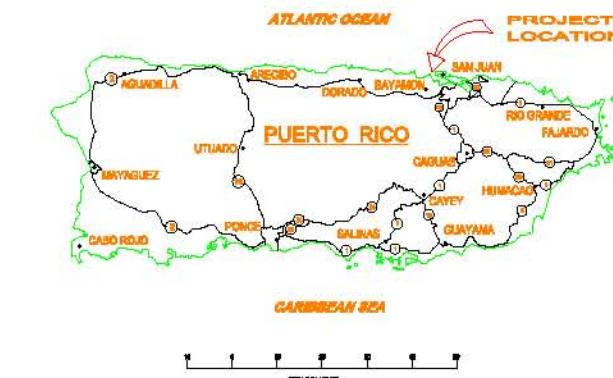


SAN JUAN HARBOR SAN JUAN, PUERTO RICO PROJECT CONDITION SURVEY



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



LOCATION MAP



MAP SHEET NOTES:

REFER TO SURVEY NO. 12-059.

ELEVATIONS ARE IN FEET AND TENTHS AND REFER TO THE NOAA REPORTED MEAN LOWER LOW WATER (MLLW) TIDAL DATUM RELATIVE TO THE 1983-2001 TIDAL EPOCH.

TIDAL REDUCTIONS WERE OBTAINED UTILIZING REAL-TIME KINEMATIC (RTK) GPS AND REFERENCED TO MLLW USING A FIXED ORTHOMETRIC VALUE OF 0.77' (FROM FY11 MAINTENANCE DREDGING CONTRACT PLANS, 11-C-0024).

ALL ELEVATIONS ARE BELOW THE CHART DATUM UNLESS PRECEDED BY A (+) SIGN.

PLANE COORDINATES ARE BASED ON THE LAMBERT CONFORMAL CONIC PROJECTION FOR PR & VI, ZONE 1, NORTH AMERICAN DATUM OF 1983 (NAD 83).

THIS SURVEY WAS PERFORMED USING REAL-TIME KINEMATIC GPS POSITIONING WITH THE FOLLOWING REFERENCE BASE LOCATION:

REFERENCE BASE LOCATED AT 976 5371 A TIDAL*

TIDE STAFF LOCATED FROM 976 5371 A TIDAL*

MLLW ELEVATION: 5.14'

A 6-FOOT TIDE STAFF WAS SET ON THE SOUTHWEST CORNER OF THE SAN JUAN USCGB BASE, AT THE NOAA TIDE GAUGE.

DEPTHS INDICATED BY THIS SURVEY ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW) TIDAL DATUM RELATIVE TO EPOCH 1983-2001, AS REPORTED BY THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA). SURVEY WAS CALIBRATED TO THE PUBLISHED MLLW HEIGHTS OF THE BENCH MARKS ASSOCIATED WITH THE TIDE GAGE SITE SPECIFIED.

NOAA TIDAL STATION 976-5371 FOR ENTIRE PROJECT.

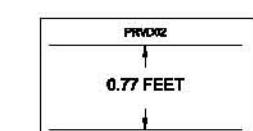
VERTICAL MEASUREMENTS WERE MADE USING A ROSS 835 SMARTSOUNDER SINGLE-BEAM SONAR OPERATING AT 28 AND 200 kHz. SOUNDINGS ARE IN HIGH FREQUENCY.

SURVEY VESSEL **DATE OF SURVEY** **CUT**

SURVEY VESSEL	DATE OF SURVEY	CUT
SB-38	8 FEB 2012	ANEGADO CHANNEL
SB-38	10 FEB 2012	BAR CUT 1 & 2, ARMY TERM CHANNEL, PUERTO NUEVO CHANNEL & TURNING BASIN, GRAVING DOCK CHANNEL
SB-38	11 FEB 2012	GRAVING DOCK CHANNEL & SAN ANTONIO APPROACH CH
SB-38	12 FEB 2012	SAN ANTONIO APPROACH CH & SAN ANTONIO CHANNEL
SB-38	13 FEB 2012	

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 SURVEY.

SURVEY ACCURACY STANDARDS, QUALITY CONTROL, AND QUALITY ASSURANCE REQUIREMENTS WERE FOLLOWED DURING THIS SURVEY IN ACCORDANCE WITH USACE EM 1110-2-1003, HYDROGRAPHIC SURVEYING, 1 JAN 02.



RELATIONSHIP BETWEEN PRV02
AND MEAN LOWER LOW WATER

PLAN
EXAMINATION SURVEY FY12
30-FOOT PROJECT

VH-101
Sheet 1 of 14

SAFETY ON THIS JOB
DEPENDS ON YOU

US Army Corps
of Engineers
Jacksonville District

Engineering

Planning

Design

Construction

Operations

Maintainance

Emergency

Management

Research

Education

Public Outreach

Community

Partnerships

Innovation

Sustainability

Resiliency

Adaptation

Science

Technology

Environment

Health

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Quality

Efficiency

Cost

Delivery

Performance

Excellence

Leadership

Integrity

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



FBI
LABORATORY

GRAPHIC SCALE
100' 0' 100' 200'

NOTES:
1. REFER TO SURVEY NO. 12-059.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.

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SAN JUAN HARBOR
SAN JUAN, P.R.
**EXAMINATION SURVEY FY12
30-FOOT PROJECT**

PLAN

Scale: AS SHOWN

Drawing no.

VH-106

SHEET 6 OF 14

AIDS TO NAVIGATION	PLANE COORDINATES		LATITUDE	LONGITUDE
	X	Y		
GREEN LIGHT BUOY 8 - 2/8/12	7888330.76	878964.26	18 29 27.99	66 06 26.71
RED BUOY 4 - 2/8/12	788830.76	878964.26	18 29 27.99	66 06 26.71
GREEN LIGHT BUOY 3 - 2/8/12	788863.54	878198.25	18 28 50.04	66 06 31.44
RED LIGHT BUOY 2 - 2/8/12	788268.18	878134.33	18 26 49.81	66 06 38.68

MATCH LINE SHEET VF-112

RANGE 1175

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RANGE 1000

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RANGE 825

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RANGE 1175

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ARMY TERMINAL CHANNEL

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AIDS TO NAVIGATION		PLANE COORDINATES		LATITUDE		LONGITUDE	
X	Y	X	Y	N	S	E	W
GREEN LIGHT BUOY 5 - 28°12'12"	772148.98	872020.38	18 28 08.73	00	05 46.09		
GREEN LIGHT BUOY 1 - 28°12'	770881.40	873737.76	18 25 56.32		00 06 06.72		

Sheet: AS SHOWN
Drawing No.

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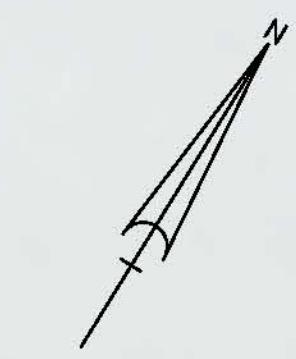
ES



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

GRAPHIC SCALE
100' 0' 100' 200'

NOTES:
1. REFER TO SURVEY NO. 12-069.
2. SEE SHEET NO. 1 FOR SURVEY NOTES.



RANGE 1175

RANGE 1000

RANGE 825

MATCH LINE SHEET HHA-10

PUERTO NUEVO CHANNEL

AIDS TO NAVIGATION	PLANE COORDINATES		LATITUDE	LONGITUDE
	X	Y		
GREEN LIGHT BUOY 6 - 289/12	775190.63	876536.00	18 26 23.62	65 06 23.70

SAN JUAN HARBOR
SAN JUAN, P.R.
EXAMINATION SURVEY FY12
30-FOOT PROJECT

PLAN

Scale: AS SHOWN

Drawing no.

VH-109

SHEET 9 OF 14

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

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

REF ID: 12-069-1175-10

REF ID: 12-069-1000-10

REF ID: 12-069-825-10

REF ID: 12-069-1175-10

REF ID: 12-069-1000-10

REF ID: 12-069-825-10

REF ID: 12-069-1175-10

REF ID: 12-069-1000-10

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