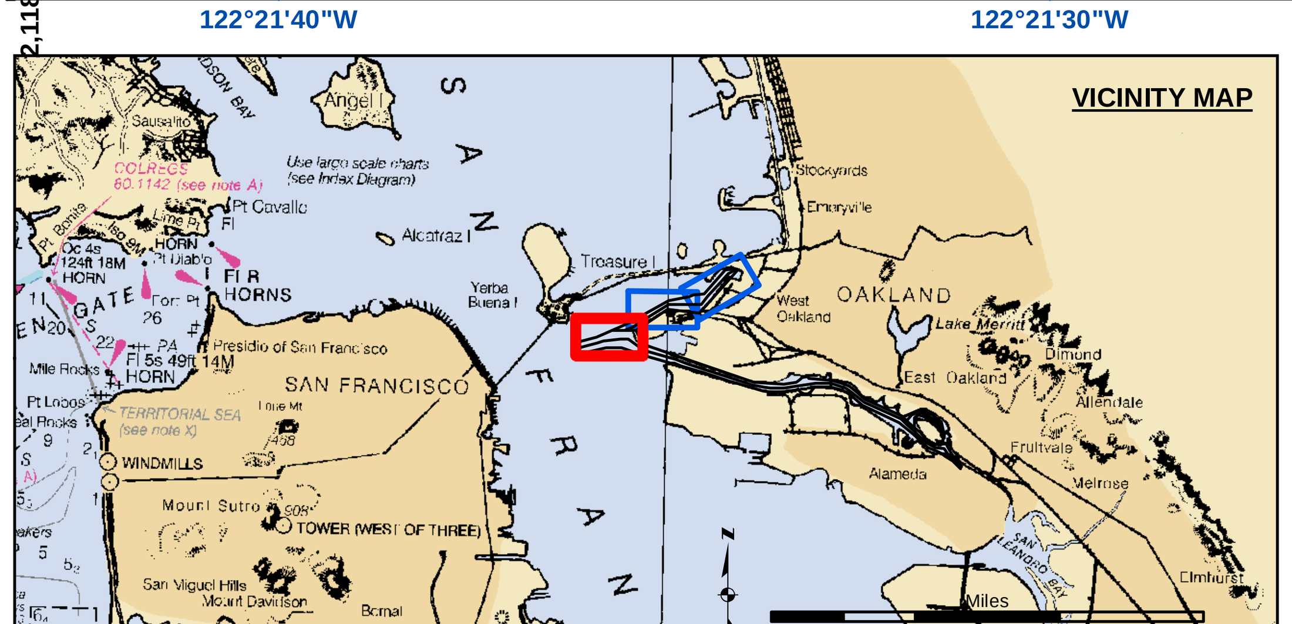


Legend	
Federal Navigation Channel	Beacon, General
Shoaling Area	Obstruction Point
Placement Area	Navigation Buoy
Anchorage Area	Navigation Buoy
Wreck Area	Shoalest Sounding*
Submerged Wreck	
Angle Point	

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.

SURVEYED BY THE CORPS OF ENGINEERS.
BASE MAPS ARE USDA NAIP 2010.

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.

PROJECT DEPTH FROM INNER HARBOR TURNING BASIN TO PARK STREET BRIDGE IS 35 FEET.
TIDAL CANAL PROJECT DEPTH IS 18 FEET.

VERTICAL CONTROL:
PPCP: PORT 1 1936/PID HT0654.
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 AE5211, 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 VDATUM 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
1455 Market Street
San Francisco, CA 94103

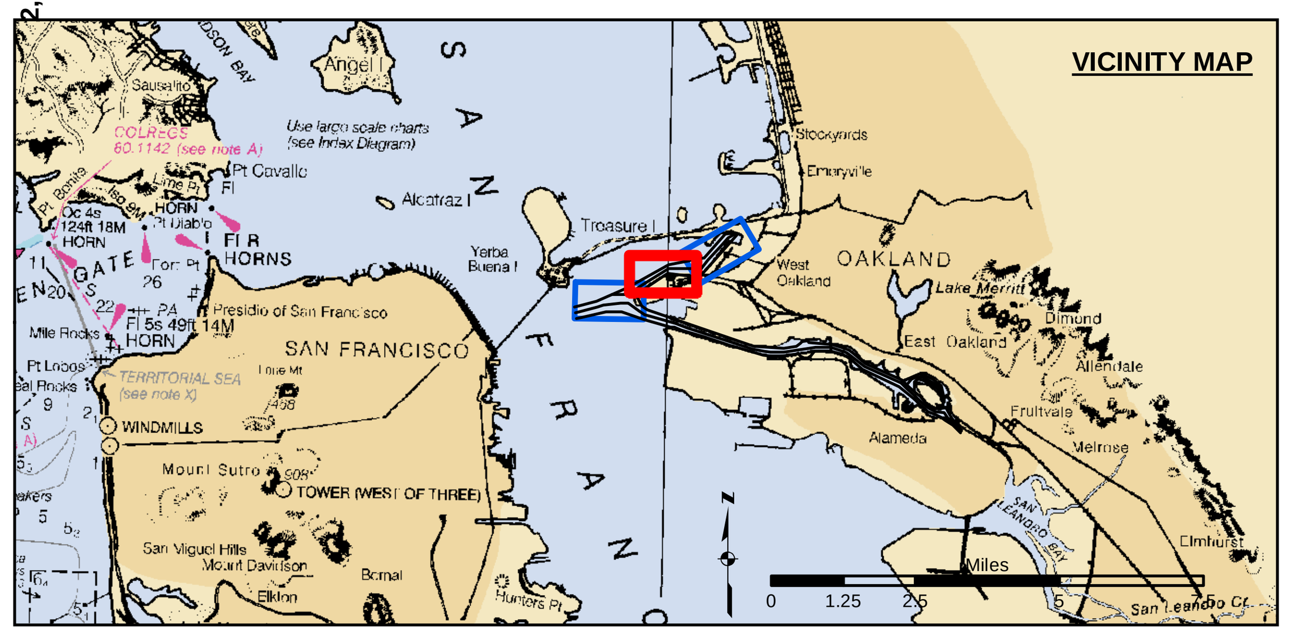
Chart Date: Nov 23, 2020
Designed by:
Drawn by:
Surveyed By:
Plotted By:
Checked By:

PREPARED UNDER THE DIRECTION OF
JOHN D. CUNNINGHAM
LT. COLONEL, C.E., DISTRICT ENGINEER

Submitted: Hydro Survey Team Leader
Recommended: Navigation Technical Manager
Approved: Project Manager

CALIFORNIA
ALAMEDA COUNTY

OAKLAND HARBOR
OUTER HARBOR
POST-DREDGE SURVEY
2, 4 AND 11 NOVEMBER 2020



Legend	
Federal Navigation Channel	Beacon, General
Shoaling Area	Obstruction Point
Placement Area	Navigation Buoy (green)
Anchorage Area	Navigation Buoy (red)
Wreck Area	Shoalest Sounding*
Submerged Wreck	
Angle Point	

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.

SURVEYED BY THE CORPS OF ENGINEERS.
BASE MAPS ARE USDA NAIP 2010.

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.

PROJECT DEPTH FROM INNER HARBOR TURNING BASIN TO PARK STREET BRIDGE IS 35 FEET.
TIDAL CANAL PROJECT DEPTH IS 18 FEET.

VERTICAL CONTROL:
PPCP: PORT 1 1936/PID HT0654.
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 AE5211, 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 VDATUM 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
1455 Market Street
San Francisco, CA 94103

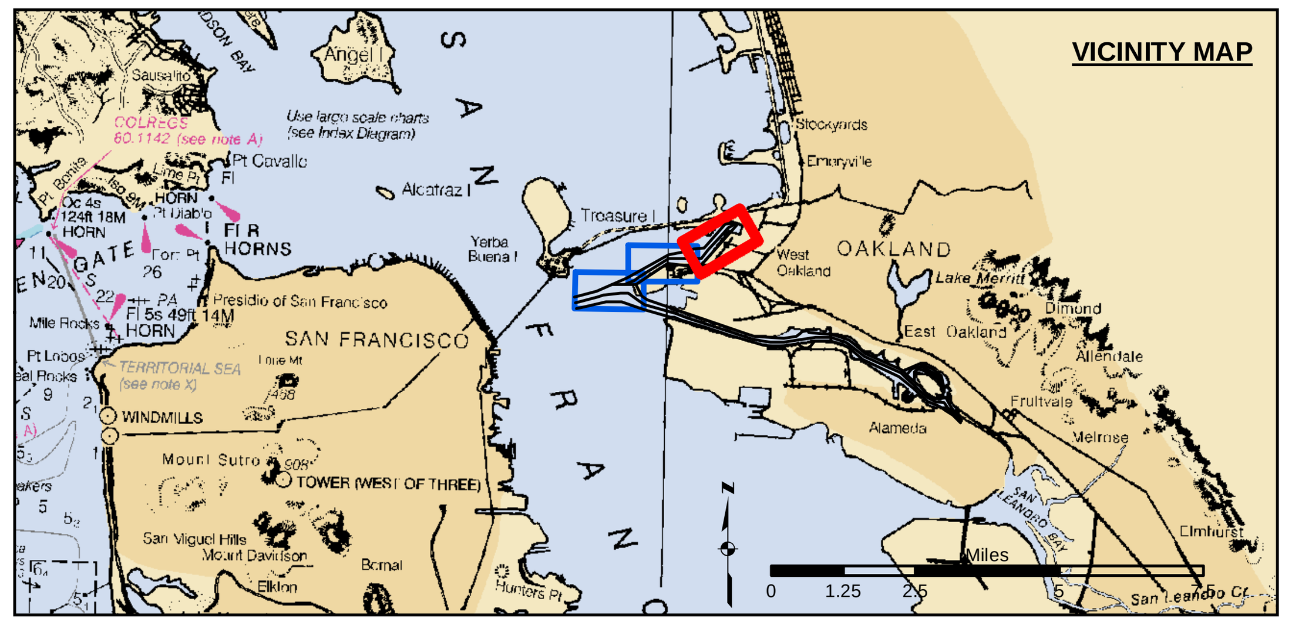
Chart Date: Nov 23, 2020
Designed by:
Drawn by:
Surveyed By:
Plotted By:
Checked By:

PREPARED UNDER THE DIRECTION OF
JOHN D. CUNNINGHAM
LT. COLONEL, C.E., DISTRICT ENGINEER

Submitted: Hydro Survey Team Leader
Recommended: Navigation Technical Manager
Approved: Project Manager

ALAMEDA COUNTY — CALIFORNIA

OAKLAND HARBOR
OUTER HARBOR
POST-DREDGE SURVEY
2, 4 AND 11 NOVEMBER 2020



Legend			
Federal Navigation Channel	Beacon, General	Contours	-50
Shoaling Area	Obstruction Point		-49
Placement Area	Navigation Buoy (green)		-48
Anchorage Area	Navigation Buoy (red)		-47
Wreck Area	Shoalest Sounding*		-46
Submerged Wreck			
Angle Point			

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.

SURVEYED BY THE CORPS OF ENGINEERS.
BASE MAPS ARE USDA NAIP 2010.

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.

PROJECT DEPTH FROM INNER HARBOR TURNING BASIN TO PARK STREET BRIDGE IS 35 FEET.
TIDAL CANAL PROJECT DEPTH IS 18 FEET.

VERTICAL CONTROL:
PPCP: PORT 1 1936/PID HT0654.
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 AE5211, 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 VDATUM 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
1455 Market Street
San Francisco, CA 94103

Chart Date: Nov 23, 2020
Designed by:
Drawn by:
Surveyed By:
Plotted By:
Checked By:

PREPARED UNDER THE DIRECTION OF
JOHN D. CUNNINGHAM
LT. COLONEL, C.E., DISTRICT ENGINEER
Submitted: Hydro Survey Team Leader
Recommended: Navigation Technical Manager
Approved: Project Manager

ALAMEDA COUNTY CALIFORNIA

OAKLAND HARBOR
OUTER HARBOR
POST-DREDGE SURVEY
2, 4 AND 11 NOVEMBER 2020