

ANCHORAGE HARBOR, ALASKA
(CWIS NO. 00360)

Condition of Improvement 30 September 2000

AUTHORIZATION: Rivers and Harbors Act, 3 July 1958 (House Doc. 34, 85th Congress, 1st Session) as adopted, provides for a deep water harbor by dredging to a depth of -35 feet MLLW adjacent to docks and protected by two jetties or other works as required.

| | | | |
|--------------------------|---------------|--------------|------------------|
| EXISTING PROJECT: | <u>LENGTH</u> | <u>DEPTH</u> | <u>WIDTH</u> |
| ?? Basin | 3000 ft | -35 ft | varies |
| | at dock face | | (200 ft typical) |

PROJECT USAGE: The Federal project accommodates three dry cargo berths and one oil handling facility. It is the main supply and distribution center for the south-central and interior areas and the two large military bases that lie within the Municipality of Anchorage. The Port of Anchorage is the largest cargo port in Alaska; 3,221,000 tons of cargo (all commodities) passed through the port in 1994.

PROGRESS OF WORK:

- 1959 - The City of Anchorage constructs the first dry cargo berth at City Dock from 1959 through 1961, and dredges its approach to -35 feet MLLW.
- 1961 - The approach to Ocean Dock is increased to a depth of -32 feet MLLW at a distance of 50 feet from the dock face, and with a depth of -10 feet MLLW at the dock face.
- 1964 - The earthquake of March 27th destroys the federally owned Ocean Dock. Repairs are authorized under the River and Harbor Act of August 19, 1964 (P.L. 88-451) as amended.
- 1965 - Emergency maintenance dredging is performed off the face of City Dock during July and August. The entire project basin is modified to a depth of -35 feet MLLW.
- 1966 - Dredging begins in October 1966 and is completed in June 1967; it includes 2 feet of advance maintenance to -37 feet MLLW.
- 1977 - In early fiscal year 1977 Congress approves extending the original 2,000 foot project limit baseline to the present 3,000 foot length (P.L. 94-587, 22 OCT 76). Proposed jetties for the northern and southern ends of the project are de-authorized in November.
- 1978 - Development of large shoals in the northern and southern ends of the project necessitates emergency dredging from October 1978 through January 1979.
- 1981 - Excessive shoaling during the spring and summer of 1981 requires using the Corps-owned dredge "BIDDLE", in addition to a contract dredge, to remove 894,076 cubic yards of material to reach project depth by the end of the ice free season.
- 1982 - Annual maintenance dredging by contract begins during the summer; an average of 350 to 400 thousand cubic yards is removed each year through 1988.
- 1988 - The angles of the dredging limits at the north and south ends of the project are changed from 45 to 30 degrees.
- 1994 - Sampling and testing of bottom sediments is conducted.

Continues on page 1-1a.

ANCHORAGE HARBOR, ALASKA (continued)

30 September 2000

- 1995 - Maintenance dredging quantities since 1988 average 200,000 to 250,000 cubic yards per year.
- 1997 - The contractor removes 196,162 cubic yards of material during Phase I of the dredging which ended 15 August 1997.
- 1998 - During the second year of a five year continuing contract, the combined quantity from 1 October 1997 through 30 September 1998 equals 356,000 cubic yards.
- 1999 - Maintenance dredging removes 438,800 from 1 October 1998 through 30 September 1999.
- 2000 - The Corps hopper dredge ESSAYONS is mobilized to the port in November 1999, and removes 565,000 cubic yards of hazardous shoaling in 15 days of work. The annual maintenance dredging contract removes an additional 893,236 cubic yards from 1 October 1999 through 30 September 2000.

| COST TO DATE: | <u>New Work</u> | <u>Maintenance</u> | <u>Total</u> |
|----------------------|-----------------|--------------------|--------------|
| United States Funds | \$533,235 | \$38,067,117 | \$38,600,352 |
| Contributed Funds | | \$638,080 | \$638,080 |
| Total Costs | \$533,235 | \$38,705,197 | \$39,238,432 |

| RANGE OF TIDE: | <u>Mean Range</u> | <u>Diurnal Range</u> | <u>Extreme Range</u> |
|-----------------------|-------------------|----------------------|----------------------|
| | 25.9' | 28.8' | 40.7' |

CONTROLLING DEPTH: As per the survey dated 26 & 28 October 2000, project depth is available through out the Federal project. The port is subject to heavy shoaling due to sedimentation and strong tidal currents.

Continues on page 1-1b.

ANCHORAGE HARBOR, ALASKA (continued)

30 September 2000

DREDGED QUANTITIES AND CONTRACT COSTS

| ITEM | FY 1996 | FY 1997 | FY 1998 | FY 1999 | FY 2000 |
|-------------------------|-------------|-------------|-------------|-------------|-------------|
| QUANTITY CUBIC YARDS | 197,322 | 196,192 | 356,000 | 438,800 | 893,236 |
| CONTRACT COST | \$1,433,699 | \$1,145,000 | \$1,703,750 | \$2,016,000 | \$3,713,451 |

MAINTENANCE DREDGING SUPPLEMENT:**A. General**

1. Anchorage Harbor is an annual maintenance dredging project; instead of a one year contract duration, a five year contract was initiated in FY97.
2. Heavy shoaling typically occurs along the main dock face, the POL dock, that area between the POL dock and the main dock, and along the 30 degree project limit extensions.
3. The project is open to dredge activity during the ice-free season. Under the new strategy dredging will be conducted in two phases, one beginning in the spring until project depth is achieved, and phase II commencing in the late summer or early fall until depth is achieved or ice conditions make dredging untenable.
4. Dredging operations are most often conducted with a clamshell and barge, which must work around the vessel traffic at the port.

B. Sampling & Testing

1. Samples were taken at five sites within the project, June 1994; all material was classified as silt (ML). One disposal site sample was taken and classified as silty gravel (GM).

Continues on page 1-1c.

ANCHORAGE HARBOR, ALASKA (continued)

30 September 2000

2. Chemical analysis was conducted using (7) test methods as outlined with results below:
- | | | |
|--------------------|---|--|
| Method 8080 | Pesticides and PCB's | none detected |
| Series 6000-7000's | (8) RCRA Metals* (6 samples) | Arsenic 7-17 ppm Barium 74-167 ppm Chromium 23-47 ppm Lead 4.1-13 ppm |
| Method 415.1 | Total Organic Carbon (1 sample) | 2,450 ppm |
| Method 418.1 | Total Recoverable Petroleum Hydrocarbons | none detected |
| Method 160.3 | Percent Solids | 65.5 - 77.1 % |
| Method 8260 | Volatile Organic Compounds | none detected |
| Method 8270 | Semivolatile Organic Compounds | none detected |

* All heavy metal concentrations well below management levels; no cadmium, mercury, selenium, or silver were detected.

C. Disposal

1. Dredged material is moved by barge and tug to the deep water site, dumped, and dispersed by tidal activity.
2. Material is disposed beyond a line running from south Corner (1) lat. 61°14'14.87218"N & lon. 149°54'24.91759"W to north Corner (2) lat. 61°15'01.11598"N & lon. 149°53'49.82161"W, a length of 5,000 feet, located 3,000 feet from and parallel to the main dock. Water depths range from 50 to 80 feet MLLW.
3. The current dredge disposal area meets all necessary criteria.

D. Environmental Permits and Reports

1. An Environmental Assessment was completed in March 1983 and the Finding of No Significant Impact (FONSI) was signed in May 1983.

Continues on page 1-1d.

1-1c.

1-1d.

ANCHORAGE HARBOR, ALASKA (continued)

30 September 2000

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> |
|--------------------|----------------------|---------------------------|
| ADGC | 12 May 83 | n/a |
| ADF&G | 29 Mar 83 | n/a |
| ADEC | | Apr 89 |
| EPA | 31 Mar 83 | n/a |
| USFWS | 5 Apr 83 | n/a |
| NOAA | 1 Apr 83 | n/a |

No permit action is pending or anticipated at this time.

3. Water Quality: Four physical parameters were measured through (40) feet of water column in June of 1994, temperature, pH, conductivity, and oxidation-reduction potential (ORP). No chemical analysis was conducted.