 SEP - 1 OCT 2014 | ENTRANCE CHANNEL |
| WB-34 | 2 OCT 2014 | TURNING BASIN & ENTRANCE CHANNEL |
| WB-34 | 6 OCT 2014 | SOUTH BASIN & TURNING BASIN |
- 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 DURING THIS SURVEY IN ACCORDANCE WITH USACE EM 1110-2-1003, HYDROGRAPHIC SURVEYING, 30 NOV 2013.

LEGEND

▲	MONUMENT
⚓	LIGHTED BEACON
□	GREEN DAYBEACON
□	RED DAYBEACON
⊙	RED LIGHTED BUOY
⊙	GREEN LIGHTED BUOY
⊙	CAN BUOY
⊙	NUN BUOY
⊙	TIDE STAFF
⊙	PROJECT DEPTH

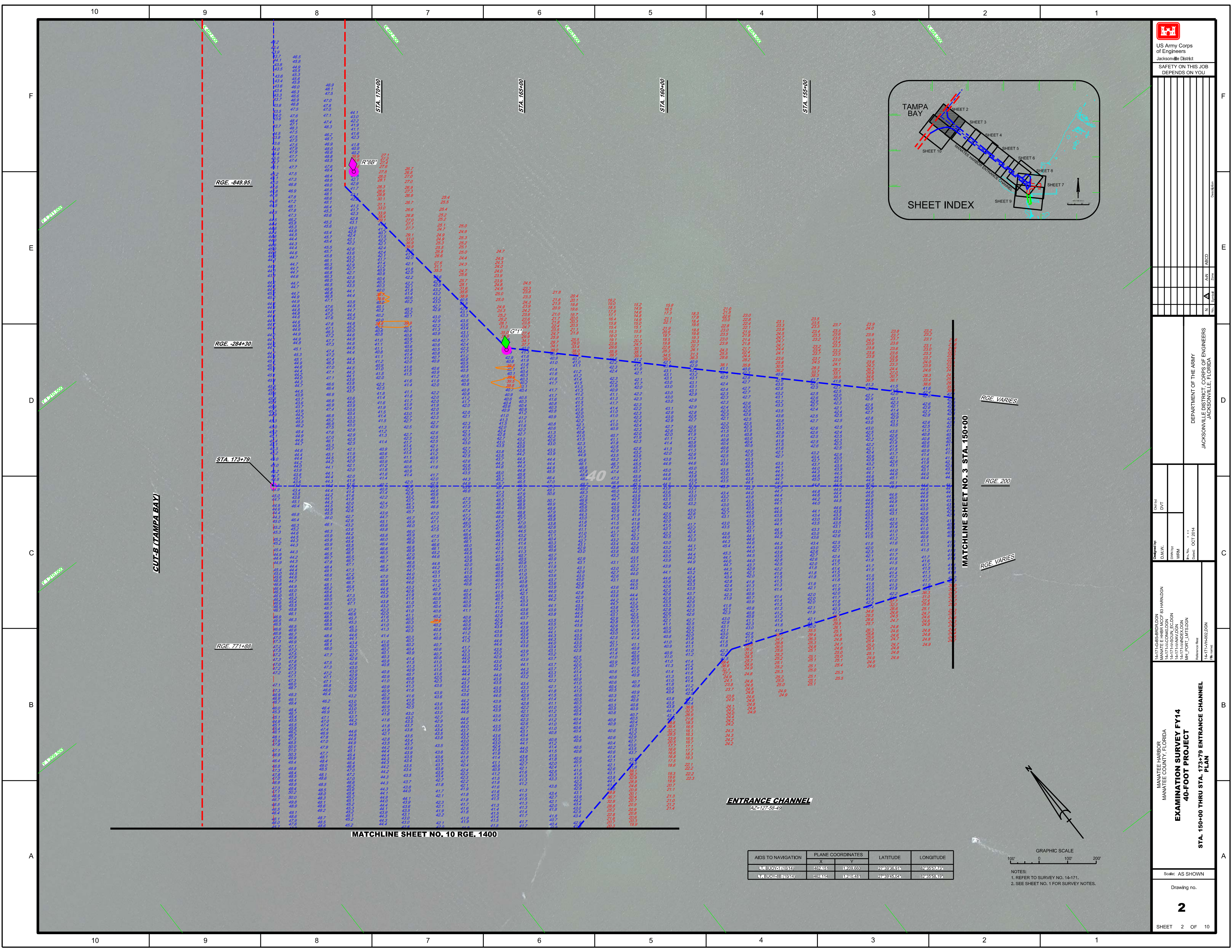
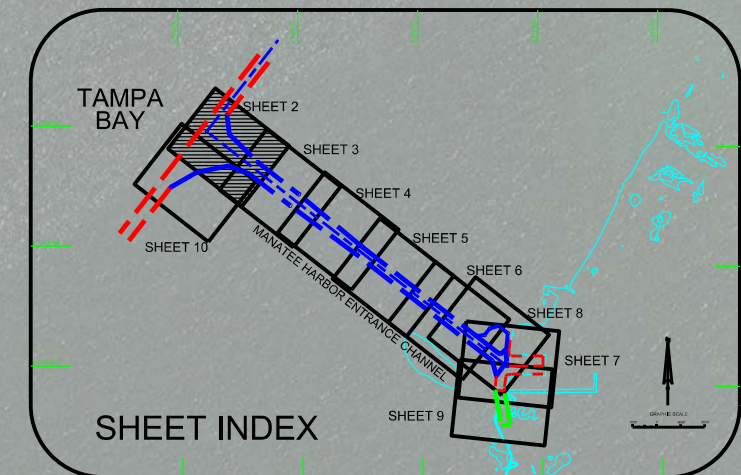
US Army Corps of Engineers
 Jacksonville District
 SAFETY ON THIS JOB
 DEPENDS ON YOU

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

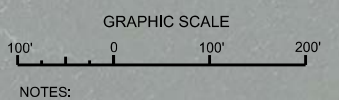
MANATEE HARBOR
 MANATEE COUNTY, FLORIDA
 EXAMINATION SURVEY FY14
 40-FOOT PROJECT
 INDEX, LOCATION AND VICINITY
 MAP

Scale: AS SHOWN
 Drawing no.
1
 SHEET 01 OF 10

10 9 8 7 6 5 4 3 2 1



AIDS TO NAVIGATION	PLANE COORDINATES	LATITUDE	LONGITUDE	
	X	Y		
LA BUOY-10 (1014)	482415	122950	27°49'26.91"	82°35'58.76"
LA BUOY-38 (1014)	462414	122043	27°39'45.04"	82°35'58.16"



NOTES:
1. REFER TO SURVEY NO. 14-171.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

MANATEE HARBOR
MANATEE COUNTY, FLORIDA

**EXAMINATION SURVEY FY14
40-FOOT PROJECT
PLAN**

STA. 150+00 THRU STA. 173+79 ENTRANCE CHANNEL

Scale: AS SHOWN

Drawing no. **2**

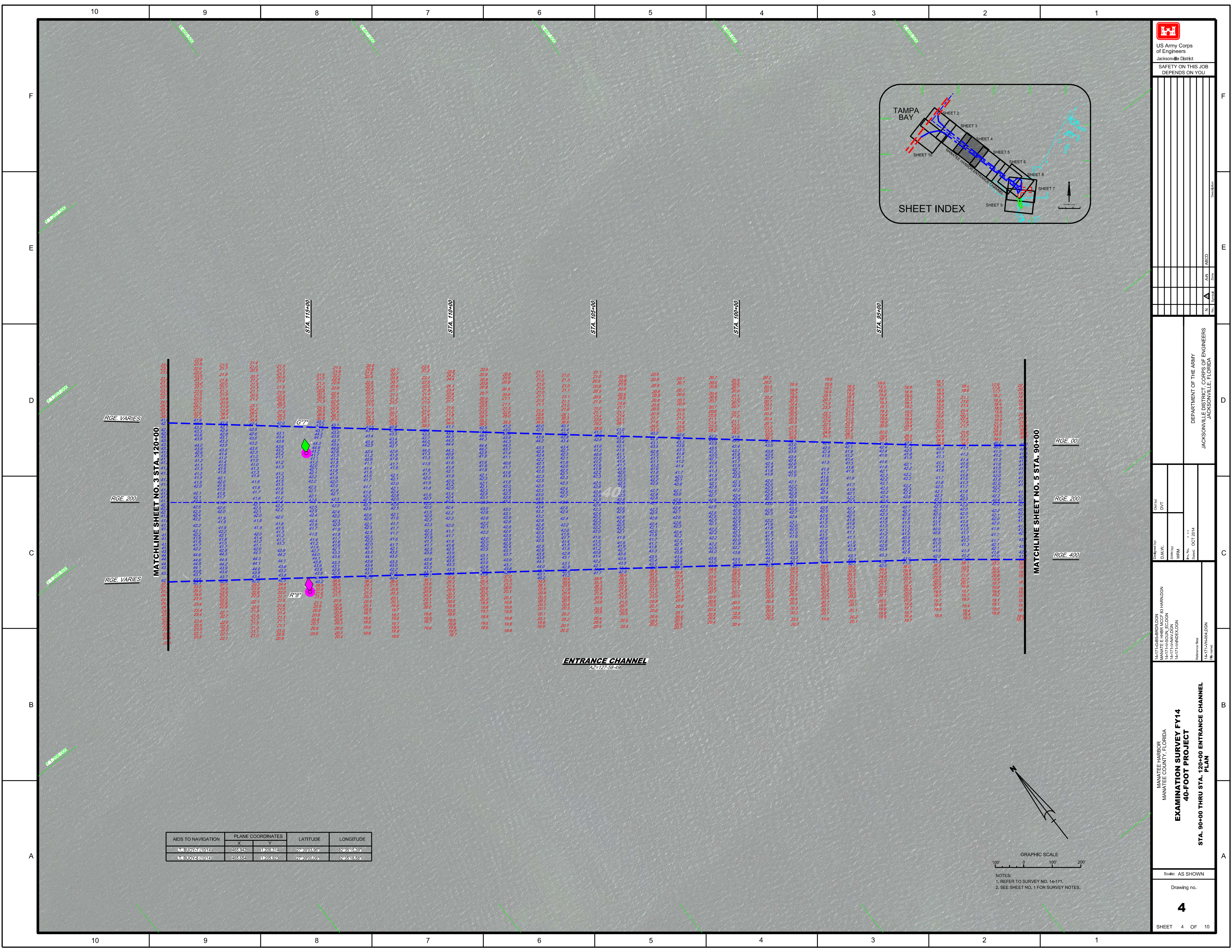
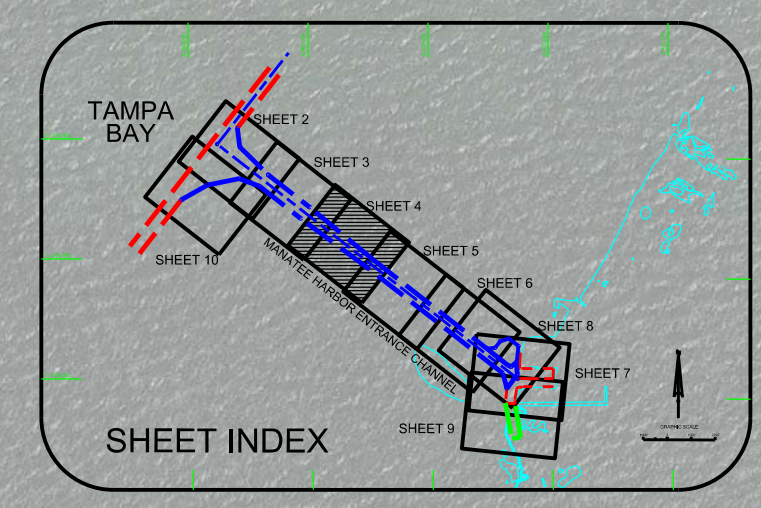
SHEET 2 OF 10

Designed by: D.M.W. / D.V.T.
Checked by: W.R.M.
Date: OCT 2014

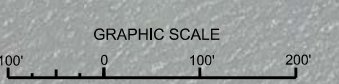
14-171-GS-BRDZ-DGN
MANATEE HARBOR ICB
14-171-HASOUM-EG-CON
14-171-HASOUM-EG-CON
14-171-HASOUM-EG-CON
14-171-HASOUM-EG-CON
14-171-HASOUM-EG-CON

Reference files:
14-171-HASOUM-EG-CON

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

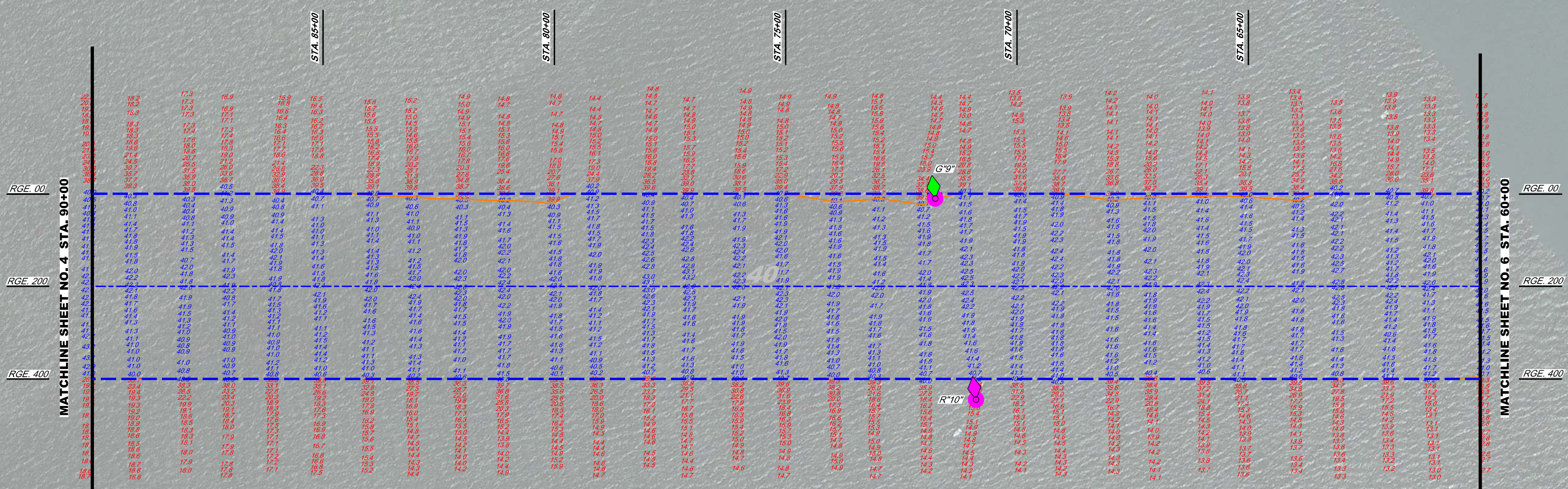
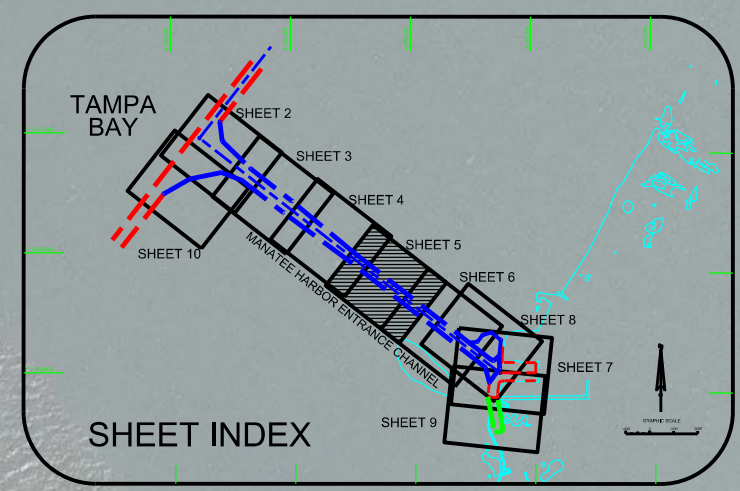


AIDS TO NAVIGATION	PLANE COORDINATES		LATITUDE	LONGITUDE
	X	Y		
N. BUOY-7 (10/14)	465942	1920814	27°39'03.96"	82°35'45.39"
N. BUOY-3 (10/14)	465654	1905923	27°39'00.98"	82°35'18.59"



NOTES:
1. REFER TO SURVEY NO. 14-171.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

DESIGNED BY	DM/W	DVT
DRAWN BY	WRM	
DATE	OCT 2014	
PROJECT	MANATEE HARBOR ENTRANCE CHANNEL	
SHEET NO.	4	OF 10
DISTRICT	JACKSONVILLE DISTRICT, CORPS OF ENGINEERS	
CITY	JACKSONVILLE, FLORIDA	



ENTRANCE CHANNEL
 AZ=127-58-49

AIDS TO NAVIGATION	PLANE COORDINATES	LATITUDE	LONGITUDE	
	X	Y		
LA 650427(101)	489374	1203353	27°38'37.31"	82°43'34.11"
LA 650451(101)	489174	1203261	27°38'33.87"	82°43'32.29"

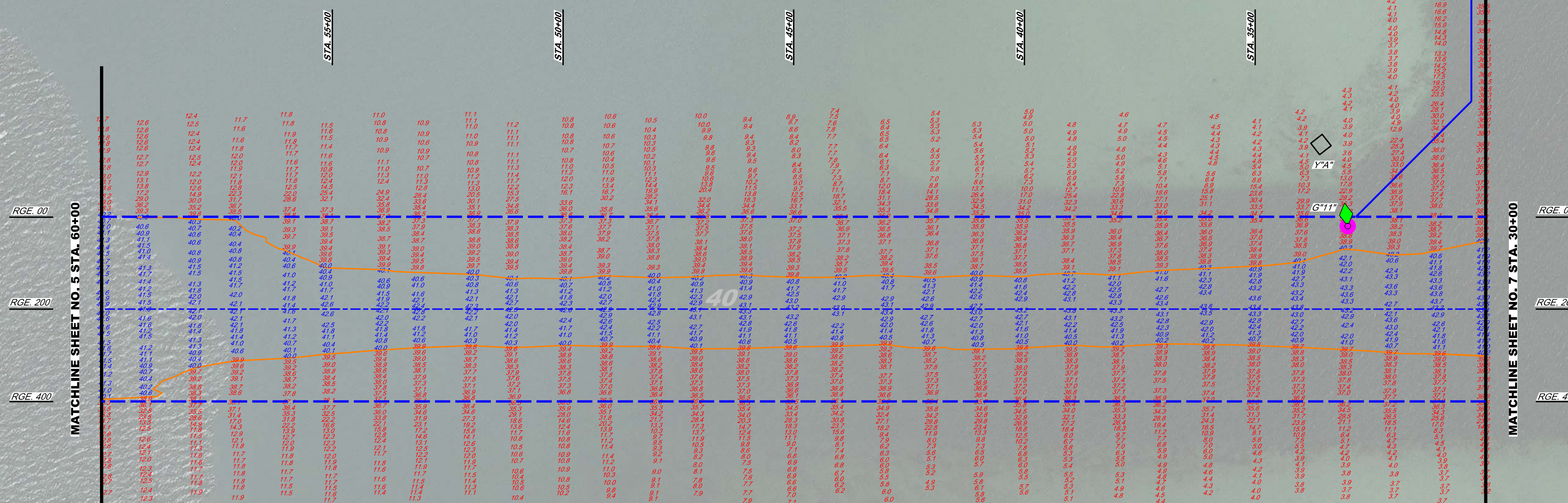
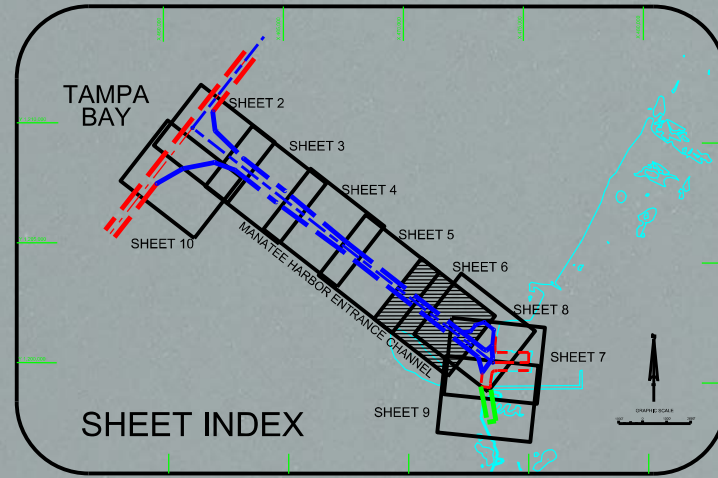


NOTES:
 1. REFER TO SURVEY NO. 14-171.
 2. SEE SHEET NO. 1 FOR SURVEY NOTES.

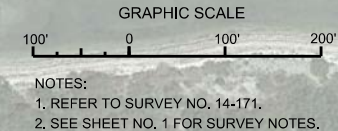
DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA

Designed by: [blank]
 D.M.W.
 DWN by: [blank]
 WRM
 File No.: 14-171-100-100
 Date: OCT 2014

MANATEE HARBOR
 MANATEE COUNTY, FLORIDA
EXAMINATION SURVEY FY14
40-FOOT PROJECT
STA. 60+00 THRU STA. 90+00 ENTRANCE CHANNEL PLAN



AIDS TO NAVIGATION	PLANE COORDINATES		LATITUDE	LONGITUDE
	X	Y		
N-BUOY#11 (1014)	47243	11201263	27°38'14.24"	82°34'03.06"
DEN-A (1014)	47245	11201439	27°38'15.99"	82°34'02.39"
DEN-B (1014)	47245	11201682	27°38'18.24"	82°33'57.22"



US Army Corps of Engineers
Jacksonville District

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JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

14-171-GS-BRDOLDGN	DESIGNED BY	DMW	DVT
14-171-HBR-MCCF-BHARDNDGN	CHECKED BY	DMW	WRM
14-171-HAV-DGN	DATE	OCT 2014	
14-171-H-CON-DGN	DATE	OCT 2014	

MANATEE HARBOR
MANATEE COUNTY, FLORIDA

EXAMINATION SURVEY FY14
40-FOOT PROJECT

STA. 30+00 THRU STA. 60+00 ENTRANCE CHANNEL
PLAN

Scale: AS SHOWN

Drawing no.

6

SHEET 6 OF 10

US Army Corps of Engineers
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DEPENDS ON YOU

North Arrow and UTM Grid

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

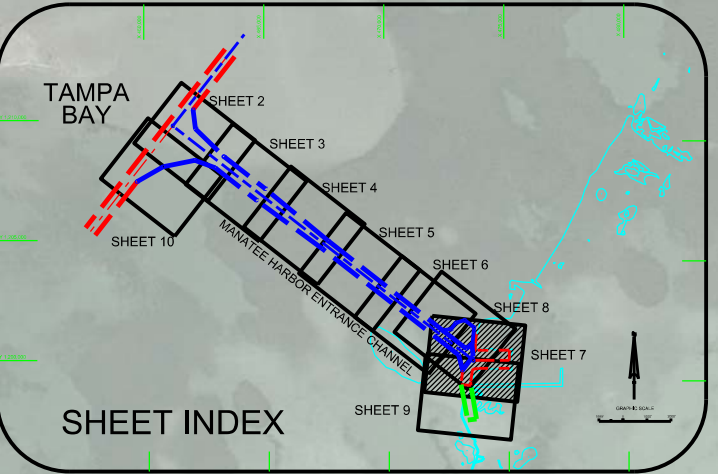
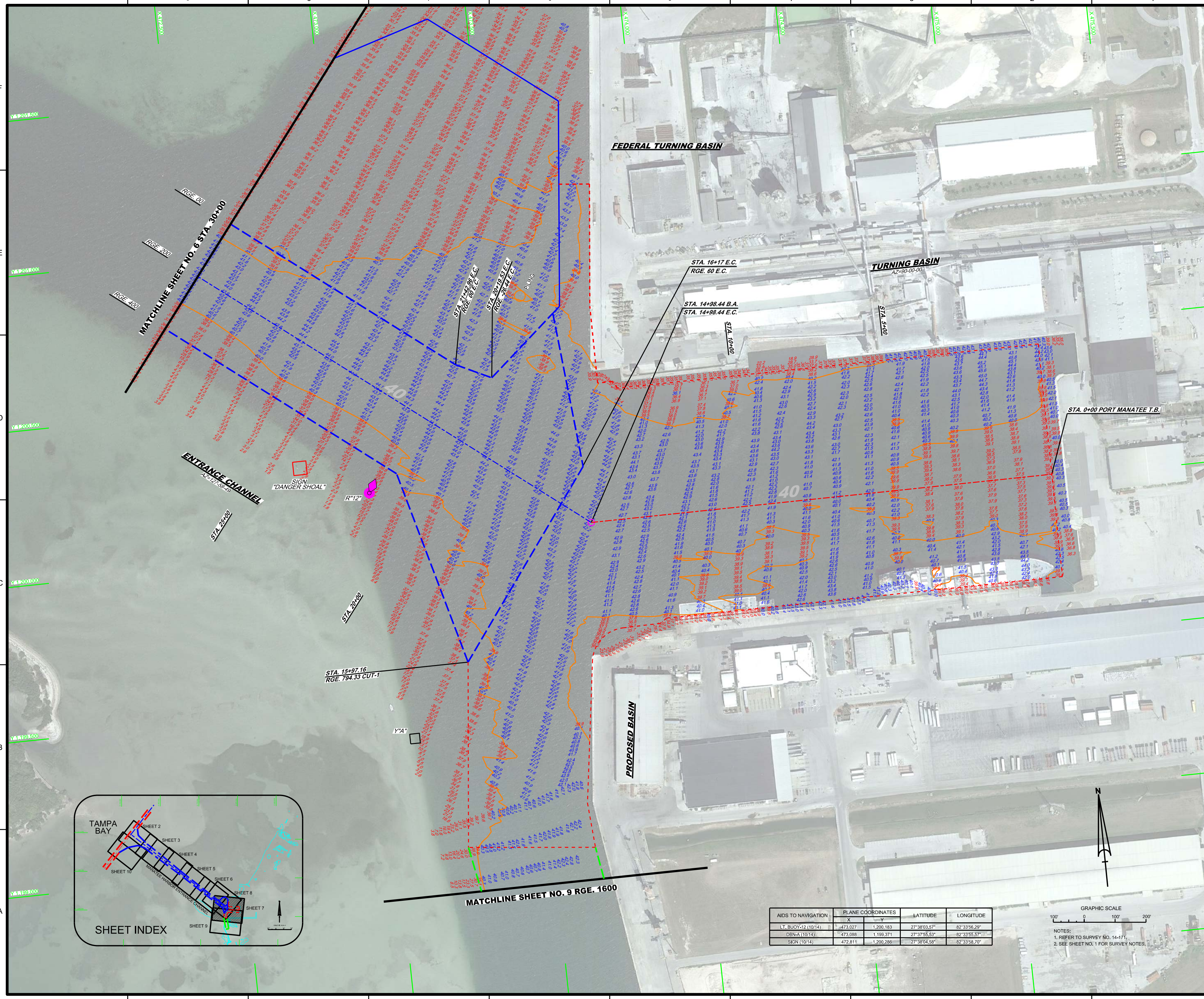
Drawn By: DVT
Checked By: J. ...
Date: OCT 2014

14-17-CA-85-BRD/DGN
MANATEE IRRIGATION CANAL
14-17-CA-85-BRD/DGN
MANATEE IRRIGATION CANAL
14-17-CA-85-BRD/DGN
MANATEE IRRIGATION CANAL

**MANATEE HARBOR
MANATEE COUNTY, FLORIDA**

**EXAMINATION SURVEY FY14
40-FOOT PROJECT
STA. 0+00 TURNING BASIN THRU
STA. 30+00 ENTRANCE CHANNEL
PLAN**

Scale: AS SHOWN
Drawing No.
7
SHEET 7 OF 10



AIDS TO NAVIGATION	PLANE COORDINATES		LATITUDE	LONGITUDE
	X	Y		
LT. BUOY 12 (10/14)	473.027	1,200.183	27°38'03.57"	82°33'56.29"
DBNA (10/14)	473.088	1,199.371	27°37'55.53"	82°33'55.57"
SIGN (10/14)	472.811	1,200.286	27°38'04.58"	82°33'58.70"

GRAPHIC SCALE
100' 0 100' 200'
NOTES:
1. REFER TO SURVEY NO. 14-171.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

MATCHLINE SHEET NO. 6 STA. 30+00

MATCHLINE SHEET NO. 9 RGE. 1600

ENTRANCE CHANNEL
AZ=172.39-172.62

FEDERAL TURNING BASIN

TURNING BASIN
AZ=90.00-00

PROPOSED BASIN

STA. 0+00 PORT MANATEE T.B.

STA. 16+17 E.C.
RGE. 60 E.C.

STA. 14+98.44 B.A.
STA. 14+98.44 E.C.

STA. 21+28 E.C.
RGE. 70 E.C.

STA. 20+19 E.C.
RGE. 68 E.C.

STA. 15+07.16
RGE. 794.33 CUT-1

STA. 3+00

STA. 10+00

STA. 20+00

STA. 26+00

Yߝ500

Yߝ1000

Yߝ1500

Yߝ2000

Yߝ2500

Yߝ3000

Xߝ4000

Xߝ4200

Xߝ4400

Xߝ4600

Xߝ4800

Xߝ4900



GRAPHIC SCALE
100' 0 100' 200'

US Army Corps of Engineers
Jacksonville District
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DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

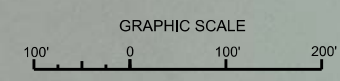
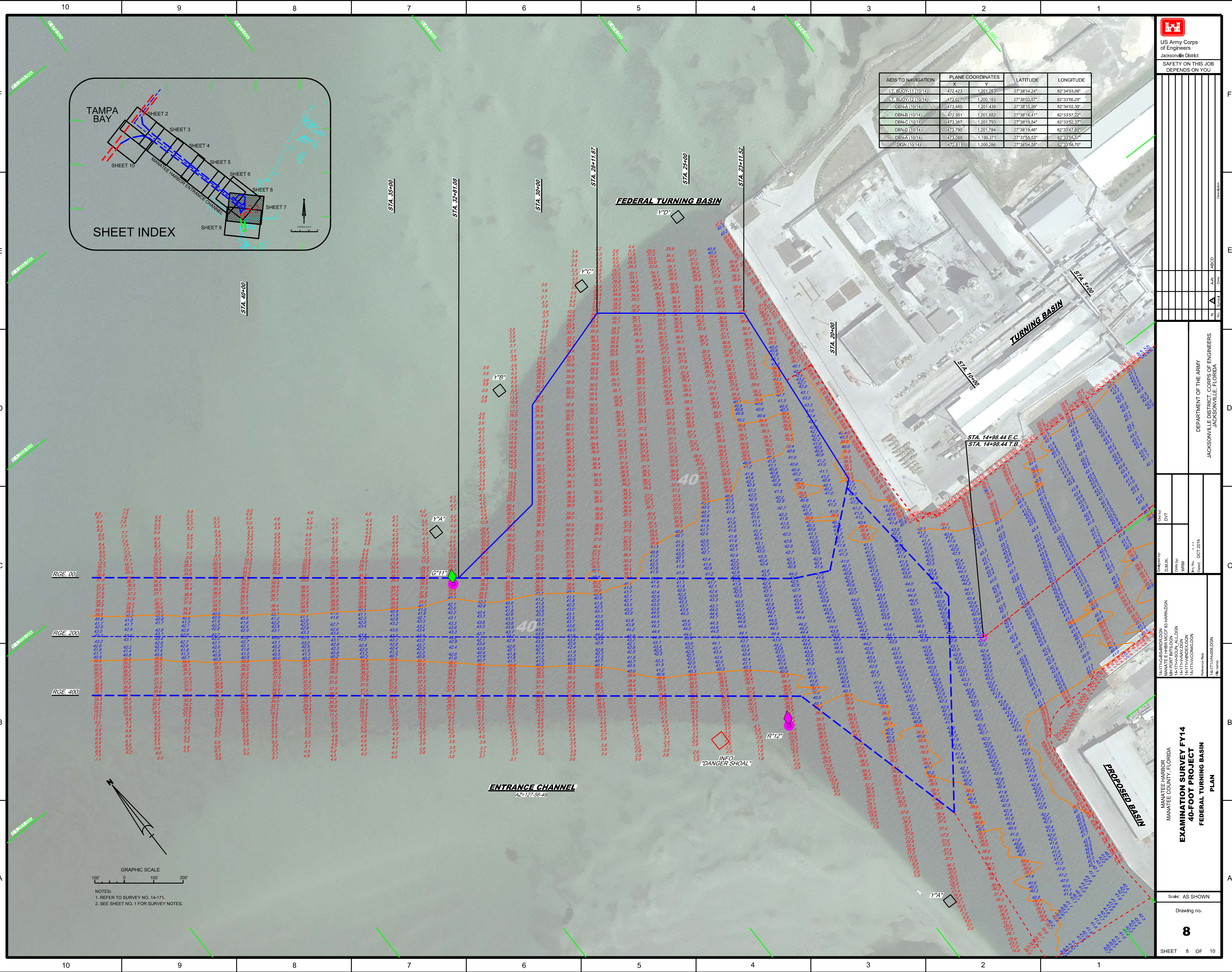
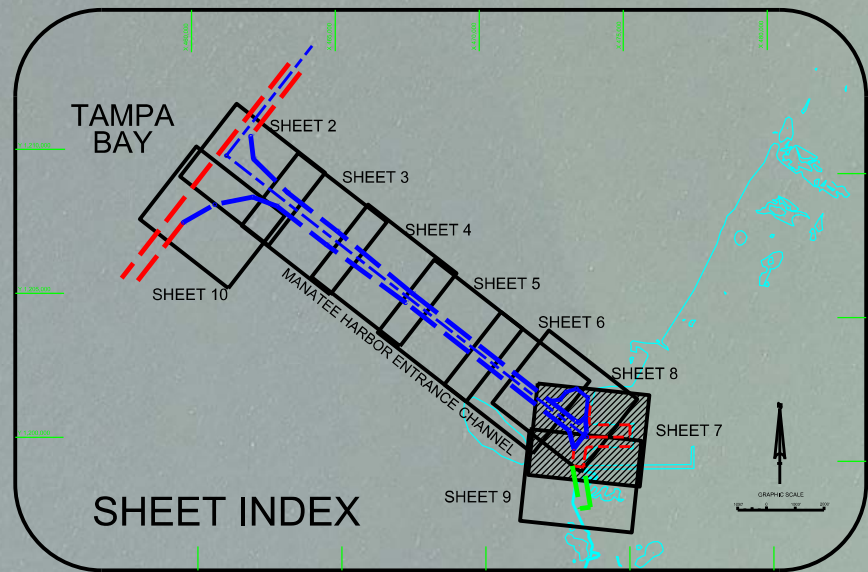
14-17-IB-BRDLDGN
MANATEE HARBOR MCFB B HARBOR
14-17-IB-BRDLDGN
14-17-IB-BRDLDGN
14-17-IB-BRDLDGN
14-17-IB-BRDLDGN

Scale: AS SHOWN

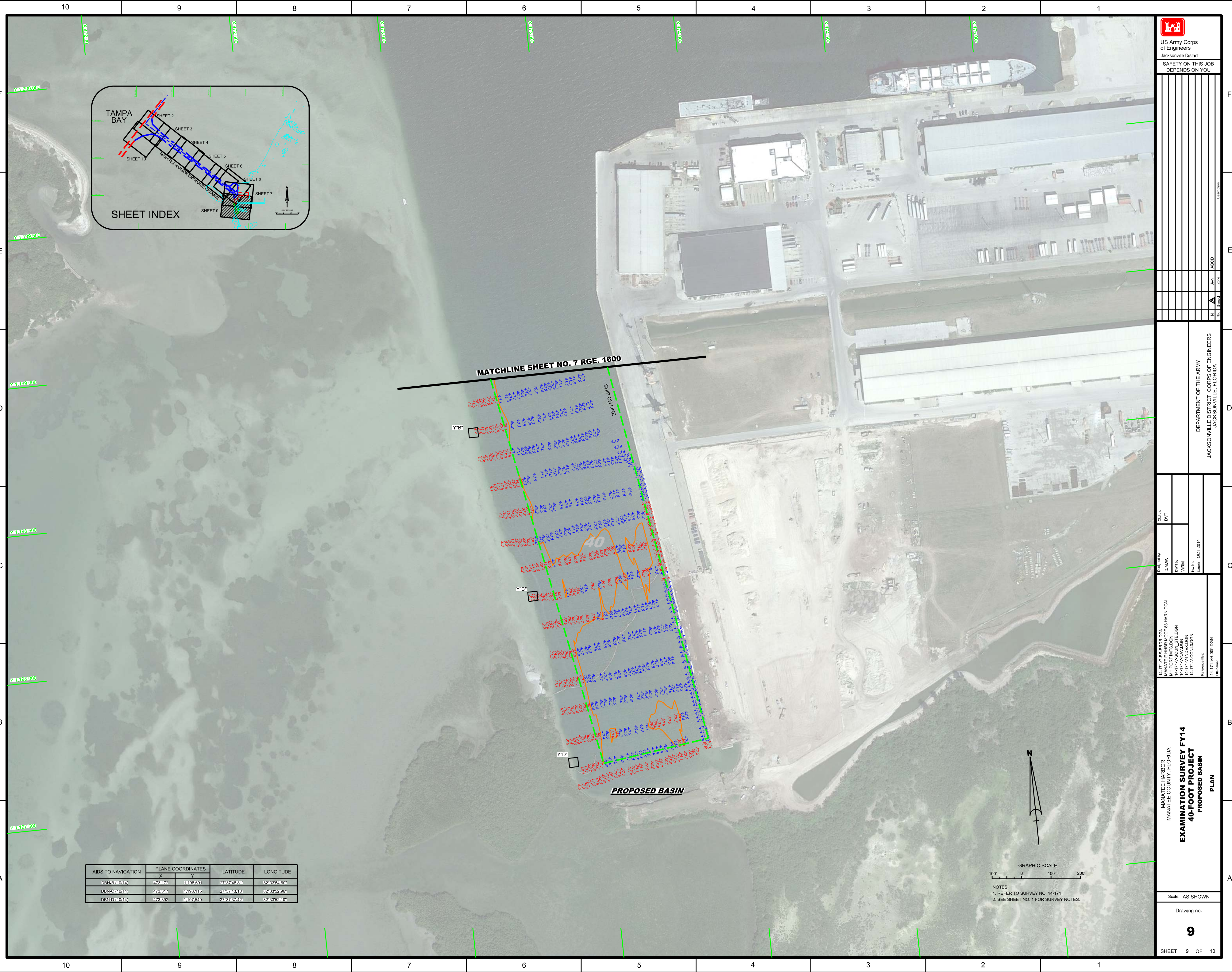
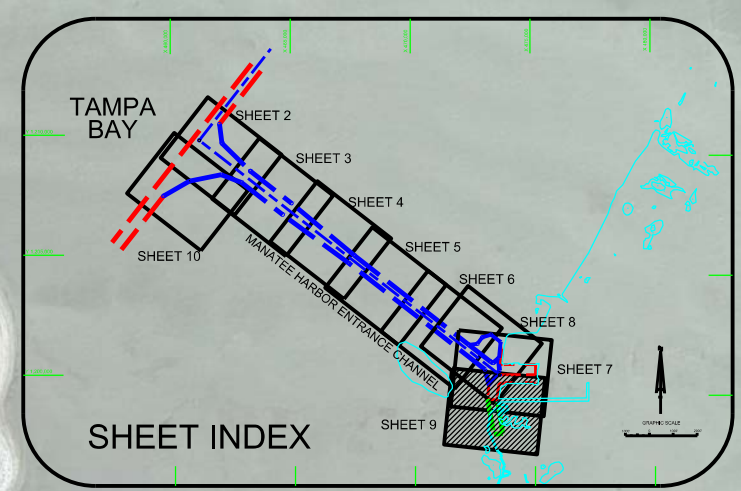
Drawing no. **8**

SHEET 8 OF 10

AIDS TO NAVIGATION	PLANE COORDINATES		LATITUDE	LONGITUDE
	X	Y		
LT. BUOY 11 (10/14)	472,423	1,201,263	27°38'14.24"	82°33'03.06"
LT. BUOY 12 (10/14)	473,027	1,200,183	27°38'03.57"	82°33'56.29"
DBN-A (10/14)	473,485	1,201,439	27°38'15.99"	82°34'02.39"
DBN-B (10/14)	472,951	1,201,682	27°38'18.41"	82°33'57.22"
DBN-C (10/14)	473,387	1,201,793	27°38'19.54"	82°33'52.37"
DBN-D (10/14)	473,790	1,201,784	27°38'18.46"	82°33'47.89"
DBN-A (10/14)	473,088	1,199,371	27°37'55.53"	82°33'55.57"
SIGN (10/14)	472,811	1,200,286	27°38'04.58"	82°33'56.70"



NOTES:
1. REFER TO SURVEY NO. 14-171.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

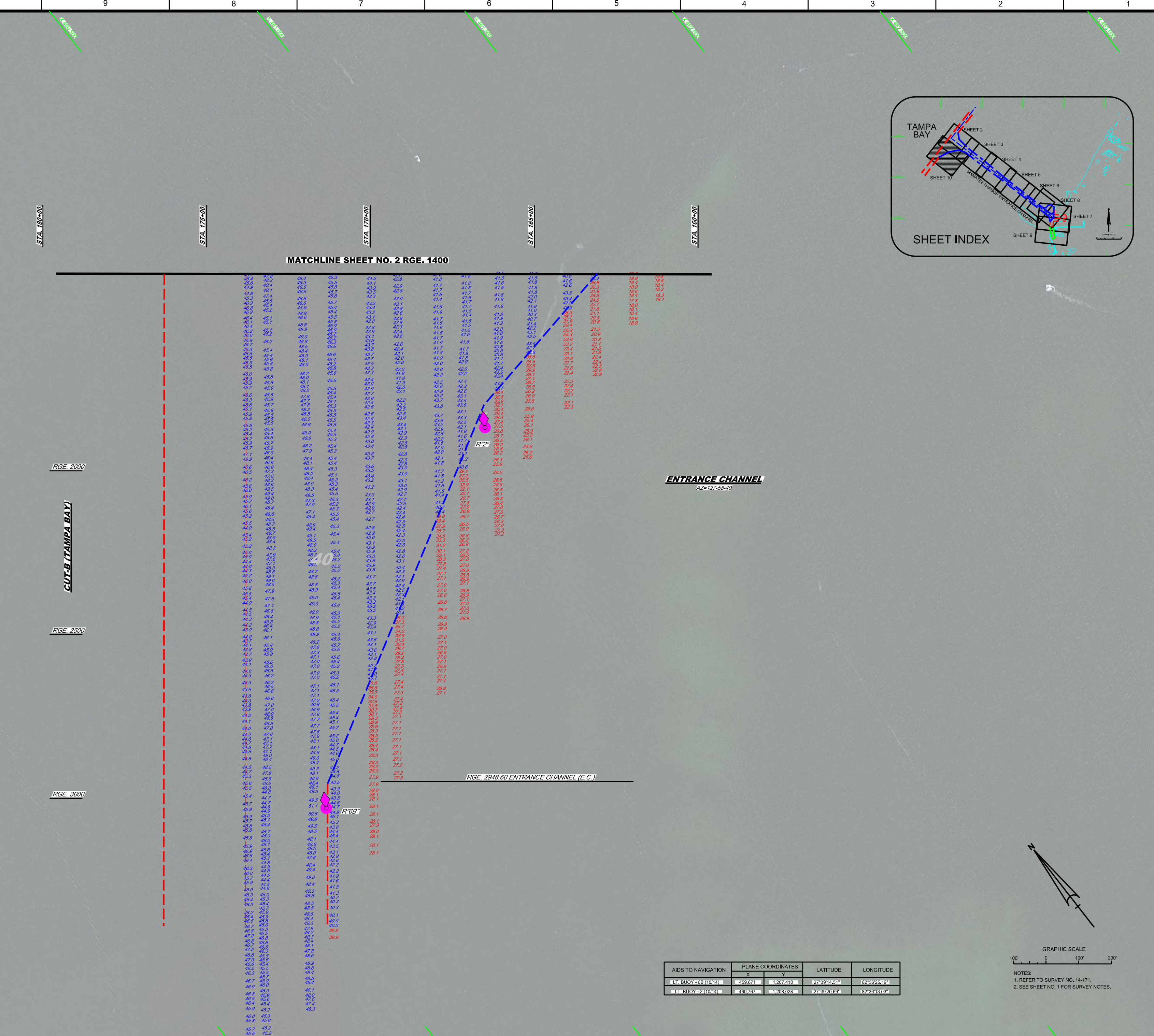
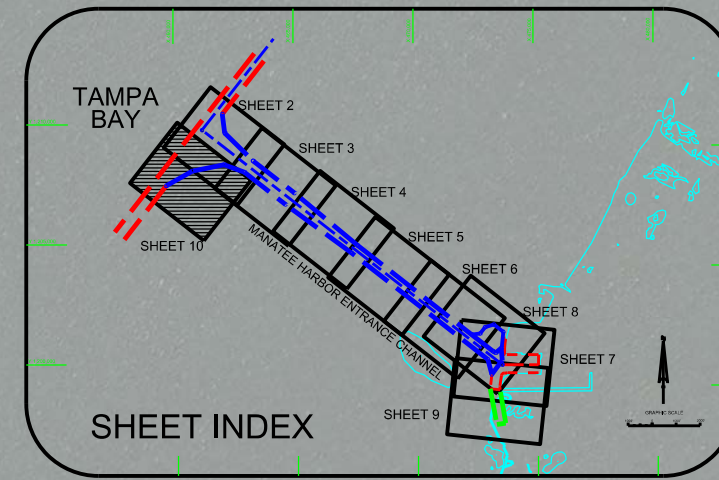


AIDS TO NAVIGATION	PLANE COORDINATES		LATITUDE	LONGITUDE
	X	Y		
DBN-5 (10/14)	476,812	14,986,691	27°37'48.81"	82°33'54.50"
DBN-C (10/14)	476,817	14,986,115	27°37'43.31"	82°33'52.56"
DBN-D (10/14)	476,352	14,977,540	27°37'31.42"	82°33'52.10"

GRAPHIC SCALE
 100' 0 100' 200'
 NOTES:
 1. REFER TO SURVEY NO. 14-171.
 2. SEE SHEET NO. 1 FOR SURVEY NOTES.

US Army Corps of Engineers
 Jacksonville District
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Checked by:	DVT	Designed by:	DMW	Drawn by:	WRM
14-171-CB-85-BRD/DGN	MANATEE HARBOR MCF B HARNDON	14-171-HA-500A-STB/DGN	14-171-HA-NAV/DGN	14-171-HA-COM/DGN	14-171-HA-RE/DGN
EXAMINATION SURVEY FY14 MANATEE HARBOR MANATEE COUNTY, FLORIDA 40-FOOT PROJECT PROPOSED BASIN PLAN			DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA		
Scale: AS SHOWN			Drawing no.		
9			SHEET 9 OF 10		



MATCHLINE SHEET NO. 2 RGE. 1400

48.4	47.9	48.4	45.3	44.5	42.9	41.9	41.8	41.5	41.6	40.9	40.4	39.9	39.5	39.0	38.5	38.0	37.5	37.0	36.5	36.0	35.5	35.0	34.5	34.0	33.5	33.0	32.5	32.0	31.5	31.0	30.5	30.0	29.5	29.0	28.5	28.0	27.5	27.0	26.5	26.0	25.5	25.0	24.5	24.0	23.5	23.0	22.5	22.0	21.5	21.0	20.5	20.0	19.5	19.0	18.5	18.0	17.5	17.0	16.5	16.0	15.5	15.0	14.5	14.0	13.5	13.0	12.5	12.0	11.5	11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0
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ENTRANCE CHANNEL
AZ=127-58-49

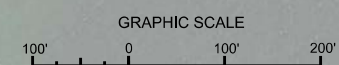
RGE. 2000

RGE. 2500

RGE. 3000

RGE. 2948.60 ENTRANCE CHANNEL (E.C.)

AIDS TO NAVIGATION	PLANE COORDINATES		LATITUDE	LONGITUDE
	X	Y		
BUOY-68 (1014)	459.674	1207.410	27°39'44.51"	82°39'26.16"
BUOY-24 (1014)	460.767	1208.028	27°39'20.59"	82°39'43.03"



- NOTES:
1. REFER TO SURVEY NO. 14-171.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

Scale: AS SHOWN

Drawing no.

10

SHEET 10 OF 10

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

MANATEE HARBOR
MANATEE COUNTY, FLORIDA
EXAMINATION SURVEY FY14
40-FOOT PROJECT
ENTRANCE CHANNEL PLAN

14-171-GS-BRD/LDGN
MANATEE HARBOR, MANATEE COUNTY, FLORIDA
14-171-HAS/DQA, ECD/DO
14-171-HAS/AV/DGN

MANATEE HARBOR
MANATEE COUNTY, FLORIDA
EXAMINATION SURVEY FY14
40-FOOT PROJECT
ENTRANCE CHANNEL PLAN