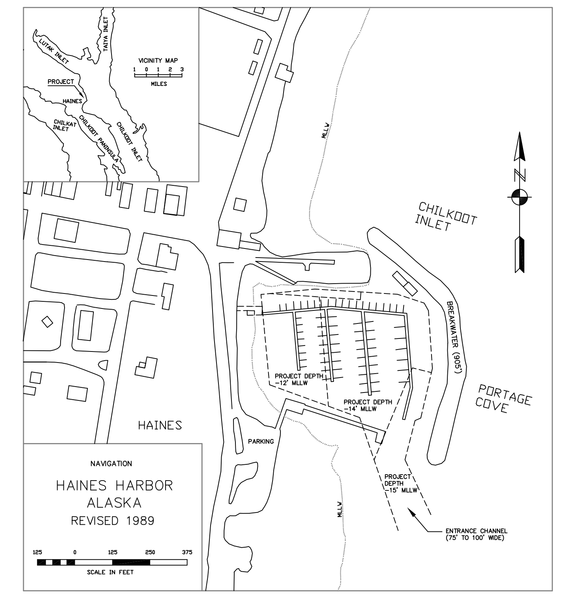

NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE ZONE 1, NAD 83 IN U.S. SURVEY FEET, HOLDING USACE SBC "HH-1" AS N 2,707,593.91, E 2,353,755.38.
2. VERTICAL CONTROL IS IN FEET, REFERRING TO MEAN LOWER LOW WATER (MLLW = 0.0'), HOLDING BENCH MARK "HH-1" AS 25.93 FEET.
3. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
4. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.
5. BATHYMETRY WAS COLLECTED ON MAY 16, 2000 USING A MULTIBEAM SYSTEM. SOUNDINGS WERE COLLECTED WITH A RESON 8101 SEABAT. DGPS POSITION AND ATTITUDE OF THE VESSEL WERE MEASURED WITH A SEATEX SEAPATH 200 SYSTEM OPERATING ON CORRECTIONS BROADCAST BY A TRIMBLE 4000SSE BASE STATION INSTALLED AT "HH-21 1997". SOUND VELOCITY WAS COLLECTED WITH AN AML SVPLUS VELOCITY PROFILER. WATER LEVEL WAS COLLECTED AND TELEMETERED WITH A VYNER LOW POWER TIDE GAGE. DATA WAS COLLECTED AND PROCESSED USING RESON 6042 VERSION 7.1 SOFTWARE.
6. THE HORIZONTAL AND VERTICAL CONTROL WERE SURVEYED ON APRIL 9–11, 2000 USING CONVENTIONAL METHODS.
7. SURVEY CONTROL, PROJECT LIMITS AND NAVIGATIONAL AIDS COORDINATES WERE CONVERTED FROM NAD 27 IN US SURVEY FEET TO NAD 83 IN US SURVEY FEET USING CORPSCON 5.11.01.

CONTROL DATA

STATION	NORTHING	EASTING	ELEV.	DESCRIPTION
HH–1	2,707,593.91	2,353,755.38	25.93	USACE SBC 1977
HH–5	2,706,582.14	2,353,458.88	24.93	USACE SBC 1977
HH–6	2,706,919.63	2,354,070.93	25.93	USACE SBC 1977
HH–7	2,707,203.61	2,354,150.49	26.39	USACE SBC 1977
HH–8	2,707,418.89	2,354,138.83	25.08	USACE SBC 1977
HH–9	2,707,489.41	2,354,104.16	25.85	USACE SBC 1977
NUKDIK	2,710,708.90	2,356,237.91	—	USCGS SBC, GOOD CONDITION
HH–20 1997	2,707,551.64	2,353,404.56	32.50	FND 3 1/4" BC IN CONC. SIDEWALK
HH–21 1997	2,707,157.46	2,353,377.94	33.91	FND 3 1/4" BC IN CONC. SIDEWALK
HH–22 2000	2,707,104.71	2,353,548.29	26.96	SET 3 1/4" DBC IN DOCK SURFACE
HH–23 2000	2,706,657.65	2,353,359.27	35.86	SET 3 1/4" BC IN CONC. SIDEWALK

PROJECT LIMITS

CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
1	2,706,921	2,353,870	12	2,707,439	2,354,056
2	2,707,058	2,353,829	13	2,707,418	2,354,069
3	2,707,102	2,353,723	14	2,707,222	2,354,079
4	2,707,182	2,353,528	15	2,707,207	2,354,075
5	2,707,491	2,353,508	16	2,707,228	2,354,003
6	2,707,493	2,353,548	17	2,707,055	2,354,033
7	2,707,501	2,353,698	18	2,707,040	2,354,012
8	2,707,476	2,353,699	19	2,706,913	2,353,977
9	2,707,461	2,353,838	20	2,706,716	2,354,049
10	2,707,487	2,353,840	21	2,706,668	2,353,947
11	2,707,474	2,353,968			

☆ NAVIGATION AIDS ☆

DESCRIPTION	USCG No.	NORTHING	EASTING
HAINES SMALL BOAT HARBOR LIGHT 2	23910	2,706,924.6	2,354,070.5

VOLUME COMPUTATIONS

Project Depth –11' MLLW			Project Depth –14' MLLW		
MINIMUM PAY LINE	(–11' MLLW)	112 (cubic yards)	MINIMUM PAY LINE	(–14' MLLW)	657 (cubic yards)
Between MINIMUM PAY LINE and MAXIMUM PAY LINE	(–13' MLLW)	88 (cubic yards)	Between MINIMUM PAY LINE and MAXIMUM PAY LINE	(–16' MLLW)	832 (cubic yards)
TOTAL		200 (cubic yards)	TOTAL		1489 (cubic yards)
Project Depth –12' MLLW			**Project Depth –15' MLLW**		
MINIMUM PAY LINE	(–12' MLLW)	518 (cubic yards)	MINIMUM PAY LINE	(–15' MLLW)	415 (cubic yards)
Between MINIMUM PAY LINE and MAXIMUM PAY LINE	(–14' MLLW)	668 (cubic yards)	Between MINIMUM PAY LINE and MAXIMUM PAY LINE	(–17' MLLW)	145 (cubic yards)
TOTAL		1186 (cubic yards)	TOTAL		560 (cubic yards)

* Volumes are within Project Limits and do not include SIDE SLOPES (= 3406 CUBIC YARDS)

CONTRACT NO. DACW85–98–D–0004

CONTRACTOR TERRA SURVEYS, LLC

CITY PALMER STATE ALASKA

ALASKA DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

SURVEYED: KDW/TJH
DRAWN: L.E.S.
CHECKED: T.S.N.
SUBMITTED:

HAINES, ALASKA
HAINES HARBOR
PROJECT CONDITION SURVEY
MAY 16, 2000

RECOMMENDED: PROJECT MANAGER

APPROVED: CHIEF OPERATIONS–READINESS BRANCH

DATE:

SURVEY NO. 1853–00

SCALE: 1"= 50'

SHEET 1 OF 1