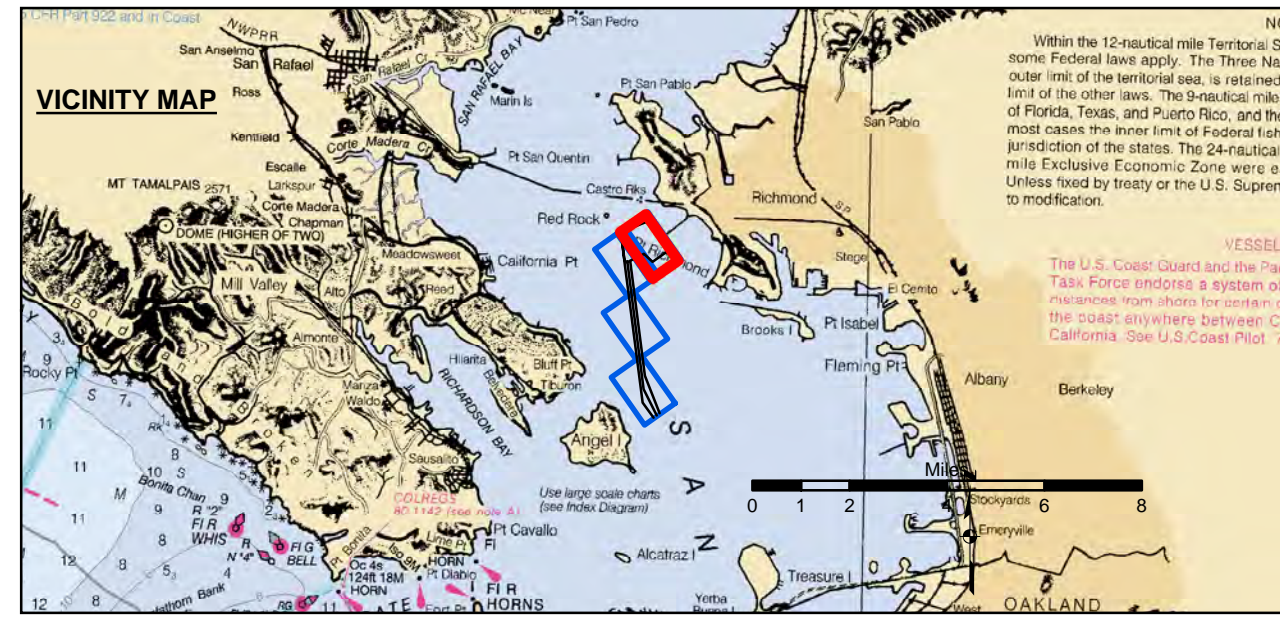


**PRELIMINARY ISSUE**  
THIS PLAN ISSUED FOR  
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**US Army Corps of Engineers**  
San Francisco District  
1455 Market Street  
San Francisco, CA 94103

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Prepared Under the Direction of:	JOHN C. MORROW	Chart Date:	Nov 21, 2018
Surveys By:	LT COLONEL, C.E. DISTRICT ENGINEER	Designed by:	PDT
Plotted By:	PDT	Checked By:	PDT
Recommended:	Hydro Survey Team Leader	Drawn by:	PDT
Approved:	Chief, Hydro Survey Section		
	Chief, Construction Branch		



- |                            |                    |                 |
|----------------------------|--------------------|-----------------|
| Federal Navigation Channel | Beacon, General    | <b>Contours</b> |
| Shoaling Area              | Obstruction Point  | -45             |
| Placement Area             | Navigation Buoy    | -44             |
| Anchorage Area             | Navigation Buoy    | -43             |
| Wreck Area                 | Shoalest Sounding* | -42             |
| Submerged Wreck            |                    | -41             |
| Angle Point                |                    |                 |

**NOTES:**  
HORIZONTAL COORDINATE SYSTEM:  
NORTH AMERICAN DATUM OF 1983 (NAD83), PROJECTED TO THE STATE PLANE COORDINATE SYSTEM (SPCS), CALIFORNIA ZONE III. DISTANCE UNITS IN U.S. SURVEY FEET.  
VERTICAL DATUM:  
SOUNDINGS ARE SHOWN IN FEET AND INDICATE DEPTHS BELOW MEAN LOWER LOW WATER.  
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 LOCATION REPRESENT THE POSITION OF THE SINKER ONLY.  
SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS WERE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST TENTH OF A FOOT.  
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.  
BASE MAPS ARE USDA NAIP 2010.  
THE PROJECT DEPTHS ARE AS FOLLOWS:  
SOUTHAMPTON SHOALS CHANNEL -45 FEET.  
LONG WHARF MANEUVERING AREA -45 FEET.  
1:00 INDICATED THE NUMBER AND BEGINNING OF A LINE OF SOUNDINGS.  
HORIZONTAL CONTROL:  
HORIZONTAL POSITIONING: COAST GUARD DGPS  
VERTICAL TIDES: INTERPOLATED FROM NOAA ONLINE TIDE STATIONS:  
941 4863 - RICHMOND, CA  
941 4290 - SAN FRANCISCO, CA  
VERTICAL CONTROL:  
(SOUTHAMPTON SHOALS & LONG WHARF MANEUVERING) BENCHMARK "10" 1937 ELEV 15.86 FT. MLLW.  
AND BENCHMARK "11" 1946 ELEV 15.47 FT. MLLW.  
TIDE GAUGE LOCATED AT TIBURON NET DEPOT.

CALIFORNIA  
ALAMEDA COUNTY  
RICHMOND OUTER HARBOR  
LONG WHARF  
POST-DREDGE SURVEY  
23 OCTOBER 2018

Sheet  
Reference  
Number  
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