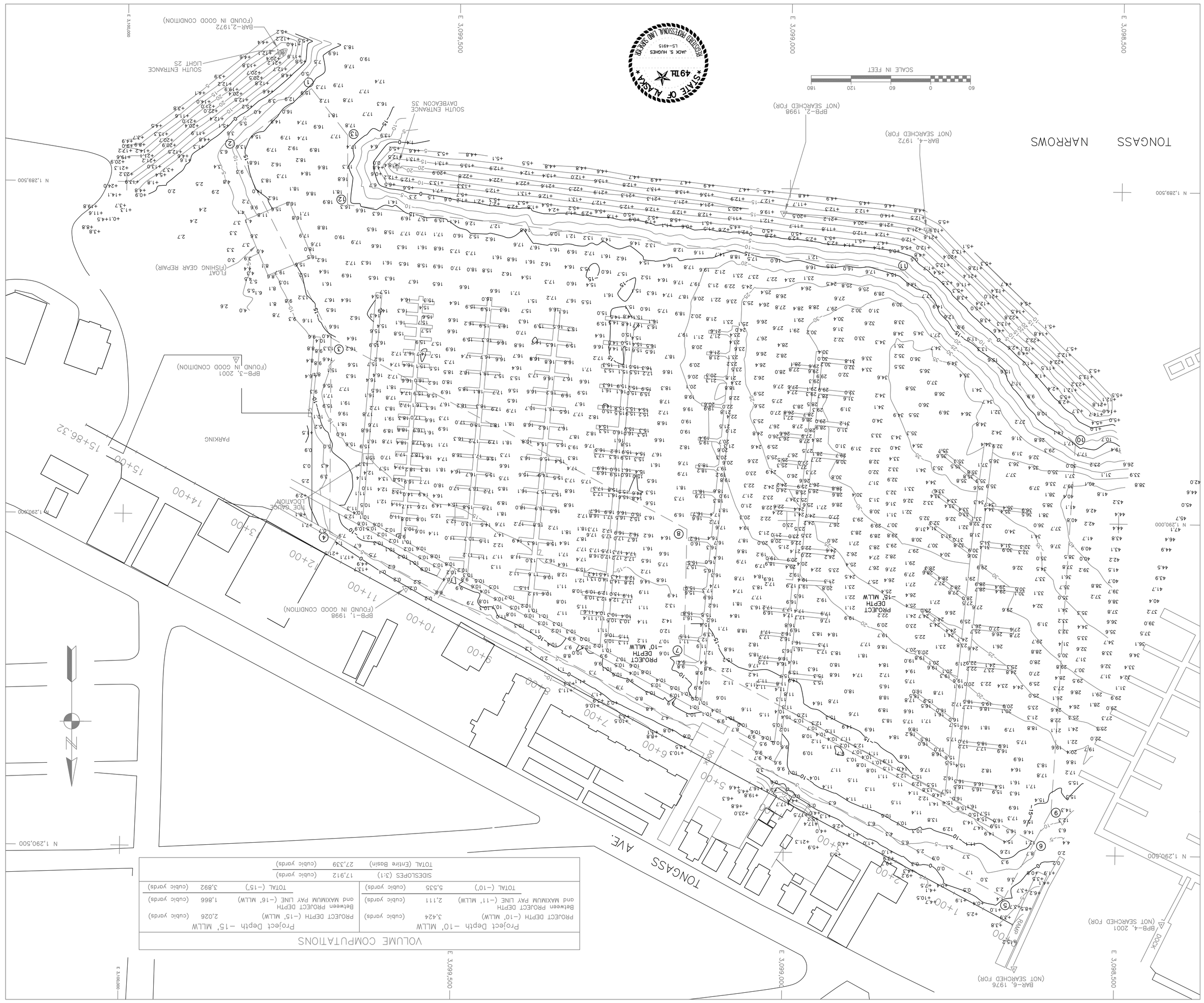


CONTROL DATA

STATION	NORTHING	EASTING	ELEV.	DESCRIPTION
BAR-2, 1972	1,289,302.31	3,099,766.90	21.16	USC&C SBC
BAR-4, 1972	1,289,559.92	3,098,799.08	21.89	USC&C SBC
BAR-6, 1976	1,290,071.95	3,098,651.22	21.42	USC&C SBC
BPB-1, 1998	1,290,108.71	3,099,572.75	22.27	FND
BPB-2, 1998	1,289,536.99	3,099,009.71	19.61	NSF
BPB-3, 2001	1,289,765.91	3,099,832.70	22.99	3 1/4" DOMED BC
BPB-4, 2001	1,290,602.71	3,098,428.97	23.08	3 1/4" DOMED BC

PROJECT LIMITS

CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
1	1,289,357	3,099,723	8	1,290,015	3,099,150
2	1,289,447	3,099,837	9	1,290,433	3,098,937
3	1,289,732	3,099,650	10	1,289,880	3,098,566
4	1,290,027	3,099,688	11	1,289,622	3,098,852
5	1,290,565	3,098,866	12	1,289,522	3,099,667
6	1,290,481	3,098,622	13	1,289,427	3,099,668
7	1,290,203	3,099,152			

NAVIGATION AIDS

DESCRIPTION	USCG #	NORTHING	EASTING
SOUTH ENTRANCE LIGHT 2S, FL. RED	22200	1,289,303	3,099,772
SOUTH ENTRANCE DAYBEACON 3S, GRN	22205	1,289,473	3,099,593
ENTRANCE LIGHT 2, FL. RED	22210	1,289,717	3,098,322
ENTRANCE DAYBEACON 3, GRN	22215	1,290,085	3,098,274
NORTH ENTRANCE LIGHT 2N, FL. RED	22220	1,290,548	3,097,433

CONTRACTOR HUGHES AND ASSOCIATES
CONTRACT NO. W911KB04-D-0007
CITY PALMER STATE AK

ALASKA DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

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

KETCHIKAN, ALASKA
BAR POINT HARBOR – FEDERAL BASIN
JULY 14, 2004
PROJECT CONDITION SURVEY

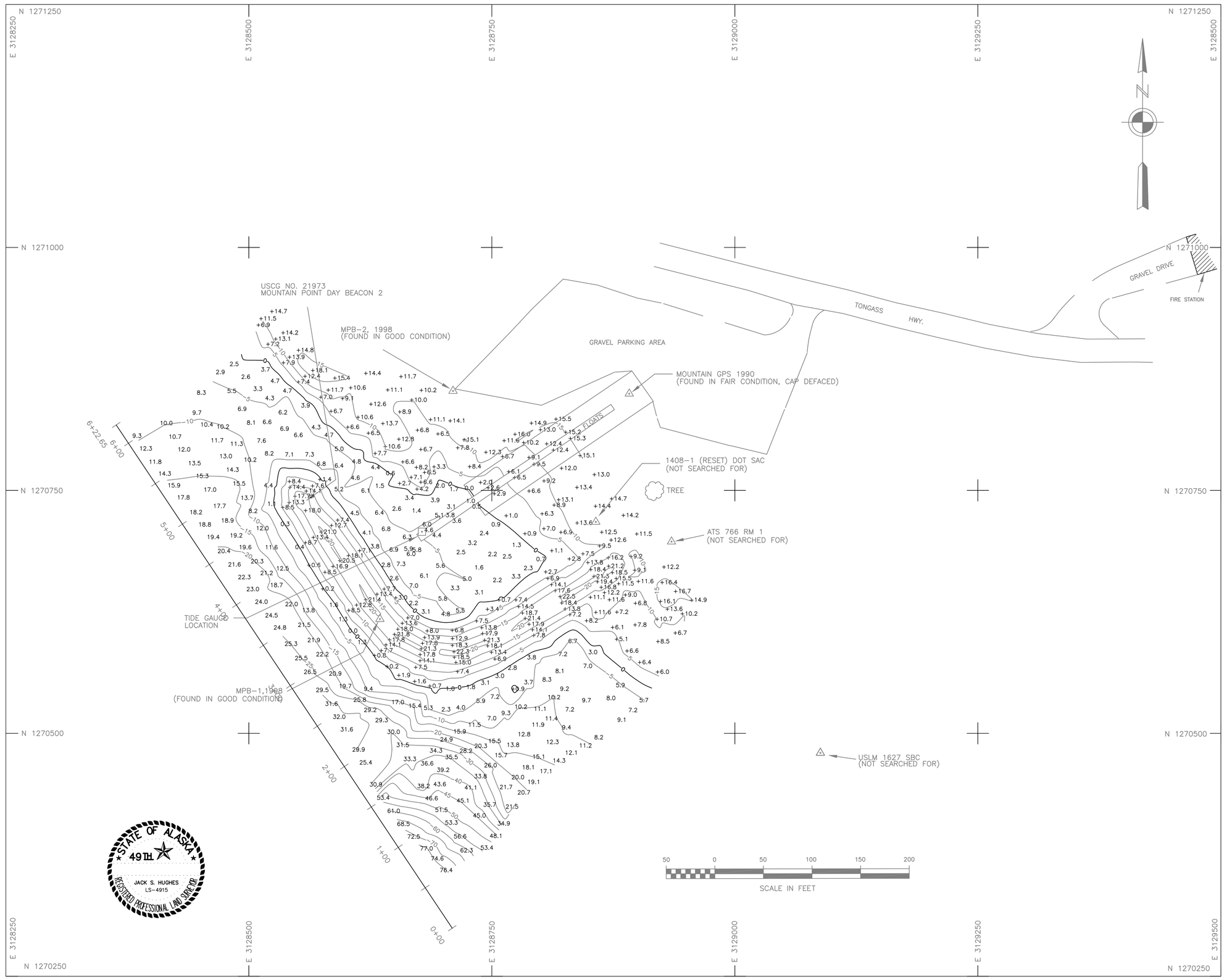
RECOMMENDED: PROJECT MANAGER
APPROVED: CHIEF OPERATIONS-REAL ESTATE BRANCH
DATE:

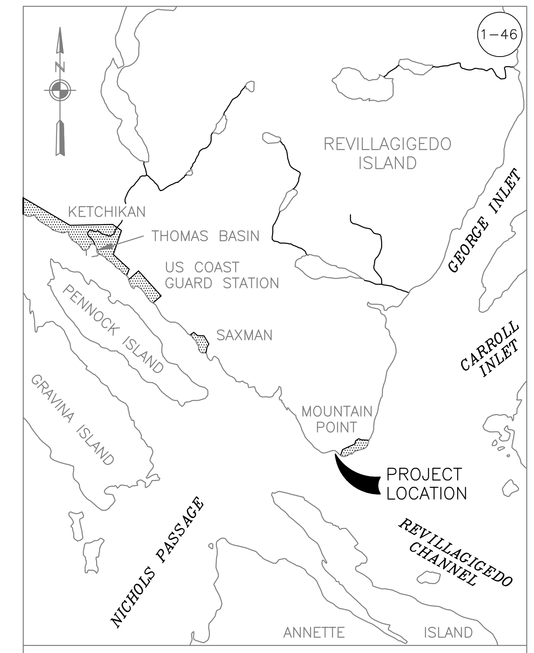
SURVEY NO. 2157-04
SCALE: 1"= 60'
SHEET 1 OF 1

VOLUME COMPUTATIONS

Project Depth -10' MLLW		Project Depth -15' MLLW	
PROJECT DEPTH (-10' MLLW)	3,424 (cubic yards)	PROJECT DEPTH (-15' MLLW)	2,026 (cubic yards)
Between PROJECT DEPTH and MAXIMUM PAY LINE (-11' MLLW)	2,111 (cubic yards)	Between PROJECT DEPTH and MAXIMUM PAY LINE (-16' MLLW)	1,866 (cubic yards)
TOTAL (-10')	5,535 (cubic yards)	TOTAL (-15')	3,892 (cubic yards)
SIDESLOPES (3:1)	17,912 (cubic yards)		
TOTAL (Entire Basin)	27,339 (cubic yards)		

CORPS OF ENGINEERS U. S. ARMY





VICINITY MAP

NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE ZONE 1, IN FEET, NORTH AMERICAN DATUM OF 1983, HOLDING BC "MPB-1 1998" AS N 1,270,617.54, E 3,128,634.81 AND BC "MPB-2 1998" AS N 1,270,852.30, E 3,128,710.07.

2. VERTICAL CONTROL IS IN FEET BASED ON MEAN LOWER LOW WATER (MLLW = 0.0'), HOLDING USACE BC "MPB-2 1998" AS 21.44' ABOVE MLLW WATER.

3. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.

4. BATHYMETRY WAS COLLECTED JULY 22, 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 AND A TSS MOTION REFERENCE UNIT. RTK CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION OCCUPYING "MOUNTAIN GPS 1990". 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.

5. THIS SURVEY INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.

CONTROL DATA

STATION	NORTHING	EASTING	ELEV.	DESCRIPTION
USLM 1627	1,270,479.87	3,129,087.99		BC ON POST
MOUNT 1910	1,270,907.85	3,127,395.64		COPPER BOLT
MOUNTAIN GPS 1990	1,270,849.45	3,128,891.34	22.89	3 1/4" NGS SBC, NO RECORD INFO. AVAIL.
MPB-1, 1998	1,270,617.54	3,128,634.81	21.25	3 1/4" BC IN ROCK
MPB-2, 1998	1,270,852.30	3,128,710.07	21.44	3 1/4" BC IN ROCK
ATS 766 RM 1			13.69	ALCAP ON REBAR

NAVIGATION AIDS

DESCRIPTION	USCG NO.	NORTHING	EASTING
MOUNTAIN POINT DAY BEACON 2		1,270,737	3,128,557

REV.	DATE	DESCRIPTION	BY	APP'D.

CONTRACT NO. W911KB04-D-0007
CONTRACTOR HUGHES AND ASSOCIATES
CITY PALMER STATE AK

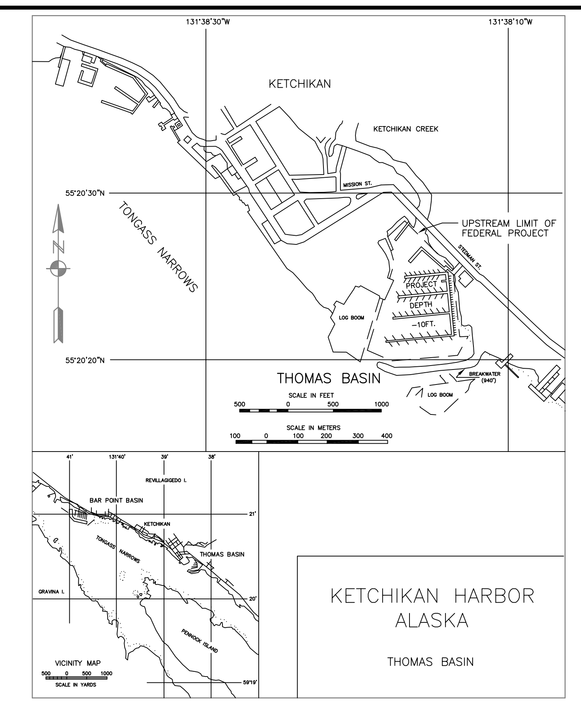
ALASKA DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

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

MOUNTAIN POINT, ALASKA
MOUNTAIN POINT BREAKWATER
JULY 22, 2004
PROJECT CONDITION SURVEY

RECOMMENDED: PROJECT MANAGER
APPROVED: CHIEF OPERATIONS-READINESS BRANCH
DATE:

SURVEY NO. 2155-04
SCALE: 1" = 50
SHEET 1 OF 1



KETCHIKAN HARBOR ALASKA

THOMAS BASIN

NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE ZONE 1, IN FEET, NORTH AMERICAN DATUM OF 1983, HOLDING USACE SBC "DP-3 1976" AS N 1,286,917.71 E 3,107,731.75 AND BC "TB-4 2001" AS N 1,287,136.38 E 3,107,461.90.

2. VERTICAL CONTROL IS IN FEET BASED ON MEAN LOWER LOW WATER (MLLW = 0.0'), HOLDING BC "DP-3 1976" AS 21.80' ABOVE MLLW WATER.

3. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.

4. THE EXISTING PROJECT PROVIDES FOR AN 11.35 ACRE HARBOR, DREDGED TO A DEPTH OF -10' MLLW AND PROTECTED BY A 940', CONCRETE CAPPED, STONE BREAKWATER.

5. BATHYMETRY WAS COLLECTED JULY 15-19, 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 AND A TSS MOTION REFERENCE UNIT. RTK CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION OCCUPYING "TB-3 1976". 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.

6. THIS SURVEY INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.

CONTROL DATA

STATION	NORTHING	EASTING	ELEV.	DESCRIPTION
DP-1, 1976	1,286,057.25	3,107,299.01	21.30	USACE SBC
DP-2, 1976	1,287,204.51	3,107,368.50	20.98	OBLITERATED
DP-3, 1976	1,286,917.71	3,107,731.75	21.80	USACE SBC
DP-4, 1976	1,286,139.78	3,107,896.68	22.26	OBLITERATED
TB-1, 1998	1,286,078.25	3,107,064.50	21.88	3 1/4" DOMED BC
TB-3, 2001	1,286,145.62	3,107,890.43	22.70	3 1/4" DOMED BC
TB-4, 2001	1,287,136.38	3,107,461.90	21.75	3 1/4" DOMED BC
NO 30 1922	----	----	26.53	USCGS BENCH MARK
BM 39 1974	----	----	32.46	NOS BENCH MARK

PROJECT LIMITS

CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
1	1,286,082	3,107,154	7	1,286,337	3,107,940
2	1,286,835	3,107,315	8	1,286,228	3,107,914
3	1,287,007	3,107,209	9	1,286,118	3,107,441
4	1,287,153	3,107,331	10	1,286,157	3,107,273
5	1,286,810	3,107,755	11	1,286,139	3,107,243
6	1,286,358	3,107,853	12	1,286,063	3,107,216

NAVIGATION AIDS

DESCRIPTION	USCG NO.	NORTHING	EASTING
THOMAS BASIN ENTRANCE LIGHT 2 FL. RED	22165	1,286,053	3,107,298
CITY DOCK LIGHT (NEW AID) GREEN		1,286,022	3,107,112

VOLUME COMPUTATIONS

Project Depth -10' MLLW

PROJECT DEPTH (-10' MLLW)	4125	(cubic yards)
Between PROJECT DEPTH and MAXIMUM PAY LINE (-11' MLLW)	1506	(cubic yards)
SIDESLOPES (3:1)	3397	(cubic yards)
TOTAL	9028	(cubic yards)

STATE OF ALASKA 49TH JACK S. HUGHES LS-4915 REGISTERED PROFESSIONAL LAND SURVEYOR

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:

KETCHIKAN, ALASKA
THOMAS BASIN
JULY 19, 2004
PROJECT CONDITION SURVEY

RECOMMENDED: PROJECT MANAGER
APPROVED: CHIEF OPERATIONS-READINESS BRANCH
DATE:

SURVEY NO. 2156-04

SCALE: 1" = 50'

SHEET 1 OF 1