18502 (formerly C&GS 6195)

VHF WEATHER BROADCASTS FOR MARINERS
FM Station with frequency of 162.40 megahertz and range approximately 40 miles, is in continuous operation 24 hours daily broadcasting weather warnings, forecasts and reports from the NATIONAL WEATHER SERVICE Office as follows:
KEC-91 Astoria, Oregon

PLANE COORDINATE GRID
The Washington State plane coordinate grid, South Zone, is indicated on this chart at 10,000 foot intervals thus — + — This grid is shown on the Westhaven Cove inset at 2,000 foot intervals. The last three digits are omitted.

NOTE A
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7, or weekly Notice to Mariners which include new or revised regulations. Information concerning the regulations may be obtained at the Office of the District Engineer, Corps of Engineers in Seattle, Wash.
Anchorage regulations may be obtained at the Office of the Commander, 13th Coast Guard District in Seattle, Wash.
Refer to section numbers shown with area designation.

CAUTION
Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and Defense Mapping Agency Hydrographic Center Publication 117 (A&B).
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)

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.

NEW CHART NUMBERING SYSTEM
The National Ocean Survey, in cooperation with the Defense Mapping Agency Hydrographic Center, is in the process of adopting a new national chart numbering system. See Notice to Mariners No. 19, May 11, 1974, or Nautical Chart Catalog for cross references of old and new chart numbers.

WISHKAH RIVER BRIDGES
The two swing bridges and one bascule bridge crossing the Wishkah River have a horizontal clearance of 75 feet and a vertical clearance of 8 feet. The fixed bridge has a horizontal clearance of 75 feet and a vertical clearance of 16 feet.

CONTINUATION OF CHEHALIS RIVER
Scale 1:40,000

The controlling depth at mean lower low water was 9 feet to Montesano. Apr. 1943

CAUTION
Bar Channel
The bar channel is subject to frequent changes. Deep draft vessels should not enter without knowledge of conditions at the time of entering. The deepest water is not always on the range.

AUTHORITIES
Hydrography and topography by the National Ocean Survey (formerly the Coast and Geodetic Survey) with additional data from the Corps of Engineers and U.S. Coast Guard.

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

STORM WARNINGS
The National Weather Service displays storm warnings at the following approximate location:
Grays Harbor C.G. Sta. (46°54.3'-124°03.2')

PLANE COORDINATE GRID
Corps of Engineers local plane coordinate grid is shown by dotted ticks at 10,000 foot intervals. Origin is East Base 1909.

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 Notice to Mariners.

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

HEIGHTS
Heights in feet above Mean High Water

LOGARITHMIC SPEED SCALE
To find SPEED, place one point of dividers on nautical miles run and the other on minutes run. Without changing divider spread, place right point on 60 and left point will then indicate speed in knots. Example: with 4.0 miles run in 15 minutes, the speed is 16.0 knots.

POLLUTION REPORTS
Report all spills of oil and hazardous substances to the National Response Center via 800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

UNITED STATES - WEST COAST
WASHINGTON

GRAYS HARBOR

Mercator Projection
Scale 1:40,000 at Lat. 46°56'
North American 1927 Datum
SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

TIDAL INFORMATION

Place Name (Lat/Long)	Height referred to datum of soundings (MLLW) Mean Higher High Water	Mean High Water	Mean Tide Level	Mean Lower Low Water	Extreme Low Water
	feet	feet	feet	feet	feet
Point Chehalis (46°55'N/124°07'W)	9.0	8.1	4.8	0.0	−3.5
Aberdeen (46°58'N/123°51'W)	10.1	9.4	5.4	0.0	−3.0
Montesano: Chehalis River (46°58'N/123°36'W)	8.1	7.5	4.1	0.0	−3.0

(876)

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1)

Lights (Lights are white unless otherwise indicated.):
F. fixed; Alt. alternating; Gp. group; F. Fl. fixed and flashing; Fl. flashing; Qk. quick; Int. interrupted; Iso. isophase; Occ. occulting; Mo (A) morse code; Q. quick flashing; I. Qk. interrupted quick; E. Int. equal interval; OBSC. obscured; WHIS. whistle; DIA. diaphone; M. nautical miles; Rot. rotating; SEC. sector; m. minutes; sec. seconds

Buoys: T.B. temporary buoy; C. can; N nun; S. spar; B. black; R. red; Or. orange; G. green; W. white; Y. yellow; BW. black and white; RW. red and white; RG. red and green; WR. white and red; WG. white and green; WRG. white, red and green; WY. white and yellow

Bottom characteristics:
Cl. clay; Co. coral; G. gravel; Gra. grass; M. mud; Rk. rock; S. sand; Sh. shells; hrd. hard; sft. soft; stk. sticky; bk. black; br. brown; bu. blue; gn. green; gy. gray; rd. red; wh. white; yl. yellow

21 Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover; with heights in feet above datum of soundings.

AERO. aeronautical; Bn. daybeacon; R. Bn. radiobeacon; R TR. radio tower; C. G. Coast Guard station; D.F.S. distance finding station

AUTH. authorized; Obstr. obstruction; P.A. position approximate; E.D. existence doubtful

COLREGS. International Regulations for Preventing Collisions at Sea, 1972

GRAYS HARBOR-NORTH CHANNEL AND CHEHALIS RIVER
CORPS OF ENGINEERS-REPORTS TO JUNE 1977, SURVEYS TO JUNE 1977

NAME OF CHANNEL	CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW): LEFT OUTSIDE HALF OF OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE HALF OF OUTSIDE QUARTER	DATE OF SURVEY	PROJECT DIMENSIONS: WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH (FEET)
SAND I. SHOAL CHANNEL							
WEST REACH	29.7	31.0	29.8	6-77	350	1.2	30
EAST REACH	27.3	27.3	29.9	6-77	350	0.95	30
CROSSOVER CHANNEL	28.7	30.1	29.0	6-77	4350	1.9	30
MOON ISLAND REACH	26.9	26.5	22.7	5-78;2-77	4350	2.6	30
MODY-MIDDLE REACH	31.0	32.0	27.0	4-78;3-77	350	2.85	30
COW POINT REACH	29.1	33.0	30.3	6-7.8-76	350	0.4	30
ABERDEEN REACH	27.0	32.0	32.2	5.3-76	350	1.1	30
WEST TURNING BASIN	24.0	33.0	33.1	5.3-76	600	0.17	30
THENCE TO THE EAST TURNING BASIN	30.1	26.8	25.0	5-78;3-77	200-400	1.4	30
EAST TURNING BASIN	811.4	25.1	31.4	3-77	200-550	0.2	30
EAST TURNING BASIN TO CESSPOOL 1	28.2	29.4	27.7	3-77	200	0.3	30

a. ONLY THE NORTH 350 FEET OF THE WIDENER AT THE JUNCTION OF CROSSOVER CHANNEL AND MOON ISLAND REACH IS INCLUDED IN THE DEPTH TABULATION. A DEPTH OF 22.2 FEET WAS AVAILABLE IN THE REMAINDER OF THE WIDENER.
B. CONTROLLING DEPTH WAS LOCATED NEAR THE EDGE OF THE BASIN. A DEPTH OF 16.1 FEET WAS AVAILABLE IN THE INSIDE HALF OF THE QUARTER.
NOTE-CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

PRODUCED BY COMPUTER ASSISTED METHODS

WESTHAVEN COVE
Scale 1:10,000

71st Ed., Oct. 15/77
18502
(formerly C&GS 6/95)

CAUTION
This chart has been corrected from the Notice to Mariners published weekly by the Defense Mapping Agency Hydrographic Center and the Local Notice to Mariners issued periodically by each U.S. Coast Guard district to the print date shown in the lower left hand corner.

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.

FILE COPY

Published at Washington, D. C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

SOUNDINGS IN FEET

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	102
METERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	20	21	22	23	24	25	26	27	28	29	30	31

(Inner neatline 60.23cm N.S. x 95.19cm E.W.)

(Grays Harbor, Wash.)
SOUNDINGS IN FEET - SCALE 1:40,000

18502
(formerly C&GS 6/95)

LITIGATION COPY

DMA STOCK NO. 18502