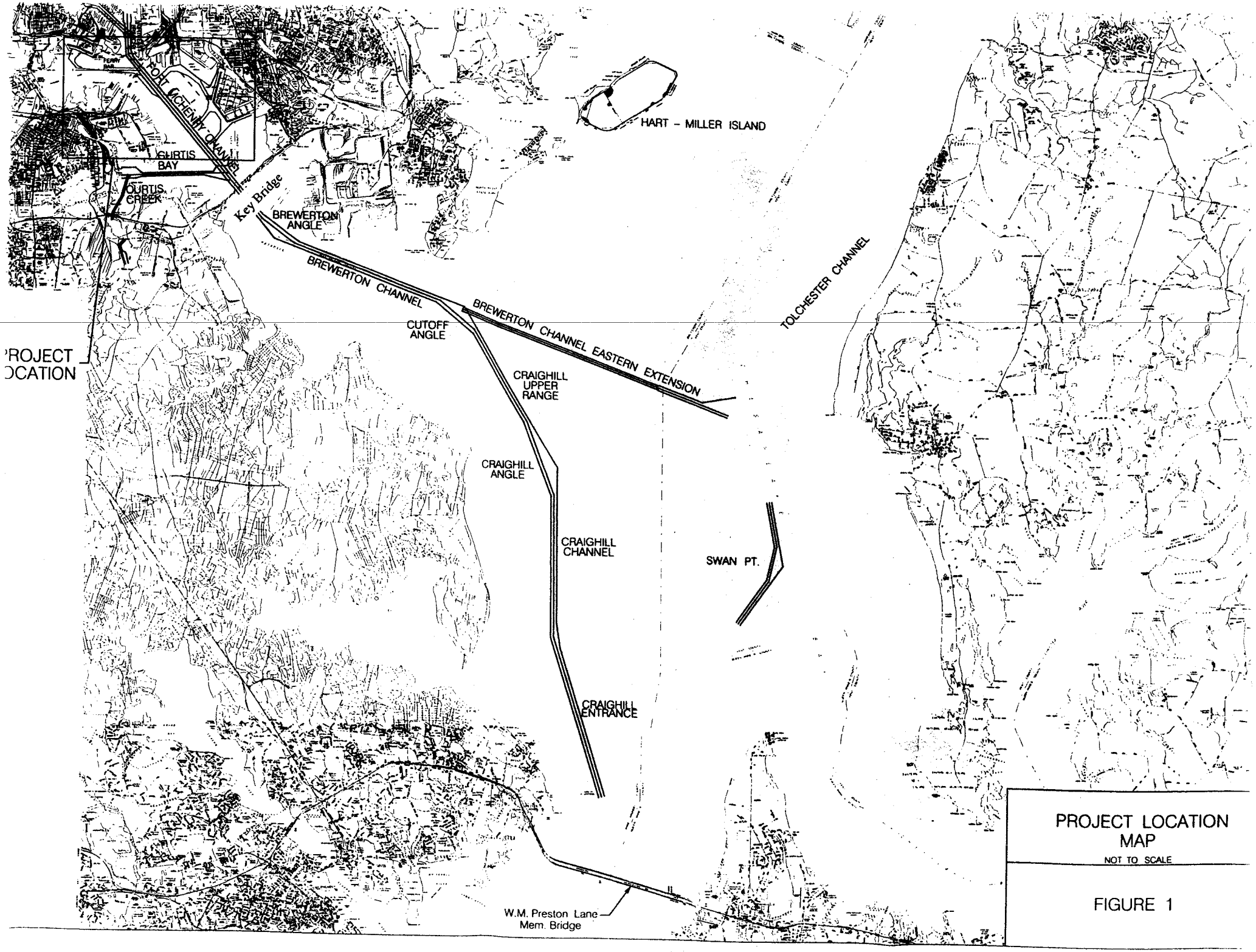
APPENDIX A

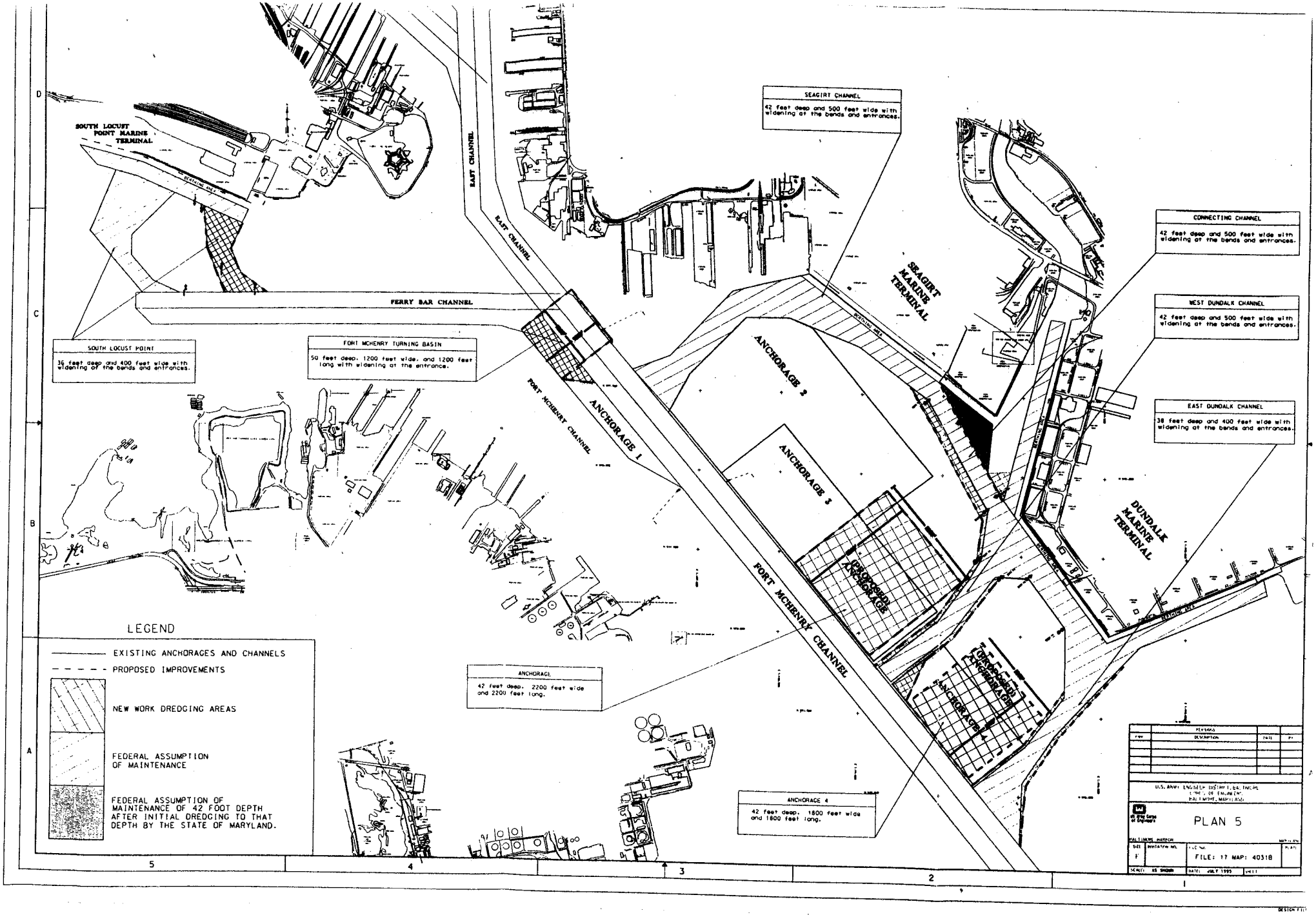
Figures & Tables



PROJECT LOCATION MAP

NOT TO SCALE

FIGURE 1



1997 AUTHORIZED PLAN

FIG. 2

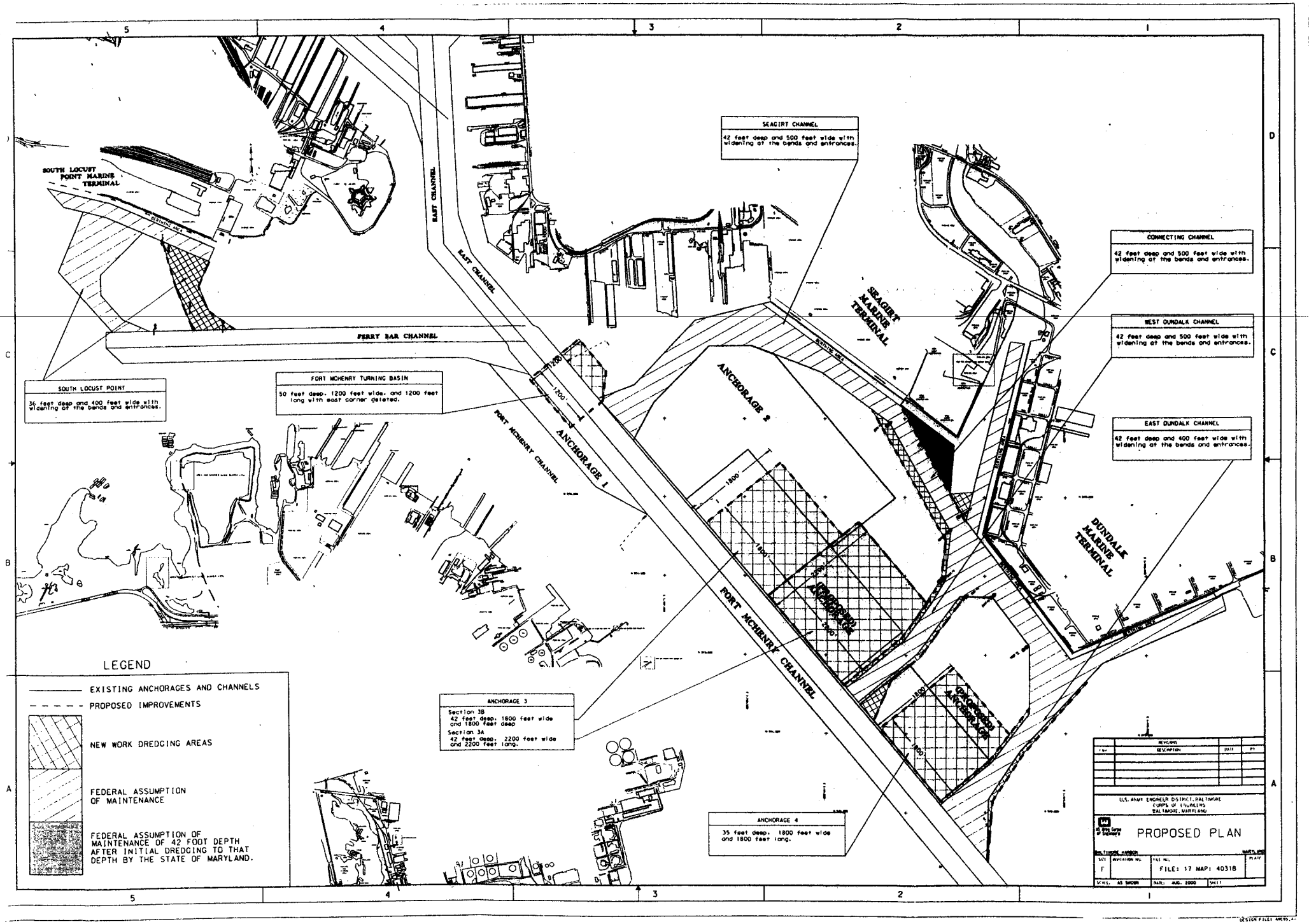
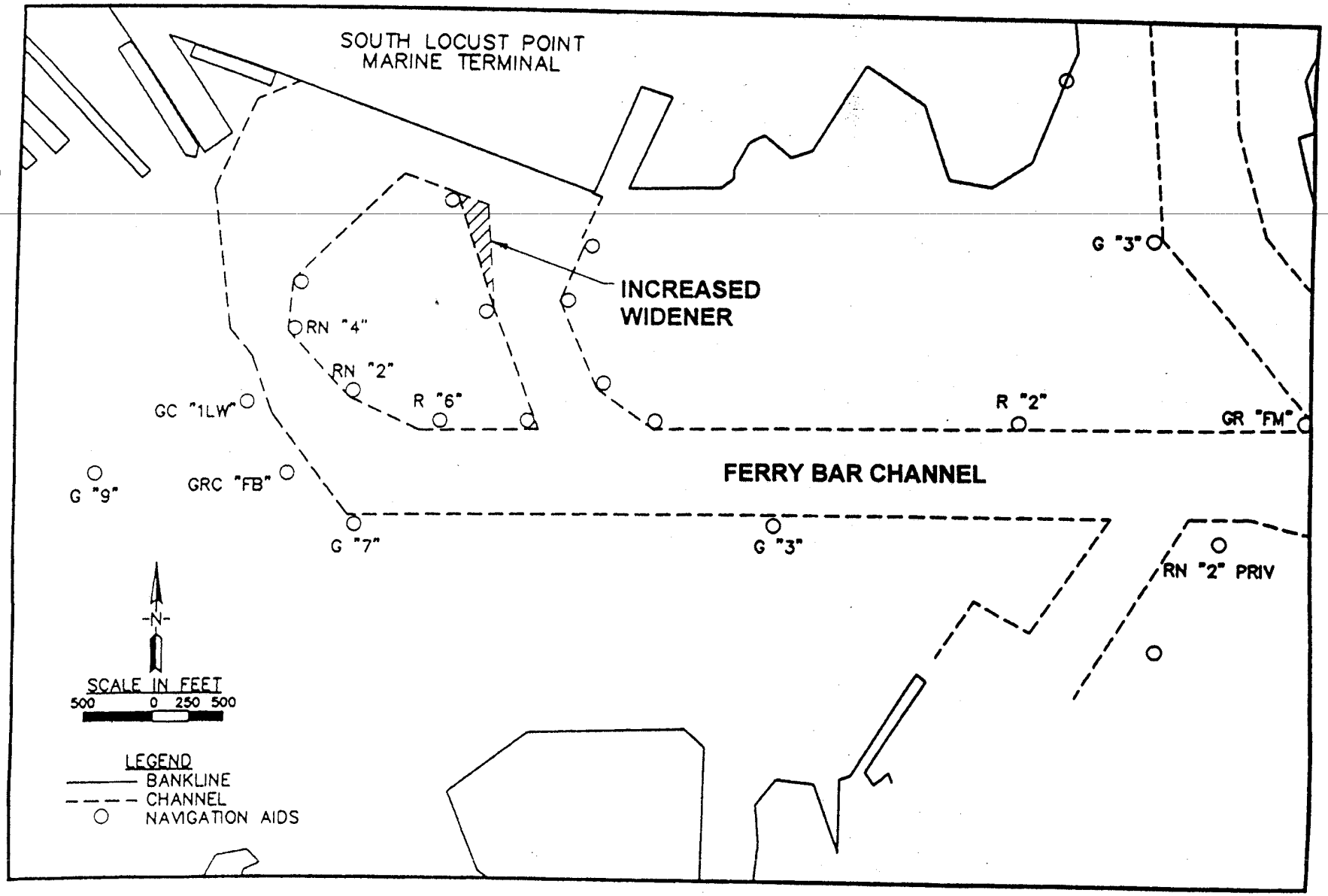
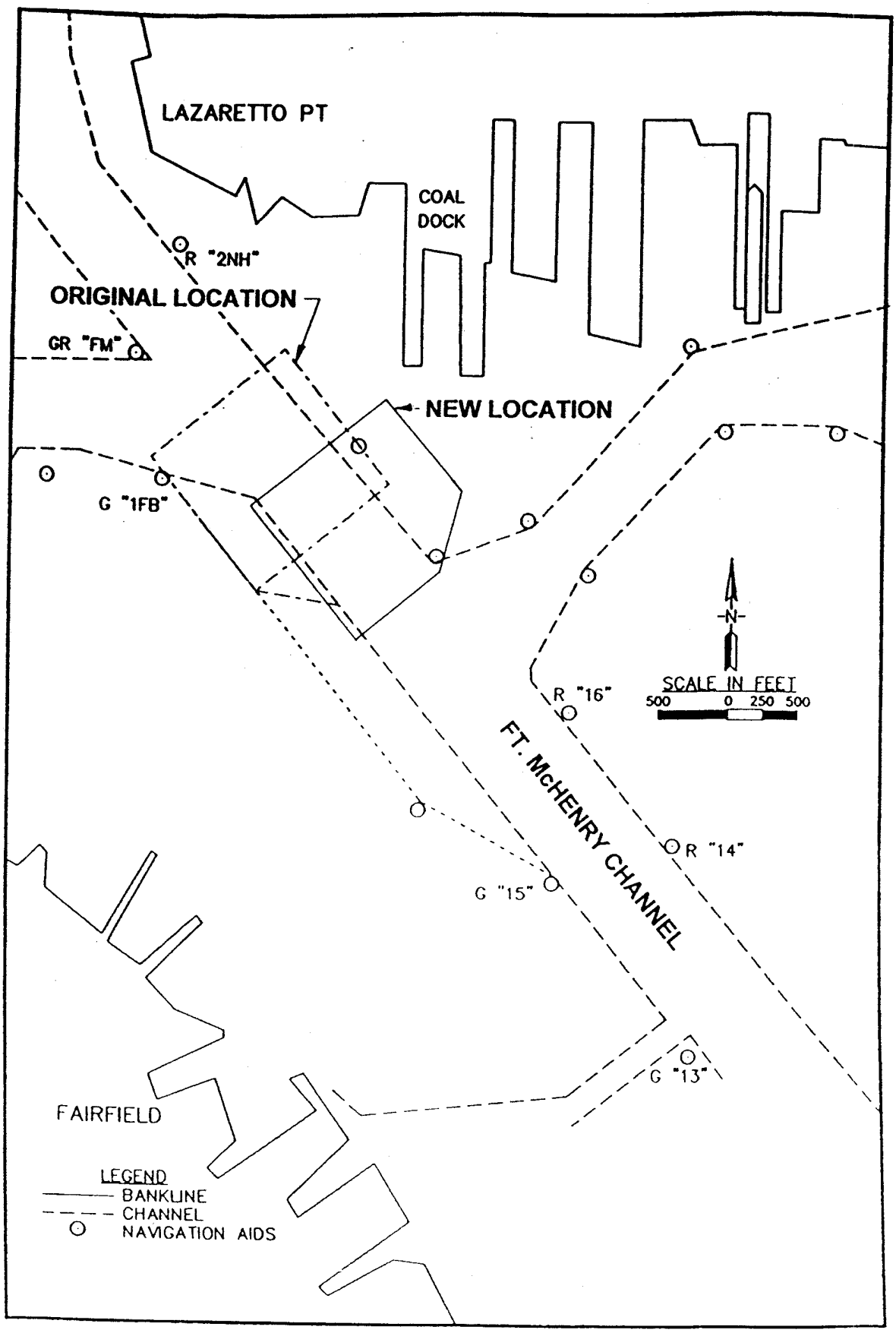

SOUTH LOCUST POINT MARINE TERMINAL
EXISTING AREA
EAST CHANNEL
EAST CHANNEL
FERRY BAR CHANNEL
SEAGIRT CHANNEL
42 feet deep and 500 feet wide with widening at the bends and entrances.
SEAGIRT MARINE TERMINAL
CONNECTING CHANNEL
42 feet deep and 500 feet wide with widening at the bends and entrances.
WEST DUNDALK CHANNEL
42 feet deep and 500 feet wide with widening at the bends and entrances.
EAST DUNDALK CHANNEL
42 feet deep and 400 feet wide with widening at the bends and entrances.
SOUTH LOCUST POINT
36 feet deep and 400 feet wide with widening at the bends and entrances.
FORT MCHENRY TURNING BASIN
50 feet deep, 1200 feet wide, and 1200 feet long with east corner deleted.
FORT MCHENRY CHANNEL
ANCHORAGE 1
ANCHORAGE 2
ANCHORAGE 3
Section 3B
42 feet deep, 1800 feet wide and 1800 feet deep
Section 3A
42 feet deep, 2200 feet wide and 2200 feet long.
ANCHORAGE 4
35 feet deep, 1800 feet wide and 1800 feet long.
DUNDALK MARINE TERMINAL
LEGEND
EXISTING ANCHORAGES AND CHANNELS
PROPOSED IMPROVEMENTS
NEW WORK DREDGING AREAS
FEDERAL ASSUMPTION OF MAINTENANCE
FEDERAL ASSUMPTION OF MAINTENANCE OF 42 FOOT DEPTH AFTER INITIAL DREDGING TO THAT DEPTH BY THE STATE OF MARYLAND.
U.S. ARMY ENGINEER DISTRICT, BALTIMORE
CORPS OF ENGINEERS
BALTIMORE, MARYLAND
PROPOSED PLAN
BALTIMORE HARBOR
MARYLAND
FILE: 17 MAP: 40318
SCALE: AS SHOWN
DATE: AUG. 2000

FIG. 3



SOUTH LOCUST POINT

FIG. 4



ANCHORAGE #1

FIG.

Table 1

October 1996 (FY97) Price Levels
2-foot overdepth included in estimate

Alternative 1 (No-Action)

	First Costs	Yardage		
Anchorage 3 Mod (2200X2200X42)	$ 5,503,675	1,477,100	First Costs	$ 18,476,039
Anchorage 4 Mod (1800X1800X42)	$ 5,415,474	1,462,456	Assoc. Placement Costs	$ 842,252
East Dundalk (38X400)	$ 389,375	62,470	IDC	$ 1,379,325
Seagirt/ConChannel/West Dundalk (42X500)	$ 2,216,599	259,139	Design/Constr Mgt	$ 1,942,800
SLPT Channel (36X400)	$ 1,320,006	187,861	Total Inv. Costs	$ 22,640,416
Turning Basin	$ 1,334,128	322,253		
Mob/Demob Year 1	$ 1,148,391		Annualized Inv. Cost	$ 1,771,262
Mob/Demob Year 2	$ 1,148,391		OMRRR	$ 70,000
	$ 18,476,039	3,771,279	Total annual costs	**$ 1,841,262**
			Annual Benefits	**$ 3,532,089**
			Net Benefits	**$ 1,690,827**
			BCR	**1.92**

Alternative 2

	First Costs	Yardage		
Anchorage 3 Mod (2200X2200X42)	$ 5,503,675	1,477,100	First Costs	$ 20,492,118
Anchorage 3B Mod (2200X2200X42)	$ 7,417,985	1,796,775	Assoc. Placement Costs	$ 916,917
East Dundalk (38X400)	$ 389,375	62,470	IDC	$ 1,529,835
Seagirt/ConChannel/West Dundalk (42X500)	$ 2,216,599	259,139	Design/Constr Mgt	$ 1,942,800
SLPT Channel (36X400)	$ 1,320,006	187,861	Total Inv. Costs	$ 24,881,670
Turning Basin	$ 1,334,128	322,253		
Mob/Demob Year 1	$ 1,155,175		Annualized Inv. Cost	$ 1,946,605
Mob/Demob Year 2	$ 1,155,175		OMRRR	$ 70,000
	$ 20,492,118	4,105,598	Total annual costs	**$ 2,016,605**
			Annual Benefits	**$ 3,317,952**
			Net Benefits	**$ 1,301,347**
			BCR	**1.65**

Alternative 3

	First Costs	Yardage		
Anchorage 3 Mod (2200X2200X42)	$ 5,503,675	1,477,100	First Costs	$ 17,009,075
Anchorage 3B Mod (1800X1800X42)	$ 3,934,942	919,809	Assoc. Placement Costs	$ 721,061
East Dundalk (38X400)	$ 389,375	62,470	IDC	$ 1,269,809
Seagirt/ConChannel/West Dundalk (42X500)	$ 2,216,599	259,139	Design/Constr Mgt	$ 1,942,800
SLPT Channel (36X400)	$ 1,320,006	187,861	Total Inv. Costs	$ 20,942,745
Turning Basin	$ 1,334,128	322,253		
Mob/Demob Year 1	$ 1,155,175		Annualized Inv. Cost	$ 1,638,445
Mob/Demob Year 2	$ 1,155,175		OMRRR	$ 70,000
	$ 17,009,075	3,228,632	Total annual costs	**$ 1,708,445**
			Annual Benefits	**$ 3,643,970**
			Net Benefits	**$ 1,935,525**
			BCR	**2.13**

Alternative 4

	First Costs	Yardage		
Anchorage 3 Mod (2200X2200X42)	$ 5,503,675	1,477,100	First Costs	$ 25,897,592
Anchorage 3BMod (2200X2200X42)	$ 7,417,985	1,796,775	Assoc. Placement Costs	$ 1,243,532
Anchorage 4 Mod (1800X1800X42)	$ 5,405,474	1,462,456	IDC	$ 1,933,379
East Dundalk (38X400)	$ 389,375	62,470	Design/Constr Mgt	$ 1,942,800
Seagirt/ConChannel/West Dundalk (42X500)	$ 2,216,599	259,139	Total Inv. Costs	$ 31,017,303
SLPT Channel (36X400)	$ 1,320,006	187,861		
Turning Basin	$ 1,334,128	322,253	Annualized Inv. Cost	$ 2,426,623
Mob/Demob Year 1	$ 1,155,175		OMRRR	$ 70,000
Mob/Demob Year 2	$ 1,155,175		Total annual costs	**$ 2,496,623**
	$ 25,897,592	5,568,054	Annual Benefits	**$ 3,428,446**
			Net Benefits	**$ 931,823**
			BCR	**1.37**

Note: The benefits and benefit to cost ratios presented in this table are based only on 2000 and 2010 data and, therefore are not comparable with similar data presented in the May 1997 feasibility report.

Table 1

October 1996 (FY97) Price Levels
2-foot overdepth included in estimate

Alternative 5

	First Costs	Yardage		
Anchorage 3 Mod (2200X2200X42)	$ 5,503,675	1,477,100	First Costs	$ 22,424,549
Anchorage 3B Mod (1800X1800X42)	$ 3,934,942	919,809	Assoc. Placement Costs	$ 1,047,676
Anchorage 4 Mod (1800X1800X42)	$ 5,415,474	1,462,456	IDC	$ 1,674,100
East Dundalk (38X400)	$ 389,375	62,470	Design/Constr Mgt	$ 1,942,800
Seagirt/ConChannel/West Dundalk (42X500)	$ 2,216,599	259,139	Total Inv. Costs	$ 27,089,125
SLPT Channel (36X400)	$ 1,320,006	187,861		
Turning Basin	$ 1,334,128	322,253	Annualized Inv. Cost	$ 2,119,304
Mob/Demob Year 1	$ 1,155,175		OMRRR	$ 70,000
Mob/Demob Year 2	$ 1,155,175		Total annual costs	**$ 2,189,304**
	$ 22,424,549	4,691,088	Annual Benefits	**$ 3,644,869**
			Net Benefits	**$ 1,455,565**
			BCR	**1.66**

Alternative 6

	First Costs	Yardage		
Anchorage 3 Mod (2200X2200X42)	$ 5,503,675	1,477,100	First Costs	$ 23,870,023
Anchorage 3B Mod (2200X2200X42)	$ 7,417,985	1,796,775	Assoc. Placement Costs	$ 1,069,475
Anchorage 4 Mod (1800X1800X35)	$ 3,377,905	683,095	IDC	$ 1,782,011
East Dundalk (38X400)	$ 389,375	62,470	Design/Constr Mgt	$ 1,942,800
Seagirt/ConChannel/West Dundalk (42X500)	$ 2,216,599	259,139	Total Inv. Costs	$ 28,664,309
SLPT Channel (36X400)	$ 1,320,006	187,861		
Turning Basin	$ 1,334,128	322,253	Annualized Inv. Cost	$ 2,242,538
Mob/Demob Year 1	$ 1,155,175		OMRRR	$ 70,000
Mob/Demob Year 2	$ 1,155,175		Total annual costs	**$ 2,312,538**
	$ 23,870,023	4,788,693	Annual Benefits	**$ 3,659,556**
			Net Benefits	**$ 1,347,018**
			BCR	**1.58**

Alternative 7

	First Costs	Yardage		
Anchorage 3 Mod (2200X2200X42)	$ 5,503,675	1,477,100	First Costs	$ 20,386,980
Anchorage 3B Mod (1800X1800X42)	$ 3,934,942	919,809	Assoc. Placement Costs	$ 873,619
Anchorage 4 Mod (1800X1800X35)	$ 3,377,905	683,095	IDC	$ 1,521,986
East Dundalk (38X400)	$ 389,375	62,470	Design/Constr Mgt	$ 1,942,800
Seagirt/ConChannel/West Dundalk (42X500)	$ 2,216,599	259,139	Total Inv. Costs	$ 24,725,385
SLPT Channel (36X400)	$ 1,320,006	187,861		
Turning Basin	$ 1,334,128	322,253	Annualized Inv. Cost	$ 1,934,378
Mob/Demob Year 1	$ 1,155,175		OMRRR	$ 70,000
Mob/Demob Year 2	$ 1,155,175		Total annual costs	**$ 2,004,378**
	$ 20,386,980	3,911,727	Annual Benefits	**$ 3,971,154**
			Net Benefits	**$ 1,966,776**
			BCR	**1.98**

Alternative 8

	First Costs	Yardage		
Anchorage 3 Mod (2200X2200X42)	$ 5,503,675	1,477,100	First Costs	$ 23,192,054
Anchorage 3B Mod (2200X2200X42)	$ 7,417,985	1,796,775	Assoc. Placement Costs	$ 990,976
Anchorage 4 Mod (1800X1800X30)	$ 2,699,936	331,606	IDC	$ 1,731,398
East Dundalk (38X400)	$ 389,375	62,470	Design/Constr Mgt	$ 1,942,800
Seagirt/ConChannel/West Dundalk (42X500)	$ 2,216,599	259,139	Total Inv. Costs	$ 27,857,228
SLPT Channel (36X400)	$ 1,320,006	187,861		
Turning Basin	$ 1,334,128	322,253	Annualized Inv. Cost	$ 2,179,396
Mob/Demob Year 1	$ 1,155,175		OMRRR	$ 70,000
Mob/Demob Year 2	$ 1,155,175		Total annual costs	**$ 2,249,396**
	$ 23,192,054	4,437,204	Annual Benefits	**$ 3,666,425**
			Net Benefits	**$ 1,417,029**
			BCR	**1.63**

Note: The benefits and benefit to cost ratios presented in this table are based only on 2000 and 2010 data and, therefore are not comparable with similar data presented in the May 1997 feasibility report.

Table 1
October 1996 (FY97) Price Levels
2-foot overdepth included in estimate

Alternative 9

	First Costs	Yardage		
Anchorage 3 Mod (2200X2200X42)	$ 5,503,675	1,477,100	First Costs	$ 19,669,011
Anchorage 3B Mod (1800X1800X42)	$ 3,934,942	919,809	Assoc. Placement Costs	$ 795,120
Anchorage 4 Mod (1800X1800X30)	$ 2,699,936	331,606	IDC	$ 1,468,386
East Dundalk (38X400)	$ 349,375	62,470	Design/Constr Mgt	$ 1,942,800
Seagirt/ConChannel/West Dundalk (42X500)	$ 2,216,599	259,139	Total Inv. Costs	$ 23,875,317
SLPT Channel (36X400)	$ 1,320,006	187,861		
Turning Basin	$ 1,334,128	322,253	Annualized Inv. Cost	$ 1,867,873
Mob/Demob Year 1	$ 1,155,175		OMRRR	$ 70,000
Mob/Demob Year 2	$ 1,155,175		Total annual costs	**$ 1,937,873**
	$ 19,669,011	3,560,238	Annual Benefits	**$ 3,672,784**
			Net Benefits	**$ 1,734,911**
			BCR	**1.90**

Alternative 10

	First Costs	Yardage		
Anchorage 3 Mod (2200X2200X42)	$ 5,503,675	1,477,100	First Costs	$ 22,821,167
Anchorage 3B Mod (2200X2200X42)	$ 7,417,985	1,796,775	Assoc. Placement Costs	$ 1,003,235
Anchorage 4 Mod (1800X1500X35)	$ 2,329,049	386,500	IDC	$ 1,703,709
East Dundalk (38X400)	$ 389,375	62,470	Design/Constr Mgt	$ 1,942,800
Seagirt/ConChannel/West Dundalk (42X500)	$ 2,216,599	259,139	Total Inv. Costs	$ 27,470,911
SLPT Channel (36X400)	$ 1,320,006	187,861		
Turning Basin	$ 1,334,128	322,253	Annualized Inv. Cost	$ 2,149,173
Mob/Demob Year 1	$ 1,155,175		OMRRR	$ 70,000
Mob/Demob Year 2	$ 1,155,175		Total annual costs	**$ 2,219,173**
	$ 22,821,167	4,492,098	Annual Benefits	**$ 3,437,158**
			Net Benefits	**$ 1,217,985**
			BCR	**1.55**

Alternative 11

	First Costs	Yardage		
Anchorage 3 Mod (2200X2200X42)	$ 5,503,675	1,477,100	First Costs	$ 19,338,124
Anchorage 3B Mod (1800X1800X42)	$ 3,934,942	919,809	Assoc. Placement Costs	$ 807,379
Anchorage 4 Mod (1800X1500X35)	$ 2,329,049	386,500	IDC	$ 1,443,683
East Dundalk (38X400)	$ 389,375	62,470	Design/Constr Mgt	$ 1,942,800
Seagirt/ConChannel/West Dundalk (42X500)	$ 2,216,599	259,139	Total Inv. Costs	$ 23,531,986
SLPT Channel (36X400)	$ 1,320,006	187,861		
Turning Basin	$ 1,334,128	322,253	Annualized Inv. Cost	$ 1,841,013
Mob/Demob Year 1	$ 1,155,175		OMRRR	$ 70,000
Mob/Demob Year 2	$ 1,155,175		Total annual costs	**$ 1,911,013**
	$ 19,338,124	3,615,132	Annual Benefits	**$ 3,664,772**
			Net Benefits	**$ 1,753,759**
			BCR	**1.92**

Note: The benefits and benefit to cost ratios presented in this table are based only on 2000 and 2010 data and, therefore are not comparable with similar data presented in the May 1997 feasibility report.

TABLE 2
ANCHORAGES CONFIGURATION SELECTION - DECISION MATRIX

Description of Item	Plan 1*	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9	Plan 10	Plan 11
Description of Project											
Anchorage #3											
Length x Width	2200x2200	2200x2200	2200x2200	2200x2200	2200x2200	2200x2200	2200x2200	2200x2200	2200x2200	2200x2200	2200x2200
Depth	42	42	42	42	42	42	42	42	42	42	42
Anchorage #3B (adjacent to #3)	no change										
Length x Width		2200x2200	1800x1800	2200x2200	1800x1800	2200x2200	1800x1800	2200x2200	1800x1800	2200x2200	1800x1800
Depth		42	42	42	42	42	42	42	42	42	42
Anchorage #4		no change	no change								
Length x Width	1800x1800	1800x1200	1800x1200	1800x1800	1800x1800	1800x1800	1800x1800	1800x1800	1800x1800	1800x1500	1800x1500
Depth	42	30	30	42	42	35	35	30	30	35	35
Volume to be Dredged, cy**	**3,771,279**	**4,105,598**	**3,228,632**	5,568,054	4,691,088	4,788,693	**3,911,727**	4,437,204	**3,560,238**	4,492,098	**3,615,132**
Project Costs											
Total Investment Cost, $	$22,640,416	$24,881,670	$20,942,745	$31,017,303	$27,089,125	$28,664,309	$24,725,385	$27,857,228	$23,875,317	$27,470,911	$23,531,986
OMRR&R Annually, $/year	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000
Total Annual Cost, $/year	$1,841,262	$2,016,605	$1,708,445	$2,496,623	$2,189,304	$2,312,538	$2,004,378	$2,249,396	$1,937,873	$2,219,173	$1,911,013
Project Benefits											
Total Annual Benefits, $/year	$3,532,089	$3,317,952	$3,643,970	$3,428,446	$3,644,869	$3,659,556	$3,971,154	$3,666,425	$3,672,784	$3,437,158	$3,664,772
Net Annual Benefits, $/year	$1,690,827	$1,301,347	$1,935,525	$931,823	$1,455,565	$1,347,018	$1,966,776	$1,417,029	$1,734,911	$1,217,985	$1,753,759
Benefit-Cost Ratio	1.92	1.65	2.13	1.37	1.66	1.58	1.98	1.63	1.90	1.55	1.92
Other Concerns and Criteria											
Economic and Sociopolitical Concerns				X							
Maritime Community Preference				X	X	X	X			X	X
Local Sponsor Preference			X				X				X
Negative Impact to Placement Capacity				X	X	X		X		X	

* Plan 1 represents the "no-action" plan, that is, the plan recommended in the May 1997 EIS

** includes branch channel and turning basin improvements, bold type indicates that total volume is less than authorized project