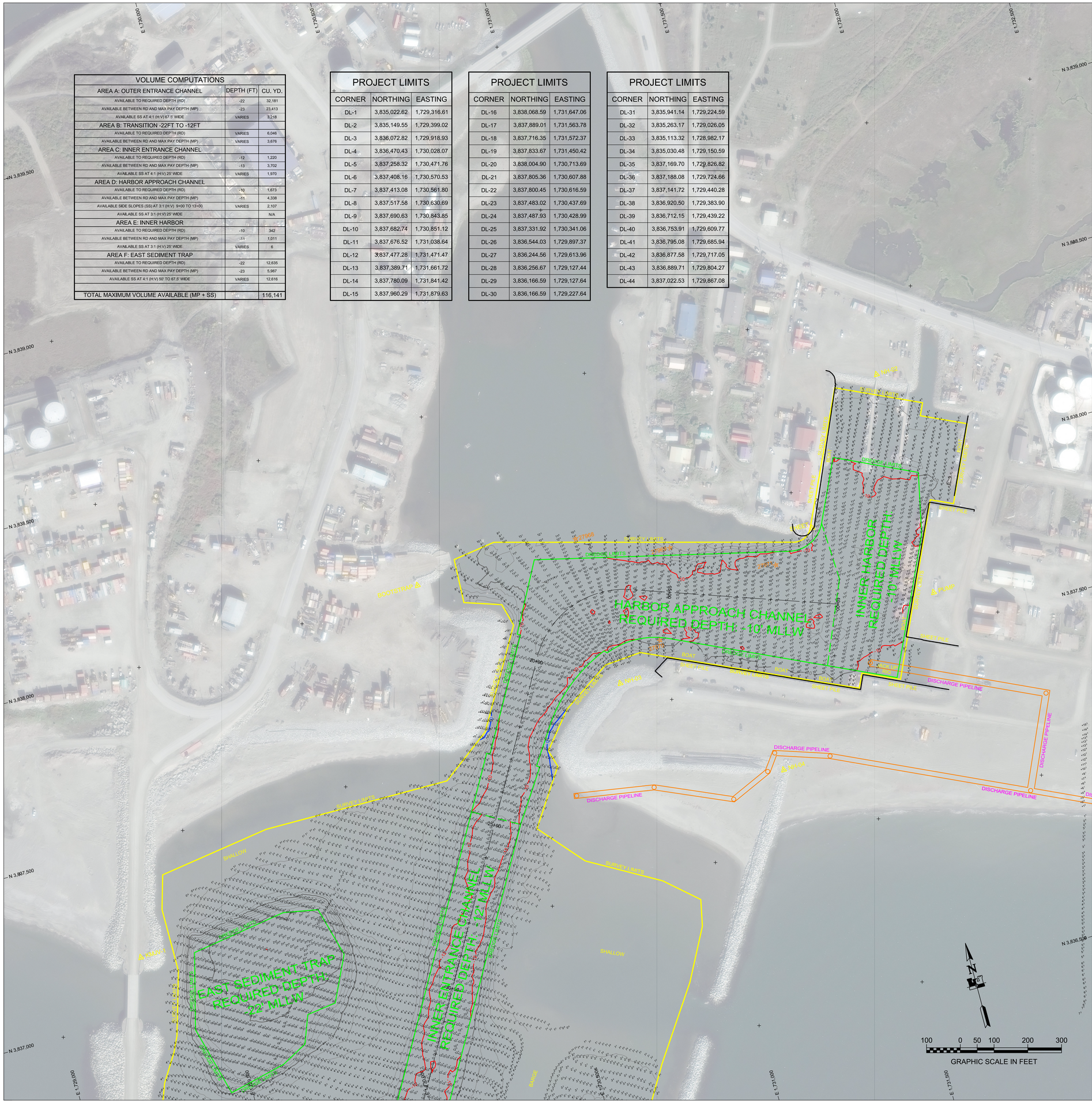
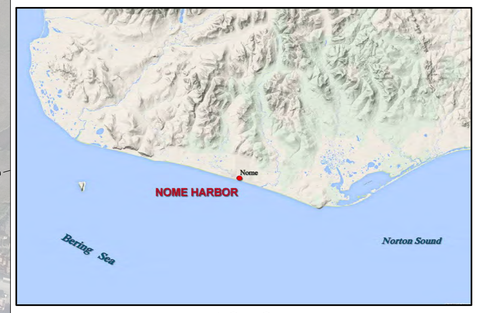
VOLUME COMPUTATIONS		
AREA A: OUTER ENTRANCE CHANNEL	DEPTH (FT)	CU. YD.
AVAILABLE TO REQUIRED DEPTH (RD)	-22	32,181
AVAILABLE BETWEEN RD AND MAX PAY DEPTH (MP)	-23	23,413
AVAILABLE SS AT 4:1 (H:V) 67.5' WIDE	VARIES	3,218
AREA B: TRANSITION -22FT TO -12FT		
AVAILABLE TO REQUIRED DEPTH (RD)	VARIES	6,046
AVAILABLE BETWEEN RD AND MAX PAY DEPTH (MP)	VARIES	3,676
AREA C: INNER ENTRANCE CHANNEL		
AVAILABLE TO REQUIRED DEPTH (RD)	-12	1,220
AVAILABLE BETWEEN RD AND MAX PAY DEPTH (MP)	-13	3,702
AVAILABLE SS AT 4:1 (H:V) 25' WIDE	VARIES	1,970
AREA D: HARBOR APPROACH CHANNEL		
AVAILABLE TO REQUIRED DEPTH (RD)	-10	1,673
AVAILABLE BETWEEN RD AND MAX PAY DEPTH (MP)	-11	4,338
AVAILABLE SIDE SLOPES (SS) AT 3:1 (H:V) 9+00 TO 13+00	VARIES	2,107
AVAILABLE SS AT 3:1 (H:V) 25' WIDE		N/A
AREA E: INNER HARBOR		
AVAILABLE TO REQUIRED DEPTH (RD)	-10	342
AVAILABLE BETWEEN RD AND MAX PAY DEPTH (MP)	-11	1,011
AVAILABLE SS AT 3:1 (H:V) 25' WIDE	VARIES	6
AREA F: EAST SEDIMENT TRAP		
AVAILABLE TO REQUIRED DEPTH (RD)	-22	12,635
AVAILABLE BETWEEN RD AND MAX PAY DEPTH (MP)	-23	5,987
AVAILABLE SS AT 4:1 (H:V) 50' TO 67.5' WIDE	VARIES	12,616
TOTAL MAXIMUM VOLUME AVAILABLE (MP + SS)		116,141

PROJECT LIMITS		
CORNER	NORTHING	EASTING
DL-1	3,835,022.62	1,729,316.61
DL-2	3,835,149.55	1,729,399.02
DL-3	3,836,072.82	1,729,918.93
DL-4	3,836,470.43	1,730,028.07
DL-5	3,837,258.32	1,730,471.76
DL-6	3,837,408.16	1,730,570.53
DL-7	3,837,413.08	1,730,561.80
DL-8	3,837,517.58	1,730,630.69
DL-9	3,837,690.63	1,730,843.85
DL-10	3,837,682.74	1,730,851.12
DL-11	3,837,676.52	1,731,038.64
DL-12	3,837,477.28	1,731,471.47
DL-13	3,837,389.71	1,731,661.72
DL-14	3,837,780.09	1,731,841.42
DL-15	3,837,960.29	1,731,879.63

PROJECT LIMITS		
CORNER	NORTHING	EASTING
DL-16	3,838,068.59	1,731,647.06
DL-17	3,837,889.01	1,731,563.78
DL-18	3,837,716.35	1,731,572.37
DL-19	3,837,833.67	1,731,450.42
DL-20	3,838,004.90	1,730,713.69
DL-21	3,837,805.36	1,730,607.88
DL-22	3,837,800.45	1,730,616.59
DL-23	3,837,483.02	1,730,437.69
DL-24	3,837,487.93	1,730,428.99
DL-25	3,837,331.92	1,730,341.06
DL-26	3,836,544.03	1,729,897.37
DL-27	3,836,244.56	1,729,613.96
DL-28	3,836,256.67	1,729,127.44
DL-29	3,836,166.59	1,729,127.64
DL-30	3,836,166.59	1,729,227.64

PROJECT LIMITS		
CORNER	NORTHING	EASTING
DL-31	3,835,941.14	1,729,224.59
DL-32	3,835,263.17	1,729,026.05
DL-33	3,835,113.32	1,728,982.17
DL-34	3,835,030.48	1,729,150.59
DL-35	3,837,169.70	1,729,826.82
DL-36	3,837,188.08	1,729,724.66
DL-37	3,837,141.72	1,729,440.28
DL-38	3,836,920.50	1,729,383.90
DL-39	3,836,712.15	1,729,439.22
DL-40	3,836,753.91	1,729,609.77
DL-41	3,836,795.08	1,729,685.94
DL-42	3,836,877.58	1,729,717.05
DL-43	3,836,889.71	1,729,804.27
DL-44	3,837,022.53	1,729,867.08





NOTES

1. PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 8, NAD83 (NSRS2007), IN U.S. FEET. BASIS OF COORDINATES IS NATIONAL GEODETIC SURVEY (NGS) CONTROL STATION "OME A" (PID DF3651), AS N 3,841,096.47' AND E 1,728,070.64' AND "OME B" (PID DF3652), AS N 3,842,264.55' AND E 1,729,661.41'. MONUMENTS ARE SECONDARY AIRPORT CONTROL STATIONS (SACS) AT NOME AIRPORT, ALASKA.

   LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 8, NAD83 (NSRS2007), IN U.S. SURVEY FEET HOLDING "KMJV-1" HAVING A VALUE OF N 3,837,168.87' AND E 1,729,283.15' .
2. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW +0.0'), BASED ON THE NOAA/NOS TIDAL BENCHMARK LIST: "946 8756, NOME NORTON SOUND, ALASKA" PUBLISHED 10/05/2017. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA/USCGS TIDAL BENCHMARK "946 8756 H" (VM#12155/PID#BBFB37) AS 12.18 FT.
3. VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD88 (GEOID 12B) ELEVATIONS HOLDING NOAA/USCGS TIDAL BENCHMARK "946 8756 H" (VM#12155/PID#BBFB37) AS 14.82 FT.
4. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
5. BATHYMETRY WAS COLLECTED MAY 28 & 29, 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 AT CONTROL STATION, "KMJV-1". DATA WAS COLLECTED AND PROCESSED USING HYPACK 2019 INTEGRATED SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING RTK GNSS EQUIPMENT AND TECHNIQUES. VERTICAL CONTROL WAS SURVEYED USING DIFFERENTIAL LEVELING TECHNIQUES.
6. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
7. MAP SOUNDINGS, CONTOURS, COLOR RELIEF, AND VOLUME COMPUTATIONS ARE SHOAL-BIASED AND BASED ON A 10 FOOT SORT.

SURVEY CONTROL DATA				
STATION	NORTHING	EASTING	MLLW	DESCRIPTION
39+71	3,834,957.98	1,729,422.33		BRASS CAP
53+68	3,834,888.51	1,728,762.20		BRASS CAP
BOOTSTRAP	3,838,021.15	1,730,359.97	6.70	BRASS CAP
CELL	3,835,965.94	1,729,122.26		ALUMINUM MON
KMJV-1	3,837,168.87	1,729,283.15	16.44	BRASS CAP
NH-02	3,838,272.50	1,731,835.01	12.45	BRASS CAP
NH-03	3,837,585.34	1,730,864.94	13.87	BRASS CAP
NH-04	3,837,212.71	1,731,266.48	15.30	BRASS CAP
OME A	3,841,096.47	1,728,070.64		BRASS CAP
OME B	3,842,264.55	1,729,661.41		BRASS CAP
PUMP	3,837,605.19	1,731,831.48	9.18	BRASS CAP
SHEET	3,837,882.85	1,731,533.69	11.70	DESTROYED

NAVIGATION AIDS			
USCG NO.	NORTHING	EASTING	DESCRIPTION
27962	3,834,922	1,729,388	ENTRANCE LIGHT 2
27963	3,834,844	1,728,782	ENTRANCE LIGHT 1
27964	3,836,250	1,729,618	BUOY 1
27965	3,836,070	1,729,925	BUOY 2
27966	3,836,541	1,729,900	BUOY 3
27967	3,836,470	1,730,030	BUOY 4
27968	3,838,033	1,730,848	BUOY 5
27969	3,837,935	1,731,111	BUOY 7
27970	3,837,678	1,731,012	BUOY 8
27971	3,837,805	1,731,401	BUOY 9

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

CORY S. HUGHES C.H. (245)

US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO. W91KBI18C0003 | CONTRACTOR ALASKA MARINE EXCAVATION | STATE ALASKA | Date:
CITY ANCHOR POINT | Approved: | CHIEF,CONSTRUCTION
Recommended: | RMB CONTRACTOR

REVISION	DATE	DESCRIPTION	BY	APPVD

REVISION	DATE	DESCRIPTION	BY	APPVD

SURVEYED BY: CSH & KOA
DRAWN BY: KOA
APPROVED BY: Geomatics Section (CEPOA-EC-GG)
SCALE: 1" = 100'
SIZE: E

DATE: 17 June 2019
UPC: UPC-20113
CONTRACT NO.: W91KBI18C0003
JOB NO.:
FILE NAME: 2019_NOME_HARBOR_DREDGE_SURVEY.DWG

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
P.O. BOX 6898
JBER, ALASKA 99506-0898

HUGHES & ASSOCIATES
2970 E COTTLE LOOP
WASILLA, AK 99654

NOME, ALASKA
2019 HARBOR MAINTENANCE DREDGING
PRE-DREDGE SURVEY
MAY 28 - 30, 2019

SHEET IDENTIFICATION
6-NOM-92-07-61
Sheet 1 of 5