



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

LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 6, NAD83, IN US SURVEY FEET HOLDING USACE SBC "CHIG-1" AS N 842,276.72, E 1,563,296.54 AND USACE SBC "CHIG-2" AS N 841,021.81, E

. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0'), BASED ON THE NOAA/NOS TIDAL BENCH MARK LIST: "9458917 CHIGNIK, ANCHORAGE BAY, ALASKA, PUBLISHED 3/22/2005". THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOS TIDAL BENCH MARKS "8917 COR 4"

12B) ELEVATION HOLDING USCGS STANDARD BENCH MARK BRASS CAP, "945 8917 COR 4 1964" (NGS PID

MULTIBEAM ECHOSOUNDER OPERATING AT 200 KHZ. SOUND VELOCITY THOUGH THE WATER COLUMN WAS QINSY 8.1 SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING STATIC AND RTK GNSS EQUIPMENT AND TECHNIQUES. VERTICAL CONTROL WAS SURVEYED USING DIFFERENTIAL LEVELING TECHNIQUES.

VZ400 3D LASER SCANNER. STATIC SCANNING DATA WAS COLLECTED AND PROCESSED USING RIEGL RISCAN PRO 1.8 SOFTWARE. MOBILE SCANNING WAS COLLECTED AND PROCESSED USING QINSY 8.1 SOFTWARE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSMV 320 V5

)	SURVEY CONTROL DATA								
	STATION	NORTHING	EASTING	MLLW	DESCRIPTION				
	CHIG-1 2004	842,276.72	1,563,296.54	16.63	3.25" DOMED STAMPED BRASS CAP				
	CHIG-2 2004	841,021.81	1,563,477.47	17.12	3.25" DOMED STAMPED BRASS CAP				
	CHIG-3 2010	841,847.01	1,563,253.55	18.26	3.25" DOMED STAMPED BRASS CAP				
	CHIG-4 2010	841,134.45	1,563,047.13	18.80	3.25" DOMED STAMPED BRASS CAP				

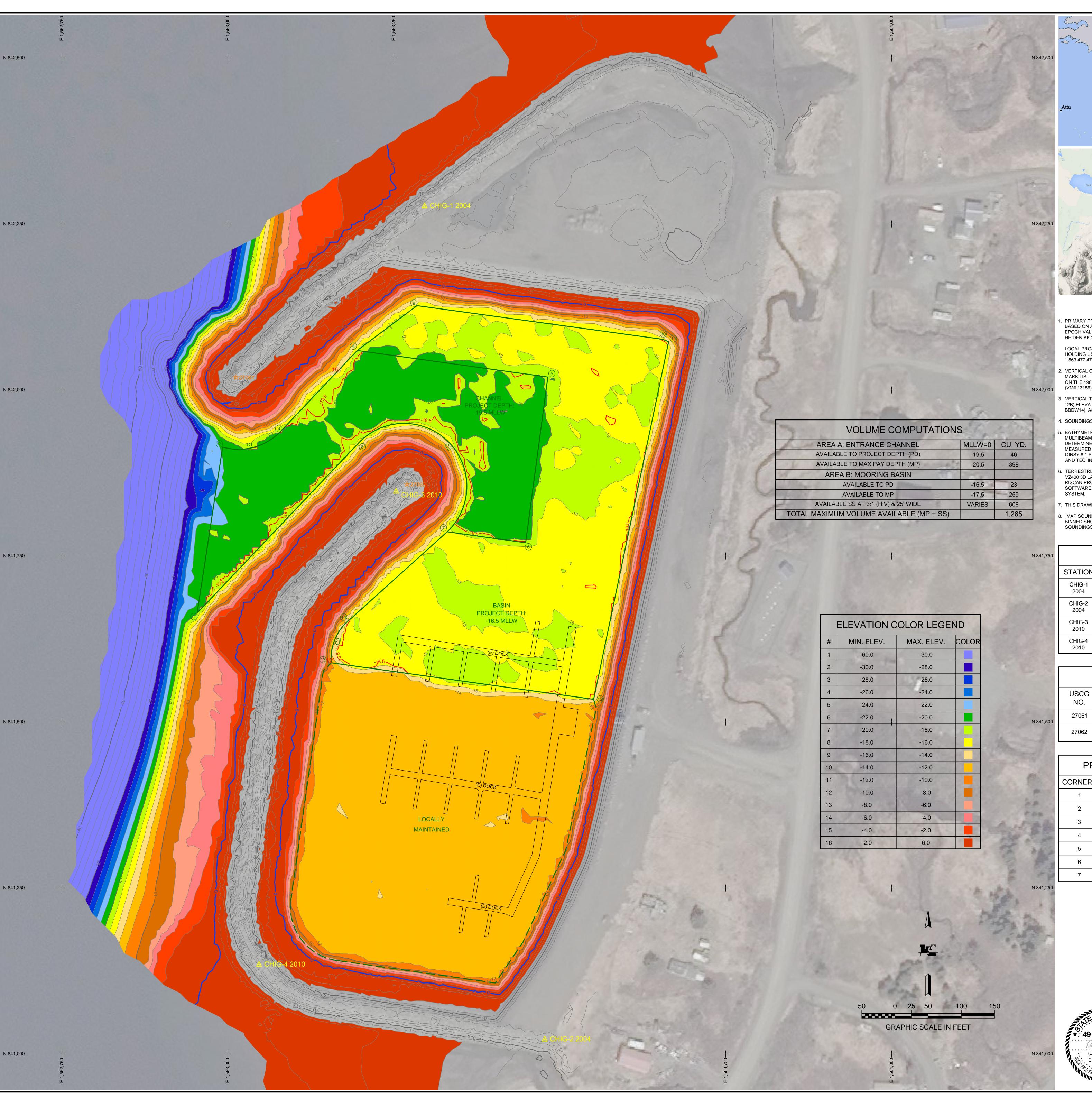
	NAVIGATION AIDS					
Ÿ,	USCG NO.	NORTHING	EASTING	DESCRIPTION		
500	27061	842,019	1,563,012	CHIGNIK BOAT HARBOR ENTRANCE LIGHT 1		
	27062	841,858	1,563,270	CHIGNIK BOAT HARBOR ENTRANCE DAY BEACON 2		

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	

	CURVE DATA						
CURVE	RADIUS	ARC LENGTH	DELTA ANGLE				
C1	87.54	95.53	062°31'13.9"				
C2	94.51	301.99	183°04'20.7"				
C3	75.42	69.53	052°49'27.3"				

UNDER THE OVERSIGHT OF AN ACSM/THOSOA

**IDENTIFICATION** 5-CHI-92-07-02





ALASKA DISTRIC

## NOTES

1. 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 "PILOT POINT AK 2007 CORS ARP" (AC52 - PID DL7671).

LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 6, NAD83, IN US SURVEY FEET HOLDING USACE SBC "CHIG-1" AS N 842,276.72, E 1,563,296.54 AND USACE SBC "CHIG-2" AS N 841,021.81, E 1,563,477,47

2. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0'), BASED ON THE NOAA/NOS TIDAL BENCH MARK LIST: "9458917 CHIGNIK, ANCHORAGE BAY, ALASKA, PUBLISHED 3/22/2005". THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOS TIDAL BENCH MARKS "8917 COR 4" (VM# 13156) AS 18.81', "8917 G 1996" (VM#13158) AS 19.58' AND "8917 H 1996" (VM#13159) AS 20.56'.

3. VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD88 (GEOID 12B) ELEVATION HOLDING USCGS STANDARD BENCH MARK BRASS CAP, "945 8917 COR 4 1964" (NGS PID BBDW14), AS 17.20'.

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

5. BATHYMETRY WAS COLLECTED MAY 14-15, 2015. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2022 MULTIBEAM ECHOSOUNDER OPERATING AT 200 KHZ. SOUND VELOCITY THOUGH THE WATER COLUMN WAS DETERMINED WITH AN AML BASE X SOUND VELOCITY PROBE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSMV 320 V4 SYSTEM. DATA WAS COLLECTED AND PROCESSED USING QINSY 8.1 SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING STATIC AND RTK GNSS EQUIPMENT AND TECHNIQUES. VERTICAL CONTROL WAS SURVEYED USING DIFFERENTIAL LEVELING TECHNIQUES.

6. TERRESTRIAL LASER SCANNING DATA COLLECTED MAY 13-17, 2015. DATA WAS COLLECTED USING A REIGL VZ400 3D LASER SCANNER. STATIC SCANNING DATA WAS COLLECTED AND PROCESSED USING RIEGL RISCAN PRO 1.8 SOFTWARE. MOBILE SCANNING WAS COLLECTED AND PROCESSED USING QINSY 8.1 SOFTWARE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSMV 320 V5 SYSTEM.

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

8. 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.

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

David R. Neff C.H. (275)

SHEET IDENTIFICATION

5-CHI-92-07-02

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