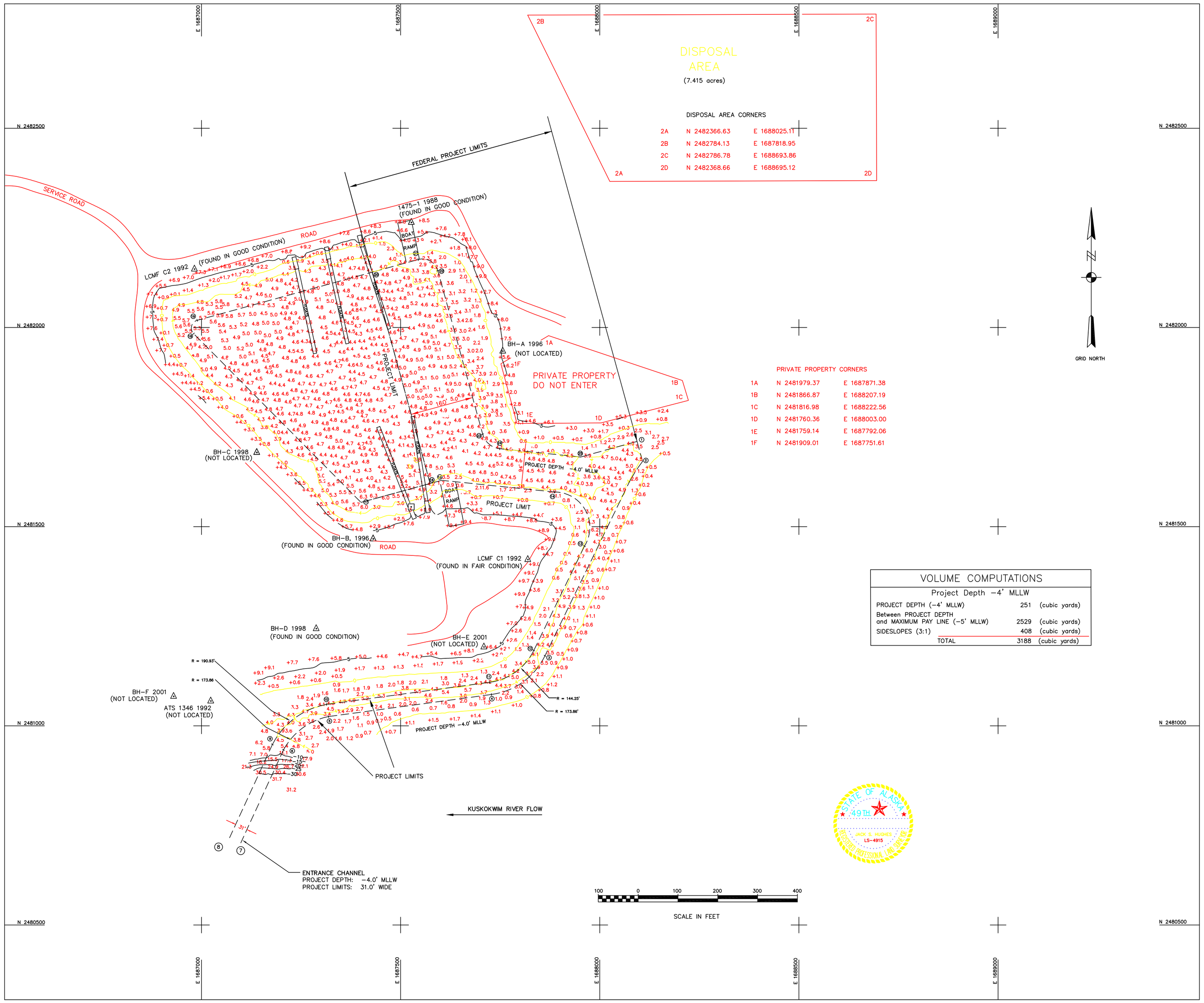
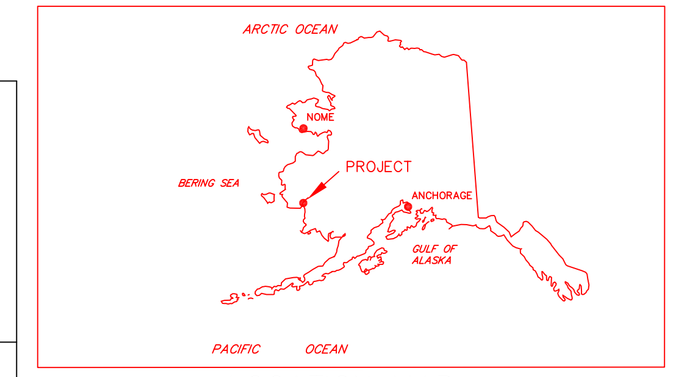
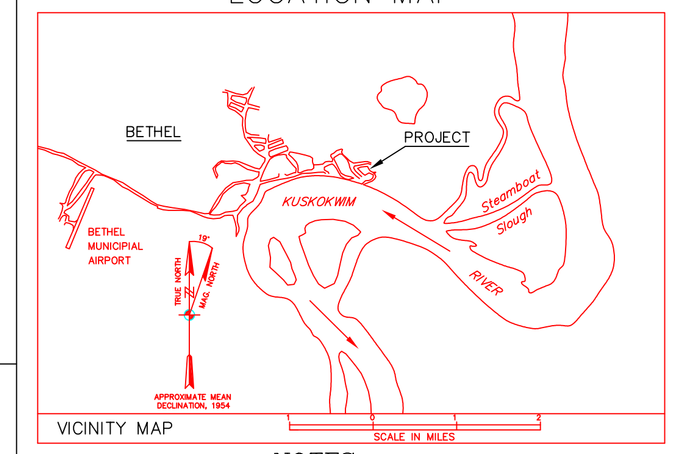




LOCATION MAP



VICINITY MAP

NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 7, NAD83, IN US SURVEY FEET, HOLDING USACE SBC "1475-1 1988" AS N 2,482,263.70, E 1,687,527.14 AND AL-CAP "LCMF C1 1992" AS N 2,481,417.42, E 1,687,819.64.
2. VERTICAL CONTROL IS IN FEET AND REFERS TO MEAN LOWER LOW WATER DATUM (MLLW = 0.0'), HOLDING USC&GS BM "NO 6 1970" AS 21.30'. THIS TIDAL DATUM IS BASED ON NOAA/NOS TIDAL BENCH MARKS SHEET, "WESTERN AND NORTHERN ALASKA – 28 (946 6477) BETHEL" PUBLICATION DATE: 1/22/71.
3. BATHYMETRY WAS COLLECTED AUGUST 9–17, 2004. SOUNDINGS WERE COLLECTED USING AN "INNERSPACE 448" SOUNDER WITH A 3° SINGLE BEAM TRANSDUCER. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN ODOM DIGIBAR PRO SOUND VELOCITY PROBE, AND VERIFIED WITH A BAR CHECK AT 10' INCREMENTS TO PROJECT DEPTH. POSITIONING AND VESSEL ATTITUDE WERE MEASURED USING A "TRIMBLE 5700 RTK" SYSTEM. RTK CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION OCCUPYING "BH-B 1996". DATA WAS COLLECTED AND FIELD PROCESSED USING "HYPACK MAX VERSION 02.12A" SOFTWARE. TIDE ELEVATIONS WERE MEASURED USING A "TRIMBLE 5700 RTK" SYSTEM AND VERTICAL CONTROL WAS VERIFIED THROUGH CONVENTIONAL DIFFERENTIAL LEVELING TECHNIQUES.
4. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
5. THIS SURVEY INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.

VOLUME COMPUTATIONS

Project Depth –4' MLLW

PROJECT DEPTH (–4' MLLW)	251	(cubic yards)
Between PROJECT DEPTH and MAXIMUM PAY LINE (–5' MLLW)	2529	(cubic yards)
SIDESLOPES (3:1)	408	(cubic yards)
TOTAL	3188	(cubic yards)

CONTROL COORDINATES

STA.	NORTHING	EASTING	ELEV.	DESCRIPTION
1475-1 1986	N 2,482,263.70	E 1,687,527.14	8.37'	USACE SBC
ATS 1346 1992	-----	-----	----	2" ALUM. CAP OBLITERATED
LCMF C1 1992	N 2,481,417.42	E 1,687,819.64	8.72'	3" ALUM. CAP
LCMF C2 1992	N 2,482,146.44	E 1,686,982.60	8.89'	3" ALUM. CAP
BH-A 1996	N 2,481,940.58	E 1,687,756.71	7.66'	2.5" ALUM. CAP
BH-B 1996	N 2,481,469.27	E 1,687,431.20	7.60'	2.5" ALUM. CAP
BH-C 1998	N 2,481,686.29	E 1,687,139.14	6.24'	3" ALUM. CAP
BH-D 1998	N 2,481,243.98	E 1,687,288.31	8.40'	3" ALUM. CAP
BH-E 2001	N 2,481,197.92	E 1,687,709.26	6.80'	2.5" ALUMINUM CAP
BH-F 2001	N 2,481,073.88	E 1,686,930.19	8.69'	2.5" ALUMINUM CAP

PROJECT LIMITS

CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
1	1688093.6	2481713.9	14	1687886.4	2481587.0
2	1688107.4	2481663.8	15	1687602.9	2481616.3
3	1908882.6	2481175.9	16	1687574.0	2481608.3
4	1687727.9	2481078.7	17	1687400.4	2481560.9
5	1687318.9	2481023.3	18	1686980.2	2481984.5
6	1687205.9	2480939.7	19	1686989.1	2482017.9
7	1687098.7	2480706.3	20	1687428.5	2482138.8
8	1687070.5	2480719.2	21	1687544.2	2482170.6
9	1687178.0	2480953.3	22	1687593.4	2482142.6
10	1687314.0	2481053.9	23	1687705.9	2481732.3
11	1687723.8	2481109.4	24	1687749.0	2481695.7
12	1687834.4	2481189.4	25	1687951.6	2481674.8
13	1687961.6	2481451.2			

CONTRACT NO. W911KB04-D-0007

CONTRACTOR HUGHES AND ASSOCIATES

CITY PALMER STATE ALASKA

ALASKA DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

SURVEYED: CSH/REH
DRAWN: CSH/REH
CHECKED: JSH
SUBMITTED:

BETHEL, ALASKA
BETHEL HARBOR
PROJECT CONDITION SURVEY
AUGUST 17, 2004

RECOMMENDED: PROJECT MANAGER, OPERATIONS & READINESS BRANCH
APPROVED: CHIEF, OPERATIONS & READINESS BRANCH
DATE:

SURVEY NO. 2158-04

SCALE: 1"=100'

SHEET 1 OF 1