



VOLUME COMPUTATIONS		
AREA A- DILLINGHAM HARBOR	MLLW=0	CU. YD.
AVAILABLE TO PROJECT DEPTH (PD)	0.0	56,624
AVAILABLE TO MAX PAY DEPTH (MP)	-2.0	74,339
AVAILABLE SIDE SLOPES (SS) AT 8:1 (H/V)	VARIES	28,445
TOTAL VOLUME AVAILABLE (MP+SS)		102,765
OVERDREDGE VOLUME WITHIN HARBOR BASIN		N/A
OVERDREDGE VOLUME WITH SIDE SLOPES		N/A



- NOTES**
- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 6, NAD83 (2011). IN US SURVEY FEET BASED ON NGS PUBLISHED VALUES. HOLDING USCGS STATION "DILLINGHAM 1947" (PID UV7691) AS N 1,849,383.08', E 1,551,809.45' AND USCGS AZIMUTH MARK "DILLINGHAM AZ MK 1947" (PID UV7690) AS N 1,841,347.21', E 1,553,844.91'.
 - LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 6, NAD83 (2011). IN US SURVEY FEET HOLDING USACE DOMED BC "1277-3 1984" AS N 1,840,427.98', E 1,550,867.60'.
 - VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0), BASED ON THE NOAA'S TIDAL BENCH MARK LIST: "5374 SNAK POINT, NUSHAGAK BAY, DILLINGHAM, ALASKA" PUBLISHED 04/29/2013. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA'S TIDAL BENCH MARK "5374 D 2007" AS 60.45'.
 - VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD88 (GEOID 12B) ELEVATIONS HOLDING NOAA BENCHMARK "546 5374 B 2007" (PID BBF17) AS 18.46'.
 - SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
 - BATHYMETRY WAS COLLECTED MAY 12-13, 2017. SOUNDINGS WERE COLLECTED USING AN ECHOSCOPE ECHO SOUNDER OPERATING AT 200 KHZ. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN DIGIBAR PRO SOUND VELOCITY PROBE. POSITION AND TIDES WERE PROVIDED IN REAL TIME USING A TRIMBLE R8 RTK GPS RECEIVER OPERATING ON KINEMATIC CORRECTIONS BROADCAST FROM A TRIMBLE R9 RTK BASE RECEIVER SET AT CONTROL STATION "1277-3". DATA WAS COLLECTED AND PROCESSED USING HYPACK 2017 INTEGRATED SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING RTK GNSS EQUIPMENT AND TECHNIQUES. VERTICAL CONTROL WAS SURVEYED USING DIFFERENTIAL LEVELING TECHNIQUES.
 - THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
 - MAP SOUNDINGS ARE SORTED ON 10 FEET AND ARE SHOAL-BASED. CONTOURS ARE BASED ON 10 FEET SORTED SHOAL-BASED SOUNDINGS. VOLUME SOUNDINGS ARE SORTED AT 10 FEET CENTERS.

SURVEY CONTROL DATA				
STATION	NORTHING	EASTING	MLLW	DESCRIPTION
1277-1 1984	1,841,622.39	1,550,745.71	32.11	3.25 INCH USACE SBC
1277-2 1984	1,840,494.00	1,550,879.74	30.86	3.25 INCH USACE SBC
1277-3 1984	1,840,427.98	1,550,887.60	30.21	3.25 INCH USACE SBC
5374 A 2007			25.62	NOAA/NOS TIDAL BM
5374 B 2007			24.87	NOAA/NOS TIDAL BM
DILL 1998	1,840,505.33	1,550,674.26	29.80	3.25 INCH FLAT ALCAP
DILLINGHAM 1947	1,849,383.08	1,551,809.45		3.5 INCH USCGS SBC
DILLINGHAM AZ MK	1,841,347.21	1,553,844.91		2 INCH USCGS IRON PIPE
PICKEL 1998	1,841,509.51	1,550,437.81	28.82	3.25 INCH FLAT ALCAP
WDS-2 2001	1,841,419.33	1,549,910.66	22.77	3.25 INCH DOMED ALCAP

DREDGE LIMITS		
CORNER#	NORTHING	EASTING
DL-1	1,840,656.89	1,550,430.66
DL-2	1,840,645.10	1,550,447.69
DL-3	1,840,669.87	1,550,654.63
DL-4	1,841,364.89	1,550,571.44
DL-5	1,841,318.54	1,550,184.21

DREDGE LIMITS		
CORNER#	NORTHING	EASTING
DL-6	1,840,930.19	1,550,305.22
DL-7	1,840,662.40	1,550,337.15
DL-8	1,840,535.05	1,550,329.96
DL-9	1,840,531.77	1,550,369.82
DL-10	1,840,653.73	1,550,376.57

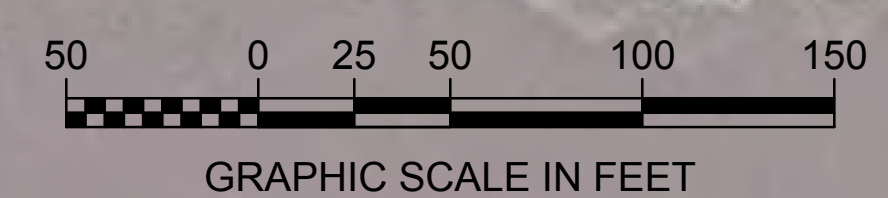
SURVEY LIMITS		
CORNER#	NORTHING	EASTING
SL-1	1,840,423.95	1,550,449.36
SL-2	1,840,458.17	1,550,413.54
SL-3	1,840,564.87	1,550,408.42
SL-4	1,840,610.25	1,550,787.66
SL-5	1,841,437.06	1,550,688.69
SL-6	1,841,461.80	1,550,593.75
SL-7	1,841,405.12	1,550,578.98
SL-8	1,841,432.20	1,550,396.29
SL-9	1,841,432.01	1,550,133.89

SURVEY LIMITS		
CORNER#	NORTHING	EASTING
SL-10	1,841,362.83	1,550,065.66
SL-11	1,840,909.22	1,550,207.01
SL-12	1,840,362.44	1,550,272.21
SL-13	1,840,166.00	1,550,359.57
SL-14	1,839,293.60	1,550,359.57
SL-15	1,839,293.60	1,551,455.40
SL-16	1,840,166.00	1,551,455.40
SL-17	1,840,166.00	1,550,808.47

DISPOSAL LIMITS		
CORNER#	NORTHING	EASTING
DS-1	1,839,502.58	1,551,238.87
DS-2	1,839,739.66	1,551,159.55
DS-3	1,839,644.47	1,550,875.05
DS-4	1,839,407.39	1,550,954.38

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

Cory Hughes
CORY S. HUGHES C.H. (245)



CONTRACT NO. W191617-C-0005
 CONTINGENT ALASKA MARINE EDUCATIONAL ID
 CITY AND PORT STATE ALASKA
 RECOMMENDED BY
 APPROVED BY
 DATE

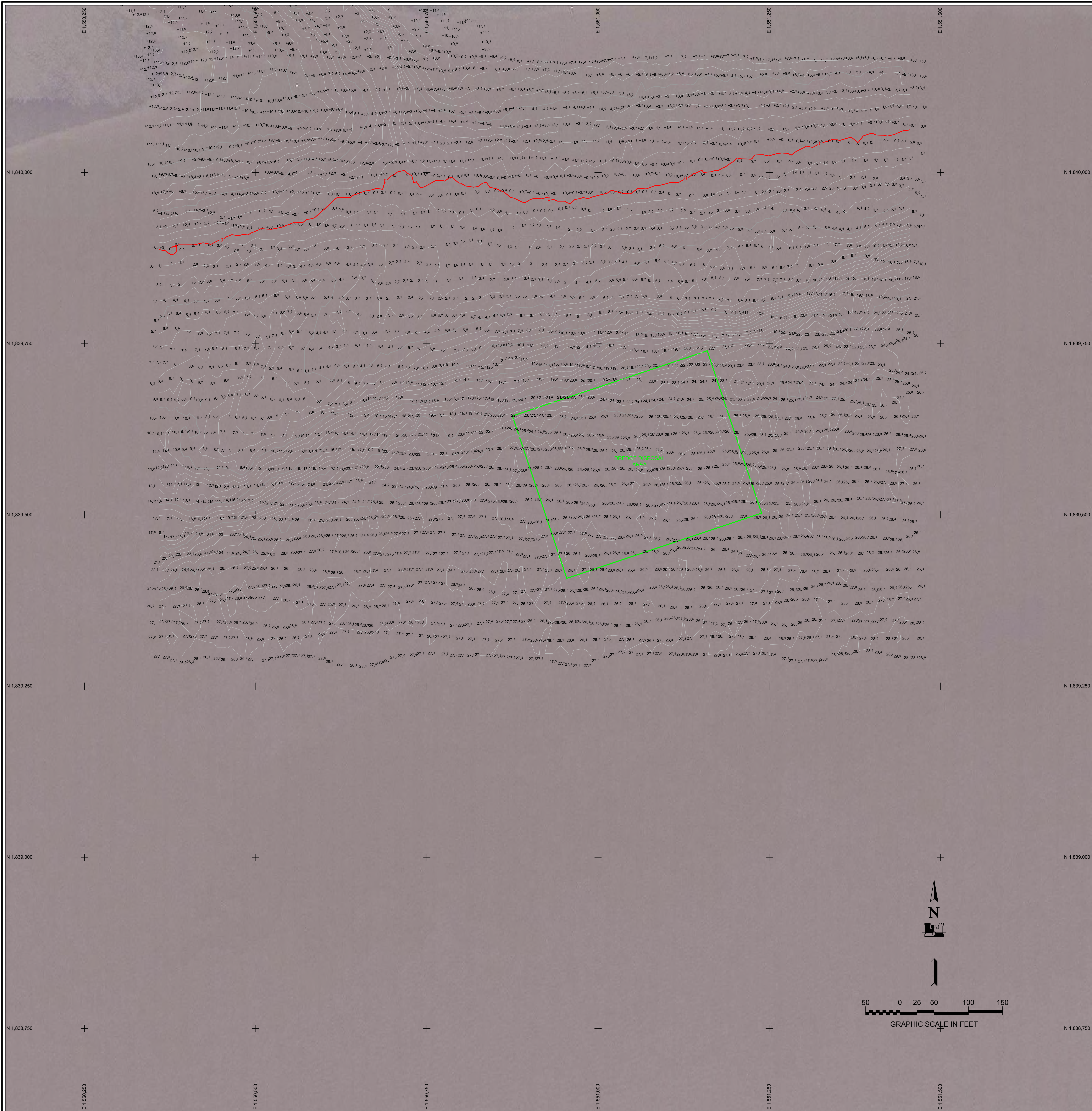
U.S. Army Corps of Engineers
 ALASKA DISTRICT
 JBER, ALASKA 99506-0988
 HUGHES & ASSOCIATES
 2900 COTTLE LOOP
 WASHILLA, AK 99684

DRAWN BY
 CHECKED BY
 DATE

FILE NAME
 SIZE
 DATE

DILLINGHAM, ALASKA
 DILLINGHAM HARBOR
 PRE DREDGE HYDROGRAPHIC SURVEY
 MAY 10 - 13, 2017

SHEET IDENTIFICATION
 5-DIL-92-07-44
 Sheet 1 of 4



NOTES

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US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO. W15H017-C-0005
 CONTINUING ALASKA MARINE EXCAVATION IIG
 CITY ANCHORAGE STATE ALASKA
 Recommendation Approved
 DATE: _____
 DRAWN BY: _____
 CHECKED BY: _____
 DATE: _____

DILLINGHAM, ALASKA
DILLINGHAM HARBOR
PRE DREDGE HYDROGRAPHIC SURVEY
MAY 10 - 13, 2017

SHEET IDENTIFICATION
5-DIL-92-07-44
Sheet 2 of 4