



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\*

Contours

-50

-49

-48

-47

-46

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.  
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. NAVD 88.  
BASE MAPS ARE USDA NAIP 2010.  
SURVEYED BY THE CORPS OF ENGINEERS.  
PLANE GRID AND COORDINATES ARE BASED ON LAMBERT PROJECTION, NAD 83, ZONE III CALIFORNIA AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY THE NATIONAL OCEAN SURVEY.  
PROJECT DEPTH OF OUTER AND INNER HARBOR IS -50 FEET.  
TIDAL CANAL PROJECT DEPTH IS 18 FEET.

VERTICAL CONTROL:  
PCP: PORT 1 1506/PID HT064.  
OAKLAND INNER, REACH 4-6 DISK SET AT SOUTH END OF CLAY STREET, AT THE PORT OF OAKLAND CLAY STREET PIER. ELEVATION: 9.56 FEET MLLW - PUBLISHED 21 APR 2003 ON NOAA STATION 941 4764 TIDE GAUGE LOCATION IS CHISEL MARK.  
APPROX. 10 FEET WEST ON TOP OF CONCRETE CURB; CHISEL ELEVATION 11.0 FEET MLLW.  
LPCP 1: 941 4777 B TIDAL/PID AES211, OAKLAND INNER REACH 1-3 DISK SET IN BALLARD FOUNDATION NEAR THE NORTHEAST END OF BERTH 40 OF THE OAKLAND MIDDLE HARBOR.  
ELEVATION: 13.48 FEET MLLW - DERIVED FROM WGS-84 ELLIPSOID ELEVATION, GEOID09 AND VDUTUM MODELS TIDE GAUGE LOCATION IS IN FACE OF PILING AT BERTH 37; NAIL ELEVATION 9.7 FEET MLLW.  
LPCP 2: OAK OUTER 1 2012/NO PID, OAKLAND OUTER REACH 7-10 DISK SET IN PARKING LOT AT PIER 6 AMNAV TUG TERMINAL AT THE EDGE OF THE PIER. ELEVATION: 14.04 FEET MLLW - DERIVED FROM WGS-84 ELLIPSOID ELEVATION, GEOID09 AND DATUM MODELS TIDE GAUGE LOCATION IS IN FACE OF PILING AT PIER 6, 10' EAST OF BENCHMARK; NAIL ELEVATION 10.1 FEET MLLW.  
HORIZONTAL CONTROL:  
PRIMARY: RTK POSITIONING  
SECONDARY: COAST GURAD DGPS D-BEACON

US Army Corps of Engineers

San Francisco District

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PREPARED UNDER THE DIRECTION OF LT COLONEL C.E. DISTRICT ENGINEER TRAVIS J. RAYFIELD	Surveyed By:	Chart Date:
Submitted: Hydro Survey Team Leader	Plotted By:	Designed by:
Recommended: Navigation Technical Manager	Checked By:	Drawn by:
Approved: Project Manager		

CALIFORNIA

ALAMEDA COUNTY

OAKLAND HARBOR

CONDITION SURVEY

15 JUNE 2018

Sheet

Reference

Number

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