



DREDGE LIMITS CURVE DATA (FT)

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	125.02	202.40	92°45'31"	N00°04'18"W	181.01
C2	75.00	123.38	94°15'21"	N00°40'26"E	109.93

ALIGNMENT DATA (FT)

NUMBER	LENGTH	LINE/CHORD BEARING	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD LENGTH
L1	491.35	N40° 39' 57"E	-----	-----	-----	-----
C3	-----	N44° 15' 53.00"E	25.13	200.00	7°11'52"	25.11
C4	-----	N00° 42' 17.31"E	164.62	100.00	94°19'04"	146.65
L2	76.04	N47° 51' 49"E	-----	-----	-----	-----
L3	622.68	N46° 27' 15"W	-----	-----	-----	-----

OBSTRUCTION DATA

ID	NORTHING	EASTING	DEPTH
OBST-1	2,215,340.7	1,336,102.8	-5.0
OBST-2	2,215,310.4	1,336,077.7	-4.0
OBST-3	2,215,250.2	1,336,024.2	-4.5
OBST-4	2,215,125.9	1,335,917.9	-3.4



- NOTES**
- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83, IN US SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAD83 (CORS) 2010.00 EPOCH VALUES OF NGS CORS STATIONS: "SOLDOTNA_AK2007 CORS ARP" (AC23 - PID DM7487), "DRIFTRIVERAK2006 CORS ARP" (AC17 - PID DM7481) AND "SEALROCKSAK2007 CORS ARP" (AC43 - PID DM7496).
 - LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83, IN US SURVEY FEET HOLDING BRASS CAP SET IN ARMOR STONE "NINIL-2" AS N 2,215,653.51, E 1,336,081.03.
 - VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0) U.S. SURVEY FEET, BASED ON THE NOAA/NOS TIDAL BENCH MARK LIST "945 5653 NINILCHIK, ALASKA" PUBLISHED 04/09/2018. THIS TIDAL DATUM IS BASED ON THE 2013-2016 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA/NOS TIDAL BENCH MARK "5653 F 2011" (PID BBGM32/VM#20900) AS 29.49 AND NOAA/NOS TIDAL BENCH MARK "945 5653 E" (VM#14160) AS 30.61.
 - VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD83 (GEOID12A) ELEVATIONS HOLDING NOAA/USACE TIDAL BENCH MARK "5653 F 2011" (PID BBGM32/VM#20900) AS 23.27.
 - SOUNDINGS ARE IN U.S. SURVEY FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
 - BATHYMETRY WAS COLLECTED MAY 2-3, 2019. SOUNDINGS WERE COLLECTED USING A CEESCOPE ECHO SOUNDER OPERATING AT 200 KHZ. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN AML BASE X2 SOUND VELOCITY PROBE. POSITION AND TIDES WERE PROVIDED IN REAL TIME USING A TRIMBLE R8 RTK GPS RECEIVER OPERATING ON KINEMATICS CORRECTIONS BROADCAST FROM A TRIMBLE R8 RTK BASE RECEIVER SET A CONTROL STATION, "NINIL-2". DATA WAS COLLECTED AND PROCESSED USING HYPPACK 2019 SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING RTK GNSS EQUIPMENT AND TECHNIQUES. VERTICAL CONTROL WAS VERIFIED USING THE PRE SURVEY.
 - THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
 - MAP SOUNDINGS, CONTOURS, COLOR RELIEF, AND VOLUME COMPUTATIONS ARE BASED ON A 10 FOOT SORT.

SURVEY CONTROL DATA

STATION	NORTHING	EASTING	MLLW	DESCRIPTION
9455653 E	2,215,592.06	1,336,145.04	30.61	METAL ROD IN BW ROCK
9455653 F	2,214,548.53	1,335,413.68	29.49	METAL ROD IN GROUND
9455653 G	2,214,391.31	1,335,295.69	29.77	METAL ROD IN GROUND
DL	2,215,518.12	1,336,349.90	25.38	ALUMINUM CAP
NINIL-2	2,215,653.51	1,336,081.03	29.53	USACE SBC

PROJECT LIMITS

CORNER#	NORTHING	EASTING
1	2,215,380.30	1,336,164.37
2	2,215,425.79	1,336,111.41
3	2,215,123.35	1,335,851.63
4	2,215,058.05	1,335,927.64
5	2,215,045.59	1,335,954.77
6	2,215,074.98	1,335,968.27
7	2,215,347.60	1,336,202.44

PROJECT LIMITS

CORNER#	NORTHING	EASTING
8	2,215,407.15	1,336,268.37
9	2,215,588.16	1,336,268.15
10	2,216,017.64	1,335,816.29
11	2,215,980.40	1,335,782.90
12	2,215,551.92	1,336,233.70
13	2,215,442.00	1,336,232.41

NAVIGATION AIDS

USCG NO.	NORTHING	EASTING	DESCRIPTION
26255	2,215,714	1,336,165	CHANNEL ENTRANCE LIGHT
26260	2,215,636	1,336,257	ROCK SILL NORTH DAYBEACON
26265	2,215,696	1,336,042	ROCK SILL SOUTH DAYBEACON

VOLUME COMPUTATIONS

AREA A: BASIN	MLLW=0	CU. YD.
REMOVED TO PROJECT DEPTH (PD)	+3.3	4,280
REMOVED TO MAX PAY DEPTH (MP)	+2.3	5,609
REMOVED SIDE SLOPES (SS) AT 3:1 (H:V) & 25' WIDE	VARIES	580
AREA B: ENTRANCE CHANNEL		
REMOVED TO PROJECT DEPTH	+9.3	866
REMOVED TO MAX PAY DEPTH (MP)	+8.3	1,762
REMOVED SIDE SLOPES (SS) AT 3:1 (H:V) & 25' WIDE	VAIRES	567
TOTAL MAXIMUM VOLUME REMOVED (MP)		8,518
DREDGE AREA OVERDREDGE		1,228



THIS HYDROGRAPHIC SURVEY WAS COMPLETED UNDER THE OVERSIGHT OF AN ASGM/THOSGA CERTIFIED HYDROGRAPHER

Cory Hughes

CORY S. HUGHES CH. (245)

US Army Corps of Engineers - ALASKA DISTRICT

CONTRACT NO. W11L137-C-0007
 CONTRACTOR: ALASKA MARINE ELEVATION
 CITY: ANCHORAGE
 STATE: ALASKA
 DRAWN BY: []
 CHECKED BY: []
 DATE: []

DATE: June 19, 2019
 DESIGNED BY: []
 DRAWN BY: []
 APPROVED BY: []
 SCALE: 1" = 50'
 FILE NAME: 2019 NINILCHIK POST-DREDGE_210909.DWG

NINILCHIK, ALASKA
NINILCHIK SMALL BOAT HARBOR
POST DREDGE SURVEY
APRIL 27 & MAY 2 - 3, 2019

SHEET IDENTIFICATION
 2-NIN-92-07-54
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