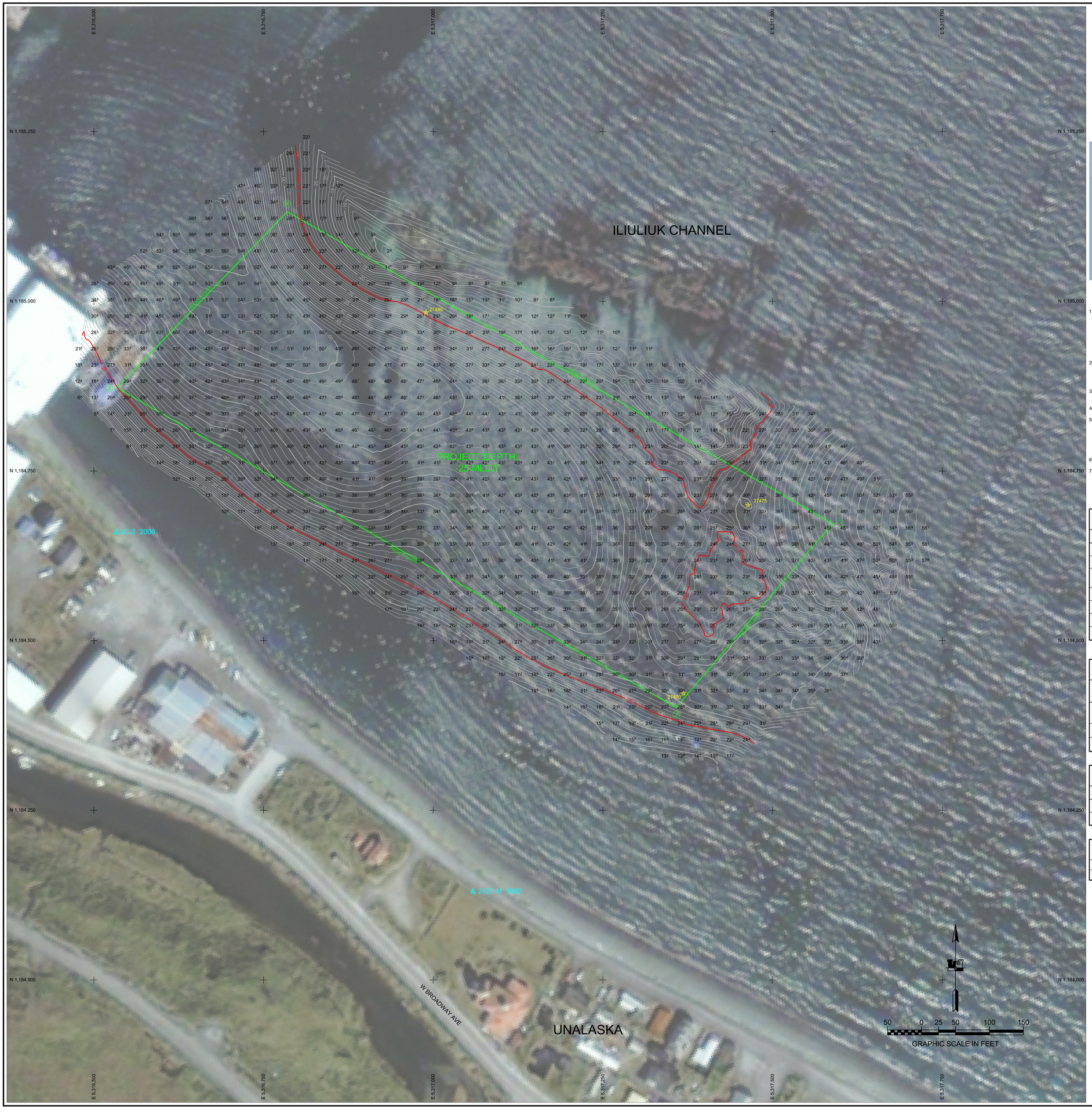

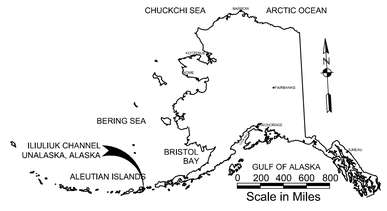

LOCATION/VICINITY MAP(S)

NOTES

1. PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 10, NAD83 (CORS), IN US SURVEY FEET BASED ON A STATIC GPS NETWORK HOLDING NGS EPOCH 2003.00 CORS L1 PHASE CENTER VALUES FOR "PLATINUM_AK 2007 CORS ARP" (NGS PID DL6672), "PORT HEIDEN AK 2007 CORS ARP" (NGS PID DL6447) AND "SAND POINT_AK 2004 CORS ARP" (NGS PID DL7635).

   LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 10, NAD83, IN US SURVEY FEET HOLDING DOMED BC "IC-1, 2002" AS N 1,185,550.28, E 5,316,753.29 AND DOMED BC "UH-1, 2010" AS N 1,180,372.71, E 5,313,655.82.

2. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0'), BASED ON THE NOAA/NOS TIDAL BENCH MARK LIST: "946 2620, UNALASKA, DUTCH HARBOR, ALASKA" PUBLISHED 10/24/2011. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA/USCGS TIDAL BENCHMARK "NO. 19 1973" AS 16.43.'

3. VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD88 (GEOID 12A) ELEVATIONS HOLDING NOAA/USCGS TIDAL BENCHMARK "NO. 19 1973" (PID BBBB51/VM#11816) AS 16.70'.

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

5. BATHYMETRY WAS COLLECTED JUNE 24, 2014. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2022 MULTIBEAM ECHOSOUNDER OPERATING AT 200 KHZ. SOUND VELOCITY THOUGH THE WATER COLUMN WAS DETERMINED WITH A MINOS BASE X SOUND VELOCITY PROBE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSMV WAVEMASTER V5 SYSTEM. DATA WAS COLLECTED AND PROCESSED USING QINSY 8.1 SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING STATIC GNSS EQUIPMENT AND TECHNIQUES. VERTICAL CONTROL WAS SURVEYED USING DIFFERENTIAL LEVELING TECHNIQUES.

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

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SURVEY CONTROL DATA

STATION	NORTHING	EASTING	MLLW	DESCRIPTION
2620 M 1982	1,184,130.08	5,317,058.63	10.97	NOS SBC
2620 N 1990			11.70	NOS SBC
GRAVE 1901-35	1,183,502.41	5,320,202.41	59.72	USCGS SBC (TRI STA)
IC-1 2002	1,185,550.28	5,316,753.29	14.61	3.25 INCH DOMED BC
IC-2 2006	1,184,659.58	5,316,533.53	7.43	3 INCH FLAT BC
IC-3 2006	1,183,334.86	5,319,086.52	16.03	3 INCH FLAT BC
NO. 19 1973	1,183,685.10	5,317,889.85	16.43	USCGS SBC (BENCH MARK)

NAVIGATION AIDS

USCG NO.	NORTHING	EASTING	DESCRIPTION
27470	1,184,422	5,317,369	UNALASKA CHANNEL LIGHTED BUOY 5 (FL GREEN)
27475	1,184,700	5,317,464	ILIULIUK REEF LIGHTED BUOY 6 (FL RED)
27480	1,184,984	5,316,989	ENTRANCE BUOY 8 (RED NUN)

PROJECT LIMITS

CORNER#	NORTHING	EASTING
1	1,184,672.87	5,317,588.33
2	1,184,401.44	5,317,357.95

PROJECT LIMITS

CORNER#	NORTHING	EASTING
3	1,184,872.40	5,316,534.03
4	1,185,132.08	5,316,784.98

VOLUME COMPUTATIONS

AVAILABLE TO PROJECT DEPTH (-25.0)	3,029 CU. YD.
TOTAL AVAILABLE	3,029 CU. YD.

STATE OF ALASKA 49TH
(Lewis J. Epps)
08/22/2014
No. 3510
PROFESSIONAL LAND SURVEYOR

THIS HYDROGRAPHIC SURVEY WAS COMPLETED UNDER THE OVERSIGHT OF AN ACSM/THOSOA CERTIFIED HYDROGRAPHER

David R. Neff C.H. (275)

US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO. W912DB-14-D-0013
CONTRACTOR: ETRAC INC.
CITY: SAN RAFAEL STATE: CALIFORNIA
Recommended: MICHAEL E. MUELLER, CHIEF, HYDRO & CONSTRUCTION
Approved: THOMAS A. SILOOR, CHIEF, SURVEY SECTION
Date: 08/12/2014

DATE	DESCRIPTION	BY	APPVD

REVISION	DATE	DESCRIPTION	BY	APPVD

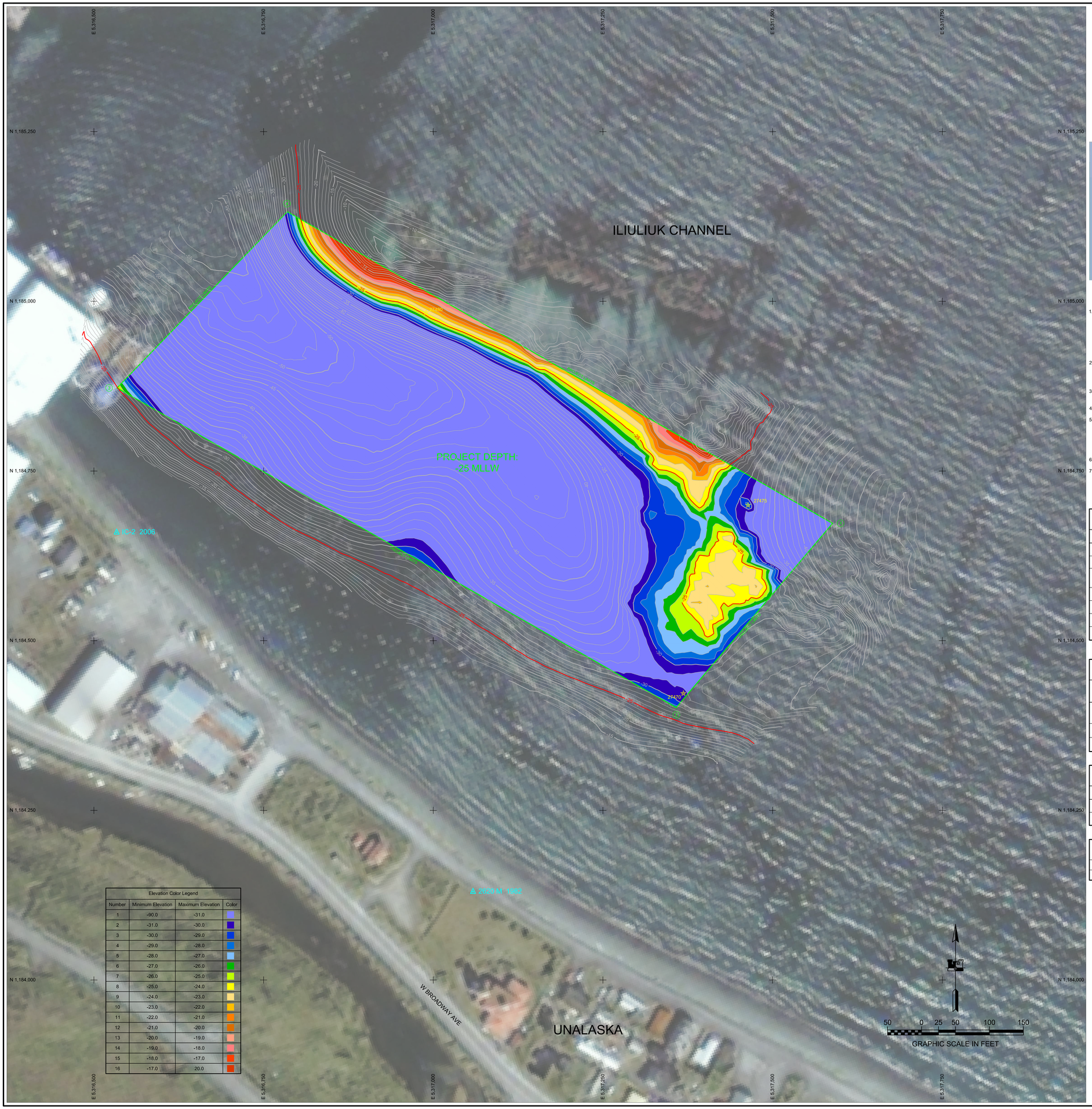
DATE: 5 November 2014
UPC: UPC-TSM
CONTRACT NO.: W912DB-14-D-0013
DOA NO.: 2013
Sheet:
DESIGNED BY: Gregory W. Gibson
DRAWN BY: Gregory W. Gibson
CHECKED BY: Michael Mueller
APPROVED BY: Thomas A. Siloor, Chief Geomatics Section
SCALE: 1:200
SIZE: ANSI E
DATE: 11/07/2014
FILE NAME: 5311204-1000.DWG

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
P.O. BOX 6898
JBER, ALASKA 99506-0898

ETRAC INC
637 LINDARO ST., STE 100
SAN RAFAEL, CA 94901

UNALASKA, ALASKA
ILIULIUK CHANNEL
PROJECT CONDITION SURVEY
JUNE 19-26, 2014

SHEET IDENTIFICATION
5-UAK-92-07-10
Sheet 1 of 2



Elevation Color Legend			
Number	Minimum Elevation	Maximum Elevation	Color
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2	-31.0	-30.0	
3	-30.0	-29.0	
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5	-28.0	-27.0	
6	-27.0	-26.0	
7	-26.0	-25.0	
8	-25.0	-24.0	
9	-24.0	-23.0	
10	-23.0	-22.0	
11	-22.0	-21.0	
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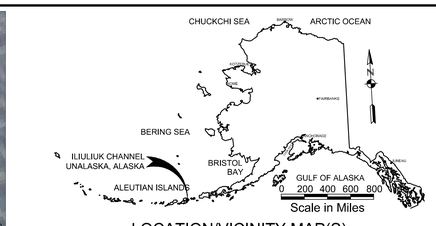

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US Army Corps of Engineers
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CONTRACT NO. W911KB-14-D-0013
CONTRACTOR ETRAC INC.
CITY SAN RAFAEL STATE CALIFORNIA
Recommended: MICHAEL E. MUELLER, CHIEF, ENGINEERING DIVISION
Approved: THOMAS A. SLOAN, CHIEF, SURVEY SECTION
Date: 08/12/2014

DATE	DESCRIPTION	BY	APPROV

DATE	DESCRIPTION	BY	APPROV	REVISION	DATE

DATE: 5 November 2014
UTC: 21:00:00
CONTRACT NO. W911KB-14-D-0013
DGPS NO.: 2628
DATUM: NAD83

TECHNICIAN: Gregory M. Gibson
DRAWN BY: Gregory M. Gibson
CHECKED BY: Kristen Kuykendall
APPROVED BY: Thomas A. Sloan, Chief Geomatics Section
SCALE: 1:2,000
PLOT DATE: 5 Nov 2014
SIZE: 24X36
FILE NAME: 2013WA-0900.DWG

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
P.O. BOX 6898
JBER, ALASKA 99506-0898

ETRAC INC.
637 LINDARO ST., STE 100
SAN RAFAEL, CA 94901

UNALASKA, ALASKA
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Sheet 2 of 2