

- NOTES**
- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 8, NAD83 (NSRS2007) U.S. FEET. BASIS OF COORDINATES IS NATIONAL GEODETIC SURVEY (NGS) CONTROL STATIONS "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, NAD 83 BASED ON CONTROL MONUMENT "NH-04" AS N 3,837,585.34 AND E 1,730,864.94 AND "NH-04" AS N 3,837,212.71 AND E 1,731,266.48.
 - PRIMARY PROJECT VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=O), BASED ON NOAA'S TIDE STATION "946 8756 NOME, NORTON SOUND, ALASKA" PUBLISHED 2/9/2009. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA'S TIDAL BENCHMARK "9759 E 1982" AS 16.72 FEET ABOVE MLLW.
 - VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM IS BASED ON PUBLISHED NAVD83 ELEVATIONS HOLDING NOAA'S TIDAL BENCHMARK "946 8756 G 1982" (PID B88524) AS 15.42 FEET.
 - SOUNDINGS ARE IN FEET AND ARE NEGATIVE UNLESS INDICATED OTHERWISE.
 - THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.
 - POST DREDGE SURVEYS WERE CONDUCTED ON JUNE 28-29 & AUG. 13-14, 2015 BY HUGHES & ASSOCIATES, WASILLA, AK. SURVEY DATA COLLECTION WAS LIMITED TO THE AREAS WHERE DREDGING WAS COMPLETED. SOUNDINGS WERE COLLECTED USING A RESON NAVISOUND 210 DEPTH SOUNDER WITH A 200KHZ, 3 DEGREE BEAM-WIDTH SINGLE-BEAM TRANSDUCER. POSITIONING AND TIDES WERE PROVIDED IN REAL TIME USING A TRIMBLE R8 RECEIVER OPERATING ON KINEMATIC CORRECTORS BROADCAST FROM A TRIMBLE R8 BASE STATION SET AT USACE BRASS CAP "NH-04 2007". VESSEL NAVIGATION, DATA COLLECTION AND PROCESSING WERE PERFORMED USING HYPACK 2015 INTEGRATED SOFTWARE.
 - THE CONTROL VALUES SHOWN IN THE TABLE ARE NOAA PUBLISHED VALUES. CONTROL USED WERE VERIFIED PRIOR TO THE PRE DREDGE SURVEY AND HOLD AS PUBLISHED.

SURVEY CONTROL DATA				
STATION	NORTHING	EASTING	MLLW	DESCRIPTION
39+71	3,834,957.98	1,729,422.33	16.88	BRASS CAP (NOT SEARCHED)
53+68	3,834,888.51	1,728,762.20	14.36	BRASS CAP (NOT SEARCHED)
8756-E 1992	3,838,068.50	1,729,823.00	16.72	BRASS CAP (FOUND)
BOOTSTRAP	3,838,021.15	1,730,359.97	6.84	BRASS CAP (FOUND)
CELL	3,835,965.94	1,729,122.26	12.91	ALUMINUM MON (FOUND)
DINGO	3,836,890.97	1,732,407.19	19.48	BRASS CAP (FOUND)
KMJV-1	3,837,168.87	1,729,283.15	16.63	BRASS CAP (FOUND)
NH-02	3,838,272.50	1,731,835.01	12.59	BRASS CAP (FOUND)
NH-03	3,837,585.34	1,730,864.94	14.01	BRASS CAP (FOUND)
NH-04	3,837,212.71	1,731,266.48	15.44	BRASS CAP (FOUND)
OME A	3,841,096.47	1,728,070.64		BRASS CAP (NOT SEARCHED)
OME B	3,842,264.55	1,729,661.41		BRASS CAP (NOT SEARCHED)
PUMP	3,837,605.19	1,731,831.48	9.32	BRASS CAP (FOUND)
SHEET	3,837,882.85	1,731,533.69	11.84	ALUMINUM MON (DESTROYED)

DREDGED MATERIAL PLACEMENT AREA		
CORNER#	NORTHING	EASTING
D1	3,836,824.59	1,732,382.37
D2	3,836,697.10	1,732,946.87
D3	3,836,418.50	1,732,818.63
D4	3,836,546.00	1,732,254.13

VOLUME COMPUTATIONS	
-10 PROJECT DEPTH AREA (APPROX STATION 18+64 TO APPROX STATION 24+75)	
VOLUME REMOVED TO PROJECT DEPTH (-10 FT)	1,731 cy
VOLUME REMOVED BETWEEN PD (-10 FT) AND MAX-PAY DEPTH (-11 FT)	1,580 cy
-12 PROJECT DEPTH AREA (APPROX STATION 24+75 TO APPROX STATION 33+83)	
VOLUME REMOVED TO PROJECT DEPTH (-12 FT)	4,253 cy
VOLUME REMOVED BETWEEN PD (-12 FT) AND MAX-PAY DEPTH (-13 FT)	4,457 cy
TRANSITION AREA (APPROX STATION 33+83 TO APPROX STATION 37+83)	
VOLUME REMOVED TO PROJECT DEPTH (VARIES)	10,089 cy
VOLUME REMOVED BETWEEN PD (VARIES) AND MAX-PAY DEPTH (VARIES)	1,306 cy
-22 PROJECT DEPTH AREA (APPROX STATION 37+83 TO APPROX STATION 49+49)	
VOLUME REMOVED TO PROJECT DEPTH (-22 FT)	21,155 cy
VOLUME REMOVED BETWEEN PD (-22 FT) AND MAX-PAY DEPTH (-23 FT)	7,212 cy
EAST SEDIMENT TRAP AREA (PROJECT DEPTH -22)	
VOLUME REMOVED TO PROJECT DEPTH (-22 FT) IN EAST SEDIMENT TRAP	47,617 cy
VOLUME REMOVED BETWEEN PROJECT DEPTH (-22 FT) AND MAX-PAY DEPTH (-23 FT) IN EAST SEDIMENT TRAP	19 cy
VOLUME REMOVED IN EAST SEDIMENT TRAP SIDE SLOPES (SLOUGHING)	8,575 cy
VOLUME REMOVED IN SIDE SLOPES (3:1 APPROX. STATION 18+64 TO 23+00)	2,761 cy
VOLUME REMOVED IN -22 FT PD SIDE SLOPES (APPROX. STATION 33+83 TO 48+82)	785 cy
VOLUME REMOVED IN SIDE SLOPES (SLOUGHING)	4,965 cy
TOTAL REMOVED VOLUME	116,505 cy
TOTAL OVERDREDGE VOLUME	4,913 cy

SURVEY LIMITS			SURVEY LIMITS			SURVEY LIMITS		
CORNER#	NORTHING	EASTING	CORNER#	NORTHING	EASTING	CORNER#	NORTHING	EASTING
1	3,833,988.63	1,729,500.82	22	3,836,791.44	1,729,234.80	43	3,838,062.55	1,732,056.60
2	3,834,388.48	1,727,992.32	23	3,836,791.44	1,729,254.84	44	3,837,844.03	1,731,956.41
3	3,835,359.29	1,728,024.68	24	3,836,872.47	1,729,305.27	45	3,837,873.21	1,731,892.78
4	3,835,233.84	1,728,536.07	25	3,836,917.04	1,729,326.26	46	3,837,382.19	1,731,670.15
5	3,834,973.88	1,728,518.44	26	3,837,101.94	1,729,380.21	47	3,837,429.47	1,731,564.21
6	3,834,880.85	1,728,655.20	27	3,837,215.51	1,729,364.11	48	3,837,388.32	1,731,545.17
7	3,834,730.05	1,728,735.65	28	3,837,240.26	1,729,593.68	49	3,837,658.33	1,730,946.01
8	3,834,722.75	1,728,851.43	29	3,837,262.41	1,729,747.60	50	3,837,649.49	1,730,836.88
9	3,834,818.42	1,728,904.81	30	3,837,341.06	1,730,140.80	51	3,837,552.79	1,730,693.17
10	3,834,992.14	1,728,806.34	31	3,837,386.65	1,730,224.29	52	3,837,447.56	1,730,607.38
11	3,835,113.31	1,728,876.78	32	3,837,550.51	1,730,441.69	53	3,837,396.54	1,730,622.75
12	3,835,250.46	1,728,920.04	33	3,837,834.13	1,730,604.31	54	3,837,233.79	1,730,515.32
13	3,835,440.79	1,728,974.99	34	3,837,901.51	1,730,586.05	55	3,836,757.10	1,730,246.89
14	3,835,564.00	1,728,959.61	35	3,837,936.57	1,730,479.44	56	3,836,065.16	1,729,970.26
15	3,835,911.84	1,729,059.45	36	3,838,067.00	1,730,484.53	57	3,835,088.68	1,729,424.17
16	3,835,940.96	1,729,123.40	37	3,838,086.08	1,730,611.18	58	3,835,069.36	1,729,381.21
17	3,836,166.59	1,729,127.64	38	3,837,856.45	1,731,469.04	59	3,834,967.86	1,729,272.71
18	3,836,243.67	1,729,075.34	39	3,837,883.71	1,731,527.32	60	3,834,836.45	1,729,293.16
19	3,836,307.82	1,729,085.60	40	3,838,266.56	1,731,705.15	61	3,834,807.02	1,729,422.81
20	3,836,550.74	1,729,155.40	41	3,838,156.56	1,731,945.06	62	3,834,908.69	1,729,531.49
21	3,836,694.83	1,729,203.96	42	3,838,121.14	1,731,928.81			

DREDGE LIMITS (MAIN CHANNEL)		
CORNER#	NORTHING	EASTING
DL-1	3,835,149.55	1,729,399.02
DL-2	3,836,072.82	1,729,918.93
DL-3	3,836,470.43	1,730,028.07
DL-4	3,837,258.32	1,730,471.76
DL-5	3,837,512.08	1,730,634.04
DL-6	3,837,682.32	1,730,850.05
DL-7	3,837,676.52	1,731,038.64
DL-8	3,837,477.28	1,731,471.47
DL-9	3,837,389.71	1,731,661.72
DL-10	3,837,780.09	1,731,841.42
DL-11	3,837,960.29	1,731,879.63
DL-12	3,838,068.59	1,731,647.06
DL-13	3,837,889.01	1,731,563.78

DREDGE LIMITS (MAIN CHANNEL)		
CORNER#	NORTHING	EASTING
DL-13A	3,837,833.67	1,731,450.42
DL-14	3,838,004.90	1,730,713.69
DL-15	3,837,805.36	1,730,607.88
DL-16	3,837,331.92	1,730,341.06
DL-17	3,836,544.03	1,729,897.37
DL-18	3,836,244.56	1,729,613.96
DL-19	3,836,256.67	1,729,127.44
DL-20	3,836,166.59	1,729,127.64
DL-21	3,836,166.59	1,729,227.64
DL-22	3,835,941.14	1,729,224.59
DL-23	3,835,263.17	1,729,026.05
DL-24	3,835,168.52	1,729,218.48

ENTRANCE CHANNEL CENTERLINE			
POINT	STATION	NORTHING	EASTING
C1	10+00	3,837,645.05	1,731,549.07
C2	16+17.02	3,837,846.12	1,730,965.73
C3	19+84.80	3,837,725.78	1,730,648.92
C4	49+49.20	3,835,142.70	1,729,194.32

DREDGE LIMITS (EAST SEDIMENT TRAP)		
CORNER#	NORTHING	EASTING
DL-25	3,837,169.70	1,729,826.82
DL-26	3,837,188.08	1,729,724.66
DL-27	3,837,141.72	1,729,440.28
DL-28	3,836,920.50	1,729,383.90
DL-29	3,836,712.15	1,729,439.22
DL-30	3,836,753.91	1,729,609.77
DL-31	3,836,795.08	1,729,685.94
DL-32	3,836,877.58	1,729,717.05
DL-33	3,836,889.71	1,729,804.27
DL-34	3,837,022.53	1,729,867.08

DREDGE LIMITS (STA 18+00 TO 23+00 +/-)		
CORNER#	NORTHING	EASTING
A	3,837,887.27	1,730,662.63
B	3,837,690.63	1,730,843.85
C	3,837,413.08	1,730,561.80
D	3,837,483.02	1,730,437.69
E	3,837,517.58	1,730,630.69



US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO. W9156B-13-C-0007
CONTRACTOR: HUGHES & ASSOCIATES, INC.
CITY AND STATE: NOME, ALASKA
APPROVED: [Signature]

DESIGNED BY: [Signature]
DRAWN BY: [Signature]
CHECKED BY: [Signature]
APPROVED BY: [Signature]


U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
P.O. BOX 28806
JBER, ALASKA 99508-0886

HUGHES & ASSOCIATES
2870 GOTTLELOP

NOME HARBOR (NOME, ALASKA)
2015 MAINTENANCE DREDGING
POST-DREDGE HYDROGRAPHIC SURVEY 1 & 2
JUNE 28-29 & AUG. 13-14, 2015

SHEET IDENTIFICTION
V-101
Sheet 1 of





 US Army Corps of Engineers

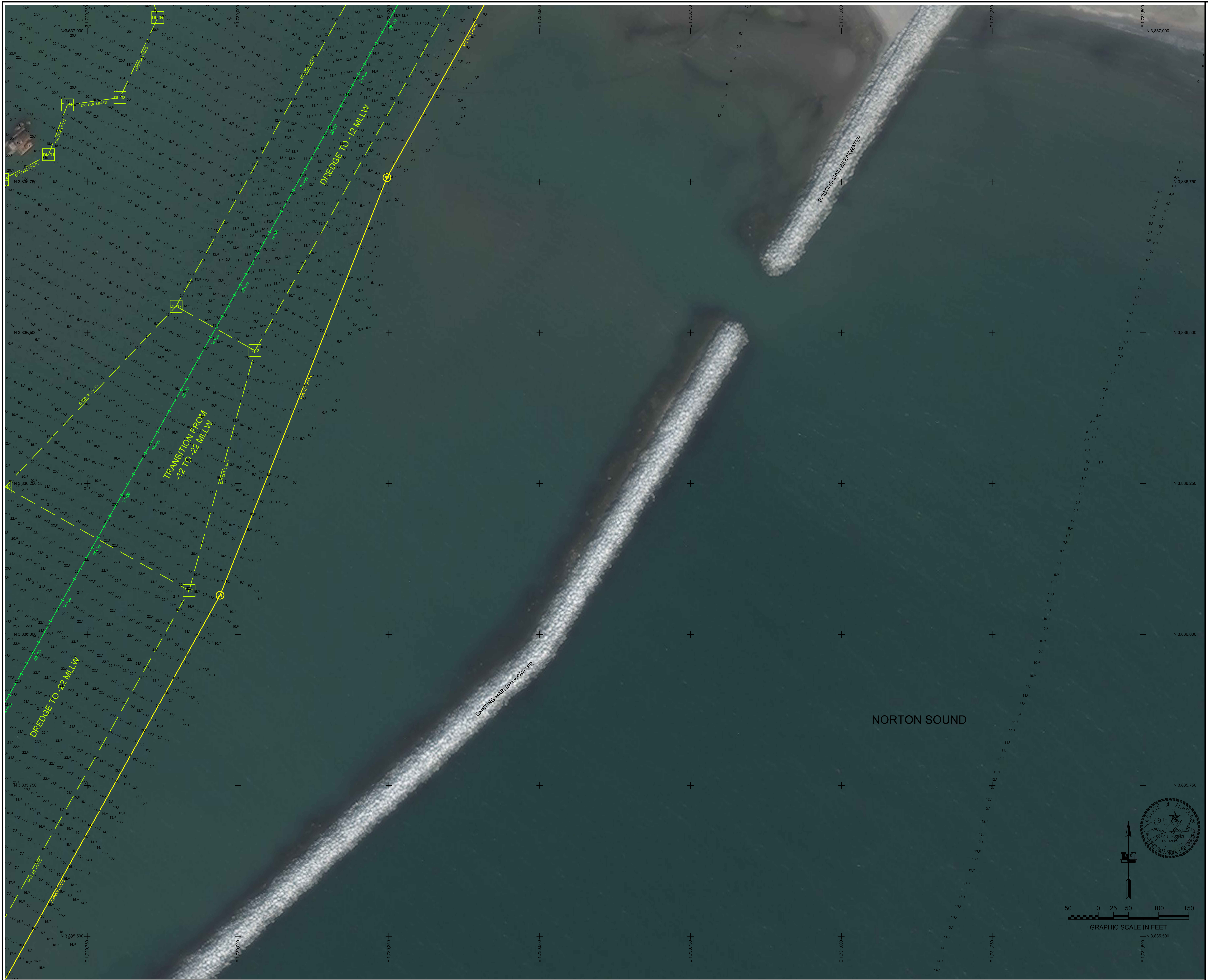
 ALASKA DISTRICT

CONTRACT NO. 08118-13-C-007	DATE
SURVEY NO. 33016	BY
PROJECT NO. 08118-13-C-007	DATE
CITY, ANCHORAGE	DESCRIPTION
STATE, ALASKA	
APPROVED	
DATE	

SURVEYED BY: JIM JONES CHECKED BY: JIM JONES	DRAWN BY: JIM JONES	DATE: 08/13/2015
U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT JBER, ALASKA 99506-0898	HUGHES & ASSOCIATES 1000 W. 10TH AVENUE WASILLA, AK 99684	SCALE: 1" = 100'

NOME HARBOR (NOME, ALASKA)
 2015 MAINTENANCE DREDGING
 POST-DREDGE HYDROGRAPHIC SURVEY 1 & 2
 JUNE 28-29 & AUG. 13-14, 2015

SHEET IDENTIFICATION
 V-105
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**U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT**

NOME HARBOR (NOME, ALASKA)
2015 MAINTENANCE DREDGING
POST-DREDGE HYDROGRAPHIC SURVEY 1 & 2
JUNE 28-29 & AUG. 13-14, 2015

SHEET IDENTIFICATION
V-106
Sheet 6 of 48

<p>CONTRACT NO. W1718-12-0007 SURVEY NO. 30018 DRAWN BY: JAD CHECKED BY: CSH APPROVED BY: [Signature]</p> <p>SCALE: AS SHOWN DATE: 08/13/15</p>	<p>STATE: ALASKA CITY: ANCHORAGE APPROVED: [Signature]</p> <p>DATE: 08/13/15</p>
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GRAPHIC SCALE IN FEET
0 25 50 100 150

