

**NOTES:**  
DRAWING NOT TO BE USED FOR NAVIGATION, ONLY CHANNEL CONDITION AT DATE OF SURVEY. THE LOCATION OF ALL NAVIGATION AIDS ARE BASED ON INFORMATION PROVIDED BY THE U.S. COAST GUARD. BUOY LOCATIONS REPRESENT THE POSITION OF THE SINKER ONLY.  
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY CONDUCTED ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED TO REPRESENT THE GENERAL CONDITION EXISTING AT THAT TIME.  
DISTANCE UNITS IN U.S. SURVEY FEET; DEPTHS ARE SHOWN AS POSITIVE VALUES.  
COORDINATES ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM (SPCS) ZONE III, LAMBERT CONFORMAL PROJECTION REFERENCED TO NAD83, AS DESCRIBED IN SPECIAL PUBLICATION NO. 238, PUBLISHED BY NATIONAL OCEAN SURVEY.  
BASE MAPS ARE USDA NAIP 2010.  
\*SHOALEST SOUNDING PER QUARTER PER REACH  
SURVEYED BY THE CORPS OF ENGINEERS.  
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER (MLLW) AT THE LOCALITY AND ARE SHOWN TO THE TENTHS OF A FOOT.  
THE PROJECT DEPTH IS .35 FEET MLLW.  
VERTICAL DATUM: MLLW (MEAN LOWER LOW WATER)  
TIDAL EPOCH: 1983-2005  
TIDE GAUGE: (NO TIDE GAUGES)

**HORIZONTAL CONTROL DATUM:** NAD83(2011) EPOCH 2010.00  
**CONTROL:** POINT PINOLE 4 RESET | PID: JT2895 BM 5056 A | PID: BBCN55 9415056  
OPUS 3/19/2020 5218 L 1976 PID: BBCN57 9415218  
5218 R 2006 PID: BBCN57 9415218  
OPUS 8/11/2010 9415218  
**TIDE GAUGE:** NAIL & BRASS DISK SET IN DOLPHIN AT 10.0 FT MLLW APPROX POSITION: 38° 04' 9.9" N, 122° 15' 4.4" W  
**POSITIONS AND SOUNDINGS HAVE BEEN CORRECTED** USING PKP TECHNIQUES USING A CORS NETWORK BASE STATION AT OHLN.  
**TIDE VALUES HAVE BEEN EXTRAPOLATED USING GEOD18 AND VDATUM V4.0.1.**  
**SURVEY VESSEL / EQUIPMENT:**  
SV RANDY CUMMINGS  
- PCGS M750 VERS HW2.5-12  
- IMU TYPE 42  
- TRIMBLE AT1675-540TS GPS ANTENNA

**Sheet Reference Number**  
**1 of 5**

**U.S. ARMY CORPS OF ENGINEERS**  
San Francisco District  
450 Golden Gate Ave.  
San Francisco, CA 94102

**Distribution Liability:** The data represents the results of data collection and processing by the U.S. Army Corps of Engineers acting under the direction of the Secretary of the Army. The data is provided "as is" without any warranty, expressed or implied, regarding its suitability for any particular purpose. The user assumes responsibility for any use of the information and the data furnished. The United States shall be under no liability whatsoever to any person by reason of any use made thereof. These data reflect the general condition of the waterway at the time of survey. Therefore, the recipient fully agrees to not to represent these data as a survey as other than what it is, and to also transfer the data as such if these data in entire or in part are transferred to another.

**DISCLAIMER**  
Access Constraints: The United States Government furnishes these data and the recipient accepts and uses them with the express understanding that the U.S. Government makes no warranties, expressed or implied, regarding the quality or accuracy of the data. The data is provided "as is" without any warranty, expressed or implied, regarding its suitability for any particular purpose. The user assumes responsibility for any use of the information and the data furnished. The United States shall be under no liability whatsoever to any person by reason of any use made thereof. These data reflect the general condition of the waterway at the time of survey. Therefore, the recipient fully agrees to not to represent these data as a survey as other than what it is, and to also transfer the data as such if these data in entire or in part are transferred to another.

Chart Date: May 12, 2022

Designed by: PDT

Potted By: PDT

Checked By: PDT

Approved: PDT

Chief, Construction Branch

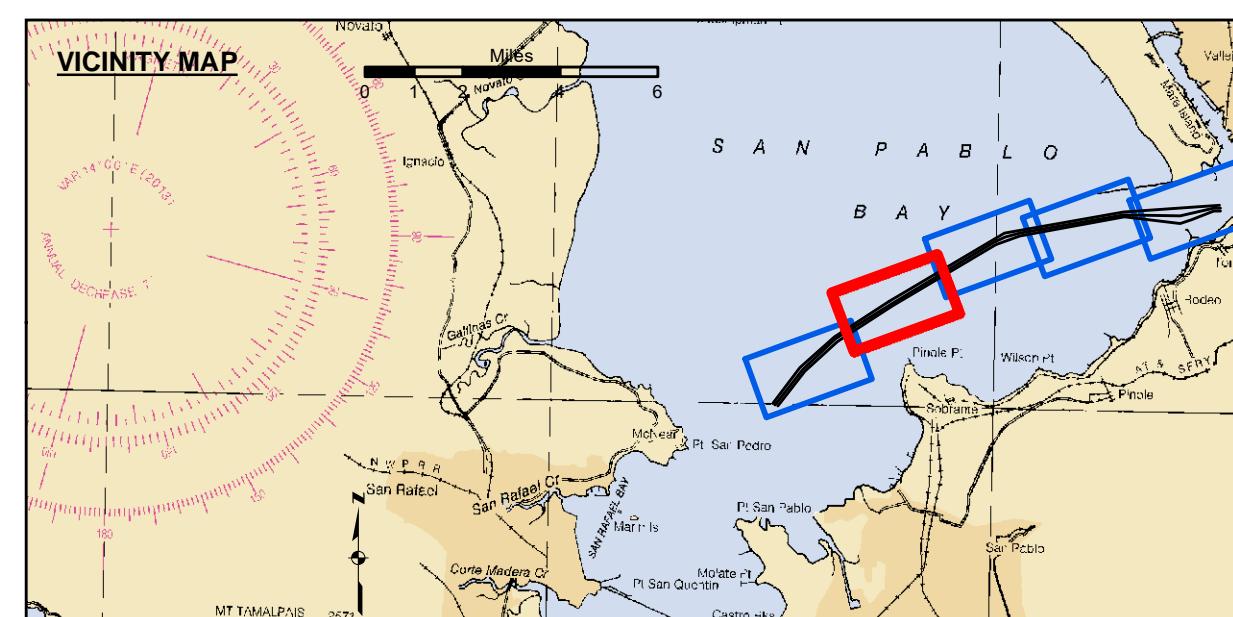
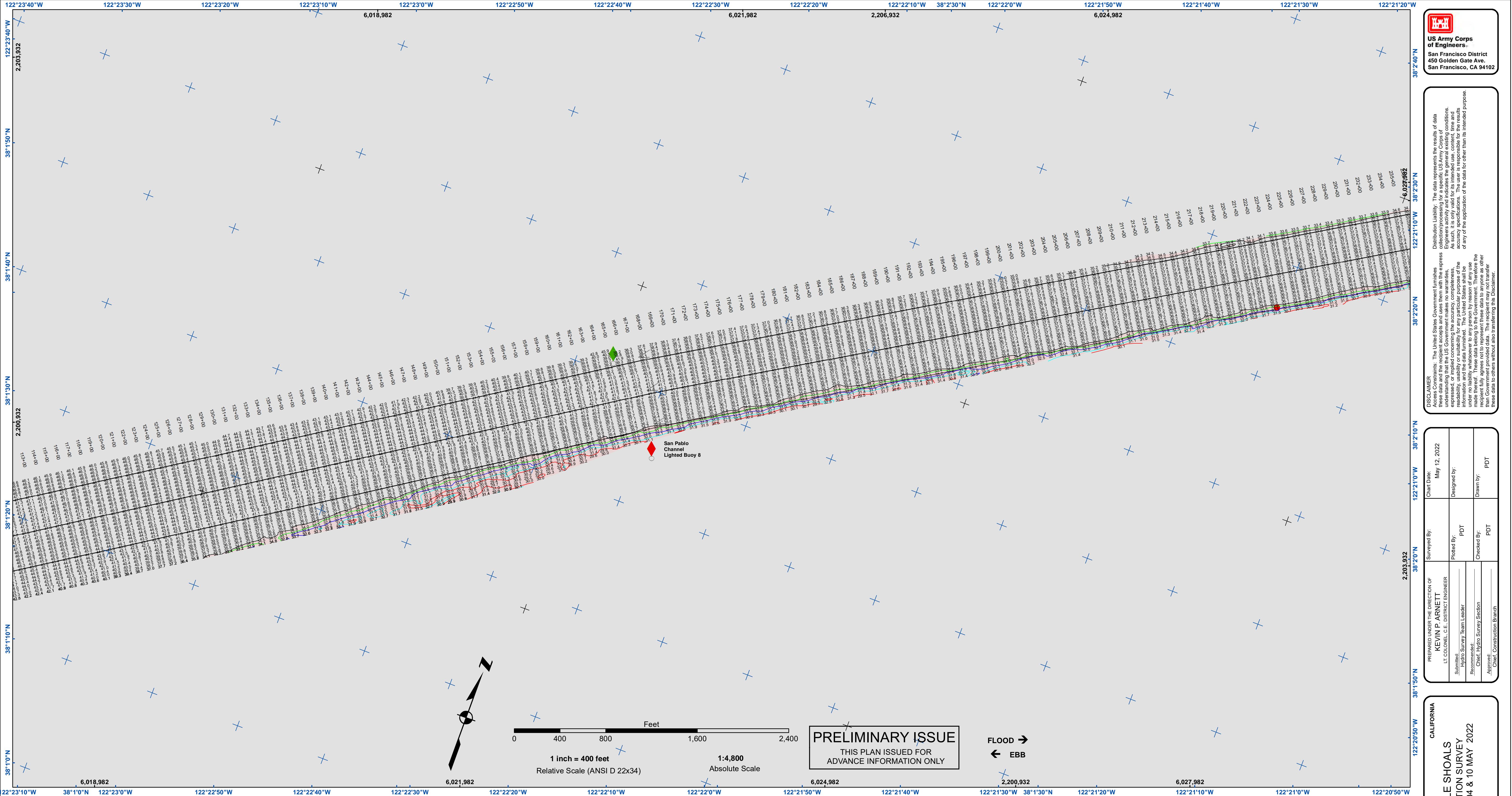
Approved: PDT

CALIFORNIA

PINOLE SHOALS

CONDITION SURVEY

27 APRIL, 04 & 10 MAY 2022



- Federal Navigation Channel
-  Shoaling Area
-  Placement Area
-  Anchorage Area
-  Wreck Area
-  Submerged Wreck
-  Angle Point

- Beacon, General
- × Obstruction Point
- ◆ Navigation Buoy
- ◆ Navigation Buoy
- Shoal or Soundings

The figure displays five horizontal lines of decreasing height from top to bottom, representing contour levels. The lines are colored black, green, blue, light blue, and red. To the right of each line is its corresponding value: -35, -34, -33, -32, and -31. An asterisk (\*) is placed next to the red line.

Line Color	Contour Level
Black	-35
Green	-34
Blue	-33
Light Blue	-32
Red	-31*

NOTES:

DRAWING NOT TO BE USED FOR NAVIGATION, ONLY CHANNEL CONDITION AT DATE OF SURVEY. THE LOCATION OF ALL NAVIGATION AIDS ARE BASED ON INFORMATION PROVIDED BY THE U.S. COAST GUARD. BUOY LOCATIONS REPRESENT THE POSITION OF THE SINKER ONLY.

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY CONDUCTED ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED TO REPRESENT THE GENERAL CONDITION EXISTING AT THAT TIME.  
DISTANCE UNITS IN U.S. SURVEY FEET. DEPTHS ARE SHOWN AS POSITIVE VALUES.

COORDINATES ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM (SPCS) ZONE III, LAMBERT CONFORMAL PROJECTION REFERENCED TO NAD83, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

BASE MAPS ARE USDA NAIP 2010.

\*SHOALEST SOUNDING PER QUARTER PER REACH

SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER (MLLW) AT THE LOCALITY AND ARE SHOWN TO THE TENTHS OF A FOOT.

THE PROJECT DEPTH IS -35 FEET MLLW.

VERTICAL DATUM:  
MLLW (MEAN LOWER LOW WATER)  
TIDAL EPOCH 1983-2001  
TIDAL DATUM CONTROL STATION(S):  
- 9415056 PINOLE POINT - JUNE 2014  
- 9415218 MARE ISLAND - AUG 2013

HORIZONTAL CONTROL DATUM:  
NAD83(2011) EPOCH 2010.00

CONTROL:  
POINT PINOLE 4 RESET | PID: JT2895  
OPUS 3/19/2020 BM 5056 A | PID: BBCN55  
9415056

5218 L 1976 5218 R 2006  
PID: BBBZ81 PID: BBCN57  
OPUS 8/11/2010 | 9415218 OPUS 10/31/2011 | 9415218

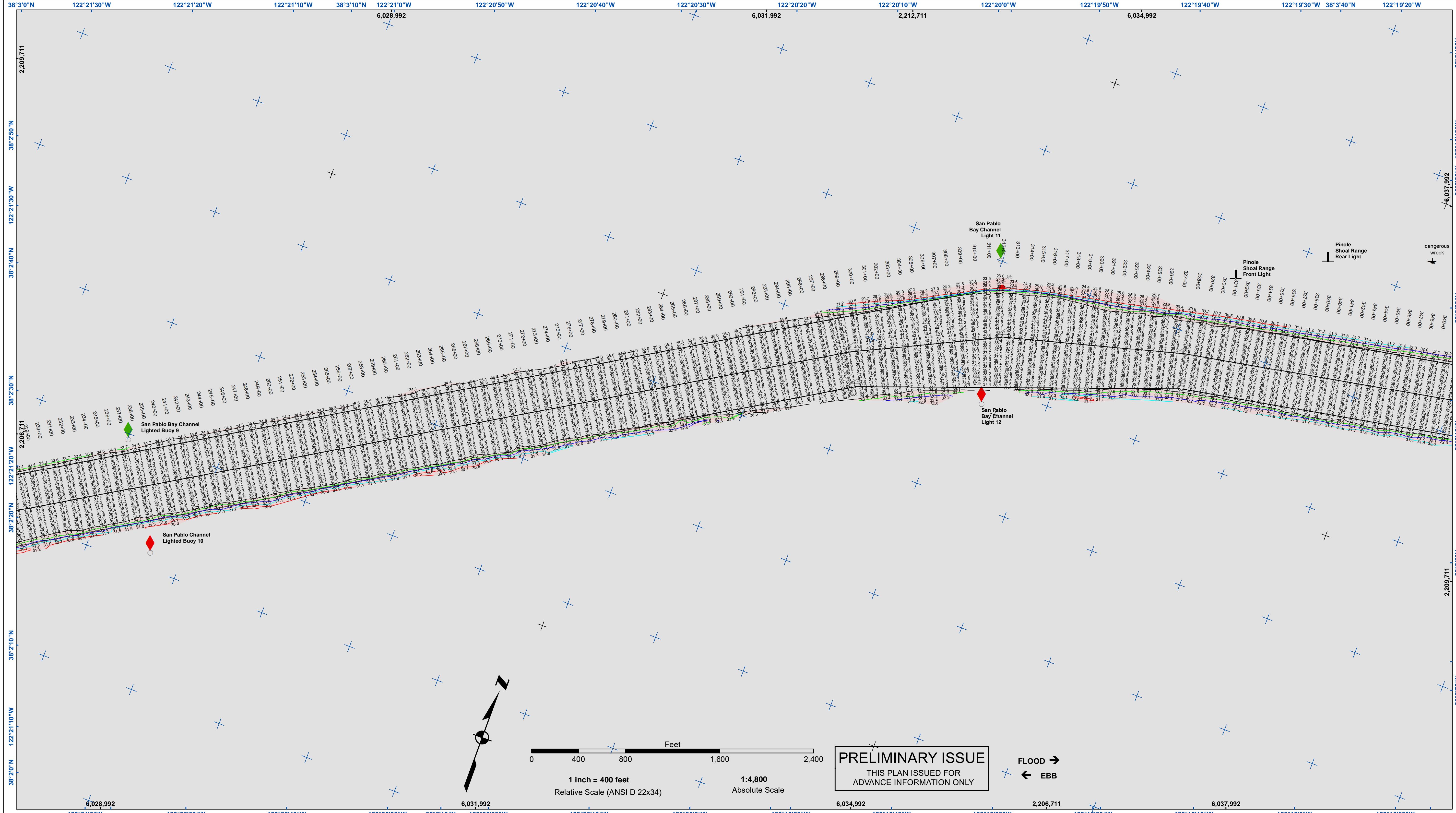
TIDE GAUGE:  
NAIL & BRASS DISK SET IN DOLPHIN AT 10.0 FT MLLW  
APPROX POSITION: 38° 04' 9.9" N, 122° 15' 4.4" W

POSITIONS AND SOUNDINGS HAVE BEEN CORRECTED  
USING PPK TECHNIQUES USING A CORS NETWORK BASE STATION AT OHLN.

TIDE VALUES HAVE BEEN EXTRAPOLATED USING GEOID18 AND VDATUM V4.0.1.

SURVEY VESSEL / EQUIPMENT:  
S/V RANDY CUMMINGS  
- RESON T50-R SINGLE-HEAD MULTIBEAM ECHOSOUNDER  
- POS MV 220 VER5 HW2.5-12  
- IMU TYPE 42  
- TRIMBLE E AT1675-540TS GPS ANTENNA

**Sheet  
Reference  
Number  
  
2 of 5**



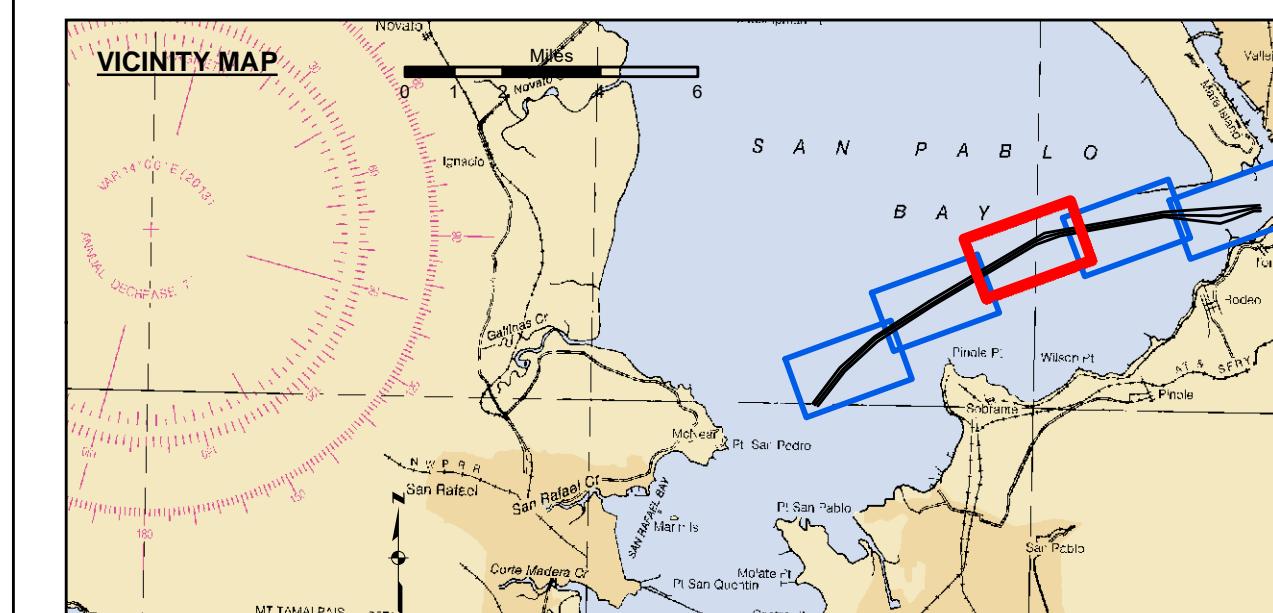
The logo consists of a red rectangular box containing a white silhouette of a castle or fort with multiple towers and a drawbridge. Below the logo, the text "U.S. Army Corps of Engineers" is written in a serif font, with "U.S." in a smaller font above "Army Corps of Engineers".

**Access Constraints:** The United States Government furnishes these data and the recipient accepts and uses them with the express understanding that the US Government makes no warranties, expressed, or implied concerning the accuracy, completeness, readability, usability or suitability for any particular purpose of the information and the data furnished. The United States shall be under no liability whatsoever to any person by reason of any use made thereof. These data belong to the Government. Therefore the recipient fully agrees not to represent these data to anyone as other than Government provided data. The recipient may not transfer these data to others without also transferring this Disclaimer.

KEVIN P. ARNETT LT. COLONEL, C.E., DISTRICT ENGINEER		May 12, 2022	
Submitted: <u>Hydro Survey Team Leader</u>	Plotted By: <u>PDT</u>	Designed by: <u></u>	
Recommended: <u>Chief, Hydro Survey Section</u>	Checked By: <u>PDT</u>	Drawn by: <u>PDT</u>	
Approved: <u>Chief, Construction Branch</u>			

**CAPE TOWN  
CAPE SHOALS  
POSITION SURVEY  
04 & 10 MAY 2022**

**Sheet  
Reference  
Number  
  
3 of 5**



—	Federal Navigation Channel	
■	Shoaling Area	
■	Placement Area	
■	Anchorage Area	
■	Wreck Area	
↗	Submerged Wreck	
↖	Angle Point	
■	Beacon, General	
○	Obstruction Point	
◆	Navigation Buoy	
◆	Navigation Buoy	
●	Shoalest Sounding*	

**ELIMINARY ISSUE**

**THIS PLAN ISSUED FOR  
ADVANCE INFORMATION ONLY**

NOTES:

DRAWING NOT TO BE USED FOR NAVIGATION, ONLY CHANNEL CONDITION AT DATE OF SURVEY. THE LOCATION OF ALL NAVIGATION AIDS ARE BASED ON INFORMATION PROVIDED BY THE U.S. COAST GUARD. BUOY LOCATIONS REPRESENT THE POSITION OF THE SINKER ONLY.

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY CONDUCTED ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED TO REPRESENT THE GENERAL CONDITION EXISTING AT THAT TIME.  
DISTANCE UNITS IN U.S. SURVEY FEET. DEPTHS ARE SHOWN AS POSITIVE VALUES.

COORDINATES ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM (SPCS) ZONE III, LAMBERT CONFORMAL PROJECTION REFERENCED TO NAD83, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

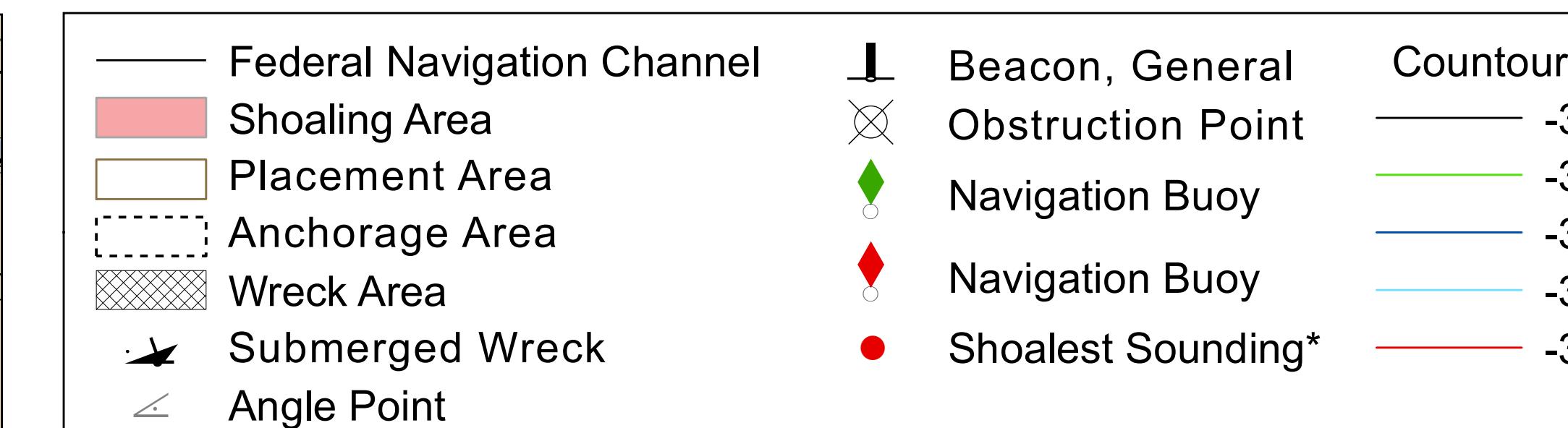
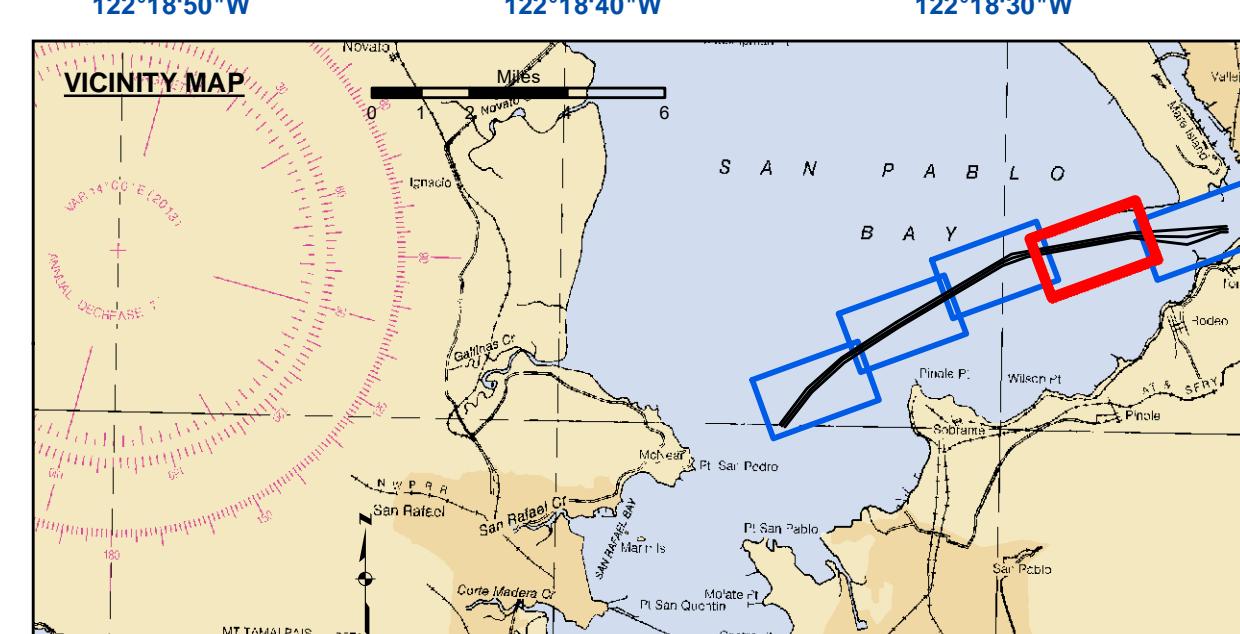
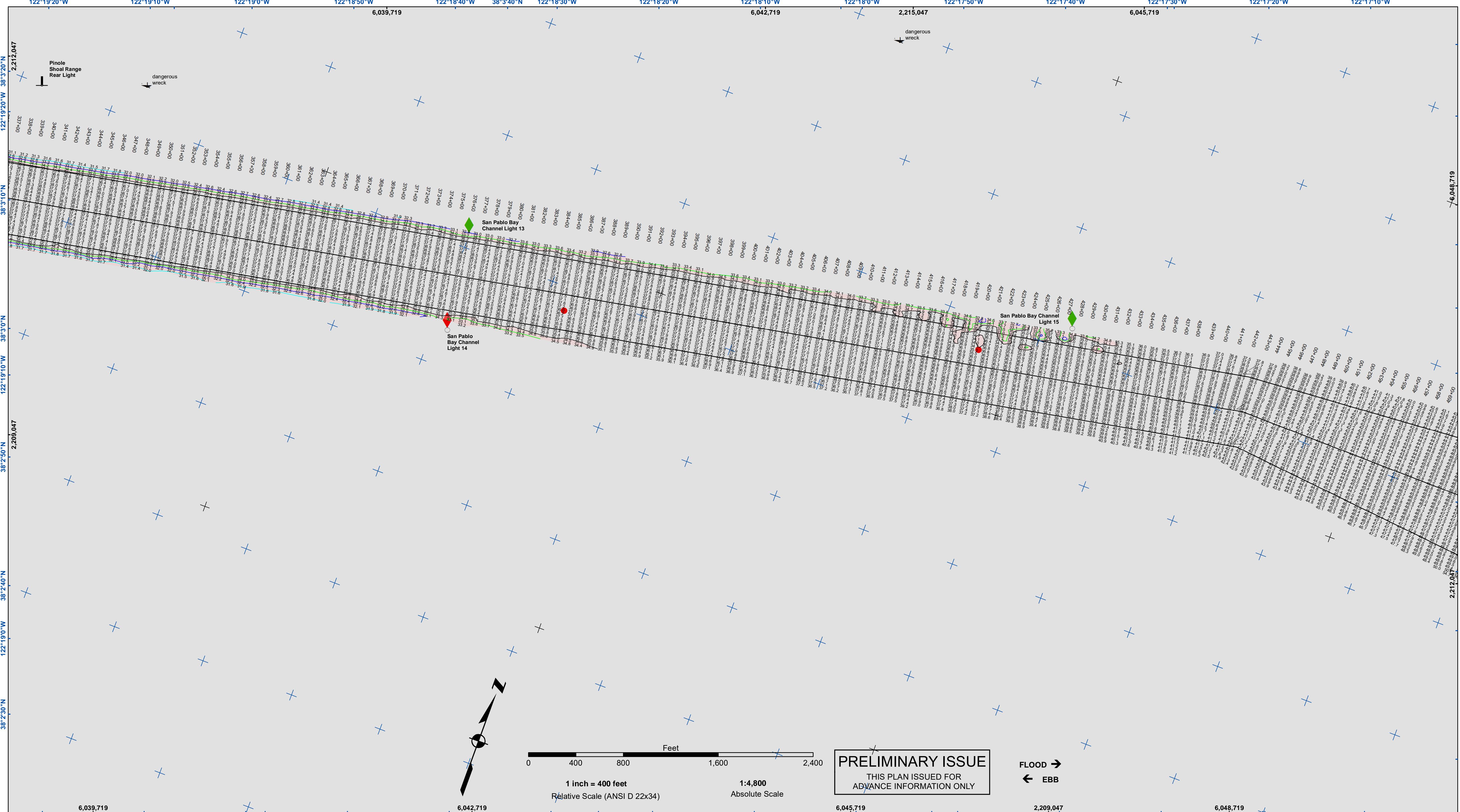
BASE MAPS ARE USDA NAIP 2010.

\*SHOLEST SOUNDING PER QUARTER PER REACH

SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER (MLLW) AT THE LOCALITY AND ARE SHOWN TO THE TENTHS OF A FOOT.

THE PROJECT DEPTH IS -35 FEET MLLW.



**NOTES:**  
DRAWING NOT TO BE USED FOR NAVIGATION, ONLY CHANNEL CONDITION AT DATE OF SURVEY. THE LOCATION OF ALL NAVIGATION AIDS ARE BASED ON INFORMATION PROVIDED BY THE U.S. COAST GUARD. BUOY LOCATIONS REPRESENT THE POSITION OF THE SINKER ONLY.  
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY CONDUCTED ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED TO REPRESENT THE GENERAL CONDITION EXISTING AT THAT TIME.  
DISTANCE UNITS IN U.S. SURVEY FEET; DEPTHS ARE SHOWN AS POSITIVE VALUES.  
COORDINATES ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM (SPCS) ZONE III, LAMBERT CONFORMAL PROJECTION REFERENCED TO NAD83, AS DESCRIBED IN SPECIAL PUBLICATION NO. 238, PUBLISHED BY NATIONAL OCEAN SURVEY.  
BASE MAPS ARE USDA NAIP 2010.  
\*SHOALEST SOUNDING PER QUARTER PER REACH  
SURVEYED BY THE CORPS OF ENGINEERS.  
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER (MLLW) AT THE LOCALITY AND ARE SHOWN TO THE TENTHS OF A FOOT.  
THE PROJECT DEPTH IS .35 FEET MLLW.  
VERTICAL DATUM: MLLW (MEAN LOWER LOW WATER)  
TIDAL EPOCH: 1983-2005  
TIDE GAUGE: PCGS MARE ISLAND (TIDE STATION):  
- 9415056 PINOLE POINT - JUNE 2014  
- 9415218 MARE ISLAND - AUG 2013

**HORIZONTAL CONTROL DATUM:** NAD83(2011) EPOCH 2010.00  
**CONTROL:** POINT PINOLE 4 RESET | PID: JT2895 BM 5056 A | PID: BBCN55 9415056  
OPUS 3/19/2020  
5218 L 1976 5218 R 2006  
PID: BBCN57  
OPUS 8/11/2010 | 9415218 9415218  
**TIDE GAUGE:** NAIL & BRASS DISK SET IN DOLPHIN AT 10.0 FT MLLW APPROX POSITION: 38° 04' 9.9" N, 122° 15' 4.4" W  
**POSITIONS AND SOUNDINGS HAVE BEEN CORRECTED** USING PKP TECHNIQUES USING A CORS NETWORK BASE STATION AT OHLN.  
**TIDE VALUES HAVE BEEN EXTRAPOLATED USING GEOD18 AND VDATUM V4.0.1.**  
**SURVEY VESSEL / EQUIPMENT:**  
SV RANDY CUMMINGS  
- PCGS MARE ISLAND T50-R SINGLE-HEAD MULTIBEAM ECHOSOUNDER  
- PCGS MARE ISLAND HW2.5-12  
- IMU TYPE 42  
- TRIMBLE AT1675-540TS GPS ANTENNA

**US Army Corps  
of Engineers**  
San Francisco District  
450 Golden Gate Ave.  
San Francisco, CA 94102

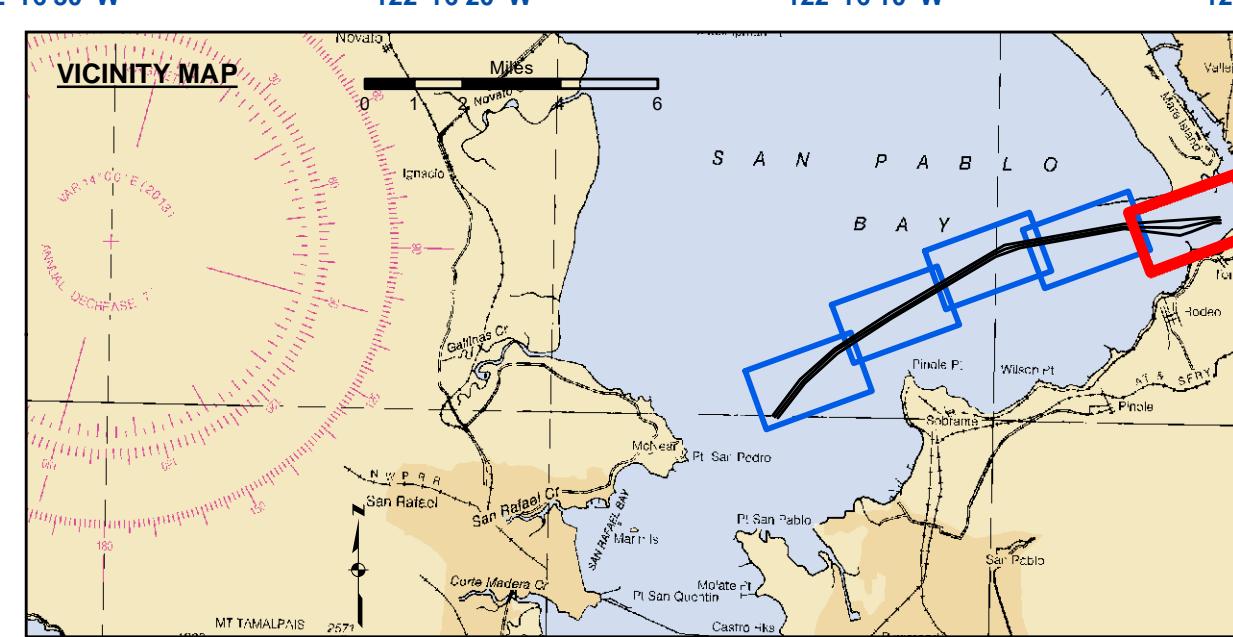
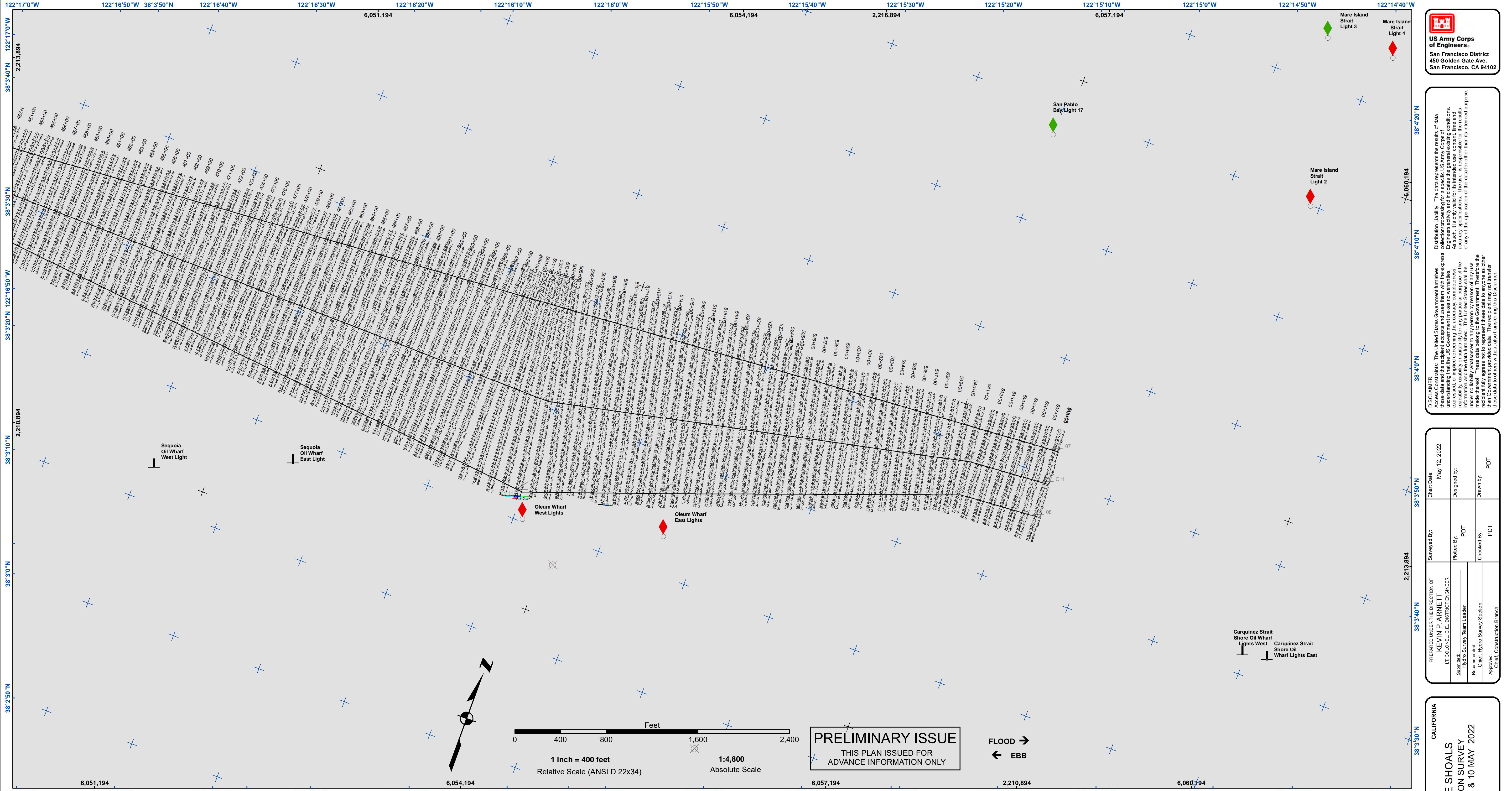
Distribution Liability: The data represents the results of data collection/processing for a specific use by the U.S. Army Corps of Engineers acting under specific conditions. A user assumes responsibility for any derivative uses of the data and is responsible for the results of any application of the data for other than its intended purpose.

DISCLAIMER
Access Constraints: The United States Government furnishes these data and the recipient accepts and uses them with the express understanding that the U.S. Government makes no warranties, expressed or implied, regarding the quality of the data, its correctness, or its appropriateness for any particular purpose. The United States shall be under no liability whatsoever to any person by reason of any use made thereof. These data belong to the Government. Therefore the recipient fully agrees not to represent these data as anyone as other than what they are. The recipient also understands that it is their responsibility to determine if these data in entire or in part, also transfering the disclaimer.

**CALIFORNIA**  
**PINOLE SHOALS**  
**CONDITION SURVEY**  
**27 APRIL, 04 & 10 MAY 2022**

**Sheet Reference Number**  
**4 of 5**

PREPARED UNDER THE DIRECTION OF KEVIN PARNETT LT. COLONEL, C.E., DISTRICT ENGINEER	Surveyed By: _____ Chart Date: May 12, 2022
Submitted: _____ Hydro Survey Team Leader	Plotted By: _____ PDT
Recommended: _____ Chief Hydro Survey Section	Drawn by: _____ PDT
Approved: _____ Chief, Construction Branch	Checked by: _____ PDT



**NOTES:**  
DRAWING NOT TO BE USED FOR NAVIGATION, ONLY CHANNEL CONDITION AT DATE OF SURVEY. THE LOCATION OF ALL NAVIGATION AIDS ARE BASED ON INFORMATION PROVIDED BY THE U.S. COAST GUARD. BUOY LOCATIONS REPRESENT THE POSITION OF THE SINKER ONLY.  
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY CONDUCTED ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED TO REPRESENT THE GENERAL CONDITION EXISTING AT THAT TIME.  
DISTANCE UNITS IN U.S. SURVEY FEET; DEPTHS ARE SHOWN AS POSITIVE VALUES.  
COORDINATES ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM (SPCS) ZONE III, LAMBERT CONFORMAL PROJECTION REFERENCED TO NAD83, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.  
BASE MAPS ARE USDA NAIP 2010.  
\*SHOALEST SOUNDING PER QUARTER PER REACH  
SURVEYED BY THE CORPS OF ENGINEERS.  
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER (MLLW) AT THE LOCALITY AND ARE SHOWN TO THE TENTHS OF A FOOT.  
THE PROJECT DEPTH IS .35 FEET MLLW.

**HORIZONTAL CONTROL DATUM:** NAD83(2011) EPOCH 2010.00  
**CONTROL:** POINT PINOLE 4 RESET | PID: JT2895 BM 5056 A | PID: BBCN55  
OPUS 3/19/2020 9415056  
5218 L 1976 PID: BBCN56  
OPUS 8/11/2010 9415218 5218 R 2006 PID: BBCN57  
OPUS 10/31/2011 9415218  
**TIDE GAUGE:** NAIL & BRASS DISK SET IN DOLPHIN AT 10.0 FT MLLW APPROX POSITION: 38° 04' 9.9" N, 122° 15' 4.4" W  
**POSITIONS AND SOUNDINGS HAVE BEEN CORRECTED** USING PKP TECHNIQUES USING A CORS NETWORK BASE STATION AT OHLN.  
**TIDE VALUES HAVE BEEN EXTRAPOLATED USING GEOD18 AND VDATUM V4.0.1.**  
**SURVEY VESSEL / EQUIPMENT:**  
SV RANDY CUMMINGS  
- PCUS M/T50-R SINGLE-HEAD MULTIBEAM ECHOSOUNDER  
- PCUS M/T50-R VERS HW2.5-12  
- IMU TYPE 42  
- TRIMBLE AT1675-540TS GPS ANTENNA