

HOMER HARBOR, ALASKA
(CWIS NO. 80508)

Condition of Improvement 30 September 2000

AUTHORIZATION: (1) Rivers and Harbors Act, 3 July 1958 (House Doc. 34, 85th Congress, 1st Session) as adopted for the original project, provides for a boat basin (300' x 400') at a depth of -12 feet MLLW and protected by a rubble-mound jetty 850' in length. (2) Rivers and Harbors Act, 19 August 1964 (P.L. 88-451) authorized as amended by the Chief of Engineers, 21 December 1971, provides for construction of a small boat basin within Homer Spit approximately 10 acres in area dredged to a depth of -12 feet MLLW over 2.75 acres and -15 feet MLLW over 7.25 acres, a northerly entrance channel, a main rock breakwater 1,018 feet long, and a secondary rock breakwater 238 feet long; includes provisions for further expansion of the basin.

EXISTING PROJECT:	<u>LENGTH</u>	<u>DEPTH</u>	<u>WIDTH</u>
?? Outer Entrance Channel	700 ft	-20 ft	varies
?? Inner Entrance Channel	850 ft	-20 ft	90 ft
?? Maneuvering Channel	2790 ft	-20,-15,-10 ft	100 ft
?? Basin (50 acres) maintained by others	2985 ft	-20,-15,-10 ft	720 ft
?? Main Breakwater	1018 ft		
?? Secondary Breakwater	238 ft		

PROJECT USAGE: The small boat basin provides sheltered moorage for approximately 1,525 vessels. The project extends the fishing season an extra four months each year and is an integral part of Homer's economy.

PROGRESS OF WORK:

- 1961 - Harbor dimensions are revised to 180'x 672' with a 840' rock-mound jetty. Dredging and construction of the breakwater begin in September and are curtailed in November.
- 1962 - Work is resumed in May with completion of the dredging in June and the breakwater in September.
- 1963 - Storm damage over the winter requires repair to the breakwater and some basin side slope protection.
- 1964 - The earthquake of 27 March 1964 causes major damage to the project. Repair work on the first leg of the breakwater runs from July through August. Harbor restoration commences in August, and the expansion phase begins in November.
- 1965 - The expansion phase for harbor enlargement is completed in March. The restoration phase is concluded successfully in May.
- 1968 - The basin and protective berm are extended 100 feet by the local government.
- 1969 - The basin and protective berm are extended again by local government for an additional 600 feet during FY 69-70 under Corps supervision to insure the integrity of the project.
- 1972 - Starting this year maintenance dredging of the entrance channel becomes an annual event.
- 1973 - Removal of a submerged portion of the original breakwater begins in June and is completed in August; additional beach protection provides further improvement to the project.

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- 1977 - From 1977 to 1988 maintenance dredging of the Federal project is conducted by the Corps' pipeline dredge "Warren George".
- 1984 - Work begins on a major harbor expansion project to increase the boat basin from 16.5 acres to 50 acres.
- 1985 - The harbor expansion project is completed to 50 acres including the construction of a 30 acre staging area and the placement of 130,000 cubic yards of armor rock.
- 1989 - Starting this fiscal year maintenance dredging is accomplished by contract.
- 1993 - Sampling and testing of harbor sediments is conducted.
- 2000 - A volume of 7,500 cubic yards is removed from the entrance channel, and 3,000 yards are removed from the Coast Guard dock.

COST TO DATE:	<u>New Work</u>	<u>Maintenance</u>	<u>Rehabilitation</u>	<u>Total</u>
United States Funds	\$ 3,241,770	\$ 5,994,754	\$ 67,974	\$ 9,304,754
Contributed Funds	\$ 8,285,956	-0-	-0-	\$ 8,285,956
OEP Funds	-0-	-0-	\$ 970,640	\$ 970,640
Total Costs	\$ 11,527,726	\$ 5,994,754	\$ 1,038,614	\$ 18,606,094

RANGE OF TIDE:	<u>Mean Range</u>	<u>Diurnal Range</u>	<u>Extreme Range</u>
	15.8'	18.3'	32.2'

CONTROLLING DEPTH: Project depth is available through most of the entrance channel; however, a depth of -18.3 feet MLLW is reported in the center of the channel from the post-dredge survey, September 2000.

DREDGED QUANTITIES AND CONTRACT COSTS

ITEM	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000
QUANTITY CUBIC YARDS	8,672	7,614	6,122	7,500	7,500
CONTRACT COST	\$120,900	\$120,457	\$115,750	\$147,000	\$131,000

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MAINTENANCE DREDGING SUPPLEMENT:**A. General**

1. Homer harbor is an annual dredging project under a two year contract; Ninilchik and Dillingham are awarded under the same contract.
2. The Federal entrance channel and the Coast Guard Dock are subject to shoaling and require annual maintenance. The remainder of the mooring basin is maintained by local interests.
3. The dredging window runs from 16 July to 30 April; dredging typically begins the second week in September and runs for about (2) weeks.
4. Dredging is conducted with an hydraulic cutterhead and pipeline suction dredge.

B. Sampling & Testing

1. Samples from three sites in the Federal project were classified, April 1992: sandy silt (ML) in the maneuvering channel, silty sand (SM) in the inner entrance channel, and poorly graded sand with silt (SP-SM) in the outer entrance. A composite sample from the disposal site, (5) subsamples, was classified as poorly graded sand with gravel (SP).
2. Chemical analysis was performed using (6) test methods as outlined with results below:

Method 8270	Semi-volatile Organics*	Phenanthrene 4.2 ppm, Anthracene 1.7 ppm Fluoranthene 2.3 ppm, Chrysene 1.6 ppm
Method 8080	Pesticides and PCB's	none detected
Series 6000-7000	(8) RCRA Metals	(4) of (8) detected, all well below management levels
Method 415.1	Total Organic Carbon	1.09 - 59.9 %
Method 160	Total Solids	60.1 - 93.7 %
Method 8240	Volatile Organics	TIC's all samples 0.012 - 0.046 ppm, all below management thresholds or ND

* From sample in the Federal maneuvering channel, an area not subject to annual maintenance; analyte concentrations listed exceed the minimum management levels, all others below threshold or not detected.

C. Disposal

1. The suspended sediments are conveyed via a portable pipeline from the floating dredge plant to a bermed site on the spit.
2. Fines are temporarily contained at a site across the spit from the entrance channel relatively close to the dredging activity; the area is roughly 240 feet by 270 feet, about 1.5 acres, with its center at 59°36'02.116"N 151°24'43.665"W. The spoils are later transported by truck to a more permanent holding area at the far end of the harbor near the boat ramp; the area is roughly 120 by 550 feet, also about 1.5 acres with its center at 59°36'28.684"N 151°25'53.789"W.
3. By local ordinance dredge spoils are to remain on the spit and are used by local interests where needed to maintain the integrity of the spit itself.

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D. Environmental Permits and Reports

1. The Final Environmental Impact Statement (FEIS) was issued in 1974. The Corps completed an Environmental Assessment in 1978 (with FONSI) and another Environmental Assessment was completed in January 1982. A Final Coordination Act Report was circulated by the U.S. Fish and Wildlife Service in June 1979.

2. The following permits or authorizations are listed by agency below:

<u>Agency Name</u>	<u>Date of Issue</u>	<u>Date of Expiration</u>
ADF&G	8 Jun 93	n/a *
ADEC	6 Jul 93	n/a
ADGC	2 Aug 88	n/a

* The Homer small boat harbor is located in the Kachemak Bay Critical Habitat Area, and as such is subject to continuing agency review and monitoring. A 404 permit is active.

3. Water Quality: Five physical parameters were measured through the water column at three locations within the federal project, April 1992; temperature, salinity, pH, oxidation-reduction potential (ORP), and conductivity were measured in the field. No chemical analysis was conducted.