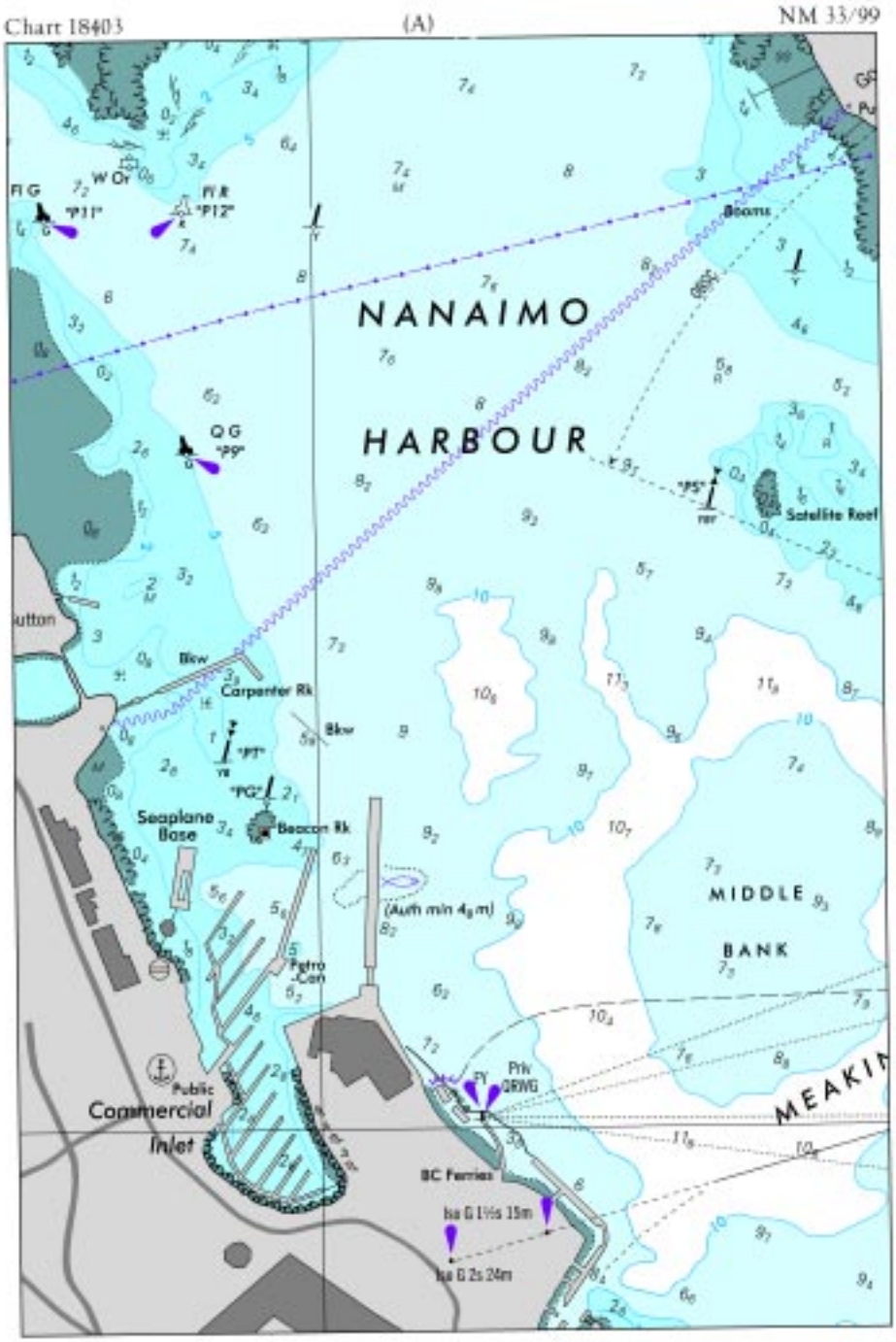
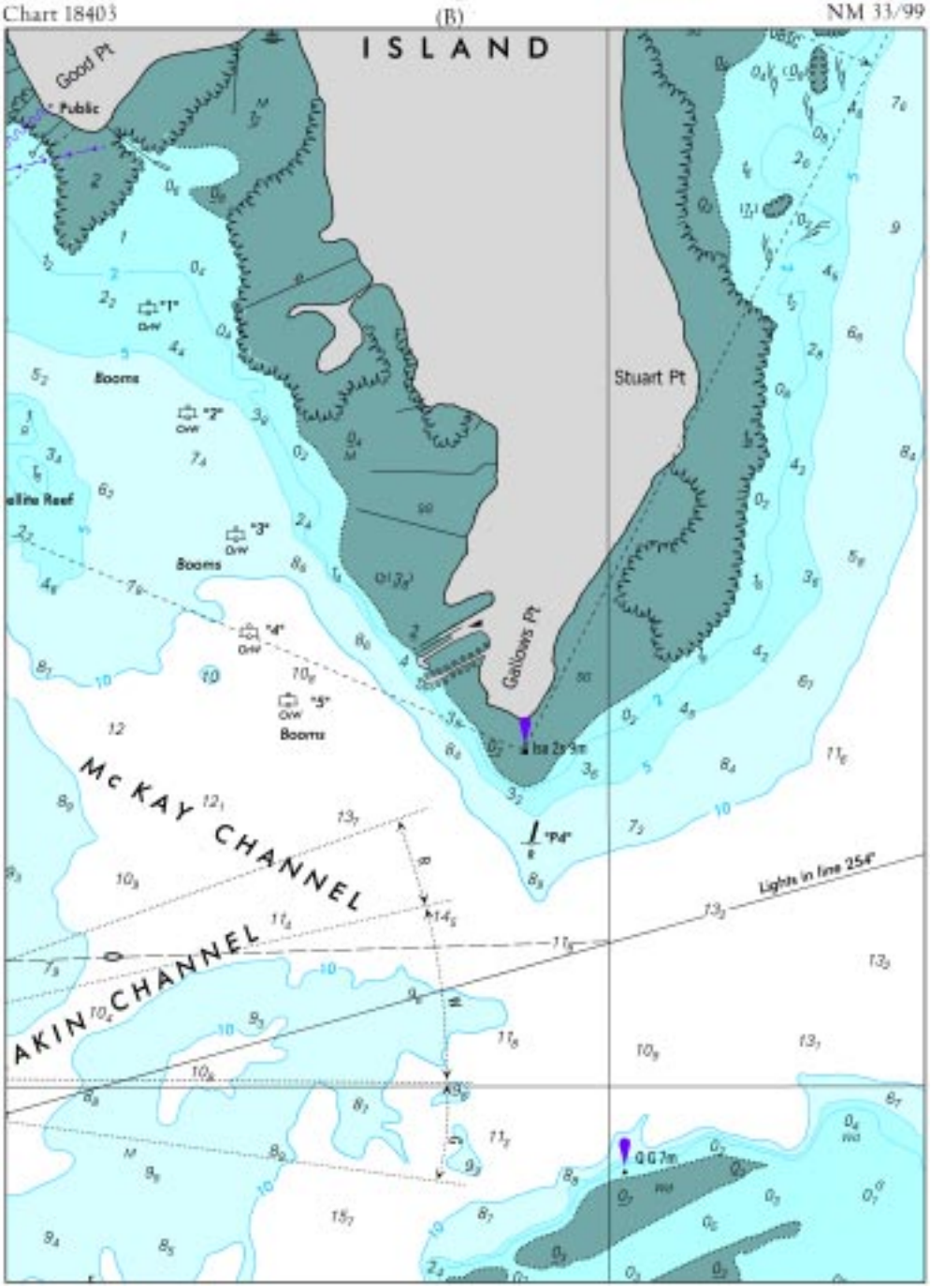


Chart 18403
(A)
NM 33/99
NANAIMO
HARBOUR
Booms
Satellite Reef
Carpenter Rk
Seaplane Base
Beacon Rk
Petro Can
Public
Commercial
Inlet
MIDDLE
BANK
MEAKIN
BC Ferries
Isa G 1½s 15m
Isa G 2s 24m

Chart 18403 (B) NM 33/99



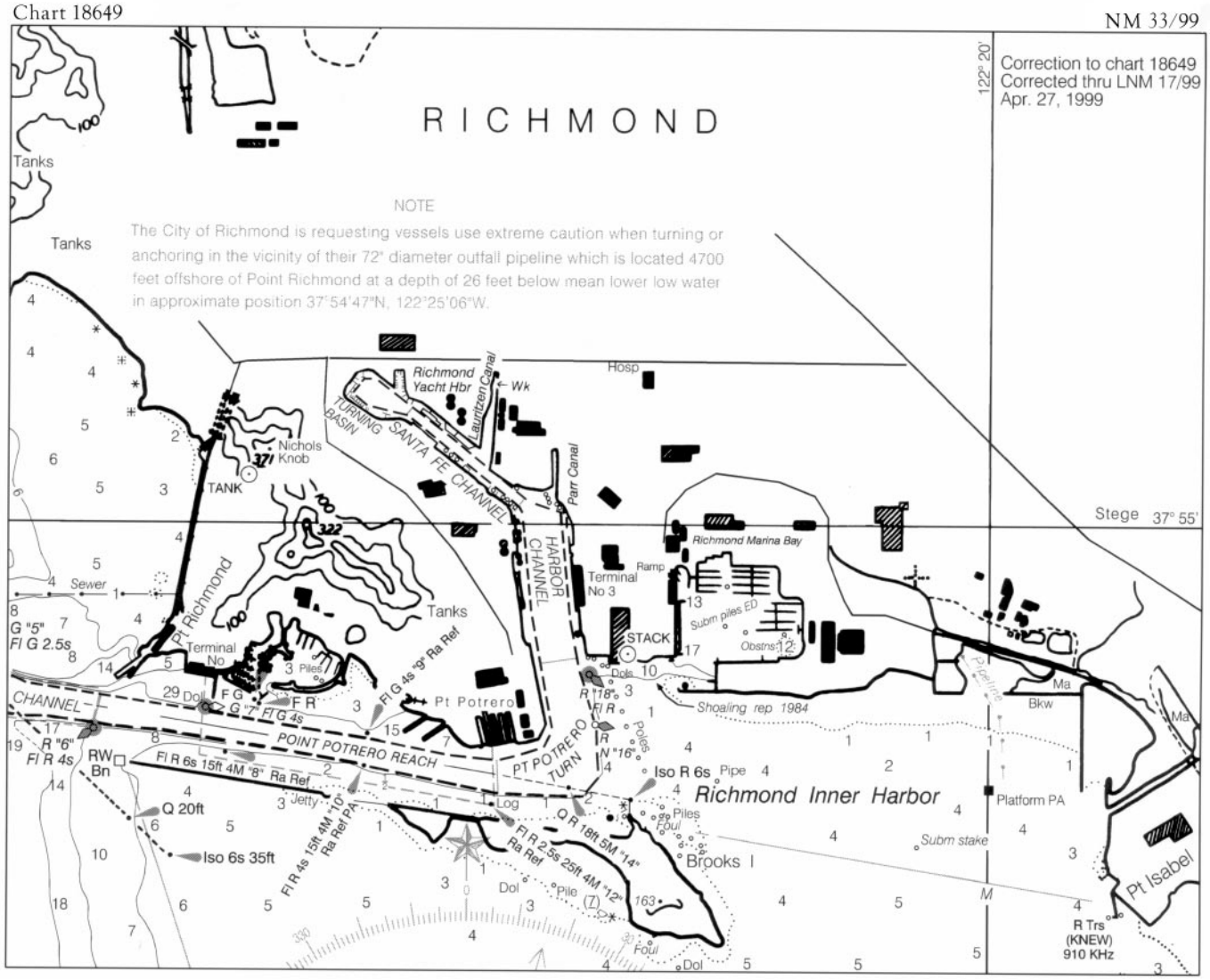


Chart 18649
NM 33/99
Correction to chart 18649
Corrected thru LNM 17/99
Apr. 27, 1999
RICHMOND
NOTE
The City of Richmond is requesting vessels use extreme caution when turning or anchoring in the vicinity of their 72" diameter outfall pipeline which is located 4700 feet offshore of Point Richmond at a depth of 26 feet below mean lower low water in approximate position 37°54'47"N, 122°25'06"W.
Tanks
Richmond Yacht Hbr
Lauritzen Canal
Wk
Hosp
TURNING BASIN
SANTA FE CHANNEL
Nichols Knob
TANK
Parr Canal
Stege 37° 55'
Richmond Marina Bay
HARBOR CHANNEL
Terminal No 3
Ramp
STACK
Subm piles ED
Obstns
Pt Richmond
Sewer
Terminal No
Piles
Pt Potrero
Shoaling rep 1984
Pipeline
Ma
Bkw
CHANNEL
POINT POTRERO REACH
PT POTRERO TURN
Iso R 6s
Pipe
Richmond Inner Harbor
Platform PA
Q 20ft
Iso 6s 35ft
Jetty
Log
Q R 18ft 5M "14"
Fl R 2.5s 25ft 4M "12" Ra Ref
Piles
Foul
Brooks I
Subm stake
Pt Isabel
R Trs (KNEW) 910 KHz
Dol
Pile
Fl R 4s 15ft 4M "10" Ra Ref PA
Fl R 6s 15ft 4M "8" Ra Ref
Fl G 4s "9" Ra Ref
G "5" Fl G 2.5s
R "6" Fl R 4s
RW Bn
G "7" Fl G 4s
Dols
Poles
Pipe

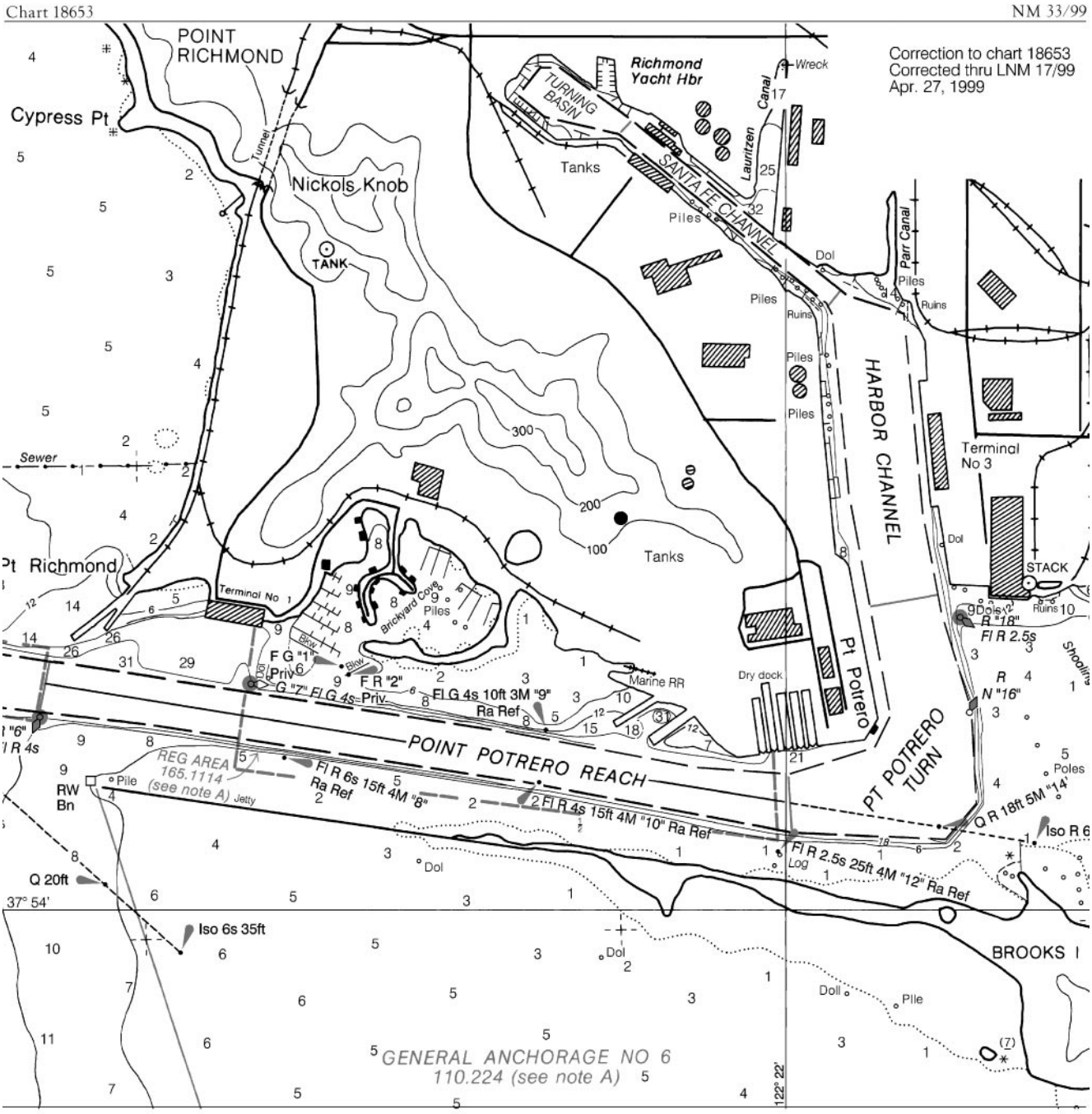


Chart 18653
NM 33/99
Correction to chart 18653
Corrected thru LNM 17/99
Apr. 27, 1999
POINT RICHMOND
Cypress Pt
Nickols Knob
TANK
Tunnel
Richmond Yacht Hbr
TURNING BASIN
Wreck
Lauritzen Canal
SANTA FE CHANNEL
Tanks
Piles
Dol
Parr Canal
Ruins
HARBOR CHANNEL
Terminal No 3
STACK
Sewer
Pt Richmond
Terminal No 1
Brickyard Cove
Marine RR
Dry dock
Pt Potrero
PT POTRERO TURN
POINT POTRERO REACH
F G "1"
Priv
G "7" Fl G 4s
F R "2"
Fl G 4s 10ft 3M "9"
Ra Ref
Fl R 6s 15ft 4M "8"
2 Fl R 4s 15ft 4M "10" Ra Ref
Fl R 2.5s 25ft 4M "12" Ra Ref
Q R 18ft 5M "14"
R "18" Fl R 2.5s
N "16"
REG AREA 165.1114 (see note A)
RW Bn
Pile
Jetty
Q 20ft
37° 54'
Iso 6s 35ft
Log
Poles
BROOKS I
Doll
GENERAL ANCHORAGE NO 6
110.224 (see note A)
122° 22'

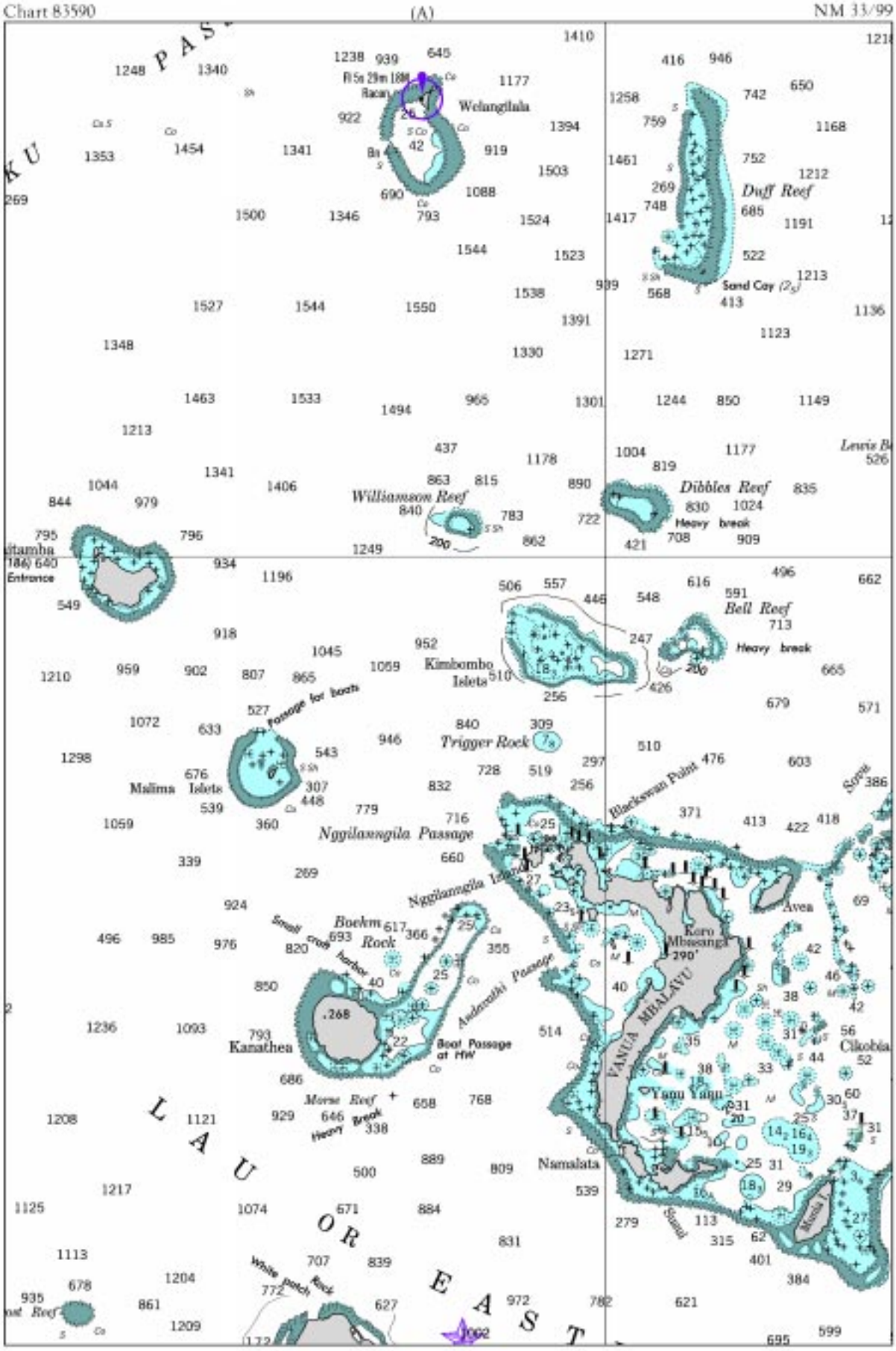


Chart 83590
(A)
NM 33/99
Welangilala
Duff Reef
Sand Cay
Williamson Reef
Dibbles Reef
Heavy break
Bell Reef
Heavy break
Kimbombo Islets
Passage for boats
Trigger Rock
Malima Islets
Nggilanngila Passage
Blackswan Point
Nggilanngila Island
Boehm Rock
Small craft harbor
Andavathi Passage
Koro Mbasanga
Avea
VANUA MBALAVU
Kanathea
Boat Passage at HW
Cikobia
Yanu Yanu
Morse Reef
Heavy Break
Namalata
White patch
Rock
LAU OR EAST

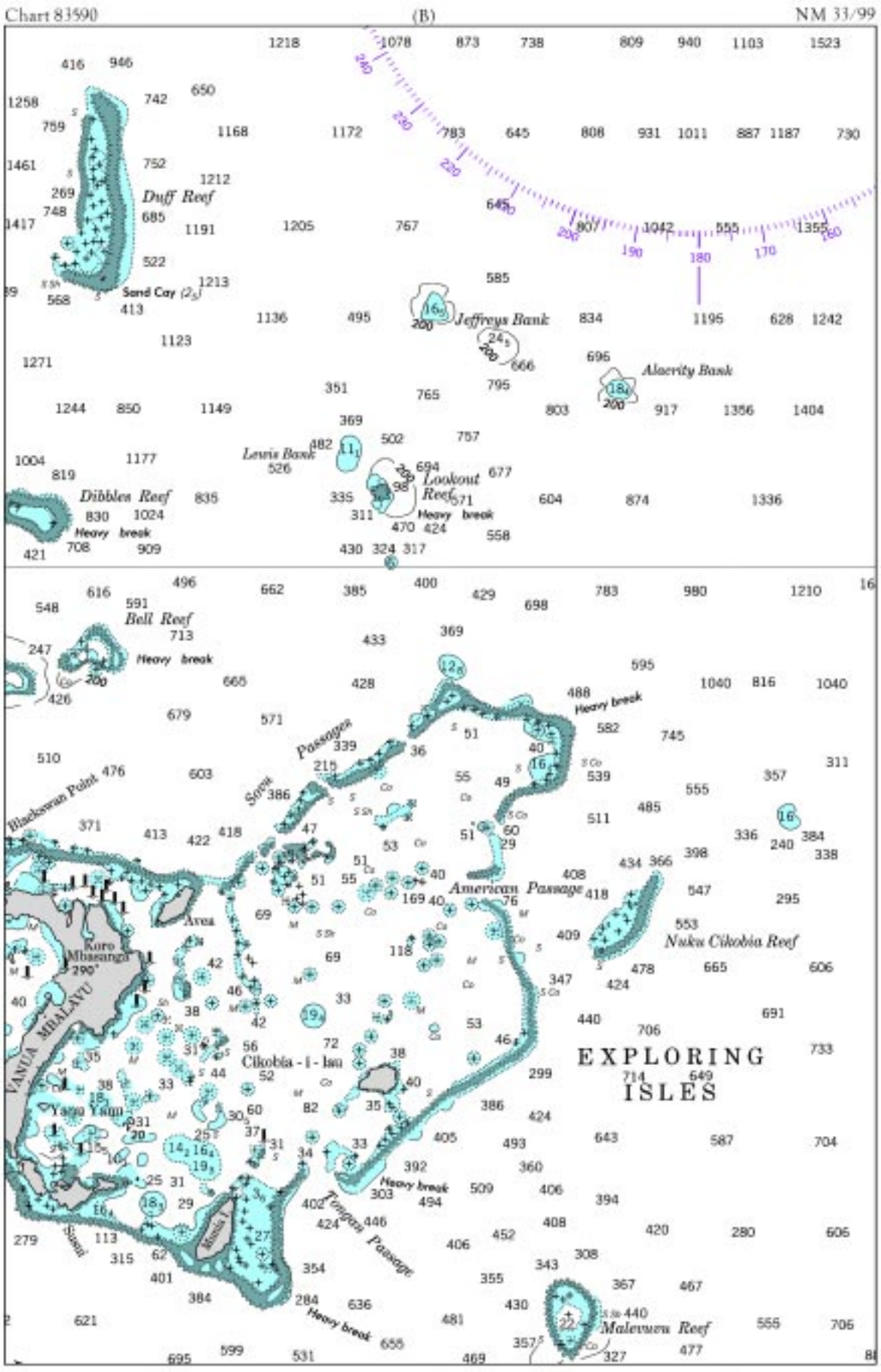


Chart 83590
(B)
NM 33/99
Duff Reef
Sand Cay
Jeffreys Bank
Alacrity Bank
Lewis Bank
Lookout Reef
Dibbles Reef
Heavy break
Bell Reef
Heavy break
Heavy break
Sovu Passages
Blackswan Point
American Passage
Nuku Cikobia Reef
Koro Mbasanga
VANUA MBALAVU
Cikobia - i - lau
Yanu Yanu
EXPLORING ISLES
Heavy break
Tongan Passage
Heavy break
Malevuvu Reef

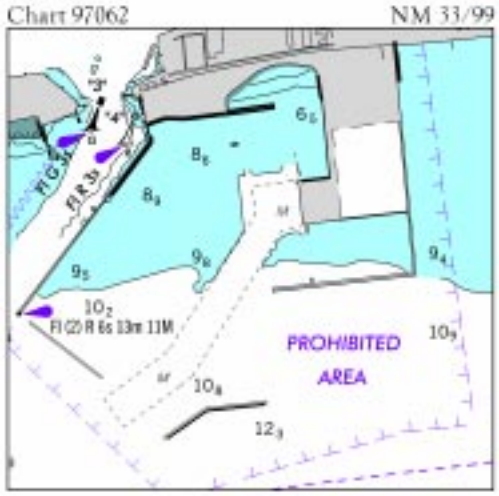


Chart 97062
NM 33/99
Fl G 3s
Fl R 3s
Fl (2) R 6s 13m 11M
PROHIBITED
AREA

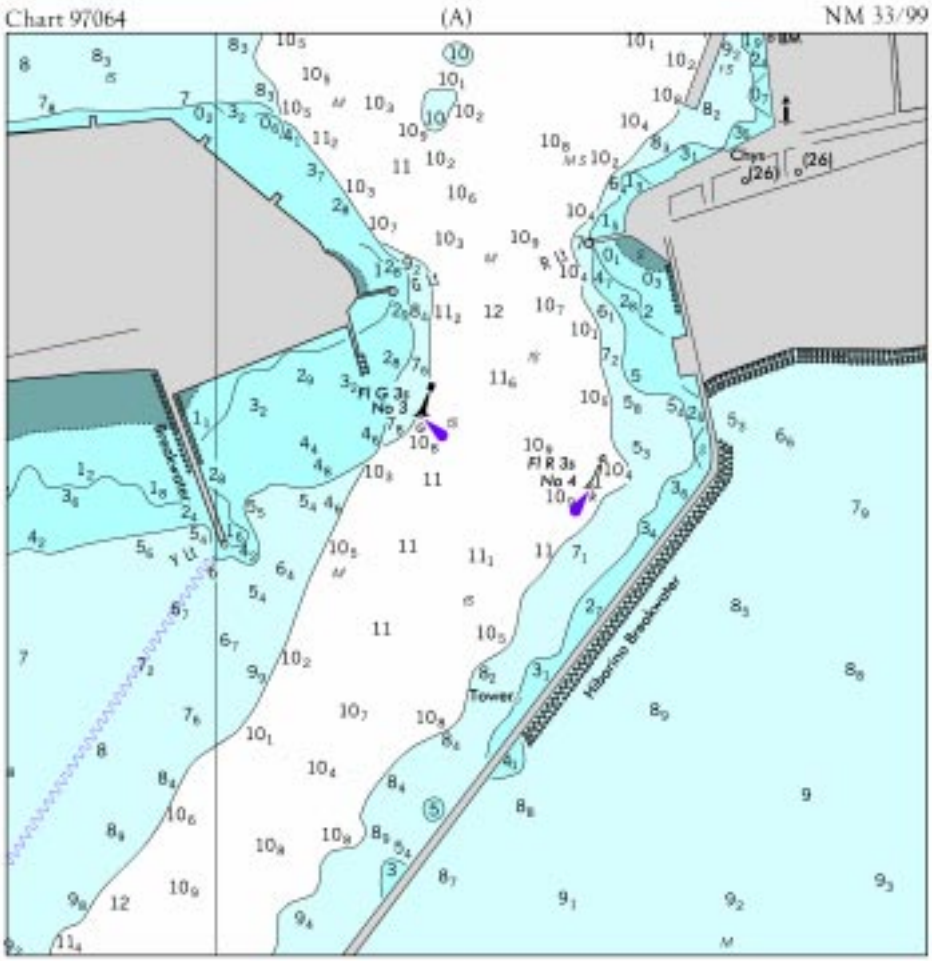


Chart 97064
(A)
NM 33/99
Fl G 3s
No 3
Fl R 3s
No 4
Tower
Hibernia Breakwater

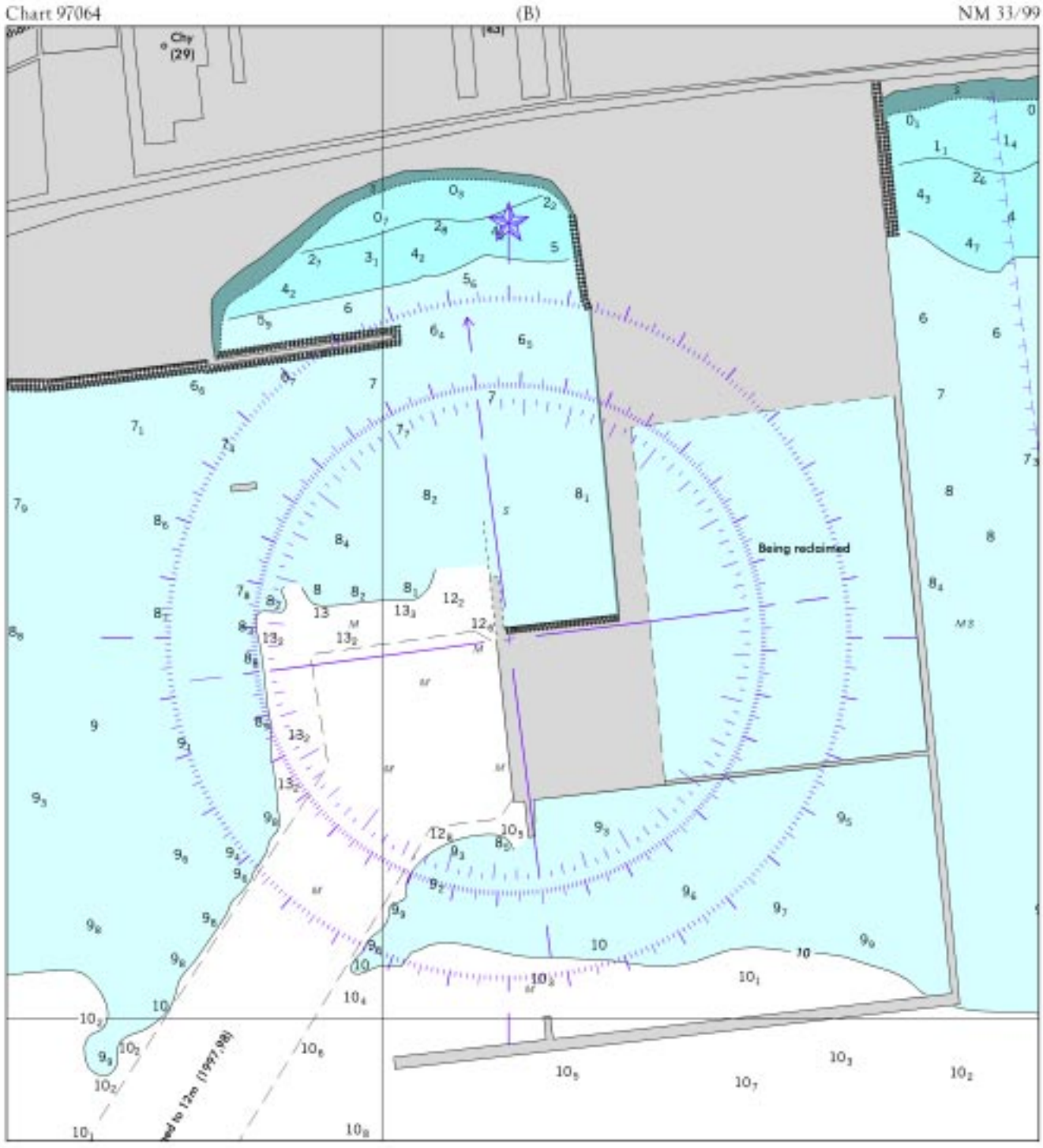


Chart 97064
(B)
NM 33/99
Chy
(29)
Being reclaimed

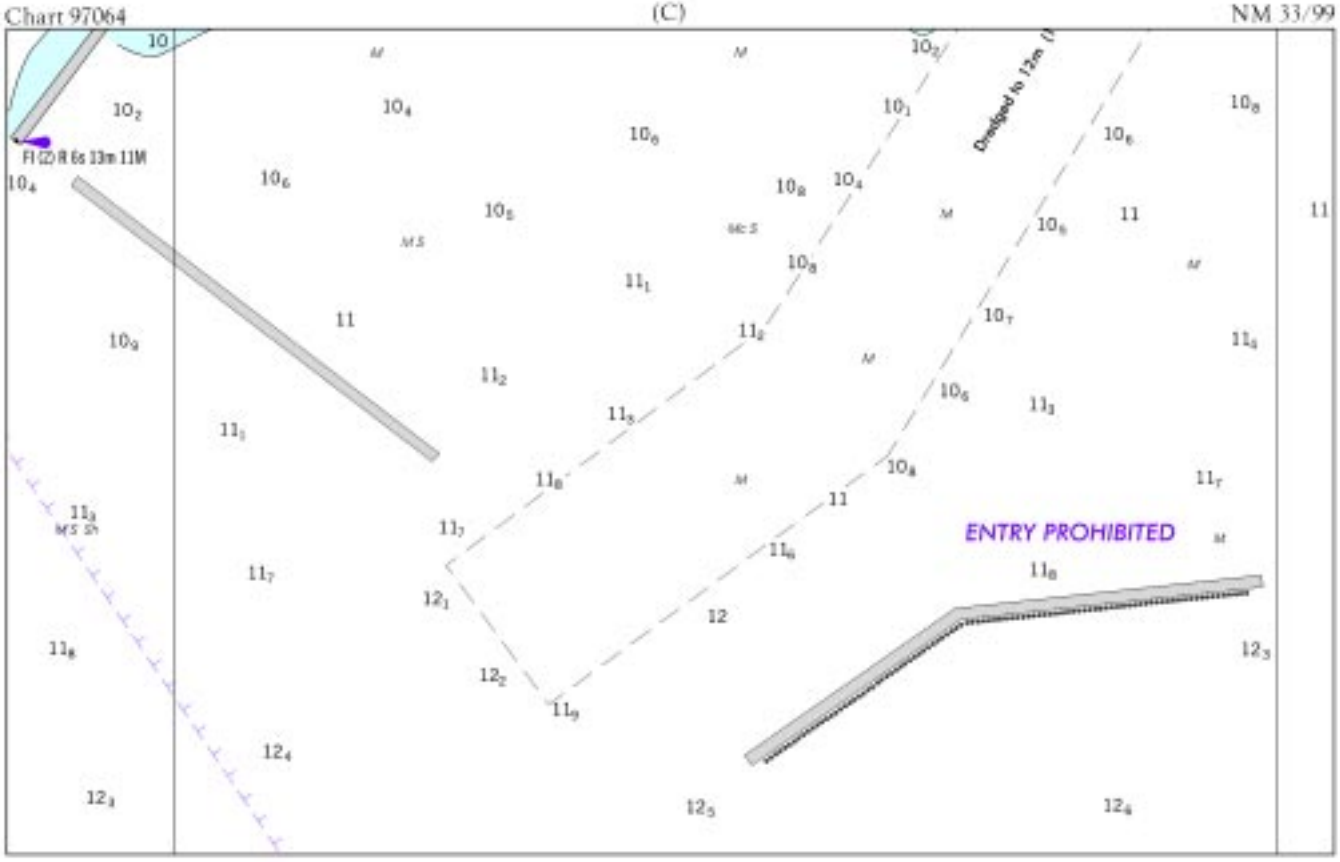


Chart 97064
(C)
NM 33/99
Fl (2) R 6s 13m 11M
Dredged to 12m
ENTRY PROHIBITED

CHART 11332 NM 33/99

SABINE PASS CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF APR 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
SABINE BANK CHANNEL	40	42	42	39	3-99	800	14.7	42
OUTER BAR CHANNEL	41	43	43	42	3-99	800	3.0	42
JETTY CHANNEL	30	44	44	30	3-99	800-500	3.5	40

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 11341 NM 33/99

SABINE PASS CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF APR 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
SABINE BANK CHANNEL	40	42	42	39	3-99	800	14.7	42
OUTER BAR CHANNEL	41	43	43	42	3-99	800	3.0	42
JETTY CHANNEL	30	44	44	30	3-99	800-500	3.5	40

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 12222 NM 33/99

NORFOLK HARBOR AND APPROACHES

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF MAY 1999 AND SURVEYS TO MAR 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
THIMBLE SHOAL CHANNEL (A)								
NORTH ELEMENT (B)	48.8	47.5	45.7	43.6	9,10,11-98	350	13.0	55
SOUTH ELEMENT (C)	47.2	50.9	50.1	49.6	9,10,11-98	650	13.0	55
NORTH AUXILIARY CHANNEL (D)						450		32
SOUTH AUXILIARY CHANNEL (D)						450		32
NORFOLK HARBOR								
ENTRANCE REACH	50.0	51.0	53.1	51.6	8,9,10-97	1000	1.4	50
NORFOLK HARBOR REACH	51.0	50.9	46.6	45.1	2,3-99	800-1250	3.8	55
CRANEY ISLAND REACH	50.7	50.2	51.8	43.7	1,2-99	800	2.1	55
LAMBERTS BEND	39.6	45.3	40.2	39.4	11,12-97	750	0.3	45
PORT NORFOLK REACH	38.3	39.3	40.6	39.5	11,12-97;2-98	750	2.0	45
NEWPORT NEWS CHANNEL	49.0	50.6	51.0	50.6	4,5-98;1-99	800	4.2	55
HAMPTON RIVER								
ENTRANCE CHANNEL	12.6	12.9	12.9	12.4	7-97	200	1.1	12
HAMPTON REACH	9.9	11.7	11.7	12.2	7-97	150	1.2	12
SUNSET CREEK	12.0	12.5	12.5	9.8	7-97	80-100	0.5	12
PHOEBUS CHANNEL	12.3	12.2	12.0	11.3	10-90	150	0.7	12

A. THIS CHANNEL IS RESTRICTED TO EXCLUDE VESSELS AND TOWS DRAWING LESS THAN 25 FEET.
B. PORTION OF PROJECT MAINTAINED TO 45 FEET
C. PORTION OF PROJECT MAINTAINED TO 50 FEET
D. PROJECT MAINTENANCE DISCONTINUED
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 12245 NM 33/99

NORFOLK HARBOR AND NEWPORT NEWS CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF MAY 1999 AND SURVEYS TO MAR 1999

NAME OF CHANNEL	CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS		
	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
NORFOLK HARBOR ENTRANCE REACH	50.0	51.0	53.1	51.6	8,9,10-97	1000	1.4	50
NORFOLK HARBOR REACH	51.0	50.9	46.6	45.1	2,3-99	800-1250	3.8	55
CRANEY ISLAND REACH	50.7	50.2	51.8	43.7	1,2-99	800	2.1	55
NEWPORT NEWS CHANNEL	49.0	50.6	51.0	50.6	4,5-98;1-99	800	4.2	55

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 12253 NM 33/99

ELIZABETH RIVER CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF MAY 1999 AND SURVEYS TO FEB 1999

NAME OF CHANNEL	CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS		
	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
CRANEY ISLAND REACH	50.7	50.2	51.8	43.7	1,2-99	800	2.1	55
LAMBERTS BEND	39.6	45.3	40.2	39.4	11,12-97	750	0.3	45
PORT NORFOLK REACH	38.3	39.3	40.6	39.5	11,12-97;2-98	750	2.0	45
TOWN POINT REACH	39.2	40.2	40.1	39.6	11-97	750	0.6	45
SOUTHERN BRANCH:								
LOWER REACH	36.6	40.4	40.4	39.6	11,12-97	450-800	1.7	45
MIDDLE REACH	39.5	41.5	40.6	39.5	11-97	375	0.9	45
UPPER REACH	34.0	35.0	35.5	34.4	12-98	250-500	2.7	35
TURNING BASIN	34.8	35.0	34.5	34.5	12-98	600	0.1	35
THENCE TO A POINT 100 YARDS SOUTH OF LIGHT "30"	28.9	30.4	31.5	29.6	5-94	250-500	1.1	35
TURNING BASIN AT MAINS CREEK	30.7	31.8	30.7	30.3	5-94	800	0.2	35
THENCE TO A POINT 100 YARDS NORTH OF N & P B L RR BRIDGE	30.0	30.8	30.8	29.1	5-94	250-500	0.2	35

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 12273 NM 33/99

CHESAPEAKE AND DELAWARE CANAL CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF JUN 1999

NAME OF CHANNEL	* SEE FOOTNOTE				PROJECT DIMENSIONS		
	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH * (MILES)	DEPTH * (FEET)
3400 YARDS SOUTH OF POOLES ISLAND TO THE SOUTH END OF POOLES ISLAND	39.5	40.1	39.0	4-99	450	1.68	35
SOUTH END OF POOLES ISLAND TO WORTON POINT	39.6	39.0	39.4	4-99	450	4.16	35
WORTON PT. TO HOWELL PT.	39.1	39.0	38.9	2-99	450	4.84	35
HOWELL PT. TO GROVE PT.	39.3	40.6	37.9	8-98	450	3.37	35
GROVE PT. TO TURKEY PT.	36.3	37.6	35.9	3-99	450	3.40	35
TURKEY PT. TO OLD TOWN POINT WHARF	36.8	37.3	35.7	4-99	450	5.45	35
OLD TOWN PT. WHARF TO COURTHOUSE PT.	36.8	37.4	37.9	4-99	450	1.63	35
COURTHOUSE PT. TO CHESAPEAKE CITY BRIDGE	35.7	34.6	33.3	1-99	450	3.69	35
CHESAPEAKE CITY BRIDGE TO BETHEL	32.9	33.4	33.4	1-99	450	1.51	35

* CONTROLLING CHANNEL DEPTHS IN FEET AT LOCAL MEAN LOWER LOW WATER ENTERING FROM CHESAPEAKE BAY. PROJECT LENGTHS IN NAUTICAL MILES.

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 12274 NM 33/99

CHESAPEAKE AND DELAWARE CANAL CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF JUN 1999

NAME OF CHANNEL	* SEE FOOTNOTE			DATE OF SURVEY	PROJECT DIMENSIONS		
	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER		WIDTH (FEET)	LENGTH * (MILES)	DEPTH * (FEET)
3400 YARDS SOUTH OF POOLES ISLAND TO THE SOUTH END OF POOLES ISLAND	39.5	40.1	39.0	4-99	450	1.68	35
SOUTH END OF POOLES ISLAND TO WORTON POINT	39.6	39.0	39.4	4-99	450	4.16	35
WORTON PT. TO HOWELL PT.	39.1	39.0	38.9	2-99	450	4.84	35
HOWELL PT. TO GROVE PT.	39.3	40.6	37.9	8-98	450	3.37	35
GROVE PT. TO TURKEY PT.	36.3	37.6	35.9	3-99	450	3.40	35
TURKEY PT. TO OLD TOWN POINT WHARF	36.8	37.3	35.7	4-99	450	5.45	35
OLD TOWN PT. WHARF TO COURTHOUSE PT.	36.8	37.4	37.9	4-99	450	1.63	35
COURTHOUSE PT. TO CHESAPEAKE CITY BRIDGE	35.7	34.6	33.3	1-99	450	3.69	35
CHESAPEAKE CITY BRIDGE TO BETHEL	32.9	33.4	33.4	1-99	450	1.51	35

* CONTROLLING CHANNEL DEPTHS IN FEET AT LOCAL MEAN LOWER LOW WATER ENTERING FROM CHESAPEAKE BAY. PROJECT LENGTHS IN NAUTICAL MILES.

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 12277 NM 33/99

CHESAPEAKE AND DELAWARE CANAL CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF JUN 1999

NAME OF CHANNEL	* SEE FOOTNOTE			DATE OF SURVEY	PROJECT DIMENSIONS		
	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER		WIDTH (FEET)	LENGTH * (MILES)	DEPTH * (FEET)
TURKEY POINT TO OLD TOWN POINT WHARF	36.8	37.3	35.7	4-99	450	5.45	35
OLD TOWN POINT WHARF TO COURTHOUSE POINT	36.8	37.4	37.9	4-99	450	1.63	35
COURTHOUSE PT. TO CHESAPEAKE CITY BRIDGE	35.7	34.6	33.3	1-99	450	3.69	35
CHESAPEAKE CITY BRIDGE TO BETHEL	32.9	33.4	33.4	1-99	450	1.51	35
BETHEL TO GUTHRIE BRANCH	32.2	33.6	35.2	12-98	450	1.13	35
GUTHRIE BRANCH TO SUMMIT BRIDGE	37.6	33.4	33.4	1-99	450	1.02	35
SUMMIT BRIDGE TO CONRAIL BRIDGE	36.2	35.3	32.2	2-99	450	1.65	35
CONRAIL BRIDGE TO ST. GEORGES BRIDGE	32.8	36.6	34.9	2-99	450	2.57	35
ST. GEORGES BRIDGE TO BIDDLE POINT	39.3	35.1	33.3	2-99	450	1.58	35
BIDDLE POINT TO REEDY POINT BRIDGE	34.7	35.6	35.3	2-99	450	1.68	35
REEDY POINT BRIDGE TO DELAWARE RIVER	34.8	35.0	34.3	6-99	450	1.63	35

* CONTROLLING CHANNEL DEPTHS IN FEET AT LOCAL MEAN LOWER LOW WATER ENTERING FROM CHESAPEAKE BAY. PROJECT LENGTHS ARE GIVEN IN NAUTICAL MILES UNLESS OTHERWISE INDICATED.

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 12278 NM 33/99

CHESAPEAKE AND DELAWARE CANAL CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF JUN 1999

* SEE FOOTNOTE					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH * (MILES)	DEPTH * (FEET)
3400 YARDS SOUTH OF POOLES ISLAND TO THE SOUTH END OF POOLES ISLAND	39.5	40.1	39.0	4-99	450	1.68	35
SOUTH END OF POOLES ISLAND TO WORTON POINT	39.6	39.0	39.4	4-99	450	4.16	35
WORTON PT. TO HOWELL PT.	39.1	39.0	38.9	2-99	450	4.84	35

* CONTROLLING CHANNEL DEPTHS IN FEET AT LOCAL MEAN LOWER LOW WATER ENTERING FROM CHESAPEAKE BAY. PROJECT LENGTHS IN NAUTICAL MILES.

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 12311 NM 33/99

CHRISTINA RIVER CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF JUN 1999 AND SURVEYS TO JUN 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT CHRISTINA RIVER DATUM					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT MILES)	DEPTH (FEET)
ENTRANCE CHANNEL TO THE UPPER END OF THE TURNING BASIN	38.1	38.1	37.1	6-99	500-340	0.70	38
THENCE TO THE LOBDELL CANAL TURNING BASIN	35.1	35.4	35.0	6-99	400	0.33	35
(OPPOSITE TERMINAL WHARF)	38.1	38.1	38.1	6-99	320	0.34	38

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 12312 NM 33/99

CHRISTINA RIVER CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF JUN 1999 AND SURVEYS TO JUN 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT CHRISTINA RIVER DATUM					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT MILES)	DEPTH (FEET)
ENTRANCE CHANNEL TO THE UPPER END OF THE TURNING BASIN	38.1	38.1	37.1	6-99	500-340	0.70	38
THENCE TO THE LOBDELL CANAL TURNING BASIN	35.1	35.4	35.0	6-99	400	0.33	35
(OPPOSITE TERMINAL WHARF)	38.1	38.1	38.1	6-99	320	0.34	38

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 97185 NM 33/99

CAUTIONS

1. Depths of up to 0.8 meters less than charted may exist in the area.
2. Depths of up to 1.2 meters less than charted may exist in the area.
3. Depths of up to 0.3 meters less than charted may exist in the area.
4. Depths of up to 2.0 meters less than charted may exist in the area.