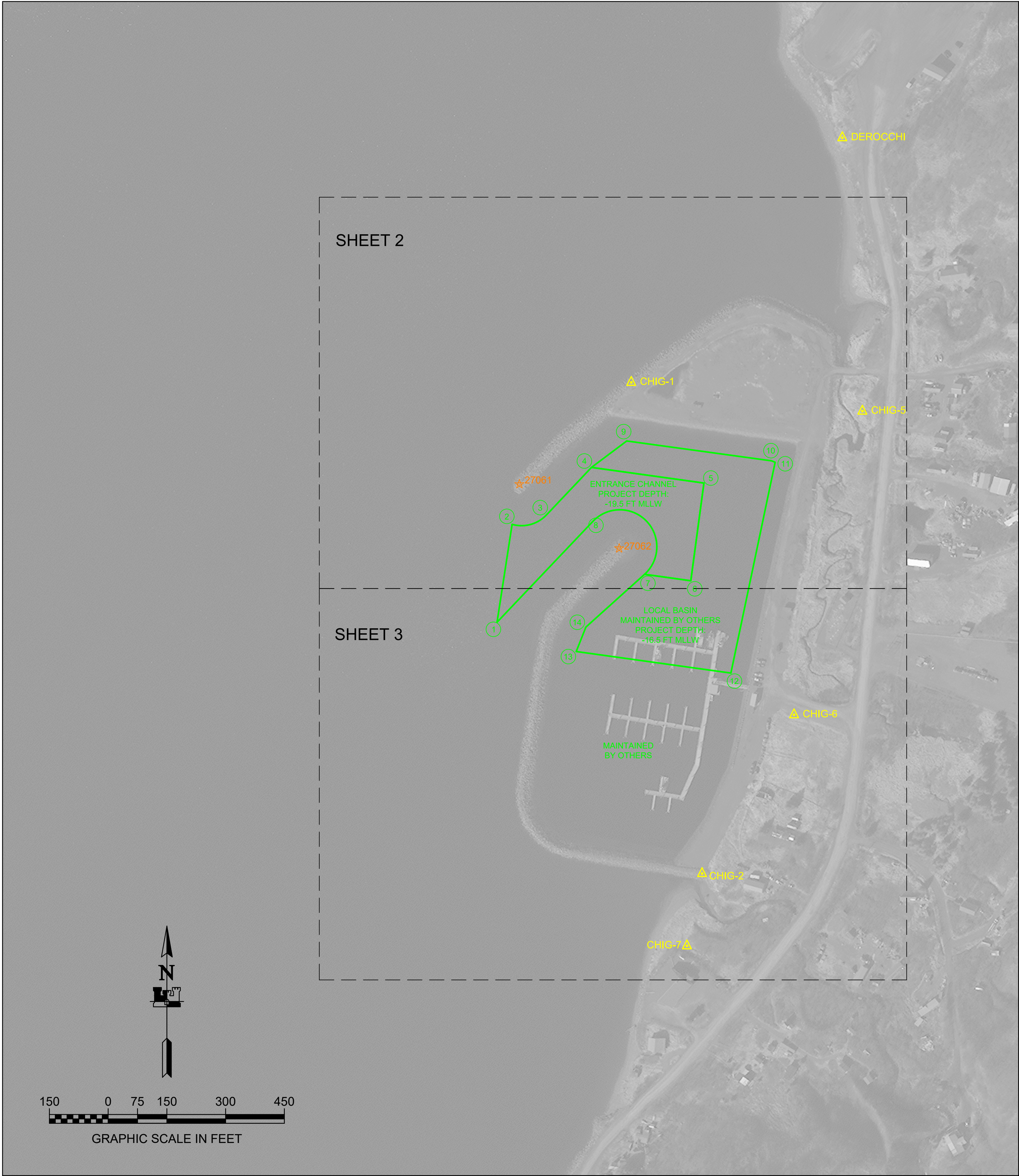




NAVIGATION AIDS			
NO.	NORTHING	EASTING	DESCRIPTION
27061	842,017	1,563,011	HARBOR ENTRANCE LIGHT 1 FI G 4S
27062	841,853	1,563,266	HARBOR ENTRANCE LIGHT 2

PROJECT LIMITS			PROJECT LIMITS		
CORNER#	NORTHING	EASTING	CORNER#	NORTHING	EASTING
1	841,663.97	1,562,953.88	8	841,920.12	1,563,197.07
2	841,913.98	1,562,992.29	9	842,127.10	1,563,285.08
3	841,937.96	1,563,079.92	10	842,076.32	1,563,655.08
4	842,059.51	1,563,195.01	11	842,072.63	1,563,664.07
5	842,019.53	1,563,482.15	12	841,534.11	1,563,551.12
6	841,769.92	1,563,448.69	13	841,589.15	1,563,156.07
7	841,786.39	1,563,330.57	14	841,651.54	1,563,180.76

VOLUME COMPUTATIONS		
AREA A: ENTRANCE CHANNEL (FEDERAL)	MLLW=0	CU. YD.
AVAILABLE TO PROJECT DEPTH (PD)	-19.5	28
AVAILABLE TO MAX PAY DEPTH (MP)	-20.5	218
AVAILABLE SIDE SLOPES (SS) AT 3:1 (H:V) & 25' WIDE	VARIES	1,268
AREA B: LOCAL BASIN (NON-FEDERAL)		
AVAILABLE TO PD	-16.5	14
AVAILABLE TO MP	-17.5	102
AVAILABLE SIDE SLOPES (SS) AT 3:1 (H:V) & 25' WIDE	VARIES	1,000
TOTAL MAXIMUM VOLUME AVAILABLE (MP + SS)		2,588

OBSTRUCTION DATA				
ID	NORTHING	EASTING	DEPTH	APPROX SIZE (FEET)
LINEAR OBST-END	841,931.9	1,563,530.4	-17.4	175X1X1.5
LINEAR OBST-START	842,050.4	1,563,402.5	-17.2	175X1X1.5
OBST-001	842,096.3	1,563,358.3	-15.4	ROCK 5X4X3
OBST-002	841,987.8	1,563,204.9	-19.0	ROCK 4X2X2
OBST-003	841,983.2	1,563,204.6	-19.5	ROCK 3X2X2
OBST-004	841,982.0	1,563,488.8	-15.8	ROCK 3X2X1
OBST-005	841,976.8	1,563,502.6	-16.0	ROCK 3X2X2
OBST-006	841,946.8	1,563,400.6	-17.7	DEBRIS 3X2X1.5
OBST-008	841,477.9	1,563,524.4	-11.8	DEBRIS 7X4X2
OBST-009	841,962.3	1,563,638.1	-16.4	ROCK 3X2X2
OBST-010	841,960.7	1,563,649.0	-15.1	ROCK 5X3X2
OBST-011	841,441.6	1,563,541.6	-8.9	DEBRIS 6X3X3

LEGEND

CULVERT	<
VALVE	⋈
SIGN	○
ELECTRICAL PEDESTAL	■
POWER POLE	●
LIGHT POLE	⊙
DOUBLE LIGHT POLE	⊙⊙
GUY WIRE	↗
FIRE HYDRANT	⊙
BUILDING	⌵
OVERHEAD ELECTRICAL LINE	— OH/E —

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

Gregory W. Gibson

Gregory W. Gibson (317)

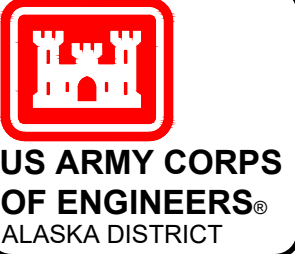


NOTES

- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 6, NAD83 IN US SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAD83(CORS) 2003.00 EPOCH VALUES OF NGS CORS STATIONS: "SANDPOINT_AK 2004 CORS ARP" (AB07 - PID DL7635), "PORT HEIDEN AK 2007 CORS ARP" (AC40 - PID DL6447) AND "CHIGNIK LGN AK 2006 CORS ARP" (AB13 - PID DO1797).

LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 6, NAD83, IN US SURVEY FEET HOLDING DEROCCHI (PID:BBFS48) AS N 842,901.85', E 1,563,835.70'.
- VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0 FT), BASED ON THE NOAA/NOS TIDAL BENCH MARK LIST "CHIGNIK, ANCHORAGE BAY, ALASKA", PUBLISHED 03/22/2005. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA/NOS TIDAL BENCH MARK "945 8917 COR 4" (PID: BBDW14/VM#13156) AS 18.81 FT.
- VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD88 (GEOID 12B) ELEVATION HOLDING NOAA/NOS TIDAL BENCH MARK "945 8917 COR 4" (PID: BBDW14/VM#13156) AS 17.16 FT.
- SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
- BATHYMETRY WAS COLLECTED MAY 20 & 21, 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 "DEROCCHI". 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 21, 2019. DATA WAS COLLECTED USING A RIEGL VZ400 LASER SCANNER AND PROCESSED USING QINSY 8.1 AND QIMERA 1.6 SOFTWARE. POSITION AND VESSEL 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
945 8917 COR 4	838,831.40	1,557,891.11	18.81	3 INCH FLAT BRASS CAP
CHIG-1	842,276.72	1,563,296.54	16.63	3.25 INCH SBC IN ROCK
CHIG-2	841,021.81	1,563,477.47	17.13	3.25 INCH SBC IN ROCK
CHIG-5	842,203.24	1,563,886.93	23.03	3.25 INCH USACE DOMED SBC
CHIG-6	841,427.41	1,563,712.37	18.88	3.25 INCH USACE DOMED SBC
CHIG-7	840,837.10	1,563,438.76	16.10	3.25 INCH USACE DOMED SBC
DEROCCHI	842,901.85	1,563,835.70	19.04	3.25 INCH USACE DOMED SBC



REV.	DATE	BY	APPR.	DESCRIPTION

CONTRACT NO.: 1W911K16-16-D-0014
TASK ORDER NO.: 19PD068
JOB NO.: 0719
SCALE: 1" = 150'
DATE: 29 August 2019
ANSI D
FILE: 010375-VH02.DWG

STATE: ALASKA
CITY: WASILLA

SURVEYED BY: GREGORY W. GIBSON
DRAWN BY: ROBERT GOUGHNOUR
CHECKED BY: TASHI GONG
APPROVED BY: TASHI GONG
FILE: 010375-VH02.DWG

UPC: 010375
PLOT DATE: 29 August 2019
SIZE: 11x17
ANSI D
FILE: 010375-VH02.DWG

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
2204 3RD STREET
JBER, ALASKA 99506-0888

CHIGNIK, ALASKA

010375 - CHIGNIK HARBOR

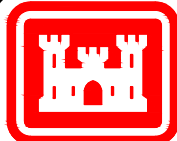
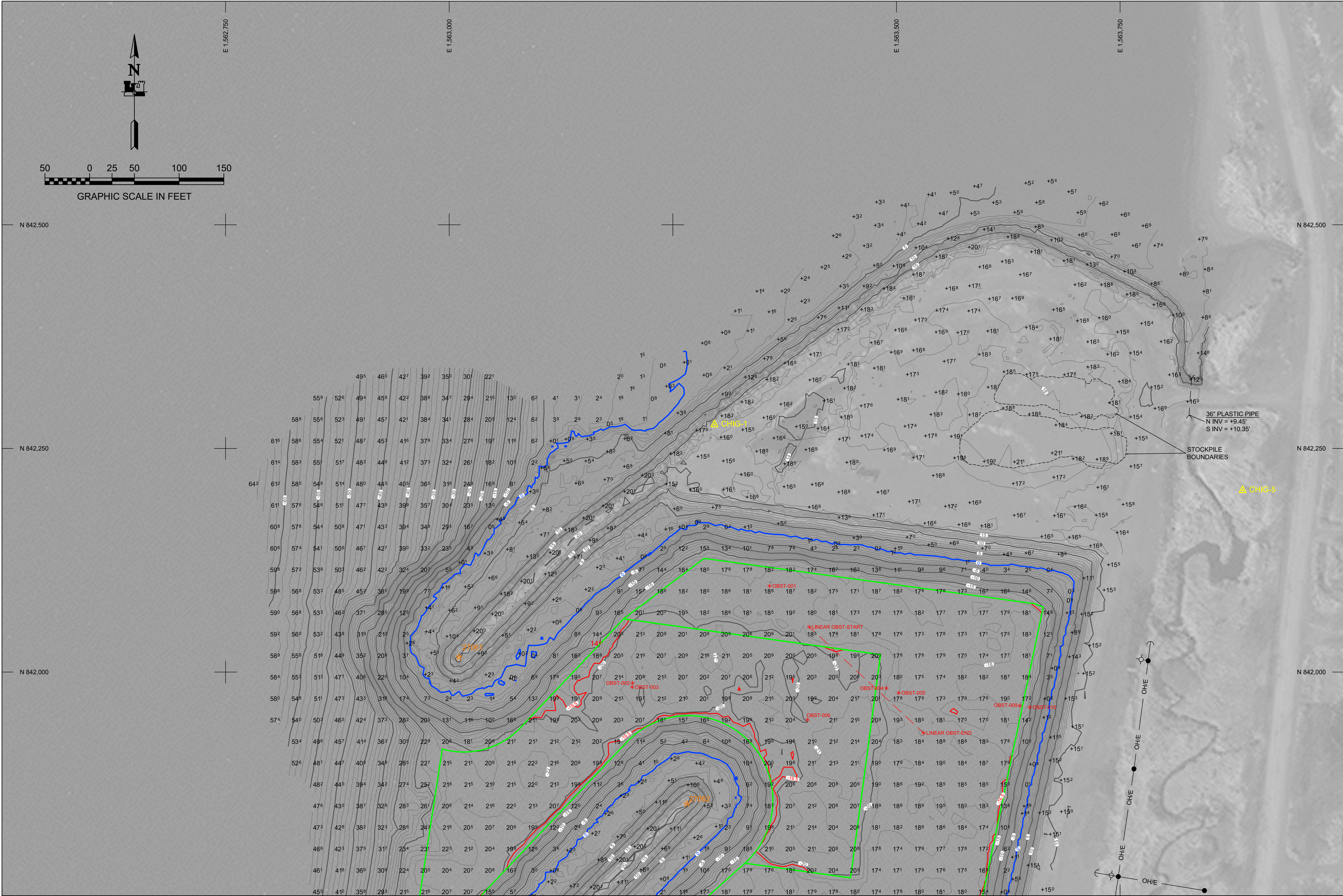
PROJECT CONDITION SURVEY

MAY 20 & 21 2019

REFERENCE NUMBER:

5-CHI-92-07-04

SHEET 1 OF 4



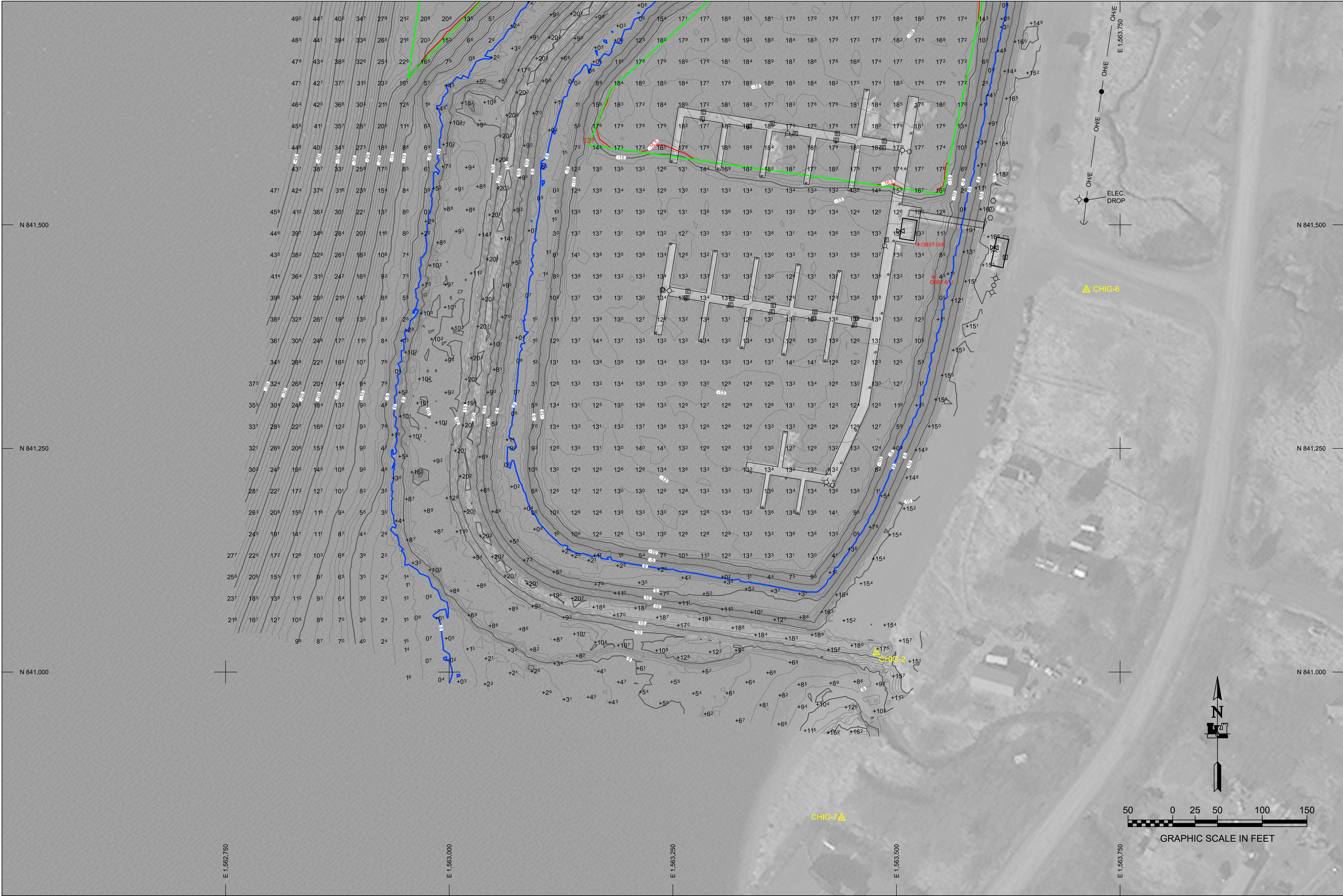
US ARMY CORPS
OF ENGINEERS®
ALASKA DISTRICT

REV.	DATE	BY	APPR.	DESCRIPTION

	U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT 2204 3RD STREET BER, ALASKA 99504-0888	SURVEYED BY: GREGORY W. GIBSON	UPC: 010375	CONTRACT NO.: W911KG-16-D-0014
		DRAWN BY: ROBERT GOUGHNOUR	PLOT DATE: 19F0068	TASK ORDER NO.:
		CHECKED BY: TASJBG/GVG	SIZE: 11 x 8.5	JOB NO.: 0719
		APPROVED BY: TASJBG/GVG	ANSI D	SCALE: 1" = 50'
FILE: 010375-VH02.DWG		CHIEF GEOMATICS SECTION		TRACTOR: LETRAC INC.
		CITY: WASILLA		STATE: ALASKA

CHIGNIK, ALASKA
010375 - CHIGNIK HARBOR
PROJECT CONDITION SURVEY
MAY 20 & 21, 2019

REFERENCE
NUMBER:
5-CHI-92-07-04
SHEET 2 OF 4



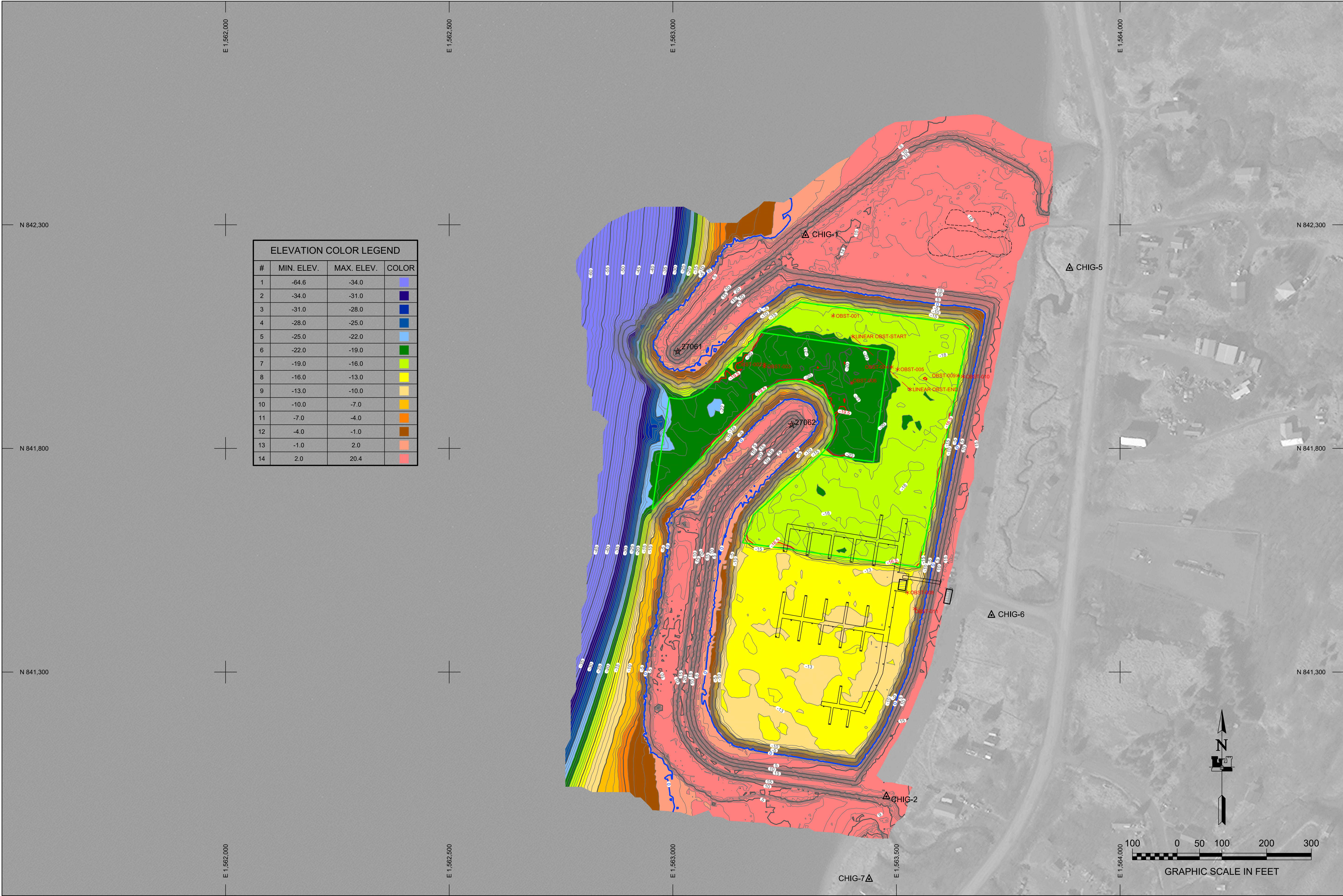
US ARMY CORPS
OF ENGINEERS®
ALASKA DISTRICT

REV.		DATE	BY	APPR.	DESCRIPTION

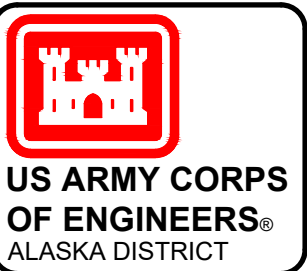
 U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT 224 3RD STREET BER, ALASKA 99506-0088	SURVEYED BY: GREGORY W. GIBSON 010375	UPC: 010375	CONTRACT NO.: W811KG-16-D-0014
	DRAWN BY: ROBERT GOUGHNOUR 19F0068	PLOT DATE: 29 August 2019	TASK ORDER NO.: 19F0068
	CHECKED BY: TASJBGWG 07/19	SIZE: 11 x 8.5	JOB NO.: 07/19
	APPROVED BY: TASJBGWG 07/19	FILE: 010375-VH02.DWG	STATE: ALASKA

CHIGNIK, ALASKA
010375 - CHIGNIK HARBOR
PROJECT CONDITION SURVEY
MAY 20 & 21, 2019

REFERENCE
NUMBER:
5-CHI-92-07-04
SHEET 3 OF 4



ELEVATION COLOR LEGEND			
#	MIN. ELEV.	MAX. ELEV.	COLOR
1	-64.6	-34.0	
2	-34.0	-31.0	
3	-31.0	-28.0	
4	-28.0	-25.0	
5	-25.0	-22.0	
6	-22.0	-19.0	
7	-19.0	-16.0	
8	-16.0	-13.0	
9	-13.0	-10.0	
10	-10.0	-7.0	
11	-7.0	-4.0	
12	-4.0	-1.0	
13	-1.0	2.0	
14	2.0	20.4	



REV.	DATE	BY	APPR.	DESCRIPTION

 U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT 224 3RD STREET BER, ALASKA 99506-0888	SURVEYED BY: GREGORY W. GIBSON	UPC: 010375	CONTRACT NO.: W911KB-16-D-0014
	DRAWN BY: ROBERT GOUGHNOUR	PLOT DATE: 29 August 2019	TASK ORDER NO.: 19PD068
	CHECKED BY: TASJBG/GWG	SIZE: ANSI D	JOB NO.: 0719
	APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	SCALE: 1" = 100'	CONTRACTOR: LETRAC INC.
FILE: 010375-VH02.DWG		CITY: WASILLA	STATE: ALASKA

CHIGNIK, ALASKA
010375 - CHIGNIK HARBOR
PROJECT CONDITION SURVEY
MAY 20 & 21, 2019

REFERENCE
NUMBER:
5-CHI-92-07-04
SHEET 4 OF 4