



NAVIGATION AIDS			
NO.	NORTHING	EASTING	DESCRIPTION
27181	385,305	1,572,586	SOUTH KING COVE HARBOR LIGHT 1 FI G 4S
27182 (1)	385,528	1,572,676	KING COVE DEEP WATER DOCKS LIGHTS (1) FI R 6S
27182 (2)	385,886	1,572,698	KING COVE DEEP WATER DOCKS LIGHTS (2) FI R 6S

PROJECT LIMITS		
CORNER#	NORTHING	EASTING
1	385,392.92	1,572,629.07
2	385,401.85	1,572,556.84
3	385,392.97	1,572,500.77
4	385,379.02	1,572,412.72
5	385,350.96	1,572,352.12
6	384,919.17	1,572,186.37
7	384,960.38	1,572,079.01
8	385,478.52	1,572,277.90
9	385,672.80	1,572,352.48
10	385,517.34	1,572,648.98

VOLUME COMPUTATIONS		
AREA A: ENTRANCE CHANNEL	MLLW=0	CU. YD.
AVAILABLE TO PROJECT DEPTH (PD)	-17.0	1
AVAILABLE TO MAX PAY DEPTH (MP)	-18.0	137
AVAILABLE SIDE SLOPES (SS) AT 3:1 (H:V) & 25' WIDE	VARIES	16
AREA B: MANEUVERING AREA		
AVAILABLE TO PD	-16.0	108
AVAILABLE TO MP	-17.0	759
AVAILABLE SS AT 3:1 (H:V) & 25' WIDE	VARIES	55
TOTAL MAXIMUM VOLUME AVAILABLE (MP + SS)		967

LEGEND

CULVERT	<
VALVE	⊠
GUARD POST	●
ELECTRICAL PEDESTAL	⊞
ELECTRICAL SWITCH BOX	⊞
TRANSFORMER WITH PAD	⊞
TRANSFORMER	▲
LIGHT POLE	⊞
FIRE HYDRANT	⊞



NOTES

- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 7, NAD83 (CORS). IN US SURVEY FEET BASED ON A STATIC GPS NETWORK HOLDING NGS EPOCH 2003.00 CORS L1 PHASE CENTER VALUES FOR "HAYSTACK, AK 2004 CORS ARP" (NGS PID DG7414), "SANDPOINT, AK 2004 CORS ARP" (NGS PID DL7635) AND "PORT HEIDEN AK 2007 CORS ARP" (NGS PID DL6447).
- LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 7, NAD83, IN US SURVEY FEET HOLDING USACE SBC "KCH-1 1998" (PID BBBD25/VM#17933) AS N 386,998.71', E 1,572,568.92', AND "KCH-5 2006" AS 385,708.58', E 1,571,759.69'.
- VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0'), BASED ON THE NOAA/NOS TIDAL BENCH MARK LIST: "945 9881 KING COVE, DEER PASSAGE, PACIFIC OCEAN, ALASKA" PUBLISHED 11/21/2011. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA/USACE TIDAL BENCH MARK "KCH-1 1998" (PID BBBD25/VM#17933) AS 9.09'.
- VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD88 (GEOID 12A) ELEVATIONS HOLDING NOAA/USACE TIDAL BENCHMARK "KCH-1 1998" (PID BBBD25/VM#17933) AS 9.09'.
- SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
- BATHYMETRY WAS COLLECTED MAY 12-13, 2019. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2020 MULTIBEAM ECHOSOUNDER OPERATING AT 400 KHZ. SOUND VELOCITY THOUGH THE WATER COLUMN WAS DETERMINED WITH A AML BASE X SOUND VELOCITY PROBE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSMV WAVEMASTER V5 SYSTEM RECEIVING RTK CORRECTIONS FROM A TRIMBLE R8 MODEL 3 GPS RECEIVER SET AT CONTROL STATION "KCH-1 1998". DATA WAS COLLECTED AND PROCESSED USING QINSY 8.1 AND QIMERA 1.6 SOFTWARE. HORIZONTAL CONTROL WAS VERIFIED USING RTK GNSS EQUIPMENT AND TECHNIQUES. VERTICAL CONTROL WAS SURVEYED USING DIFFERENTIAL LEVELING TECHNIQUES.
- TERRESTIAL LASER SCANNING DATA WAS COLLECTED MAY 13 & 14, 2019. DATA WAS COLLECTED USING A RIEGL VZ400 LASER SCANNER AND PROCESSED USING QINSY 8.1 AND QIMERA 1.6 SOFTWARE. POSITION AND VESEL ORIENTATION WERE MEASURED USING AN APPLANIX POSMV WAVEMASTER V5 SYSTEM
- THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
- MAP SOUNDINGS ARE BINNED AT 24 FEET AND ARE SHOAL-BIASED. CONTOURS ARE BASED ON 12 FEET BINNED SHOAL-BIASED SOUNDINGS. VOLUME SOUNDINGS ARE BINNED AT 3 FEET AND ARE MEAN VALUE SOUNDINGS.

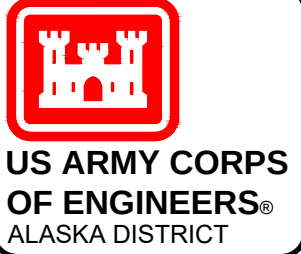
SURVEY CONTROL DATA				
STATION	NORTHING	EASTING	MLLW	DESCRIPTION
BNH-1 2010	384,599.33	1,572,114.07	15.75	3 INCH SBC IN ROCK
BNH-2 2010	384,808.29	1,571,519.59	14.96	3 INCH SBC IN ROCK
BNH-3 2010	385,824.89	1,572,274.91	17.87	3 INCH SBC IN CONC.
CITY 1995	386,702.08	1,572,123.29	12.49	1-1/2 INCH SAC
FIRE 1995	386,561.62	1,571,377.40	12.51	1-1/2 INCH SAC
KCH-1 1998	386,998.71	1,572,568.92	9.64	3-1/4 INCH SBC
KCH-4 2002	386,303.11	1,571,560.49	10.70	3-1/4 INCH SAC
KCH-5 2006	385,708.58	1,571,759.69	16.31	3 INCH SBC IN ROCK
KCH-6 2006	385,666.77	1,572,613.48	12.43	3 INCH SBC IN ROCK
RED 1995	386,912.57	1,572,714.92	6.89	1-1/2 INCH SAC



THIS HYDROGRAPHIC SURVEY WAS COMPLETED UNDER THE OVERSIGHT OF AN NSPS/THSOA CERTIFIED HYDROGRAPHER

Gregory W. Gibson

Gregory W. Gibson (317)



REV.	DATE	BY	APPR.	DESCRIPTION

CONTRACT NO.: 1W811K-16-D-0014	TASK ORDER NO.: F190062	JOB NO.: 0419	CONTRACTOR: ERM INC.	STATE: ALASKA
UPC: 087738	PLOT DATE: 15 August 2019	SIZE: 11 x 150	FILE: 087738_VH02.DWG	
SURVEYED BY: GREGORY W. GIBSON	DRAWN BY: ROBERT GOUGHNOUR	CHECKED BY: TASHIGONG	APPROVED BY: TASHIGONG	
U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT 2204 3RD STREET DEER, ALASKA 99506-0888				

KING COVE, AK

087738 - BABE NEWMAN HARBOR

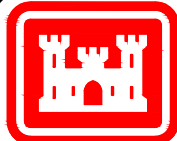
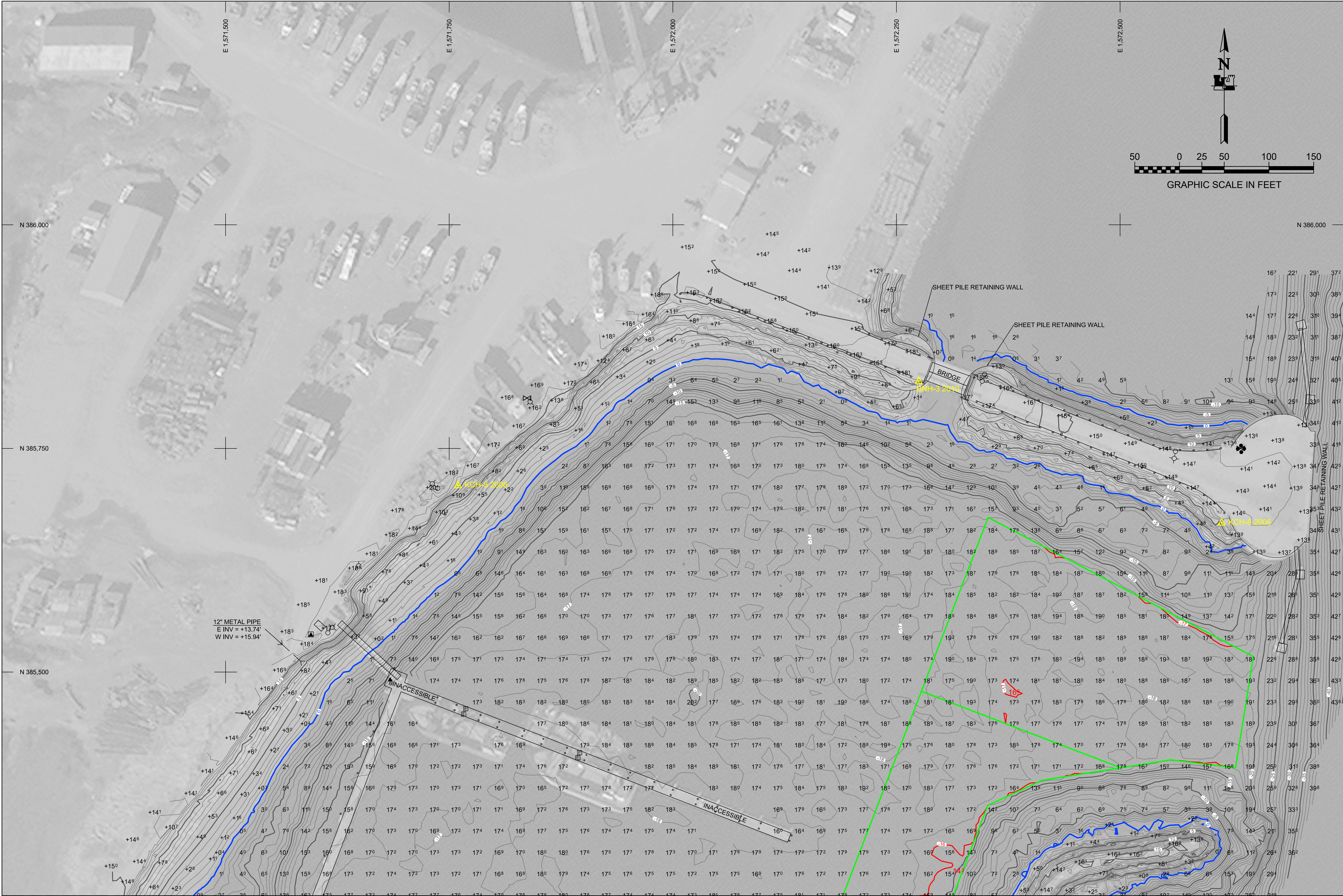
PROJECT CONDITION SURVEY

MAY 11 - MAY 14, 2019

REFERENCE NUMBER:

5-KIN-92-07-21

SHEET 1 OF 4



US ARMY CORPS
OF ENGINEERS®
ALASKA DISTRICT

REV.	DATE	BY	APPR.	DESCRIPTION

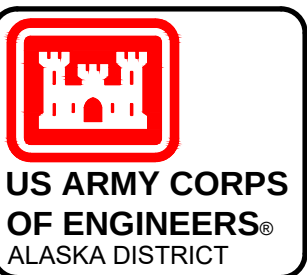
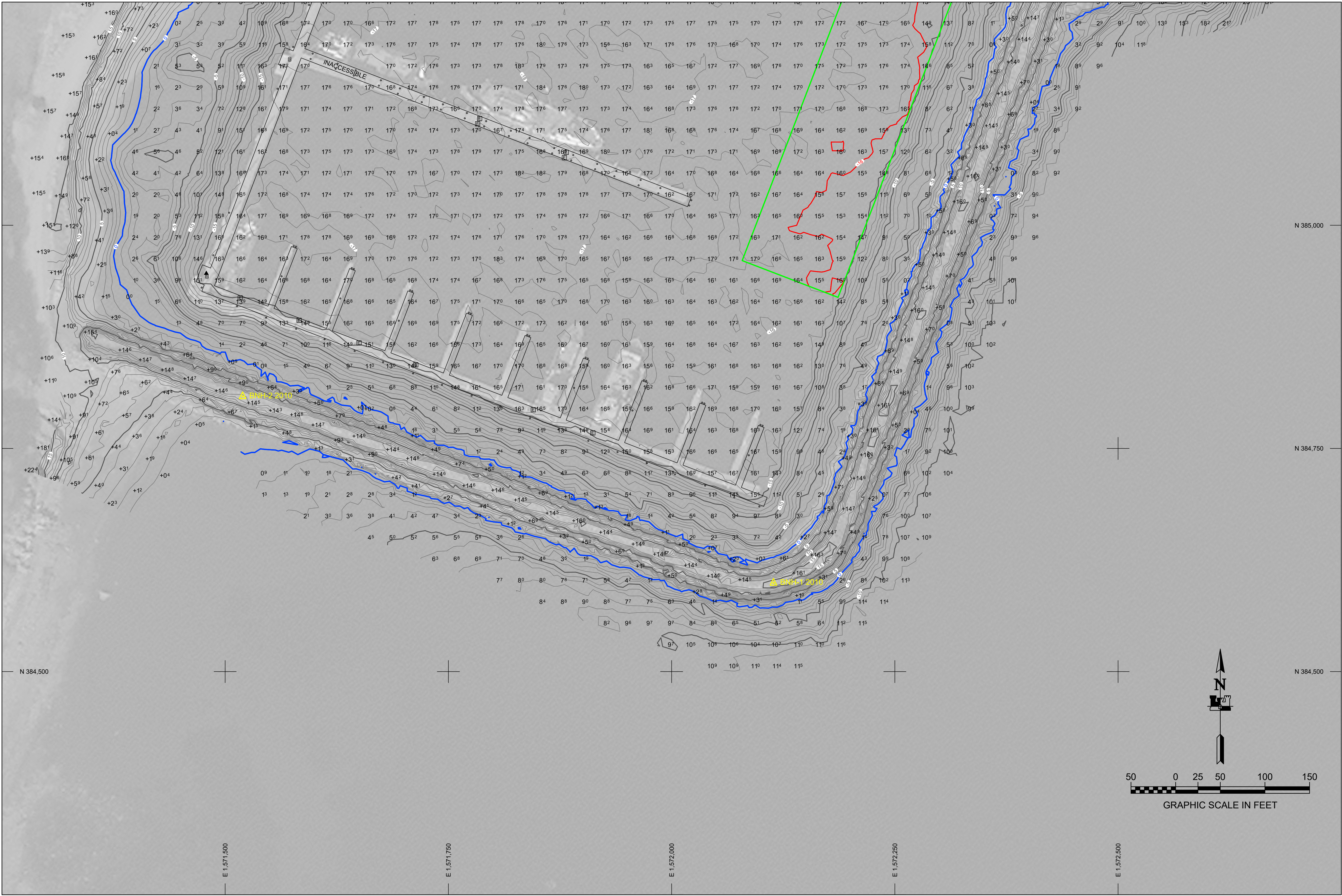
U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT 2204 3RD STREET DIER, ALASKA 99506-0088 	SURVEYED BY: GREGORY W. GIBSON	UPC: 087738	CONTRACT NO.: W811K6-16-D-0014
	DRAWN BY: ROBERT GOUGHNOUR	PLOT DATE: 15 August 2019	TASK ORDER NO.: 19PD062
	CHECKED BY: TASJGGG	SIZE: ANSI D	JOB NO.: 0419
	APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	SCALE: 1" = 50'	CONTRACTOR: LETRAC INC.
FILE: 087738_VH02.DWG		STATE: ALASKA	CITY: WASILLA

KING COVE, AK
087738 - BABE NEWMAN HARBOR
PROJECT CONDITION SURVEY
MAY 11 - MAY 14, 2019

REFERENCE
NUMBER:

5-KIN-92-07-21

SHEET 2 OF 4

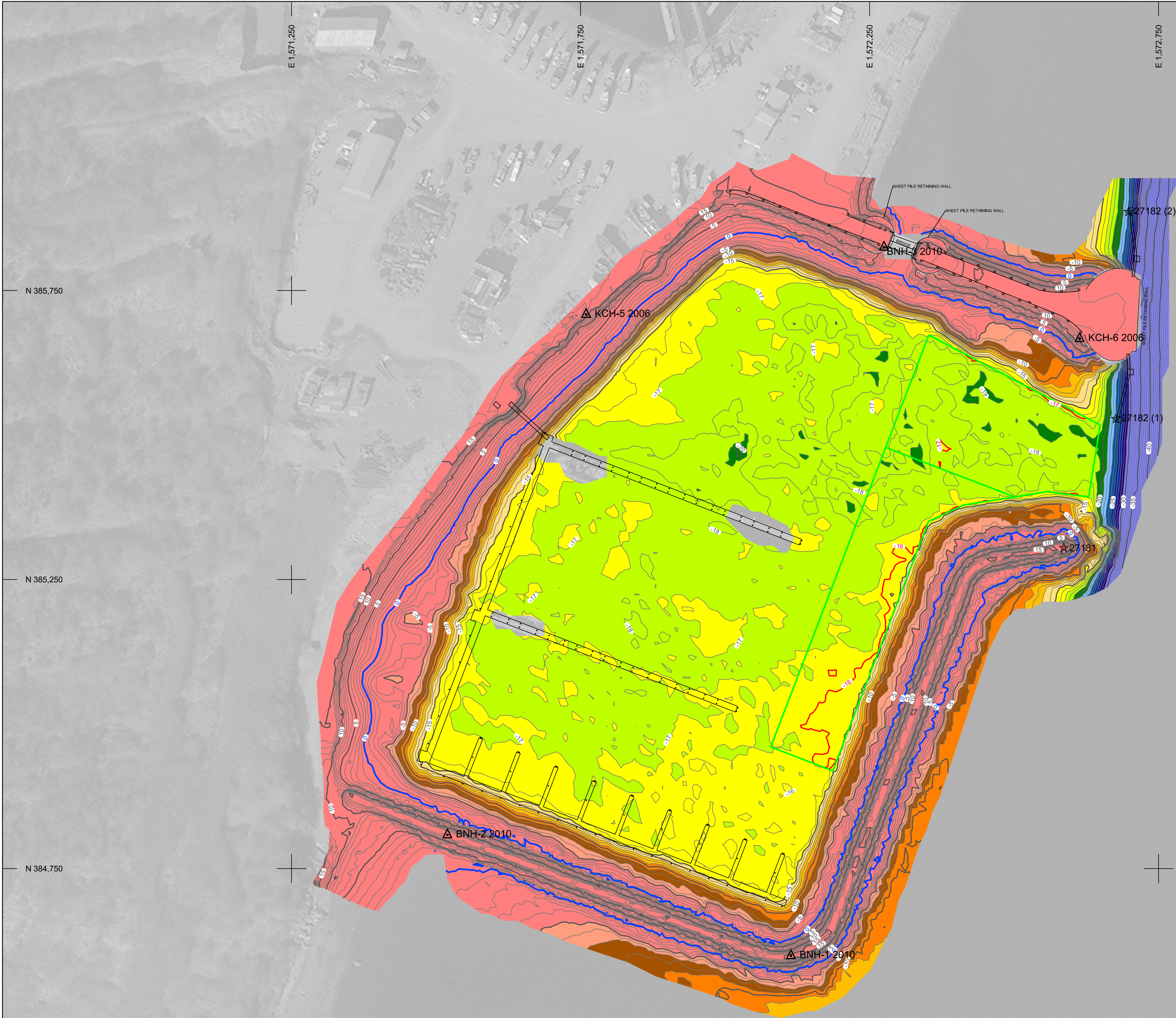


REV.	DATE	BY	APPR.	DESCRIPTION

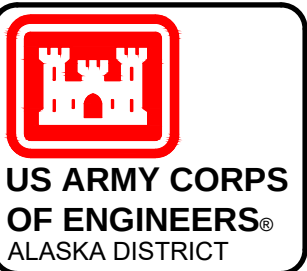
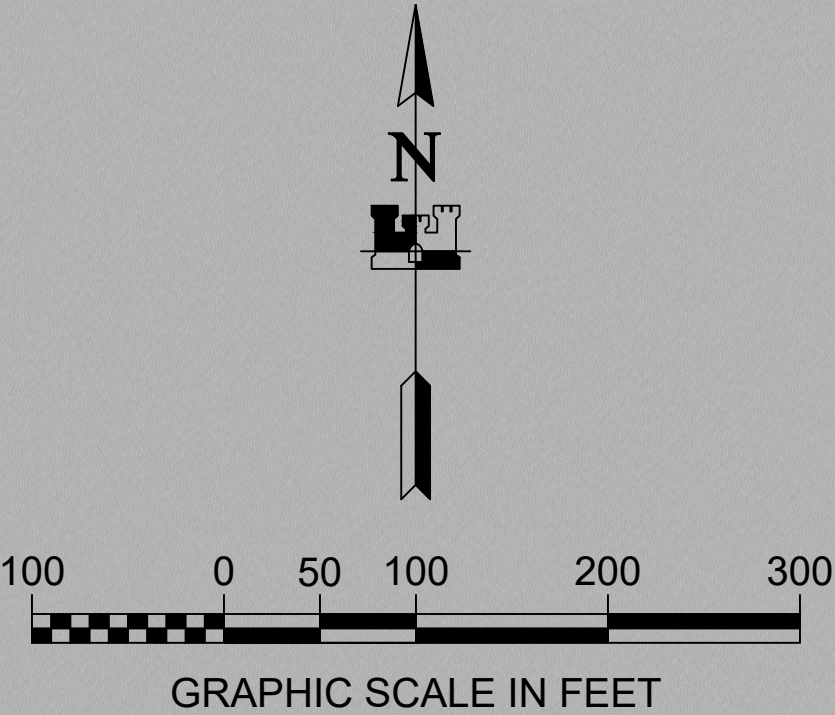
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	CHECKED BY:	SIZE:	TASK ORDER NO.:
	APPROVED BY:	SCALE:	19F0062
U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT 224 3RD STREET BER, ALASKA 99506-0888	FILE:	CHIEF GEOMATICS SECTION	JOB NO.:
			1619
			SCALE:
			1" = 50'
			CONTRACTOR:
			LETRAC INC.
			CITY:
			WASILLA
			STATE:
			ALASKA

KING COVE, AK
087738 - BABE NEWMAN HARBOR
PROJECT CONDITION SURVEY
MAY 11 - MAY 14, 2019

REFERENCE
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SHEET 3 OF 4



ELEVATION COLOR LEGEND			
#	MIN. ELEV.	MAX. ELEV.	COLOR
1	-49.9	-29.0	
2	-29.0	-27.0	
3	-27.0	-25.0	
4	-25.0	-23.0	
5	-23.0	-21.0	
6	-21.0	-19.0	
7	-19.0	-17.0	
8	-17.0	-15.0	
9	-15.0	-13.0	
10	-13.0	-11.0	
11	-11.0	-9.0	
12	-9.0	-7.0	
13	-7.0	-5.0	
14	-5.0	22.4	



REV.		DATE	BY	APPR.	DESCRIPTION

	SURVEYED BY: GREGORY W. GIBSON		UPC: 087738		CONTRACT NO.: W811KB-16-D-0014	
	DRAWN BY: ROBERT GOUGHNOUR		PLOT DATE: 15 August 2019		TASK ORDER NO.: 19P0062	
	CHECKED BY: TASJBG/GVG		SIZE: ANSI D		JOB NO.: 0419	
	APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION		SCALE: 1" = 50'		DRAWN BY: TASJBG	
			FILE: 087738_VH02.DWG			CITY: WASILLA

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SHEET 4 OF 4