



VOLUME COMPUTATIONS		
AREA A: DILLINGHAM HARBOR	MLLW=0	CU. YD.
AVAILABLE TO PROJECT DEPTH (PD)	0.0	74.494
AVAILABLE TO MAX PAY DEPTH (MP)	-2.0	92.209
AVAILABLE SIDE SLOPES (SS) AT 8:1 (H:V)	VARIES	38.507
TOTAL VOLUME AVAILABLE (MP+SS)		130.716



- NOTES**
- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 6, NAD83 (2011). IN US SURVEY FEET BASED ON NGS PUBLISHED VALUES. HOLDING US&GS STATION "DILLINGHAM 1947" (PID UV7691) AS N 1,849,383.08', E 1,551,809.45' AND US&GS 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 US&GS 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 SNAOS 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 "946 5374 B 2007" (PID BBF17) AS 18.46'.
 - SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
 - BATHYMETRY WAS COLLECTED MAY 8-10, 2018. SOUNDINGS WERE COLLECTED USING AN CEESCO 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 KINEMATIC CORRECTIONS BROADCAST FROM A TRIMBLE R8 RTK BASE RECEIVER SET AT CONTROL STATION "1277-3". DATA WAS COLLECTED AND PROCESSED USING HYPACK 2018 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, CONTOURS, COLOR RELIEF, AND VOLUME COMPUTATIONS ARE BASED ON A 10 FOOT SORT.

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	1,839,844.47	1,550,875.05
DS-4	1,839,407.39	1,550,954.38

THIS HYDROGRAPHIC SURVEY WAS COMPLETED UNDER THE OVERSIGHT OF AN ACGM/TROSCA CERTIFIED HYDROGRAPHER

Cory S. Hughes

CORY S. HUGHES (CHS)

US Army Corps of Engineers - ALASKA DISTRICT

CONTRACT NO. W11H617C-0005

CONTINGENT ALASKA MARINE EDUCATION

CITY AND PORT OF DILLINGHAM

STATE ALASKA

APPROVED BY: _____ DATE: _____

RECOMMENDED BY: _____ DATE: _____

DESIGNED BY: _____ DATE: _____

DRAWN BY: _____ DATE: _____

CHECKED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

FILE NAME: D:\PROJECTS\ALASKA\W11H617C-0005\DWG\5-DIL-92-07-46.DWG

SIZE: 11" X 17"

DATE: MAY 8 - 10, 2018

DILLINGHAM ALASKA

DILLINGHAM HARBOR

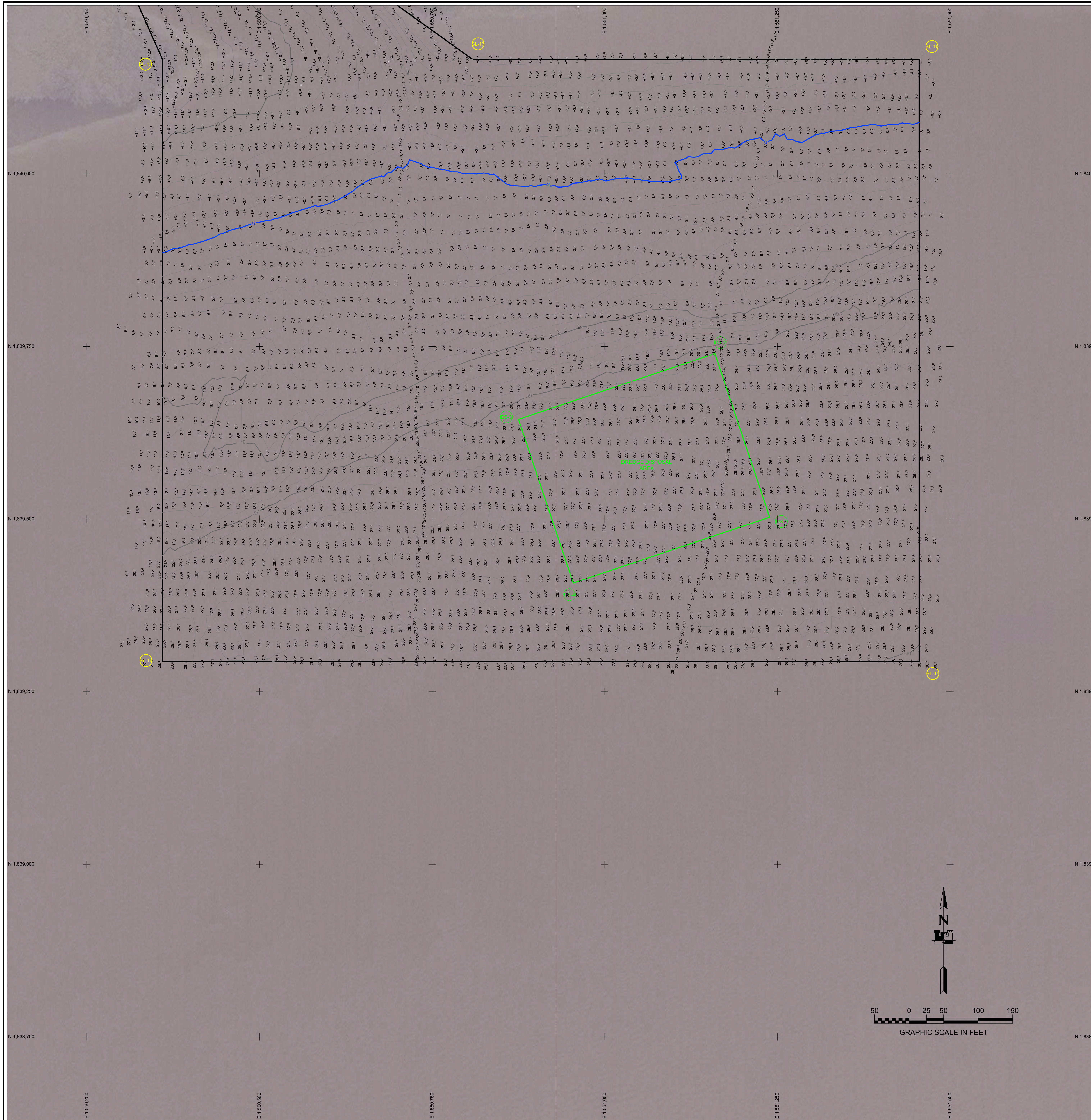
PRE DREDGE SURVEY

MAY 8 - 10, 2018

SHEET IDENTIFICATION

5-DIL-92-07-46

Sheet 1 of 4



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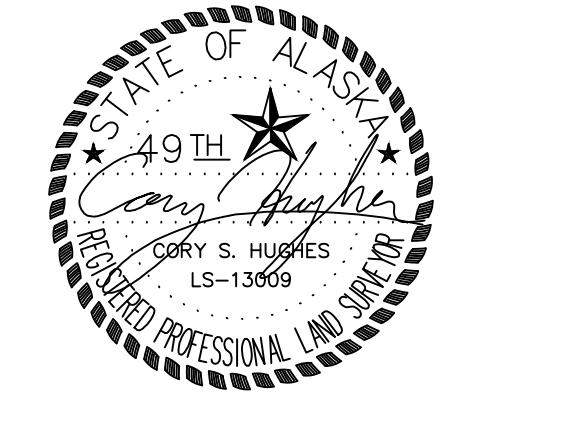
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Cory Hughes

CORY S. HUGHES CH. (245)



**DILLINGHAM, ALASKA
DILLINGHAM HARBOR
PRE DREDGE SURVEY
MAY 8 - 10, 2018**

Sheet 2 of 4

5-DIL-92-07-46

SHEET IDENTIFICATION

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
JBER, ALASKA 99506-8988

HUGHES & ASSOCIATES
3000 COTTE LOOP
WASILLA, AK 99684

CONTRACT NO. W11H127C-0005
CONTINUATION: ALASKA MARINE EXCAVATION
CITY AND PORT: STATE: ALASKA
Recommendation: Approved
DATE: MARCH 2018
DESIGNED BY: [Signature]
CHECKED BY: [Signature]
DRAWN BY: [Signature]
APPROVED BY: [Signature]

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
JBER, ALASKA 99506-8988

HUGHES & ASSOCIATES
3000 COTTE LOOP
WASILLA, AK 99684

DATE: [Signature]
FILE NAME: [Signature]
SCALE: 1" = 300'
INSTRUMENTS: [Signature]

CONTRACT NO. W11H127C-0005
CONTINUATION: ALASKA MARINE EXCAVATION
CITY AND PORT: STATE: ALASKA
Recommendation: Approved
DATE: MARCH 2018
DESIGNED BY: [Signature]
CHECKED BY: [Signature]
DRAWN BY: [Signature]
APPROVED BY: [Signature]