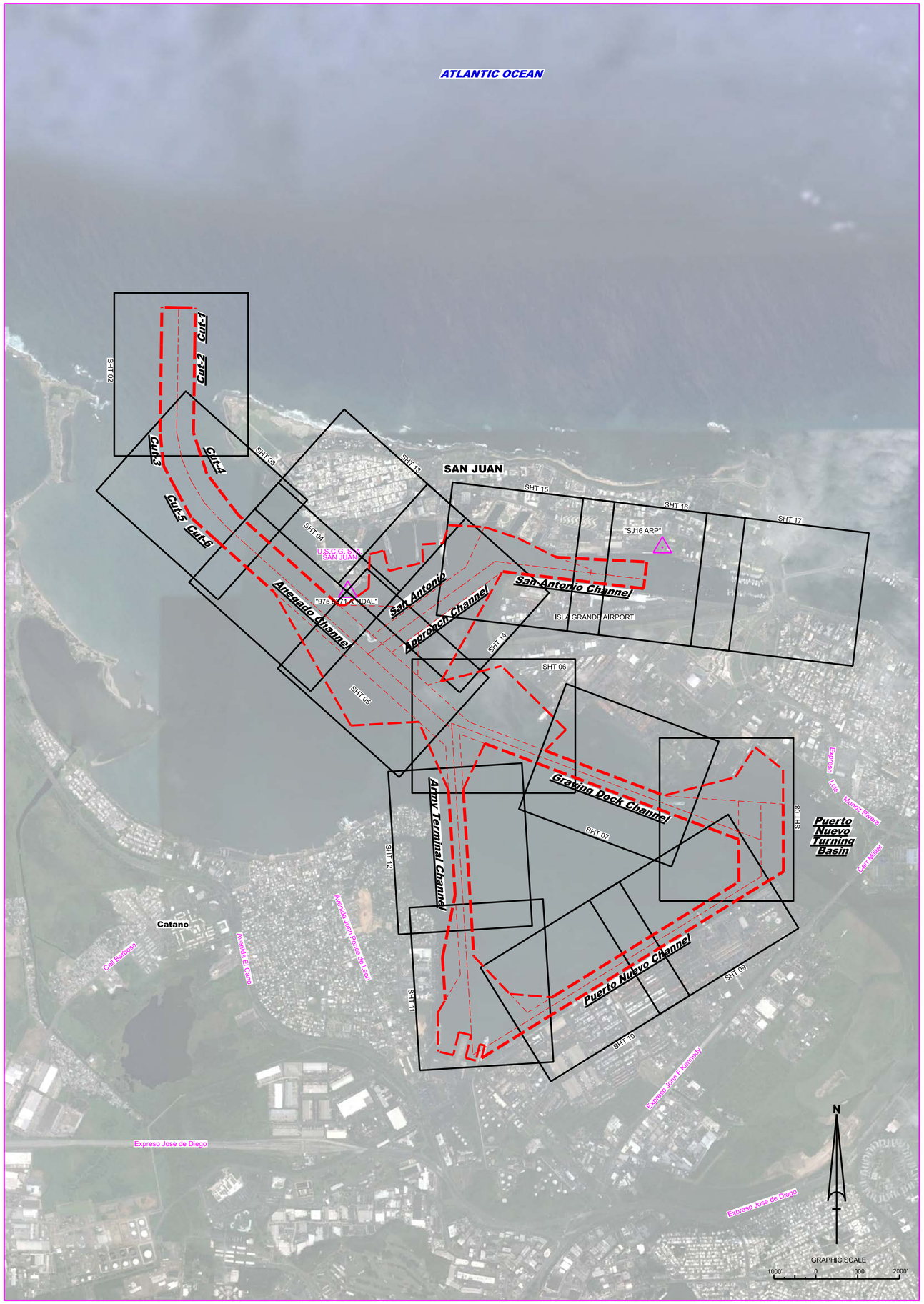
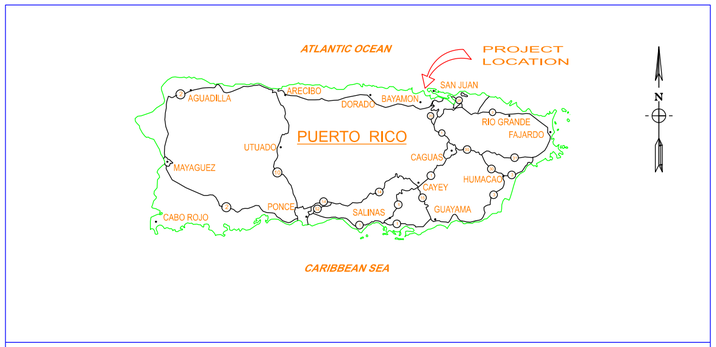



**LOCATION MAP**

# SAN JUAN HARBOR
# SAN JUAN, PUERTO RICO
# HYDROGRAPHIC EXAM SURVEY FY24
# 30 THRU 56-FOOT PROJECT

SURVEY NOTES

1. REFER TO SURVEY NO. 24-170.
2. SOUNDINGS ARE IN FEET AND TENTHS AND REFER TO NOAA'S REPORTED MEAN LOWER LOW WATER (MLLW) TIDAL DATUM RELATIVE TO THE 1983-2001 TIDAL EPOCH.
3. TIDAL REDUCTIONS WERE OBTAINED UTILIZING A REAL-TIME KINEMATIC (RTK) GPS AND REFERENCED TO MLLW UTILIZING A HYPACK KINEMATIC TIDE DATUM (KTD) MODEL. KTD FILE NAME IS "SANJUAN-2011APRIL06.KTD".
4. ALL ELEVATIONS ARE BELOW THE CHART DATUM UNLESS PRECEDED BY A (+) SIGN.
5. PLANE COORDINATES ARE BASED ON THE LAMBERT CONFORMAL CONIC PROJECTION FOR PUERTO RICO & THE VIRGIN ISLANDS, ZONE 5200, NORTH AMERICAN DATUM OF 1983 (NAD83).
6. ALL STATIONING REFERS TO THE CENTERLINE OF THE CHANNEL.
7. THIS SURVEY WAS PERFORMED USING REAL-TIME KINEMATIC (RTK) GPS POSITIONING WITH THE FOLLOWING REFERENCE BASE LOCATION:

   REFERENCE BASE LOCATED AT "SJ16 ARP" (PID: BBJH65)

   TIDE STAFF LOCATED FROM "975 5371 A TIDAL" (PID: TV1513)
   MLLW ELEVATION: 5.14'
   A MEASURE DOWN POINT WAS SET FROM SURVEY MONUMENT "975 5371 A TIDAL", LOCATED ON THE EDGE OF USCG BULKHEAD ADJACENT TO THE BASE STATION POINT.
8. DEPTHS DEPICTED BY THIS SURVEY ARE REFERENCED TO MLLW, TIDAL EPOCH 1983-2001 AS REPORTED BY THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA). THE NOAA TIDAL STATION LISTED BELOW WAS USED TO CALIBRATE TO THE PUBLISHED MLLW HEIGHTS OF THE BENCHMARK ASSOCIATED WITH THE TIDE GAGE SITE SPECIFIED BELOW:

   NOAA TIDAL STATION 975-5371 A TIDAL USED FOR ALL CUTS. (PID: TV1513)

   VERTICAL MEASUREMENTS WERE MADE USING A RESON T-20 SEABAT MULIT-BEAM TRANSDUCER. ALL SOUNDINGS SHOWN ARE IN HIGH FREQUENCY.

| VESSEL | DATE OF SURVEY | CUT |
|---|---|---|
| SB-44 | 05 JUN 2024 | BAR CUTS 1 & 2 |
| SB-44 | 06 JUN 2024 | BAR CUT-3 THRU ANEGADO CH. STA 22+00 |
| SB-44 | 07 JUN 2024 | SAN ANTONIO APPROACH CH., BERTHING AREAS, ANEGADO CHANNEL |
| SB-44 | 09 JUN 2024 | GRAVING DOCKCHANNEL, PUERTO NUEVO TURNING BASIN |
| SB-44 | 10 JUN 2024 | SAN ANTONIO CHANNEL, MOORING FIELD |
| SB-44 | 11 JUN 2024 | PUERTO NUEVO CHANNEL, ARMY TERMINAL CHANNEL, ARMY TERMINAL TURNING BASIN |
| SB-44 | 12 JUN 2024 | ARMY TERMINAL CHANNEL, PUERTO NUEVO CHANNEL |

9. AIDS TO NAVIGATION WERE LOCATED DURING THIS SURVEY.
10. 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.
11. 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 |
| C | CAN BUOY |
| N | NUN BUOY |
| | TIDE STAFF |
| 8 | PROJECT DEPTH |

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

| No. | Symbol | Zone | Description |
|---|---|---|---|

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

Cad by: GMR
Checked by: WRM
DWN by: WRM
Prj.-No. V912EP-XX-XX-XXX
Date: JUN 2024

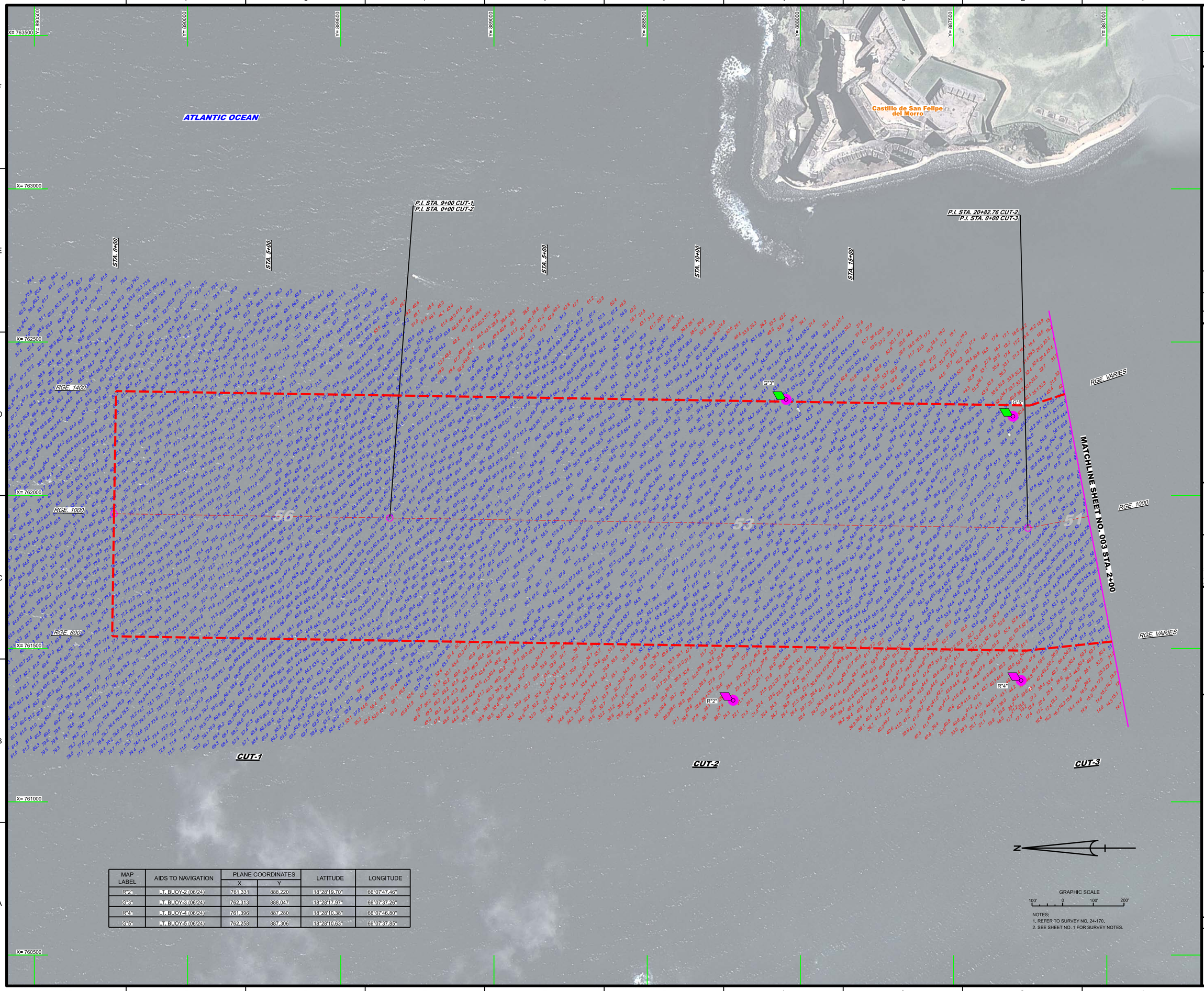
XXXXXXXX-XXXXXX.DGN
XXXXXXXX-XXXXXX.DGN
XXXXXXXX-XXXXXX.DGN
XXXXXXXX-XXXXXX.DGN
XXXXXXXX-XXXXXX.DGN
24-170-XX-BEACON.DGN
SANJUANHARBOR-CANGMCCF.DGN
24-170-C5-BR-BRDR.DGN
Reference files:
24-170-VHd001.DGN
File: samc

SAN JUAN HARBOR
SAN JUAN, PUERTO RICO
**HYDROGRAPHIC EXAM SURVEY FY24**
**30 THRU 56-FOOT PROJECT**
INDEX, LOCATION AND VICINITY
**MAP**

Scale: AS SHOWN

Drawing no.
**1**

SHEET 01 OF 17




| MAP LABEL | AIDS TO NAVIGATION | PLANE COORDINATES | | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|
| | | X | Y | | |
| R"2" | LT. BUOY-2 (06/24) | 761,331 | 888,220 | 18°28'19.70" | 66°07'47.46" |
| G"3" | LT. BUOY-3 (06/24) | 762,313 | 888,047 | 18°28'17.97" | 66°07'37.26" |
| R"4" | LT. BUOY-4 (06/24) | 761,396 | 887,280 | 18°28'10.38" | 66°07'46.80" |
| G"5" | LT. BUOY-5 (06/24) | 762,258 | 887,306 | 18°28'10.63" | 66°07'37.85" |

NOTES:
1. REFER TO SURVEY NO. 24-170.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

| No. | Symbol | Zone |
|---|---|---|

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

Cad by: GMR
Checked by: WRM
DWN by: WRM
Prj. No. V93T2EP-XXX-XXXX
Date: JUN 2024

24-170-A-NAV.DGN
24-170-A-SCUN_ALLCUTS.DGN
SAN JUAN HARBOR-C-NGMCCF.DGN
24-170-C-BR-BRDR.DGN
Reference files:
24-170-VHx02.DGN
File name:

SAN JUAN HARBOR
SAN JUAN, PUERTO RICO

# HYDROGRAPHIC EXAM SURVEY FY24
# 30 THRU 56-FOOT PROJECT

STA. 0+00 CUT-1 THRU STA. 2+00 CUT-3

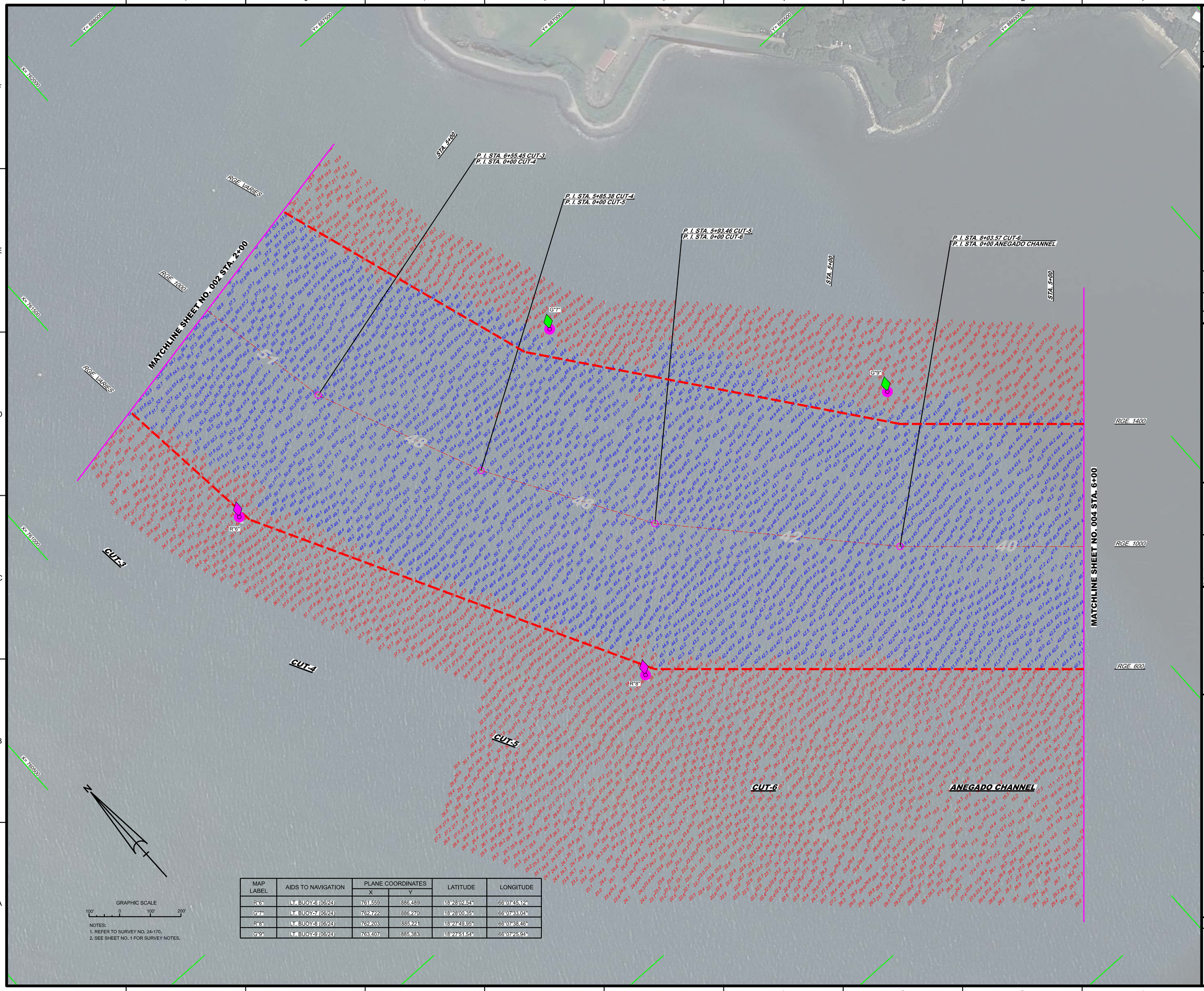
## PLAN

Scale: AS SHOWN

Drawing no.

2

SHEET 02 OF 17




| MAP LABEL | AIDS TO NAVIGATION | PLANE COORDINATES | | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|
| | | X | Y | | |
| R"6" | LT. BUOY-6 (06/24) | 761,559 | 886,489 | 18°28'02.54" | 66°07'45.12" |
| G"7" | LT. BUOY-7 (06/24) | 762,722 | 886,270 | 18°28'00.35" | 66°07'33.04" |
| R"8" | LT. BUOY-8 (06/24) | 762,203 | 885,221 | 18°27'49.95" | 66°07'38.46" |
| G"9" | LT. BUOY-9 (06/24) | 763,407 | 885,383 | 18°27'51.54" | 66°07'25.94" |

GRAPHIC SCALE

100' 0 100' 200'

NOTES:
1. REFER TO SURVEY NO. 24-170.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

| No. | Symbol | Zone |
|---|---|---|

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

Designed by: VIRM
Drawn by: VIRM
Checked by: GMR
Rev. No.: V91ZEP-XXX-XXXX
Date: JUN 2024

24-170-A-NAV.DGN
24-170-V-SOUN_ALL CUTS.DGN
SAN JUAN HARBOR-CANGMCCF.DGN
24-170-C-SS-BRDR.DGN
Reference files:

24-170-VH003.DGN
File name:

SAN JUAN HARBOR
SAN JUAN, PUERTO RICO

# HYDROGRAPHIC EXAM SURVEY FY24
# 30 THRU 56-FOOT PROJECT

STA. 2+00 CUT-3 THRU STA. 6+00 ANEGADO CHANNEL

## PLAN

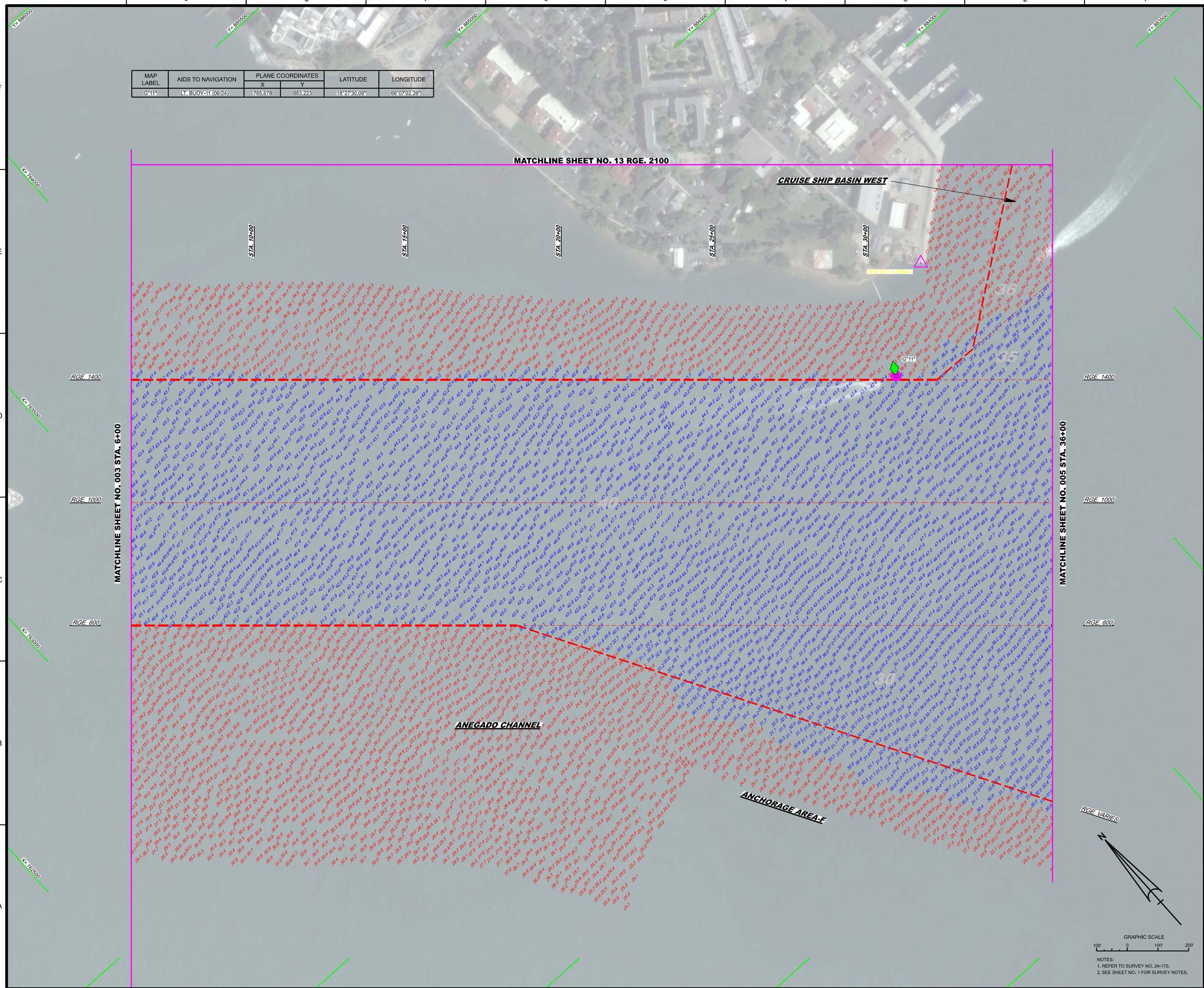
Scale: AS SHOWN

Drawing no.

3

SHEET 03 OF 17

| MAP LABEL | AIDS TO NAVIGATION | PLANE COORDINATES | | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|
| | | X | Y | | |
| G"11" | LT, BUOY-11 (06/24) | 765,678 | 883,223 | 18°27'30.09" | 66°07'02.39" |




NOTES:
1. REFER TO SURVEY NO. 24-170.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

| No. | Symbol | Zone |
|---|---|---|

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

Cad by: GMR
Designed by: WRM
DWN by: WRM
Rev. No.: V91/2EFX-XXX-XXXX
Date: JUN 2024

24-170-HAR-UDGN
24-170-VASUN_ALCUTS.DGN
SAN JUAN HARBOR-CAGMCCF.DGN
24-170-GABS-BRDR.DGN
Reference files:
24-170-VH-004.DGN
File name:

SAN JUAN HARBOR
SAN JUAN, PUERTO RICO

# HYDROGRAPHIC EXAM SURVEY FY24
# 30 THRU 56-FOOT PROJECT

STA. 6+00 CUT-3 THRU STA. 36+00 ANEGADO CHANNEL

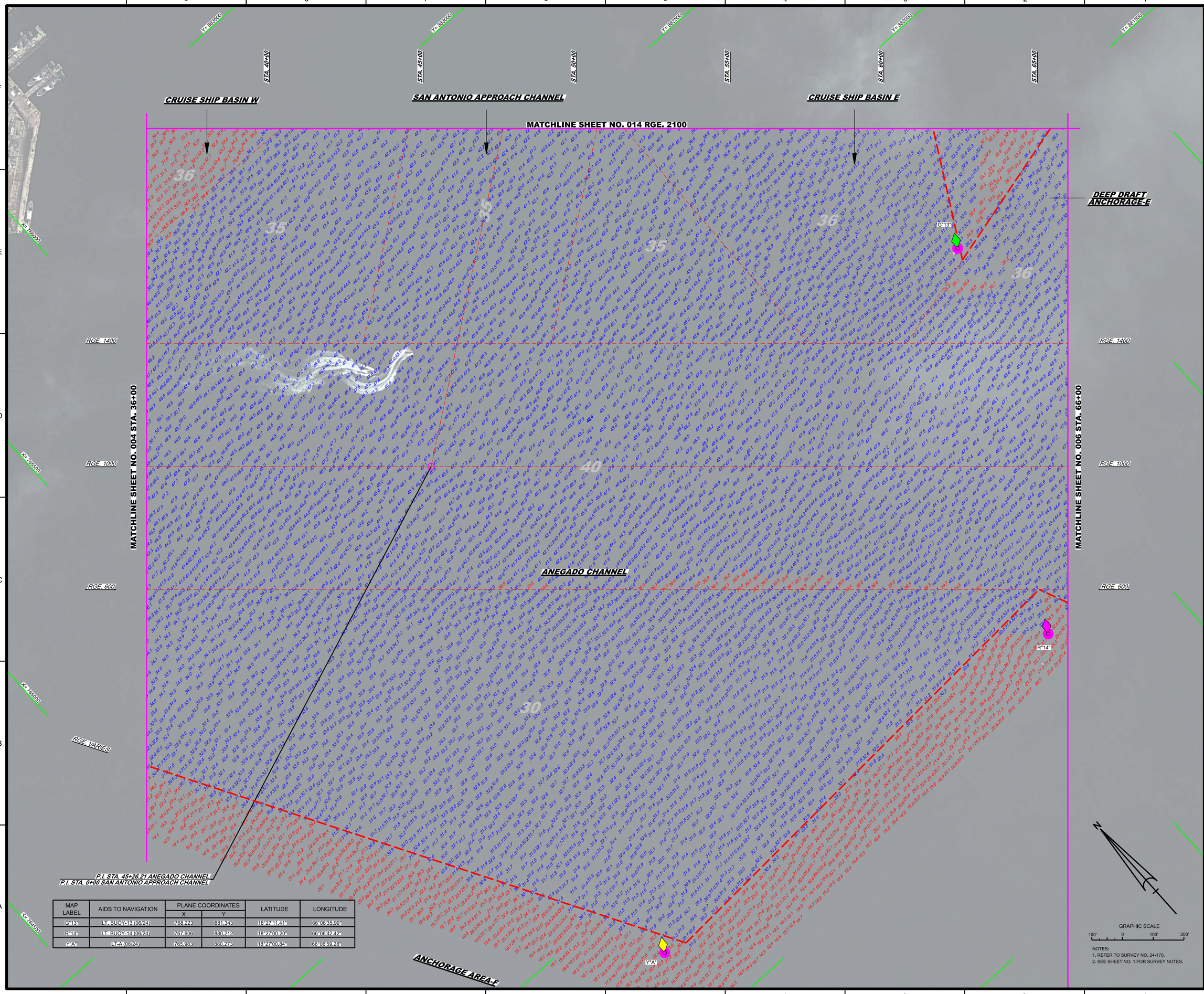
## PLAN

Scale: AS SHOWN

Drawing no.

4

SHEET 04 OF 17




| MAP LABEL | AIDS TO NAVIGATION | PLANE COORDINATES X | PLANE COORDINATES Y | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|
| G"13" | LT. BUOY-13 (06/24) | 768,223 | 881,343 | 18°27'11.41" | 66°06'35.99" |
| R"14" | LT. BUOY-14 (06/24) | 767,606 | 880,212 | 18°27'00.20" | 66°06'42.42" |
| Y"A" | LT-A (06/24) | 765,983 | 880,273 | 18°27'00.84" | 66°06'59.28" |

NOTES:
1. REFER TO SURVEY NO. 24-170.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

| No. | Symbol | Zone |
|---|---|---|

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

Checked by: GMR
Drafted by: WRM
DWN by: WRM
Pro. No.: V03128-P-XX-XXXX
Dates: JUN 2024

24-170-AANM.DGN
24-170-ASOJN_ALLCUTS.DGN
SAN JUAN HARBOR-C-NGMCCF.DGN
24-170-C-BR-BRDR.DGN
Reference Dwg:
24-170-VHA06.DGN
File name:

SAN JUAN HARBOR
SAN JUAN, PUERTO RICO

# HYDROGRAPHIC EXAM SURVEY FY24
## 30 THRU 36-FOOT PROJECT

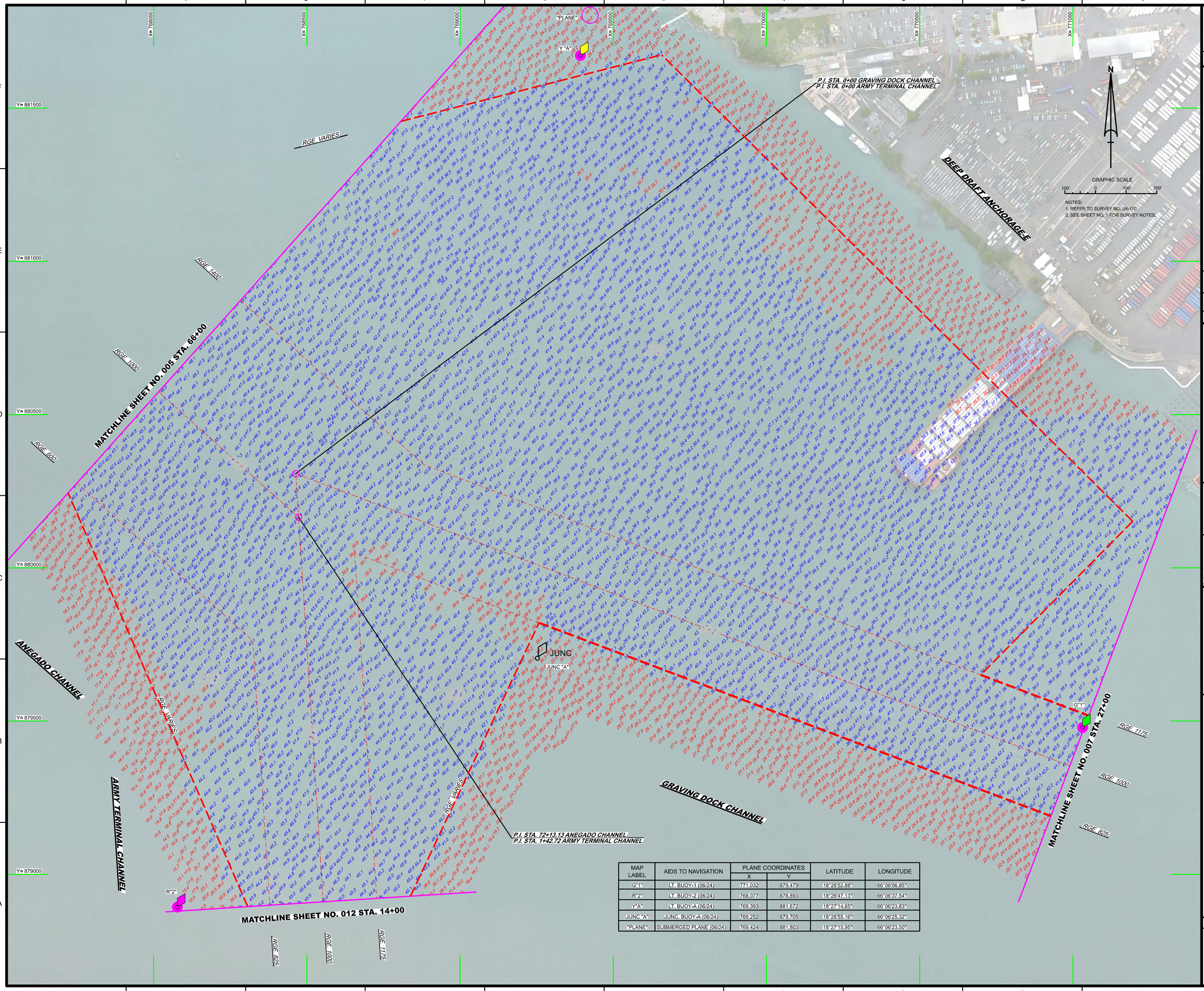
ANEGADO CHANNEL AND
SAN ANTONIO APPROACH CHANNEL
STA. 0+00 THRU STA. 17+25.37 SAN ANTONIO APPROACH CHANNEL
STA. 30+00 THRU STA. 66+00 ANEGADO CHANNEL

## PLAN

Scale: AS SHOWN

Drawing no.
5

SHEET 05 OF 17




| MAP LABEL | AIDS TO NAVIGATION | PLANE COORDINATES | | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|
| | | X | Y | | |
| G"1" | LT. BUOY-1 (06/24) | 771,032 | 879,479 | 18°26'52.88" | 66°06'06.85" |
| R"2" | LT. BUOY-2 (06/24) | 768,077 | 878,893 | 18°26'47.13" | 66°06'37.54" |
| Y"A" | LT. BUOY-A (06/24) | 769,393 | 881,672 | 18°27'14.65" | 66°06'23.83" |
| JUNC "A" | JUNC. BUOY-A (06/24) | 769,252 | 879,705 | 18°26'55.16" | 66°06'25.32" |
| "PLANE" | SUBMERGED PLANE (06/24) | 769,424 | 881,803 | 18°27'15.95" | 66°06'23.50" |

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

| No. | Symbol | Zone |
|---|---|---|

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

Checked by: WRM
DWN by: WRM
Chk by: GMR
Fmt. No. V97-2EP-XXX-XXXX
Date: JUN 2024

24-170-A-NAV.DGN
24-170-A-SDJN_ALLCUTS.DGN
SAN JUAN HARBOR-C-NGMCCF.DGN
24-170-C-BR-BRDR.DGN
Reference files:
24-170-VHa06.DGN
File: junc

SAN JUAN HARBOR
SAN JUAN, PUERTO RICO

# HYDROGRAPHIC EXAM SURVEY FY24
# 30 THRU 36-FOOT PROJECT

STA. 66+00 ANEGADO CHANNEL THRU

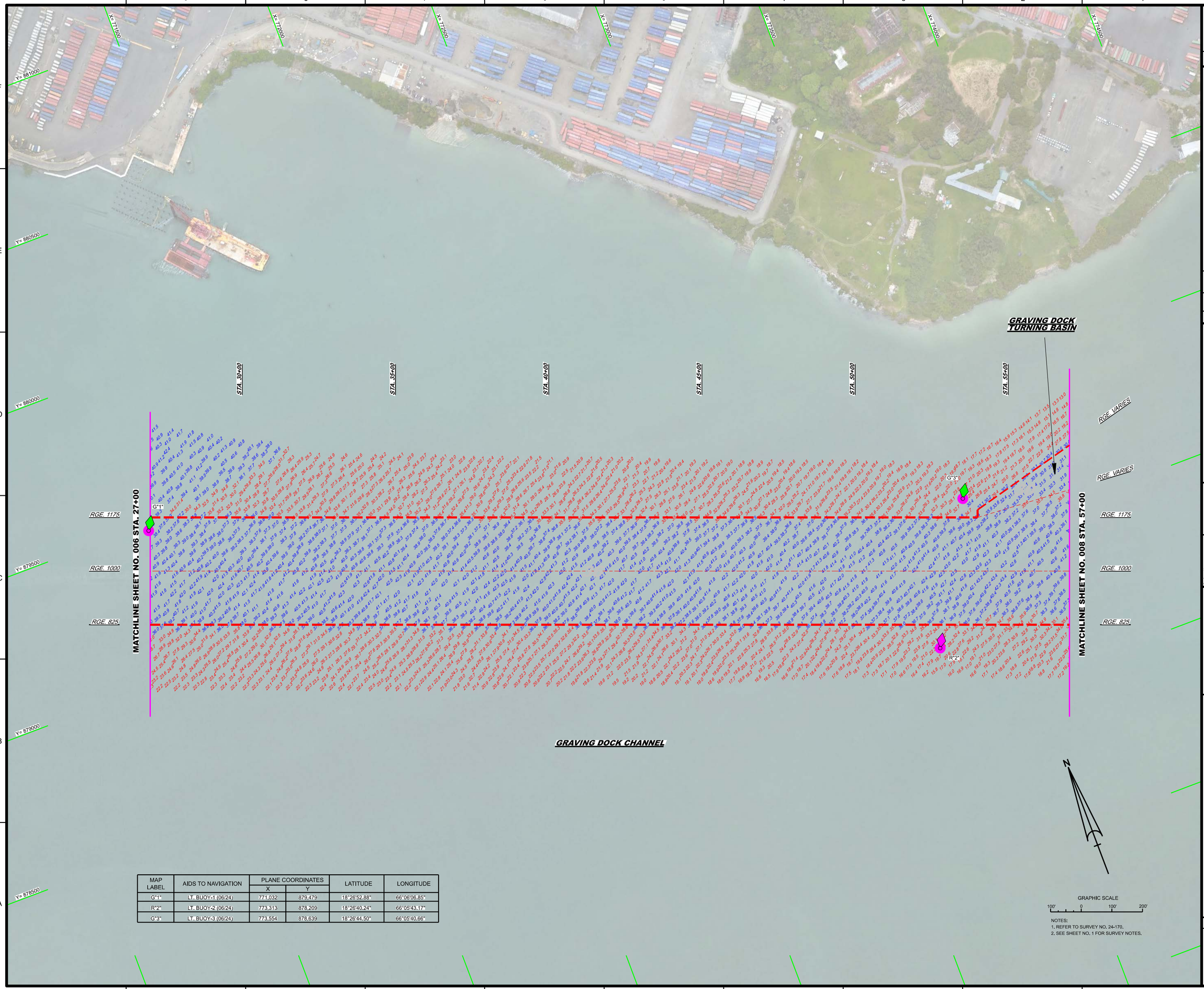
## PLAN

Scale: AS SHOWN

Drawing no.

6

SHEET 06 OF 17




| MAP LABEL | AIDS TO NAVIGATION | PLANE COORDINATES | | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|
| | | X | Y | | |
| G"1" | LT. BUOY-1 (06/24) | 771,032 | 879,479 | 18°26'52.88" | 66°06'06.85" |
| R"2" | LT. BUOY-2 (06/24) | 773,313 | 878,209 | 18°26'40.24" | 66°05'43.17" |
| G"3" | LT. BUOY-3 (06/24) | 773,554 | 878,639 | 18°26'44.50" | 66°05'40.66" |

GRAPHIC SCALE

100' 0 100' 200'

NOTES:
1. REFER TO SURVEY NO. 24-170.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

| No. | Symbol | Zone |
|---|---|---|

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

Cad by: GMR
Checked by: WRM
DWN by: WRM
Rev. No. V01?2EP-X-X-X-X-X-X
Date: JUN 2024

24-170-A-NAV.DGN
24-170-A-SCUN_ALLCUTS.DGN
SAN JUAN HARBOR-C-NGMCCF.DGN
24-170-C-BR-BRGR.DGN
Reference files:
24-170-VHa07.DGN
File name:

SAN JUAN HARBOR
SAN JUAN, PUERTO RICO

# HYDROGRAPHIC EXAM SURVEY FY24
## 30 THRU 56-FOOT PROJECT

STA. 27+00 THRU STA. 57+00 GRAVING DOCK CHANNEL

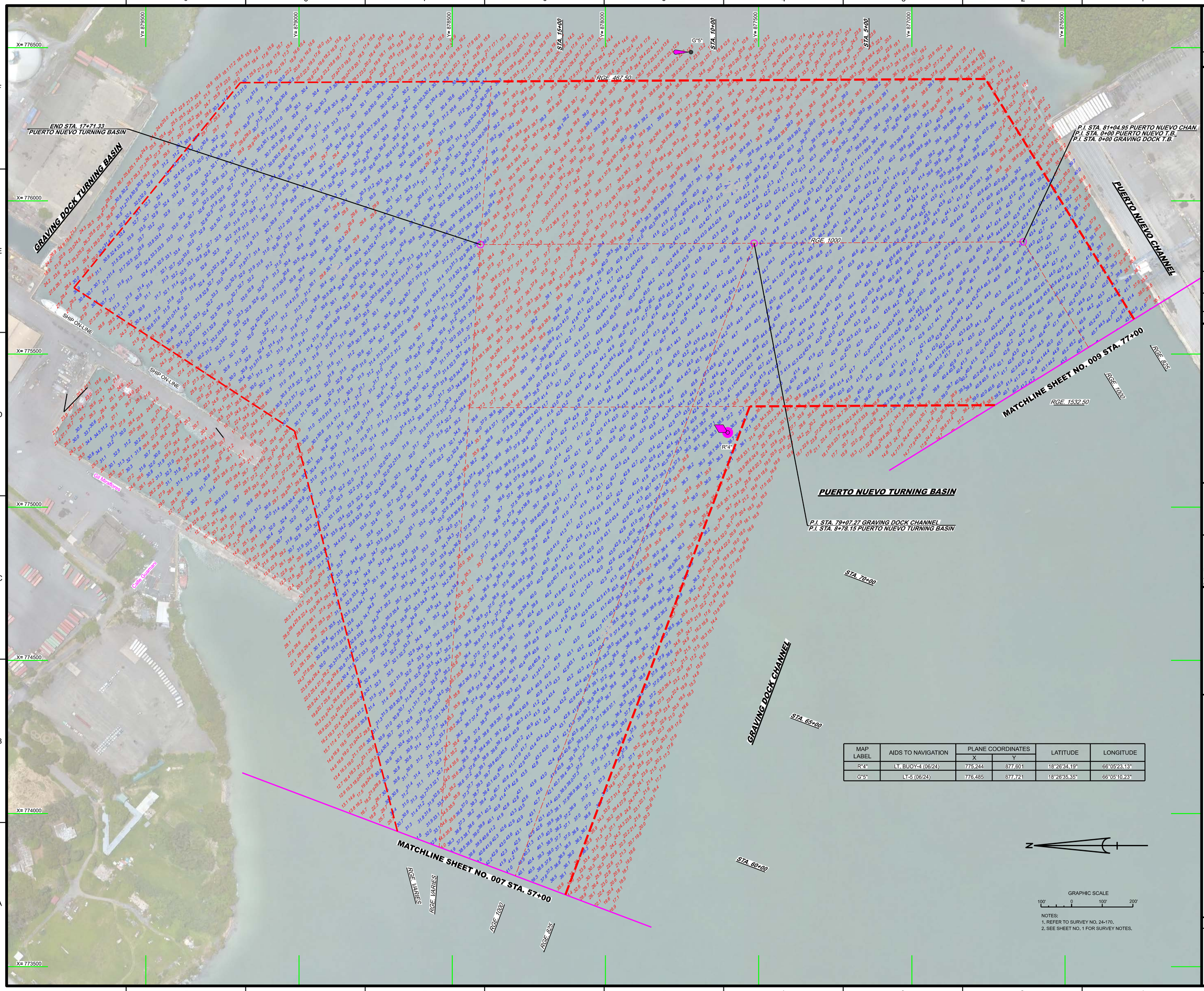
## PLAN

Scale: AS SHOWN

Drawing no.

7

SHEET 07 OF 17




| MAP LABEL | AIDS TO NAVIGATION | PLANE COORDINATES | | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|
| | | X | Y | | |
| R"4" | LT. BUOY-4 (06/24) | 775,244 | 877,601 | 18°26'34.19" | 66°05'23.13" |
| G"5" | LT-5 (06/24) | 776,485 | 877,721 | 18°26'35.35" | 66°05'10.23" |

GRAPHIC SCALE

100' 0 100' 200'

NOTES:
1. REFER TO SURVEY NO. 24-170.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

| No. | Symbol | Zone |
|---|---|---|

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

Cad by: GMR
Checked by: WRM
DWN by: WRM
Proj. No. V912EP-XXXXXXXX
Date: JUN 2024

24-170-A-NAV.DGN
24-170-A-SOJN_ALLCUTS.DGN
SAN JUAN HARBOR-C-NGMCCF.DGN
24-170-C-BR-BRDR.DGN
Reference files:
24-170-VHA08.DGN
File name:

SAN JUAN HARBOR
SAN JUAN, PUERTO RICO

# HYDROGRAPHIC EXAM SURVEY FY24
# 30 THRU 36-FOOT PROJECT

STA. 57+00 THRU STA. 79+07.27 GRAVING DOCK CHANNEL
STA. 17+71.33 PUERTO NUEVO TURNING BASIN, STA. 0+00 THRU STA. 81+04.95
PUERTO NUEVO CHANNEL

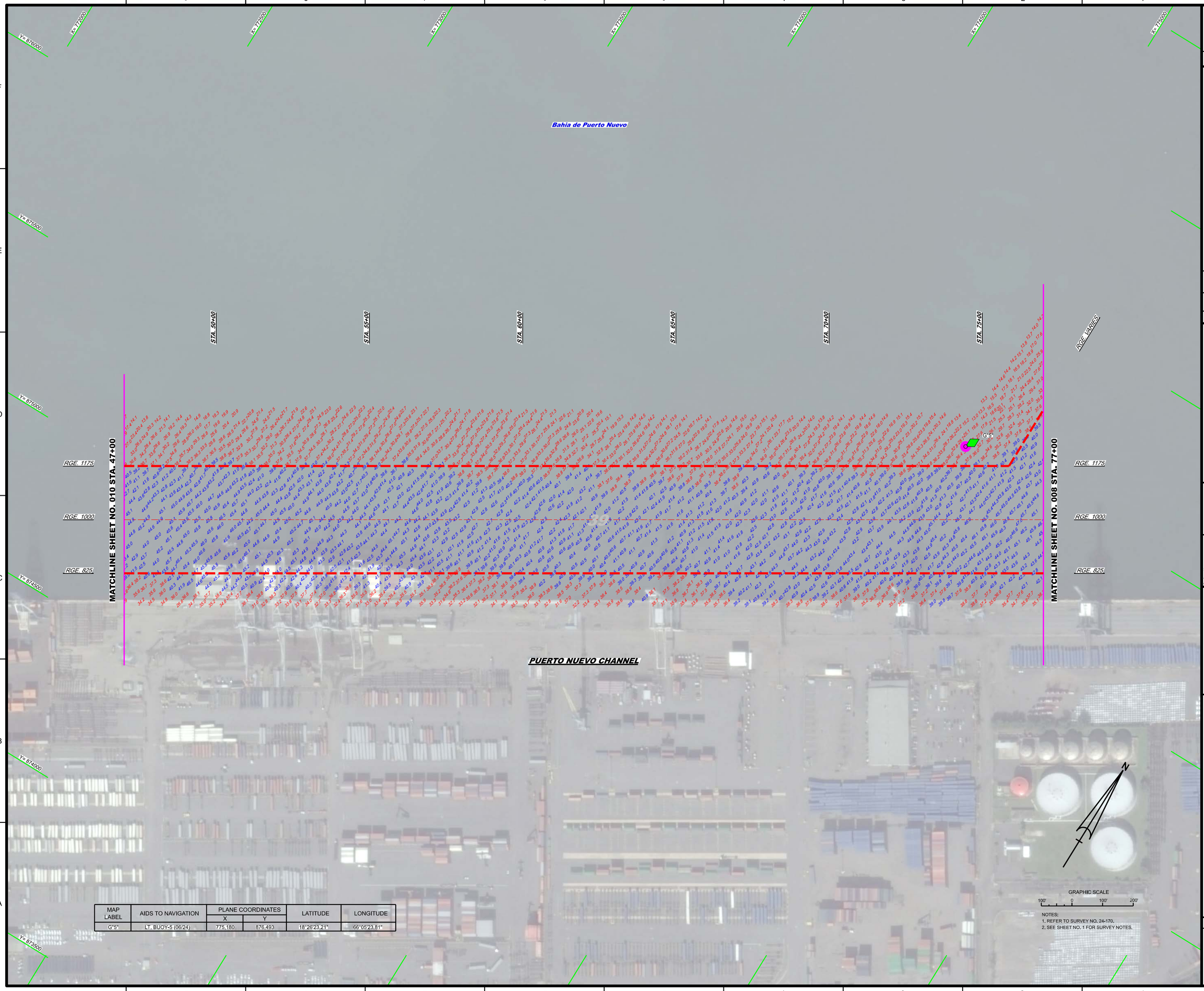
## PLAN

Scale: AS SHOWN

Drawing no.

8

SHEET 08 OF 17




| MAP LABEL | AIDS TO NAVIGATION | PLANE COORDINATES | | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|
| | | X | Y | | |
| G"5" | LT. BUOY-5 (06/24) | 775,180 | 876,493 | 18°26'23.21" | 66°05'23.81" |

NOTES:
1. REFER TO SURVEY NO. 24-170.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

| No. | Symbol | Zone |
|---|---|---|

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

Checked by: CMR
Designed by: VIRM
DWN by: VIRM
Date: JUN. 2024
Rev. No. V01FSFE-XXX-XXXX

24-170-A-NAV.DGN
24-170-A-SOUN_ALCUTS.DGN
SAN JUAN HARBOR-C-NGMCF.DGN
24-170-C-ESI-BRDR.DGN
Reference files:
24-170-VH-009.DGN
File name:

SAN JUAN HARBOR
SAN JUAN, PUERTO RICO

# HYDROGRAPHIC EXAM SURVEY FY24
# 30 THRU 55-FOOT PROJECT

STA. 47+00 THRU STA. 77+00 PUERTO NUEVO CHANNEL

## PLAN

Scale: AS SHOWN

Drawing no.

9

SHEET 09 OF 17