

# BookletChart™

## Entrance to San Francisco Bay

NOAA Chart 18649

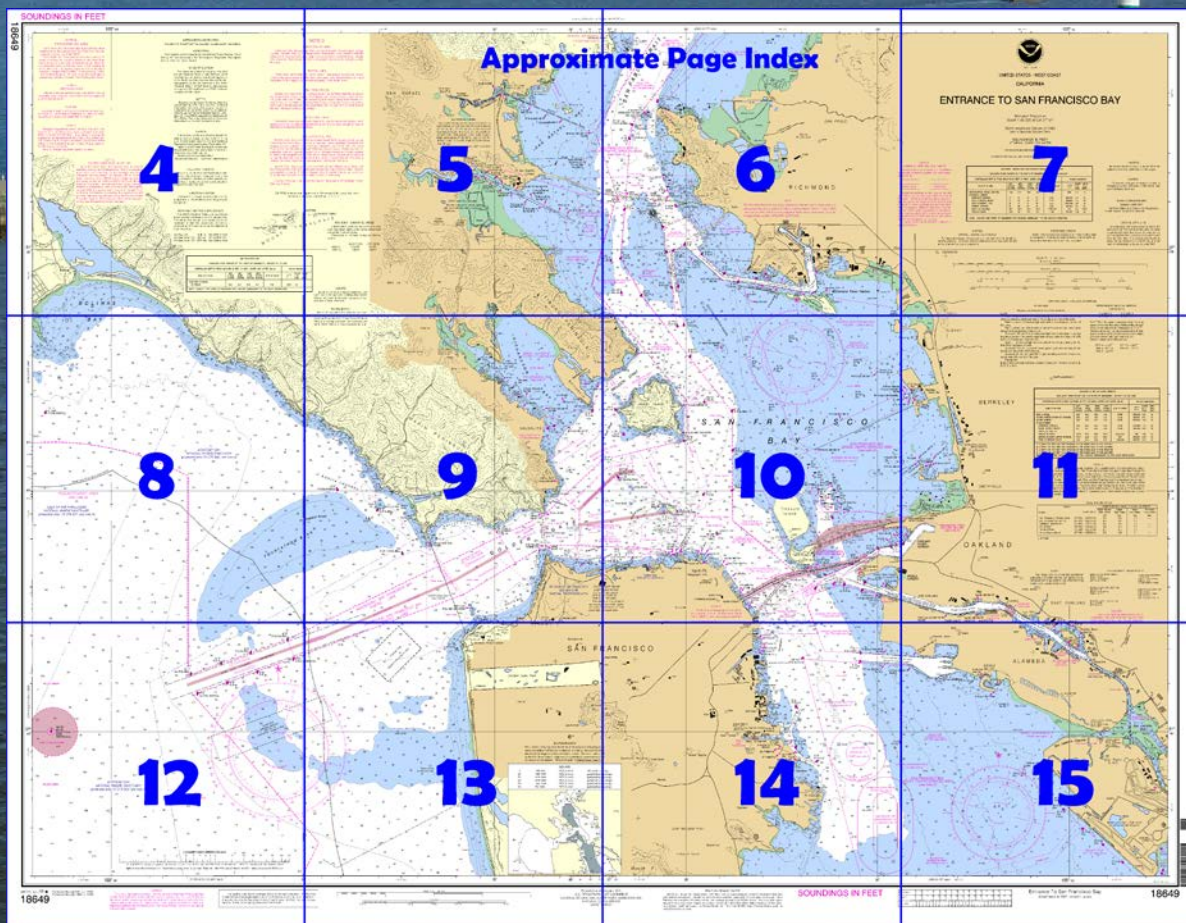


*A reduced-scale NOAA nautical chart for small boaters*

*When possible, use the full-size NOAA chart for navigation.*



- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA's Office of Coast Survey, the nation's chartmaker



**Published by the**  
**National Oceanic and Atmospheric Administration**  
**National Ocean Service**  
**Office of Coast Survey**  
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### What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

### What is a BookletChart™?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

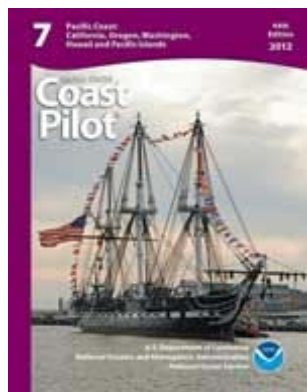
Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <http://www.NauticalCharts.NOAA.gov>.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

### Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

For latest Coast Pilot excerpt visit the Office of Coast Survey website at <http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=18649>.



#### (Selected Excerpts from Coast Pilot)

**Bolinas Bay**, E of Duxbury Point, is an open bight 3.5 miles wide between Duxbury Point and Rocky Point. The bay affords shelter in NW weather in 24 to 36 feet, sandy bottom. Care must be taken to avoid Duxbury Reef and the dangers extending up to 0.7 mile E of it. **Bolinas Lagoon** is separated from the bay by a narrow strip of sandy beach that is cut by a narrow shifting channel. The lagoon is shoal and entered only by small boats with local knowledge. The entrance has a depth

of less than 3 feet.

**Rocky Point** is 100 feet high and shelving. Numerous detached rocks are within 200 yards of the cliffs on the S side of the point.

**Point Bonita**, on the N side of the entrance to Golden Gate, is a sharp black cliff 100 feet high, increasing to 300 feet on its seaward face, 0.3 mile N. From NW it shows as three heads. **Point Bonita Light** (37°48'56"N., 122°31'46"W.), 124 feet above the water, is shown from a 33-foot white tower on the S head. A sound signal is at the light.

**Bonita Cove**, E of Point Bonita, is occasionally used as an anchorage by small vessels. Anchorage is close under Point Bonita in about 36 feet.

**San Francisco Approach Lighted Whistle Buoy SF** (37°45'00"N., 122°41'34"W.) is 9 miles WSW of San Francisco Bay entrance. The buoy is red and white and is equipped with a racon.

**San Francisco Bar**, a semicircular shoal with depths less than 36 feet, is formed by silt deposits carried to the ocean by the Sacramento and San Joaquin River systems. The bar extends from 3 miles S of Point Lobos to within 0.5 mile of Point Bonita off the southern coast of Marin Peninsula; the extreme outer part is about 5 miles WSW of San Francisco Bay entrance. **Potatopatch Shoal**, the N part of the bar on **Fourfathom Bank**, has reported depths of less than 23 feet. The name is said to have originated from the fact that schooners from Bodega Bay frequently lost their deck load of potatoes while crossing the shoal. The S part of the bar has depths of 31 to 36 feet.

**Golden Gate**, the passage between the ocean and San Francisco Bay, is 2 miles wide at the W end between Point Bonita and Point Lobos, but the channel is reduced in width to 1.5 miles by Mile Rocks and to less than 0.7 mile by the Golden Gate Bridge pier. Depths in the passage vary from 108 feet to over 300 feet.

**Warning.**—Very dangerous conditions develop over San Francisco Bar whenever large swells, generated by storms far out at sea, reach the coast. A natural condition called shoaling causes the large swells to be amplified and increase in height when they move over the shallow water shoals. This piling up of the water over the shoals is worsened during times when the tidal current is flowing out (ebbing) through the Golden Gate. Outbound tidal current is strongest about 4 hours after high water at the Golden Gate Bridge and attains a velocity in excess of 6 knots at times. The incoming large swells are met by outbound tidal current causing very rough and dangerous conditions over the bar. Steep waves to 20 or 25 feet have been reported in the area. Mariners should exercise extreme caution as the bar conditions may change considerably in a relatively short period of time.

**The most dangerous part of the San Francisco Bar is considered to be Fourfathom Bank. Bonita Channel, between the shoal and the Marin coast, can also become very dangerous during large swell conditions. The safest part of the bar is the Main Ship Channel through the center of the bar. But even that area can be extremely dangerous when the tidal current is ebbing.**

**Caution.**—Vessels departing San Francisco Bay through Bonita Channel on the ebb current must use extreme caution when crossing the tide rip off Point Bonita. When the bow passes the rip the stern is thrown to port and, unless promptly met, the vessel will head straight for the rocks off the point. Vessels favoring Potatopatch Shoal too closely have reported a set toward it.

Bonita Channel should not be used by large vessels.

### U.S. Coast Guard Rescue Coordination Center 24 hour Regional Contact for Emergencies

RCC Alameda	Commander	
	11 <sup>th</sup> CG District	(510) 437-3700
	Alameda, CA	

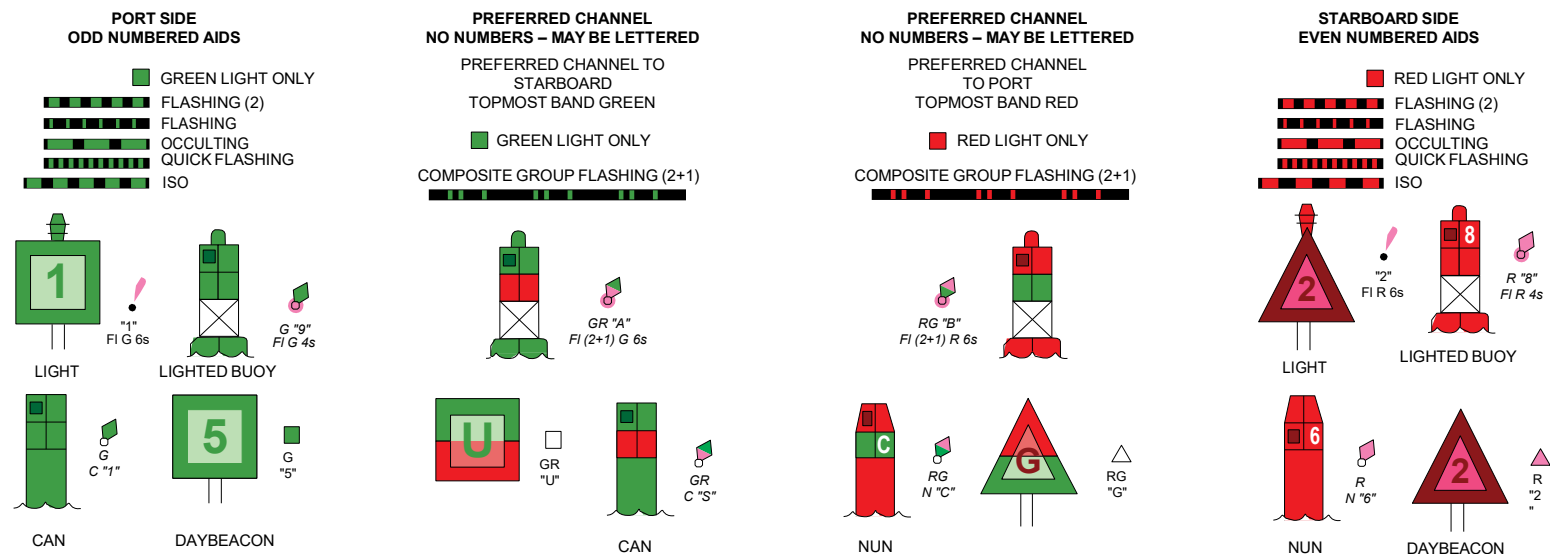
# Navigation Manager Regions



To make suggestions, ask questions, or report a problem with a chart, go to <https://www.nauticalcharts.noaa.gov/customer-service/assist/>

## Lateral System As Seen Entering From Seaward

on navigable waters except Western Rivers



For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area. These volumes are available online at <http://www.navcen.uscg.gov>

# SOUNDINGS IN FEET

18649

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**NOTE B  
PRECAUTIONARY AREA**  
Traffic lanes and the associated precautionary area established at the approach to San Francisco Bay are completely shown on Chart 18645.

Traffic within the Precautionary Area may consist of vessels making the transition between the Main Ship Channel and one of the established traffic lanes. Mariners are advised to exercise extreme caution when navigating within this area. The normal cruising area of the pilot vessel is indicated "PILOT AREA." When passing Traffic Lane Lighted Buys "S," "W," or "N," inbound vessels should contact the pilot boat on channel 13 for boarding instructions.

**NOTE C  
SEPARATION ZONE**  
Mariners are requested to stay outside the circular separation zone centered on the San Francisco Approach Lighted Horn Buoy SF.

**WARNING**  
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

**NOTE A**  
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 11th Coast Guard District in Alameda, California or at the Office of the District Engineer, Corps of Engineers in San Francisco, California.  
Refer to charted regulation section numbers.

**NOTE Z  
NO-DISCHARGE ZONE, 40 CFR 140**  
Under the Clean Water Act, Section 312, all vessels operating within a No-Discharge Zone (NDZ) are completely prohibited from discharging any sewage, treated or untreated, into the waters. All vessels with an installed marine sanitation device (MSD) that are navigating, moored, anchored, or docked within a NDZ must have the MSD disabled to prevent the overboard discharge of sewage (treated or untreated) or install a holding tank. Regulations for the NDZ are contained in the U.S. Coast Pilot. Additional information concerning the regulations and requirements may be obtained from the Environmental Protection Agency (EPA) web site: [http://www.epa.gov/owow/oceans/regulatory/vessel\\_sewage/](http://www.epa.gov/owow/oceans/regulatory/vessel_sewage/).

**SUPPLEMENTAL INFORMATION**  
Consult U.S. Coast Pilot 7 for important supplemental information.

**AUTHORITIES**  
Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.

**HORIZONTAL DATUM**  
The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.265' southward and 3.900' westward to agree with this chart.

**NOTE S**  
Regulations for Ocean Dumping Sites are contained in 40 CFR, Parts 221-228. Additional information concerning the regulations and requirements for use of the sites may be obtained from the Environmental Protection Agency (EPA). See U.S. Coast Pilot's appendix for addresses of EPA offices. Dumping subsequent to the survey dates may have reduced the depths shown.

**CAUTION**  
Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117. Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.  
Station positions are shown thus:  
○ (Accurate location)    ◐ (Approximate location)

**POLLUTION REPORTS**  
Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-6802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

**AIDS TO NAVIGATION**  
Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

**NOAA WEATHER RADIO BROADCASTS**  
The NOAA Weather Radio stations listed below provide continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Mt. Pise, CA    KHB-49    162.400 MHz WX2  
Mt. Umunhum, CA    KEC-49    162.550 MHz WX1  
Mt. Umunhum, CA    WWF-64    162.450 MHz WX5

**PRECAUTIONARY AREA**  
Traffic within the Precautionary Area courses. Vessels transiting the Precautionary Area should indicate the approximate direction of travel. Navigation Rule 9 apply to all vessels in this area.

**TRAFFIC LANE**  
Traffic lanes are intended for use to indicate the approximate direction of travel. Navigation Rule 9 apply to all vessels in this area.

**DEEP WATER**  
Vessels with a draft of 45 feet or greater should not be used by vessels in the Golden Gate Bridge. Vessels intending to transit the Golden Gate Bridge should notify San Francisco Traffic before passing the bridge. Traffic before passing the bridge should not overtake in the Deep Water anchorage 9 should pass east of Blossom Point.

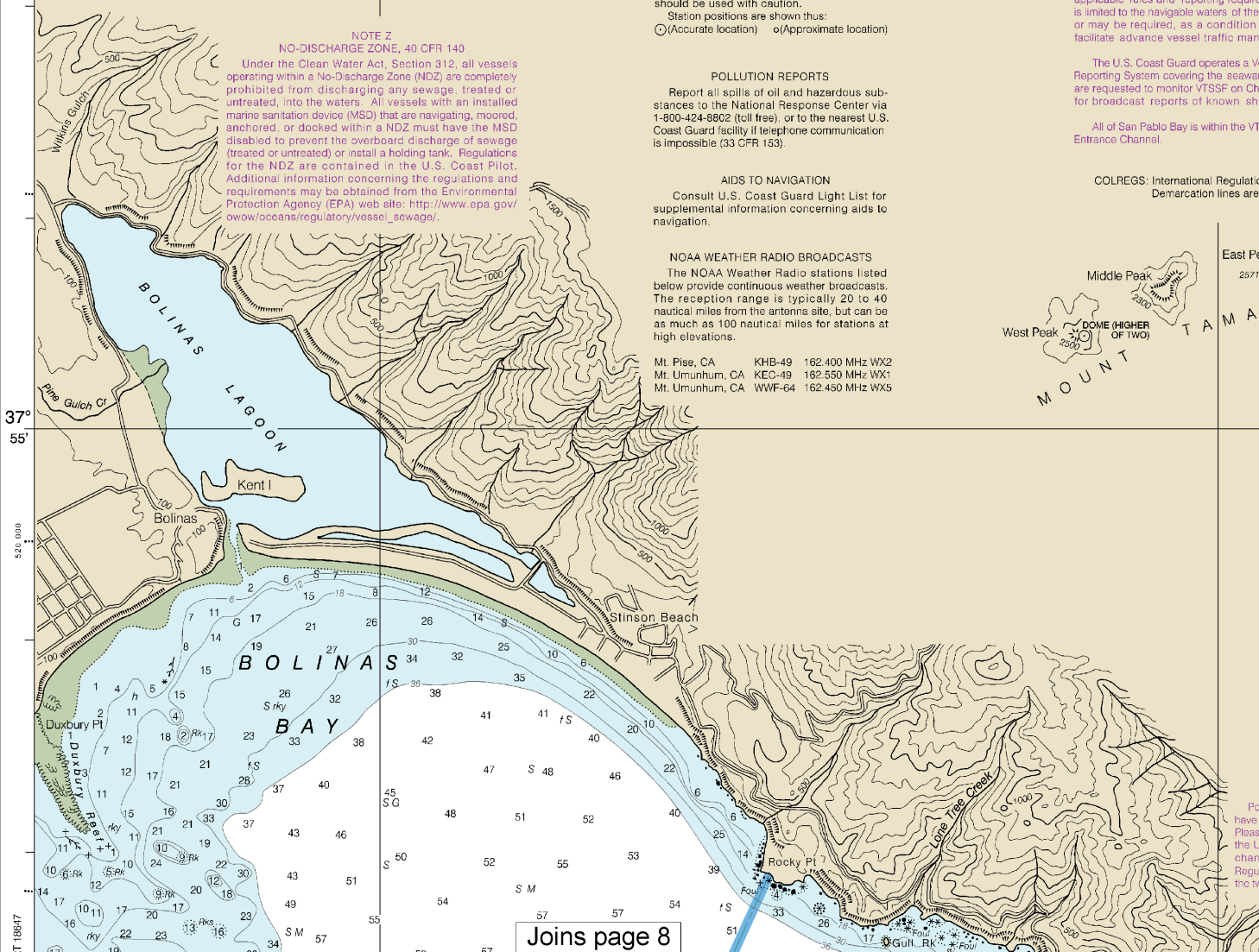
**RECREATION AREAS**  
Recreation areas are intended for use by vessels. Areas should not be used by vessels in emergency or special circumstances.

**VESSEL TRAFFIC**  
The U.S. Coast Guard operates a marine Vessel Traffic Service (VTS) in the San Francisco Bay and surrounding waters. Vessels operating in the designated radiotelephone frequency VTS area should follow the VTS User's Manual. Applicable rules and reporting requirements are limited to the navigable waters of the VTS area or may be required, as a condition of VTS service, to facilitate advance vessel traffic management.

**VESSEL TRAFFIC SERVICE (VTS)**  
The U.S. Coast Guard operates a Vessel Traffic Service (VTS) in the San Francisco Bay and surrounding waters. Vessels operating in the designated radiotelephone frequency VTS area should follow the VTS User's Manual. Applicable rules and reporting requirements are limited to the navigable waters of the VTS area or may be required, as a condition of VTS service, to facilitate advance vessel traffic management.

All of San Pablo Bay is within the VTS Entrance Channel.

**COLREGS: International Regulations for Preventing Collisions at Sea**  
Demarcation lines are shown.

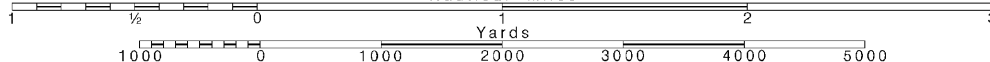


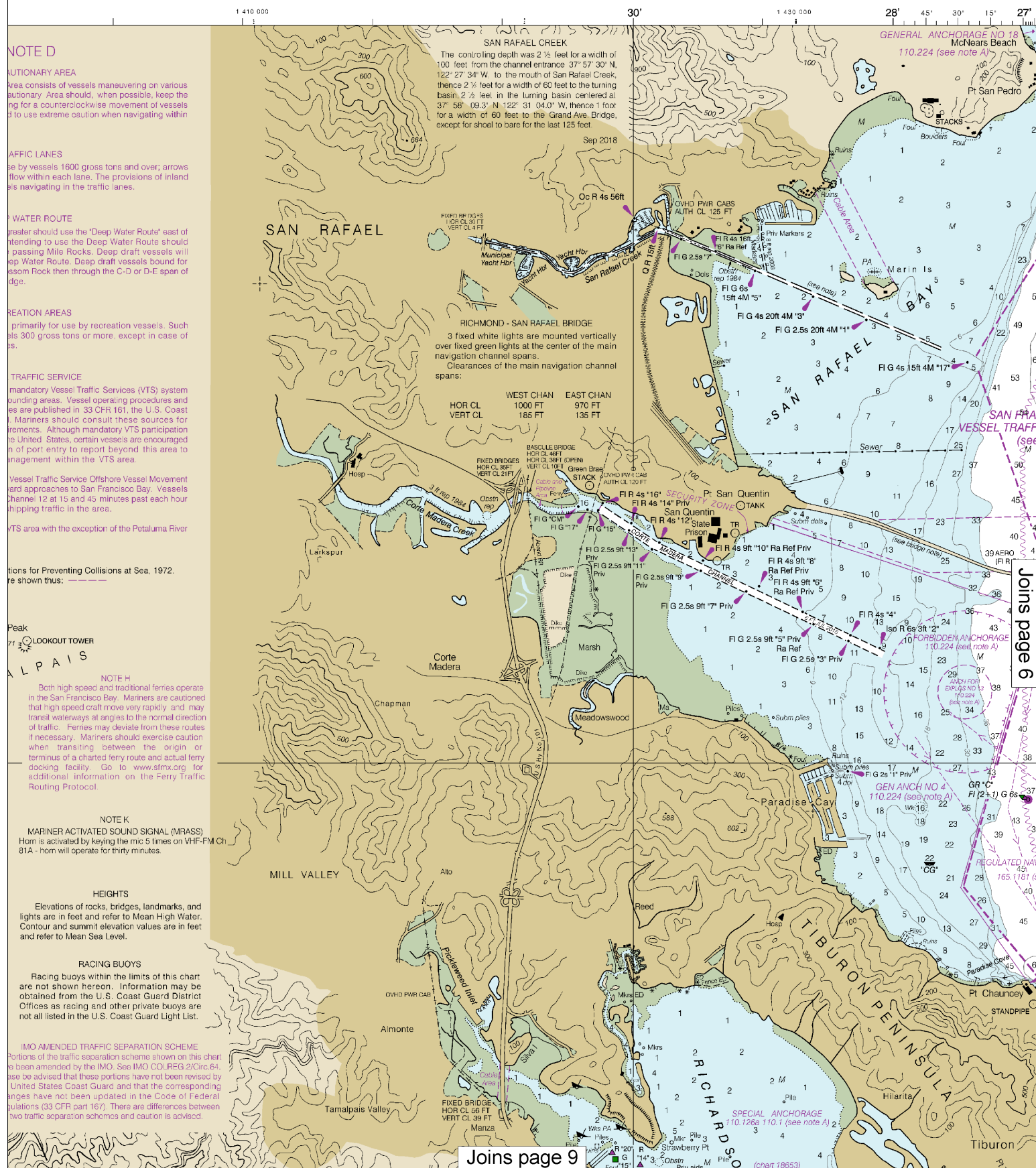
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

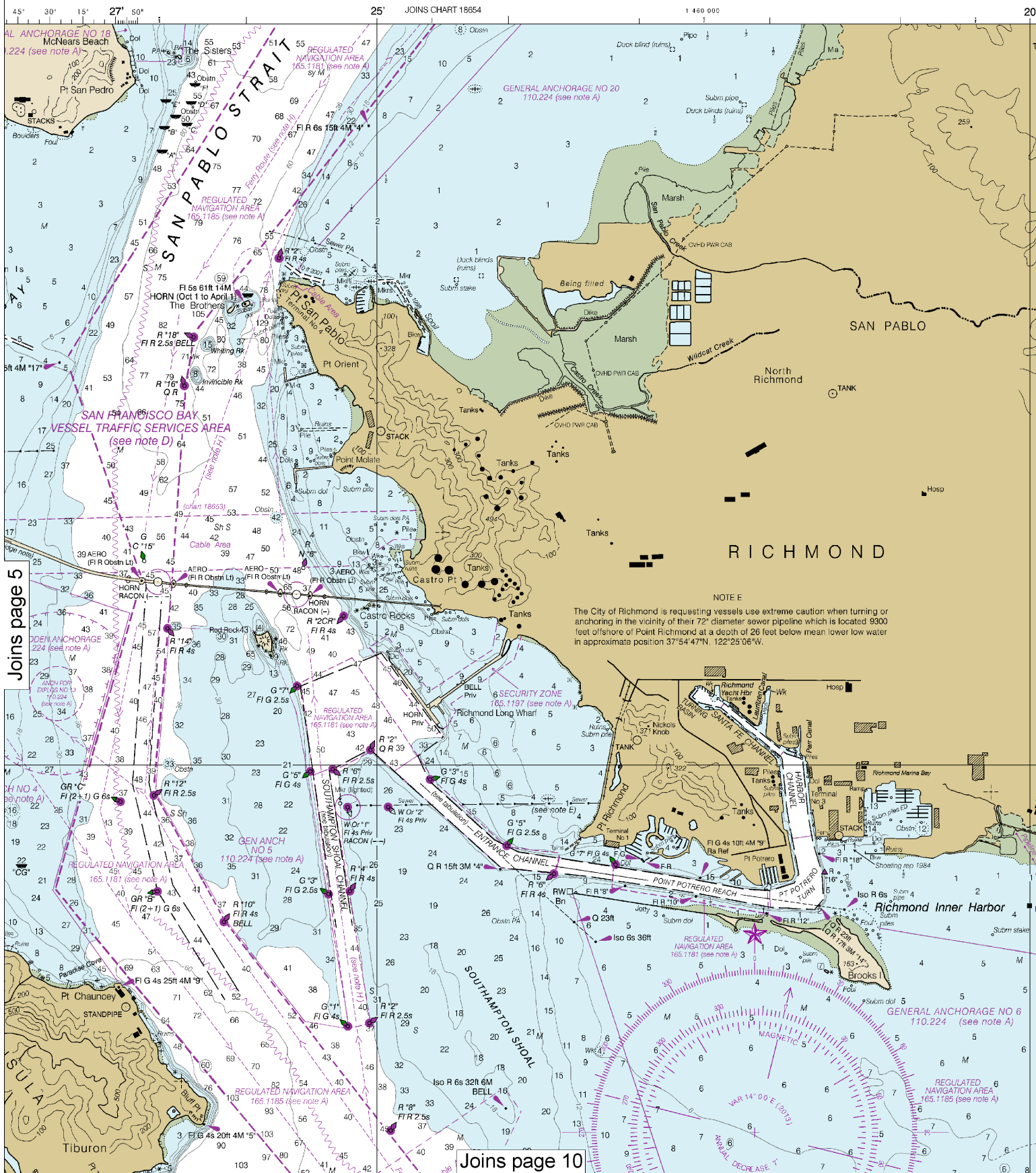
SCALE 1:40,000  
Nautical Miles

See Note on page 5.





This BookletChart was reduced to 70% of the original chart scale.  
 The new scale is 1:57142. Barscales have also been reduced and are accurate when used to measure distances in this BookletChart.



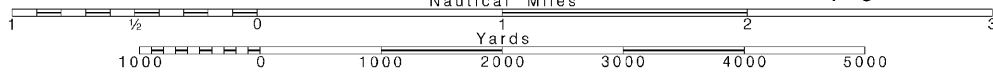
6

Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000

See Note on page 5.





THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES - WEST COAST

CALIFORNIA

# ENTRANCE TO SAN FRANCISCO BAY

Mercator Projection  
Scale 1:40,000 at Lat 37° 51'

North American Datum of 1983  
(World Geodetic System 1984)

SOUNDINGS IN FEET  
AT MEAN LOWER LOW WATER

For Symbols and Abbreviations see Chart No. 1

Additional information can be obtained at [nauticalcharts.noaa.gov](http://nauticalcharts.noaa.gov).

## CAUTION

**SUBMARINE PIPELINES AND CABLES**  
Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:



Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling. Covered wells may be marked by lighted or unlighted buoys.

RICHMOND HARBOR AND SOUTHAMPTON SHOAL PROJECT DEPTHS (see note)	
NAME OF CHANNEL	PROJECT DEPTH MLW (FEET)
SOUTHAMPTON SHOAL CHANNEL	45
RICHMOND HARBOR	
ENTRANCE CHANNEL	38
POINT POTRERO REACH	38
POINT POTRERO TURN	38
HARBOR CHANNEL	38
SANTA FE CHANNEL	38-30
TURNING BASIN	30

## PROJECT DEPTHS

Channel legends and tabulations, where indicated, reflect the U.S. Army Corps of Engineers (USACE) project depths. The channel may be significantly shallower, particularly at the edges. For detailed channel information and minimum depths as reported by USACE, use NOAA Electronic Navigational Charts. USACE surveys and channel condition reports are available at <http://navigation.usace.army.mil/Survey/Hydro>.

## CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

## CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

**PLANE COORDINATE GRID**  
(based on NAD 1927)

California State Grid, Zone 3, is indicated by dotted ticks at 10,000 foot intervals.

## ARTICULATED AIDS

An articulated aid to navigation consists of a pipe structure that oscillates around a universal coupling connected to a sinker. The structure is kept upright by the buoyancy of a submerged flotation chamber. It is designed primarily to mark narrow channels in depths of up to 60 feet. All articulated aids are labelled "Art".

## CAUTION

### BASCULE BRIDGE CLEARANCES

For bascule bridges, whose spans do not open to a full upright or vertical position, unlimited vertical clearance is not available for the entire charted horizontal clearance.

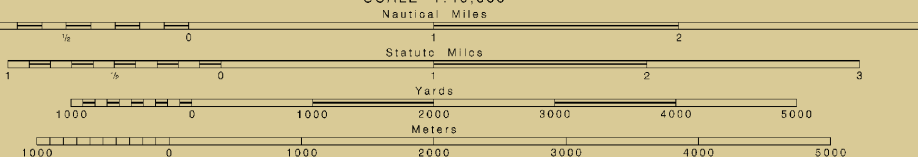
## RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.



EL CERRITO

SCALE 1:40,000



## SAN FRANCISCO - OAKLAND BAY BRIDGE

(Private side)

The piers are lettered on the chart for reference

**Lights**  
Piers A, B, E and G. An AERO, flashing red every 10 seconds, on top of tower, a fixed red light each side of the bridge at the foot of the tower.  
Piers I, J, and K. A fixed red light each side of the bridge at the foot of the tower.  
Pier C. A fixed red light at each corner of the pier and red axis lights along the channel axis on each side.  
Spans AB and DE. A fixed green light with 3 white lights in vertical line above center of channel through span, on each side of bridge, red axis lights on channelward face of piers.  
Span EF. A fixed red light on each side of the bridge marking the NE limit of the navigable channel.  
Spans BC, CD and IJ. Fixed green lights on each side of the bridge over the center of the channel.  
Spans IJ, JK, KL, LM, and MN. A light occulting red every 5 seconds, on top and at the center of the span.  
Fog signals.  
Bells on the east and west sides of piers D, E, G and H.

## APPROXIMATE MID-SPAN VERTICAL CLEARANCES

A-B 204 FT. C-D 220 FT.  
B-C 220 FT. D-E 204 FT.

**CAUTION** - Mid-span clearances under the long spans of the San Francisco-Oakland Bay Bridge are approximate and at a temperature of 55°F. These clearances may be reduced several feet due to extreme traffic conditions and a prolonged period of abnormally high temperature. Vertical clearances at the piers are:

PIER A - 174 FT. PIER E - 175 FT.  
PIER B - 217 FT.  
PIER C - 220 FT.  
PIER D - 218 FT.

## EAST SPAN CLEARANCES

SPAN G - H  
SUSPENSION BRIDGE  
HOR CL 1000 FT  
VERT CL 136 FT

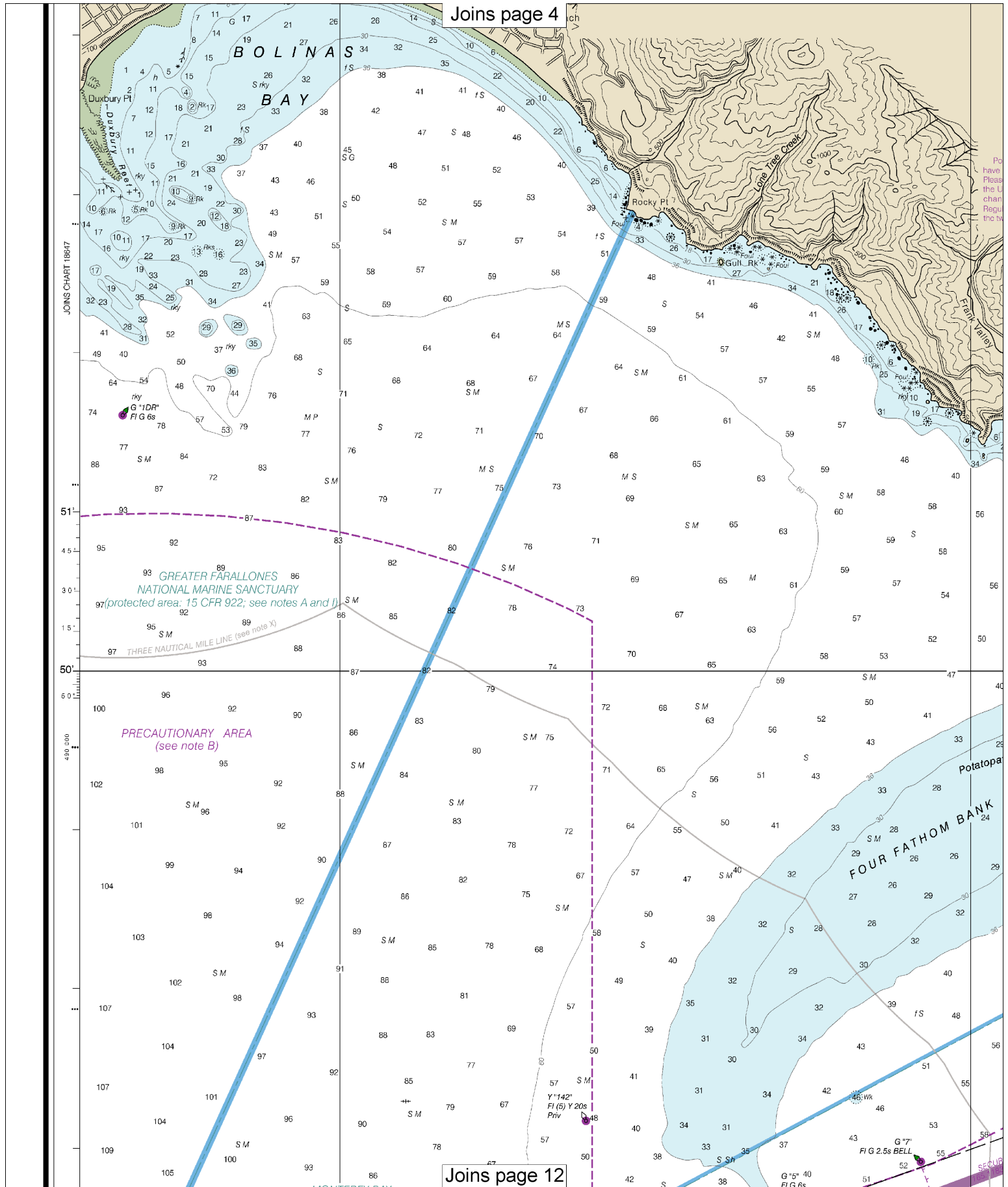
SPAN H - I  
FIXED BRIDGE  
HOR CL 413 FT  
VERT CL 125 FT

SPAN I - J  
FIXED BRIDGE  
HOR CL 417 FT  
VERT CL 118 FT

Joins page 11

[nauticalcharts.noaa.gov](http://nauticalcharts.noaa.gov).

This is the Last Edition of this chart. It will be canceled on Jul 31, 2024  
8th Ed., Jun. 2013. Last Correction: 4/29/2024. Cleared through:  
NM: 2124 (5/21/2024), NM: 2224 (6/1/2024)



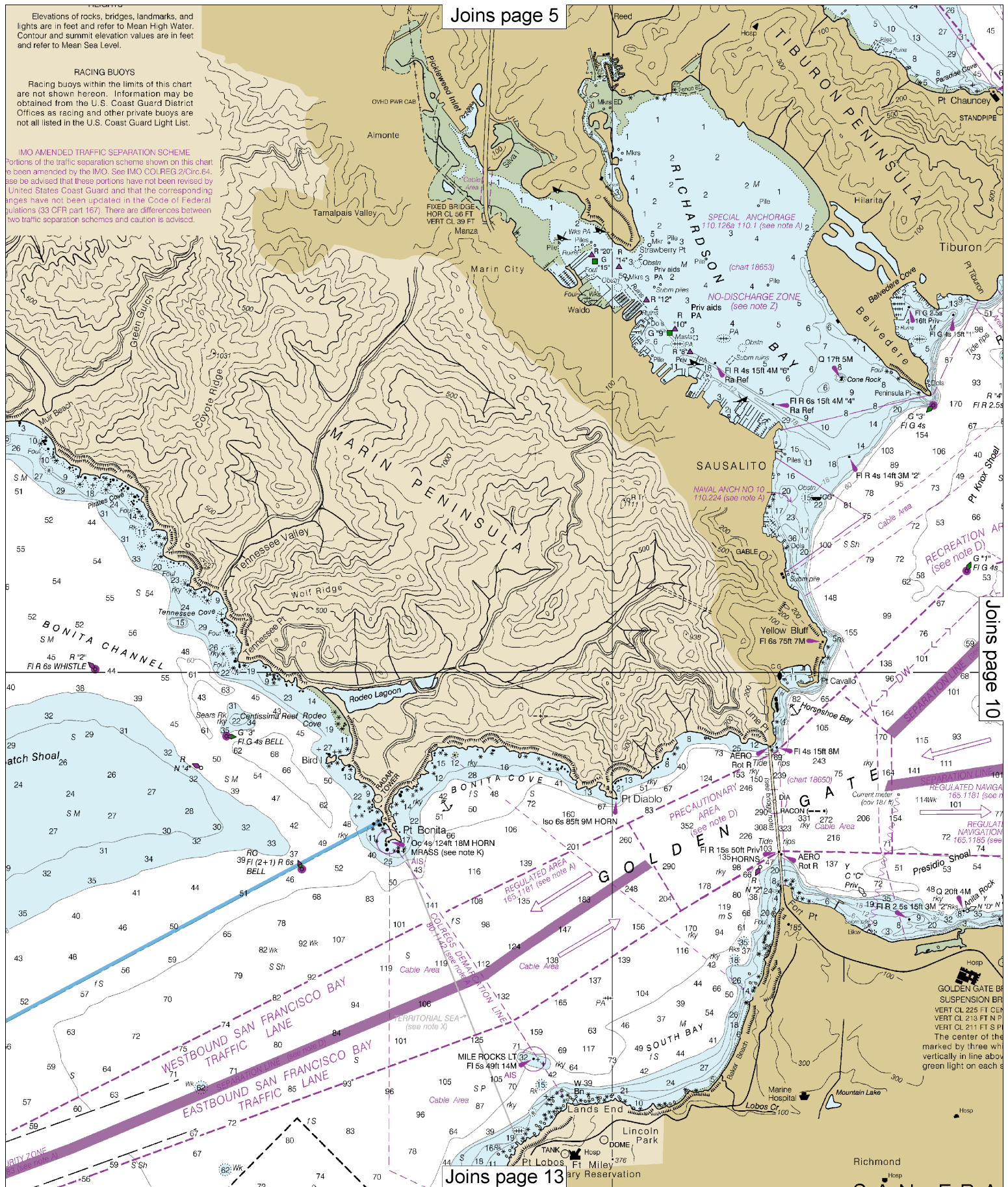
8

Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000

See Note on page 5.



Joins page 5

Joins page 10

Joins page 13

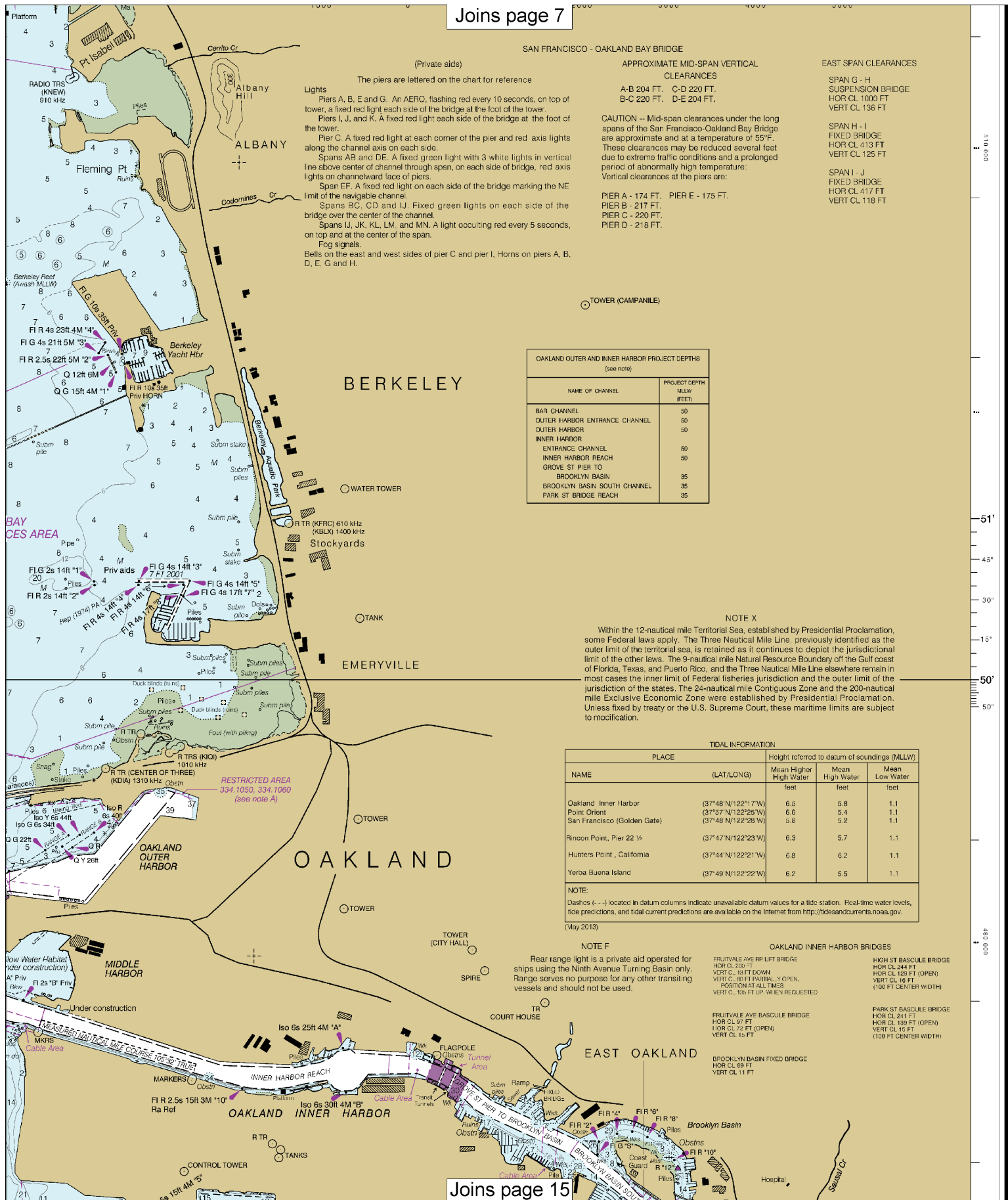
Elevations of rocks, bridges, landmarks, and lights are in feet and refer to Mean High Water. Contour and summit elevation values are in feet and refer to Mean Sea Level.

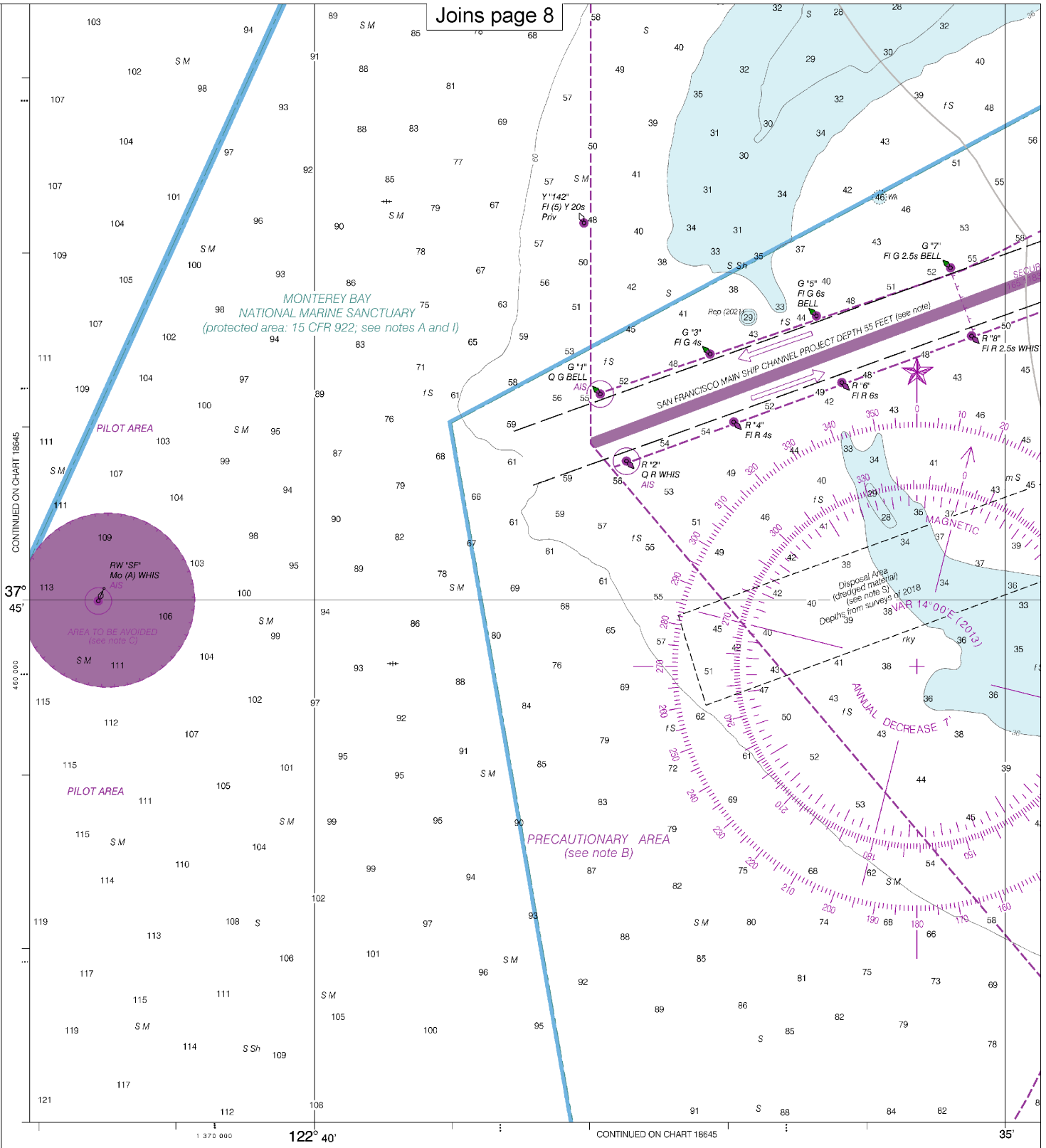
**RACING BUOYS**  
Racing buoys within the limits of this chart are not shown hereon. Information may be obtained from the U.S. Coast Guard District Office as racing and other private buoys are not all listed in the U.S. Coast Guard Light List.

**IMO AMENDED TRAFFIC SEPARATION SCHEME**  
Portions of the traffic separation scheme shown on this chart have been amended by the IMO. See IMO COLREG 2/Circ 64. It is advised that these portions have not been revised by United States Coast Guard and that the corresponding angles have not been updated in the Code of Federal Regulations (33 CFR part 167). There are differences between two traffic separation schemes and caution is advised.

GOLDEN GATE BRIDGE  
SUSPENSION BRIDGE  
VERT CL 225 FT  
VERT CL 213 FT N P  
VERT CL 211 FT S P  
The center of the marked by three white vertically in line above green light on each side







18649

CAUTION

This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at [nauticalcharts.noaa.gov](http://nauticalcharts.noaa.gov).

NOAA encourages users to submit inquiries, discrepancies or comments about this chart at <http://www.nauticalcharts.noaa.gov/staff/contact.htm>.

This is the Last Edition of this chart. It will be canceled on Jul 31, 2024  
68th Ed., Jun. 2013. Last Correction: 4/29/2024. Cleared through:  
LNM: 2124 (5/21/2024), NM: 2224 (6/1/2024)

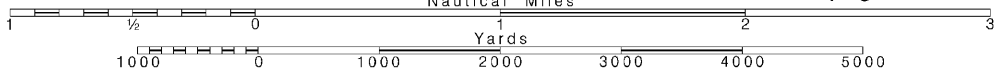
12

Note: Chart grid lines are aligned with true north.

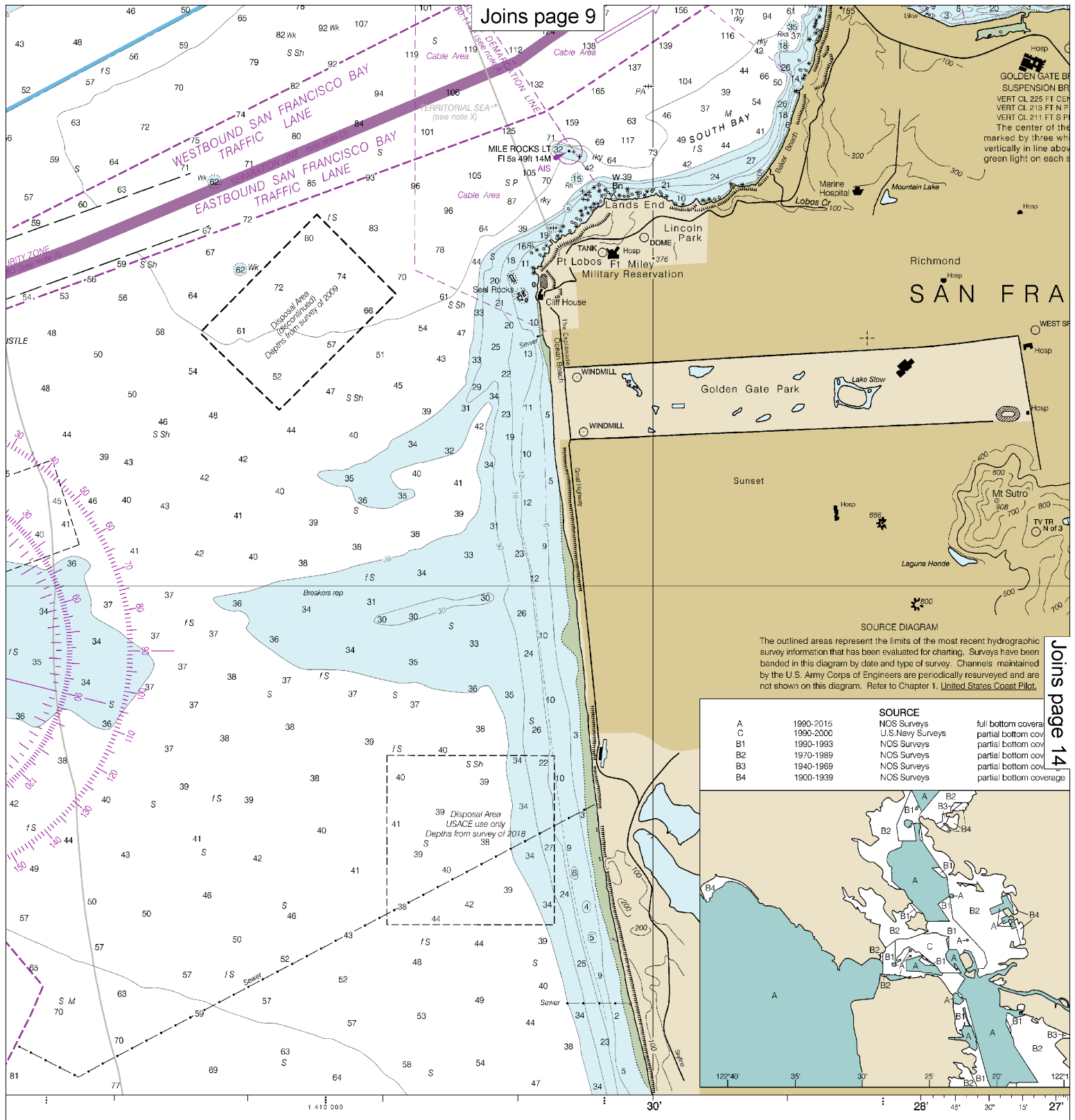
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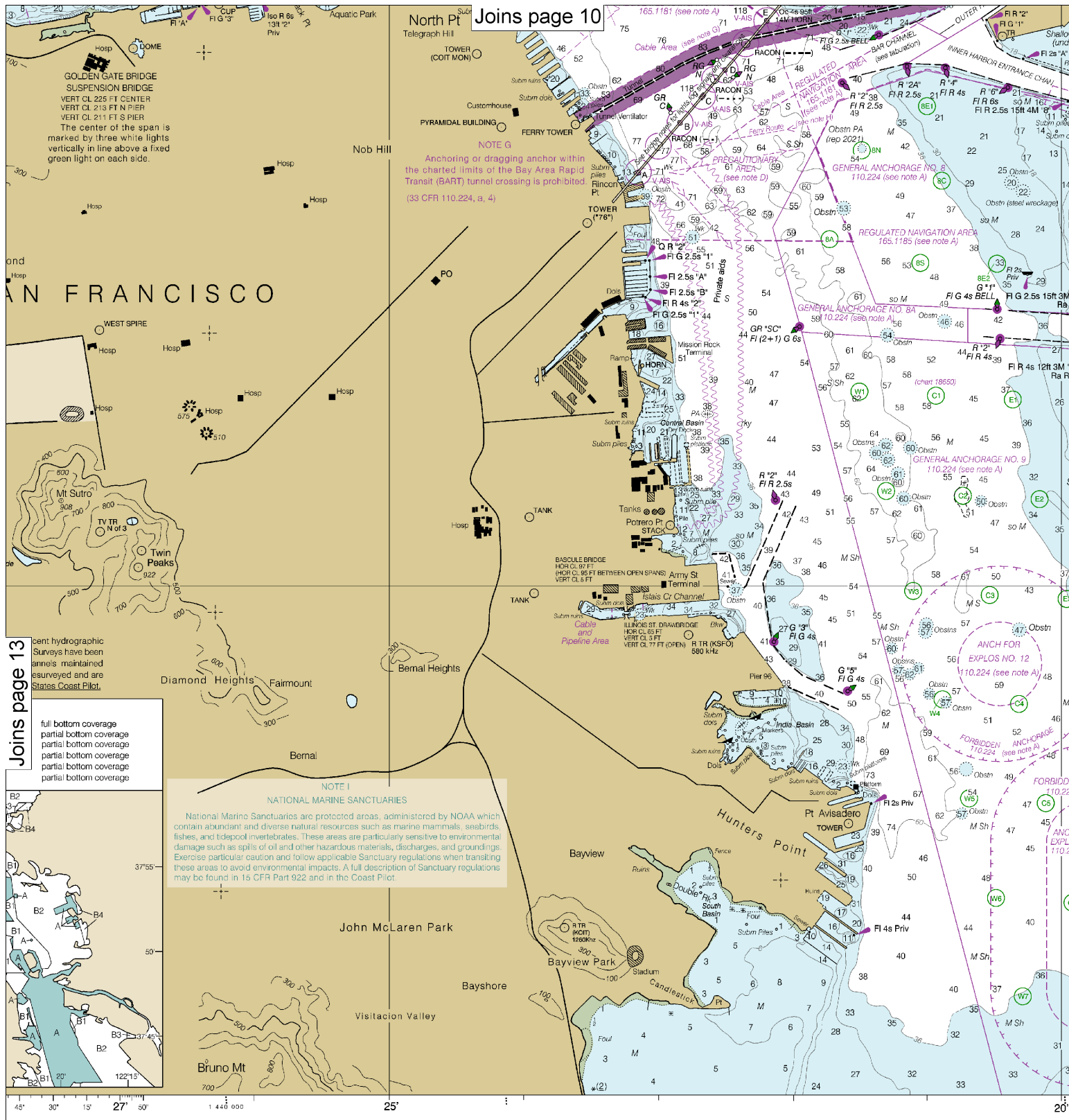
SCALE 1:40,000  
Nautical Miles

See Note on page 5.



Joins page 9



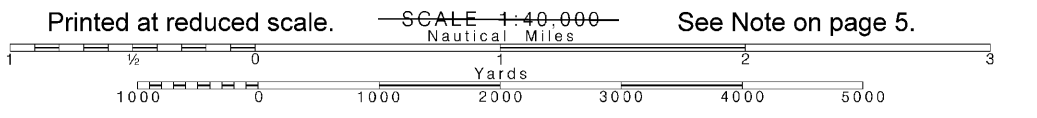


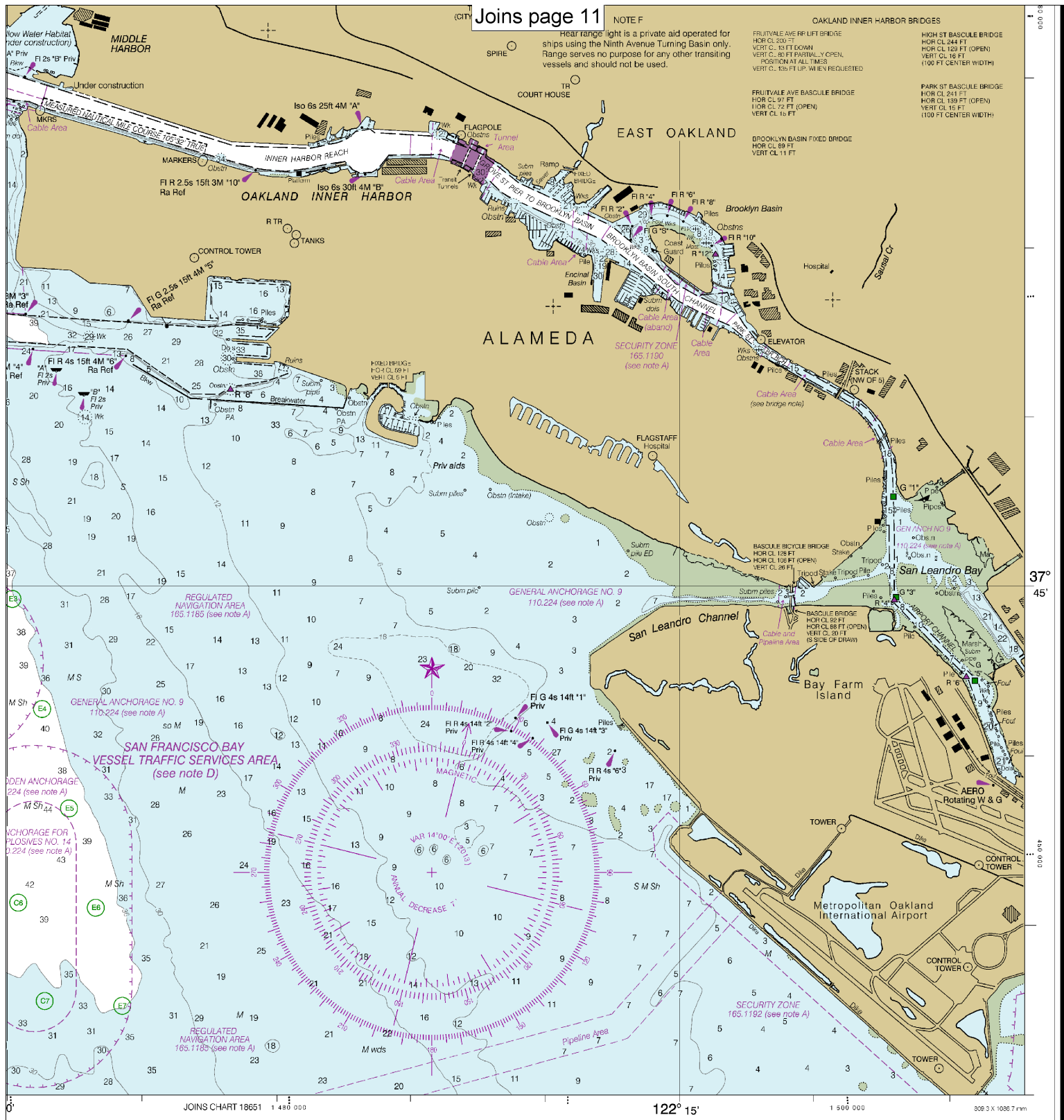
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U.S. DEPARTMENT OF COMMERCE  
OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SERVICE  
COAST SURVEY

SOUNDINGS IN FEE

14

Note: Chart grid lines are aligned with true north.





**ET**

FATHOMS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
FEET	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	100
METERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

**Entrance to San Francisco Bay**  
SOUNDINGS IN FEET - SCALE 1:40,000

**18649**



## VHF Marine Radio channels for use on the waterways:

**Channel 6** – Inter-ship safety communications.

**Channel 9** – Communications between boats and ship-to-coast.

**Channel 13** – Navigation purposes at bridges, locks, and harbors.

**Channel 16** – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other

vessels. Contact the other vessel, agree to another channel, and then switch.

**Channel 22A** – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.

**Channels 68, 69, 71, 72 and 78A** – Recreational boat channels.

**Getting and Giving Help** — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

## Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

**HAVE ALL PERSONS PUT ON LIFE JACKETS!**



**NOAA Weather Radio All Hazards (NWR)** is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.

<http://www.nws.noaa.gov/nwr/>

## Quick References

Nautical chart related products and information	—	<a href="http://www.nauticalcharts.noaa.gov">http://www.nauticalcharts.noaa.gov</a>
Interactive chart catalog	—	<a href="http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml">http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml</a>
Report a chart discrepancy	—	<a href="http://ocsddata.ncd.noaa.gov/idrs/discrepancy.aspx">http://ocsddata.ncd.noaa.gov/idrs/discrepancy.aspx</a>
Chart and chart related inquiries and comments	—	<a href="http://ocsddata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs">http://ocsddata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs</a>
Chart updates (LNM and NM corrections)	—	<a href="http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html">http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html</a>
Coast Pilot online	—	<a href="http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm">http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm</a>
Tides and Currents	—	<a href="http://tidesandcurrents.noaa.gov">http://tidesandcurrents.noaa.gov</a>
Marine Forecasts	—	<a href="http://www.nws.noaa.gov/om/marine/home.htm">http://www.nws.noaa.gov/om/marine/home.htm</a>
National Data Buoy Center	—	<a href="http://www.ndbc.noaa.gov/">http://www.ndbc.noaa.gov/</a>
NowCoast web portal for coastal conditions	—	<a href="http://www.nowcoast.noaa.gov/">http://www.nowcoast.noaa.gov/</a>
National Weather Service	—	<a href="http://www.weather.gov/">http://www.weather.gov/</a>
National Hurricane Center	—	<a href="http://www.nhc.noaa.gov/">http://www.nhc.noaa.gov/</a>
Pacific Tsunami Warning Center	—	<a href="http://ptwc.weather.gov/">http://ptwc.weather.gov/</a>
Contact Us	—	<a href="http://www.nauticalcharts.noaa.gov/staff/contact.htm">http://www.nauticalcharts.noaa.gov/staff/contact.htm</a>



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