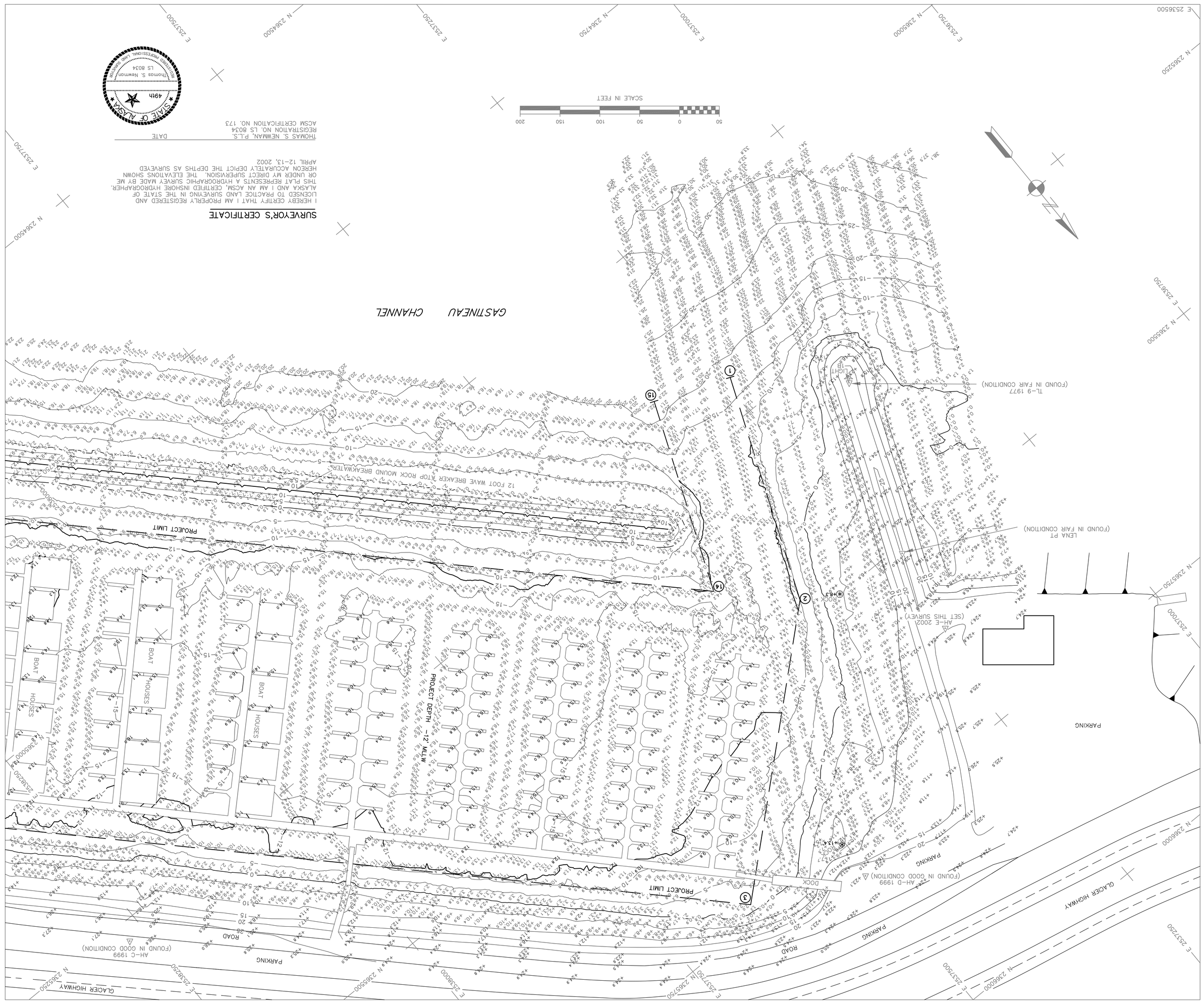


SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM PROPERLY REGISTERED AND LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF ALASKA AND I AM AN ACSM, CERTIFIED INSHORE HYDROGRAPHER. THIS PLAT REPRESENTS A HYDROGRAPHIC SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION. THE ELEVATIONS SHOWN HEREON ACCURATELY DEPICT THE DEPTHS AS SURVEYED APRIL 12-13, 2002

THOMAS S. NEMANN, P.L.S.
REGISTRATION NO. LS 8034
ACSM CERTIFICATION NO. 173

DATE

STATE OF ALASKA
49th
THOMAS S. NEMANN
LS 8034
PROFESSIONAL LAND SURVEYOR

NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 1, NAD83, IN U.S. SURVEY FEET, HOLDING USACE SBC "JA-1 RESET 1989" AS N 2,363,831.81, E 2,538,658.22 AND DOMED BC "LENA POINT" AS N 2,365,509.48, E 2,537,214.21.
2. VERTICAL CONTROL IS IN FEET, REFERRING TO MEAN LOWER LOW WATER (MLLW=0.0'), HOLDING NOAA/NOS TIDAL BENCH MARK "2210 G 1984" AS 33.92'. THIS SURVEY REFLECTS A TIDAL DATUM UPDATE OF APPROXIMATELY +0.50' COMPARED TO THE PREVIOUS SURVEY NO. 1812-99, DATED APRIL 24-26, 1999. THE NEW TIDAL DATUM IS BASED ON NOAA/NOS BENCH MARK SHEET FOR STATION 9452210, JUNEAU, GASTINEAU CHANNEL, STEPHENS PASS, ALASKA, PUBLICATION DATE: 11/02/1999.
3. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
4. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.
5. HYDROGRAPHIC DATA AQUISITION WAS CONDUCTED APRIL 12-13, 2002. SOUNDINGS WERE OBTAINED USING AN ODOM HYDROTRAC DEPTHSOUNDER, 200kHz, 3° BEAM WIDTH, SINGLE-BEAM TRANSDUCER. POSITIONING WAS PROVIDED BY A TRIMBLE 4000SSI RECEIVER OPERATING ON DGPS CORRECTIONS BROADCAST FROM A TRIMBLE 4000SSE BASE STATION SET AT USACE SBC "JA-1 RESET 1989". DEPTHS WERE CORRECTED FOR TIDE USING DATA FROM AN ENDECO TYPE 1029 WATER LEVEL RECORDER SET BY TERRA SURVEYS, LLC. NAVIGATION AND DATA COLLECTION WERE PERFORMED USING HYPACK INTEGRATED SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED UTILIZING KINEMATIC GPS METHODS, VERTICAL CONTROL WAS SURVEYED USING OPTICAL INSTRUMENTS AND DIFFERENTIAL LEVELING TECHNIQUES.
6. THIS SURVEY WAS PERFORMED UNDER CONTRACT DACW85-01-D-0001 BY TERRA SURVEYS, LLC.

VOLUME COMPUTATIONS

Project Depth -12' MLLW	
VOLUME AVAILABLE TO PROJECT DEPTH (-12' MLLW)	3545 (cubic yards)
VOLUME AVAILABLE BETWEEN PROJECT DEPTH AND OVERDEPTH (-13' MLLW)	2164 (cubic yards)
VOLUME AVAILABLE along the side slope (3:1; H:V)	5300 (cubic yards)
TOTAL	10999 (cubic yards)

Project Depth -14' MLLW	
VOLUME AVAILABLE TO PROJECT DEPTH (-14' MLLW)	1657 (cubic yards)
VOLUME AVAILABLE BETWEEN PROJECT DEPTH AND OVERDEPTH (-15' MLLW)	1010 (cubic yards)
VOLUME AVAILABLE along the side slope (3:1; H:V)	6183 (cubic yards)
TOTAL	8850 (cubic yards)

CONTROL DATA

STATION	NORTHING	EASTING	ELEV.	DESCRIPTION
JA-1 RESET 1989	2,363,831.81	2,538,658.22	2.96	USACE SBC
LENA PT	2,365,509.48	2,537,214.21	25.84	4" DOMED BC
TL-1 1977	2,364,749.00	2,538,986.59	25.65	USACE SBC
TL-9 1977	2,365,301.36	2,537,130.30	25.14	USACE SBC
AH-B 1996	2,364,793.22	2,538,662.93	23.12	3 1/4" FLAT BC IN CONC.
AH-C 1999	2,365,272.83	2,538,273.21	27.10	3 1/4" DOMED BC IN CONC.
AH-D 1999	2,365,793.89	2,537,506.20	23.17	3 1/4" DOMED BC IN CONC.
AH-E 2002	2,365,616.41	2,537,231.87	25.69	3 1/4" DOMED BC
AH-F 2002	2,364,059.05	2,538,951.21	24.21	3 1/4" DOMED BC

PROJECT LIMITS

CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
1	2,365,201.8	2,537,241.6	9	2,363,849.8	2,538,535.6
2	2,365,473.8	2,537,350.6	10	2,364,082.8	2,538,387.6
3	2,365,730.8	2,537,640.6	11	2,364,261.8	2,538,366.6
4	2,364,912.8	2,538,655.6	12	2,364,639.8	2,538,190.6
5	2,364,904.8	2,538,455.6	13	2,364,639.8	2,538,181.6
6	2,364,711.8	2,538,647.6	14	2,365,396.8	2,537,427.6
7	2,364,325.8	2,538,841.6	15	2,365,164.8	2,537,334.6
8	2,364,138.8	2,538,826.6			

NAVIGATION AIDS

DESCRIPTION	USCG No.	NORTHING	EASTING
AURORA BASIN LIGHT 1A	23710	2,364,231.8	2,538,486.6
AURORA BASIN LIGHT 1B	23720	2,365,295.8	2,537,126.6

CONTRACTOR	TERRA SURVEYS
CONTRACT NO.	DACW85-01-D-0001
CITY PALMER	STATE ALASKA

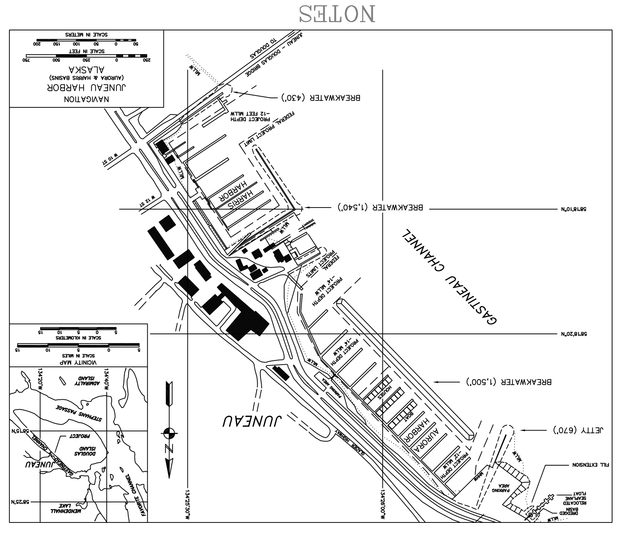
ALASKA DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

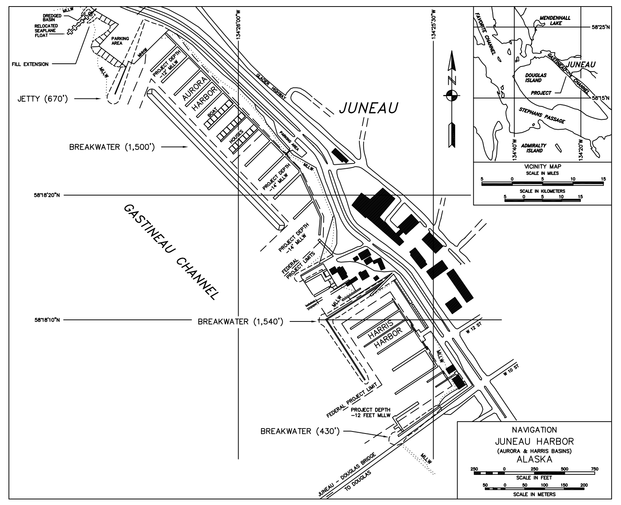
SURVEYED:	
DRAWN:	DJB/JDE
CHECKED:	LES/MAF
SUBMITTED:	TSN/KDW

JUNEAU, ALASKA
AURORA HARBOR
PROJECT CONDITION SURVEY
APRIL 12-13, 2002

RECOMMENDED:	APPROVED:	DATE:
PROJECT MANAGER	CHIEF, PROGRAMS-PLANNING BRANCH	

SURVEY NO.	SCALE: 1" = 50'
1952-02	SHEET 1 OF 2





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CONTRACT NO. DACW85-01-D-0001
CONTRACTOR TERRA SURVEYS
CITY PALMER STATE ALASKA

ALASKA DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

SURVEYED: DJB/JDE
DRAWN: LES/MAF
CHECKED: TSN/KDW
SUBMITTED:

JUNEAU, ALASKA
AURORA HARBOR
PROJECT CONDITION SURVEY
APRIL 12-13, 2002

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

SURVEY NO. 1952-02
SCALE: 1" = 50'
SHEET 2 OF 2