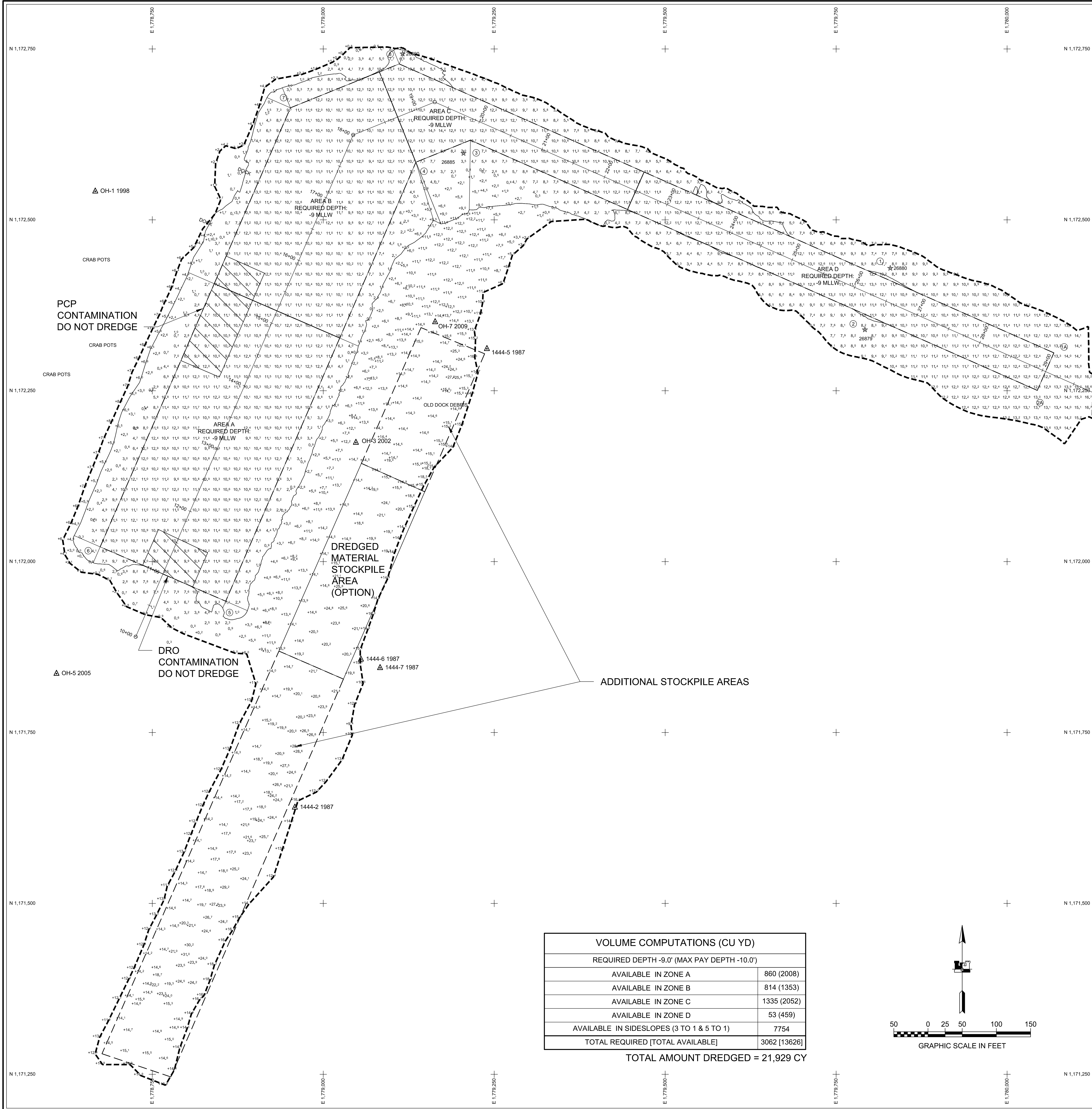
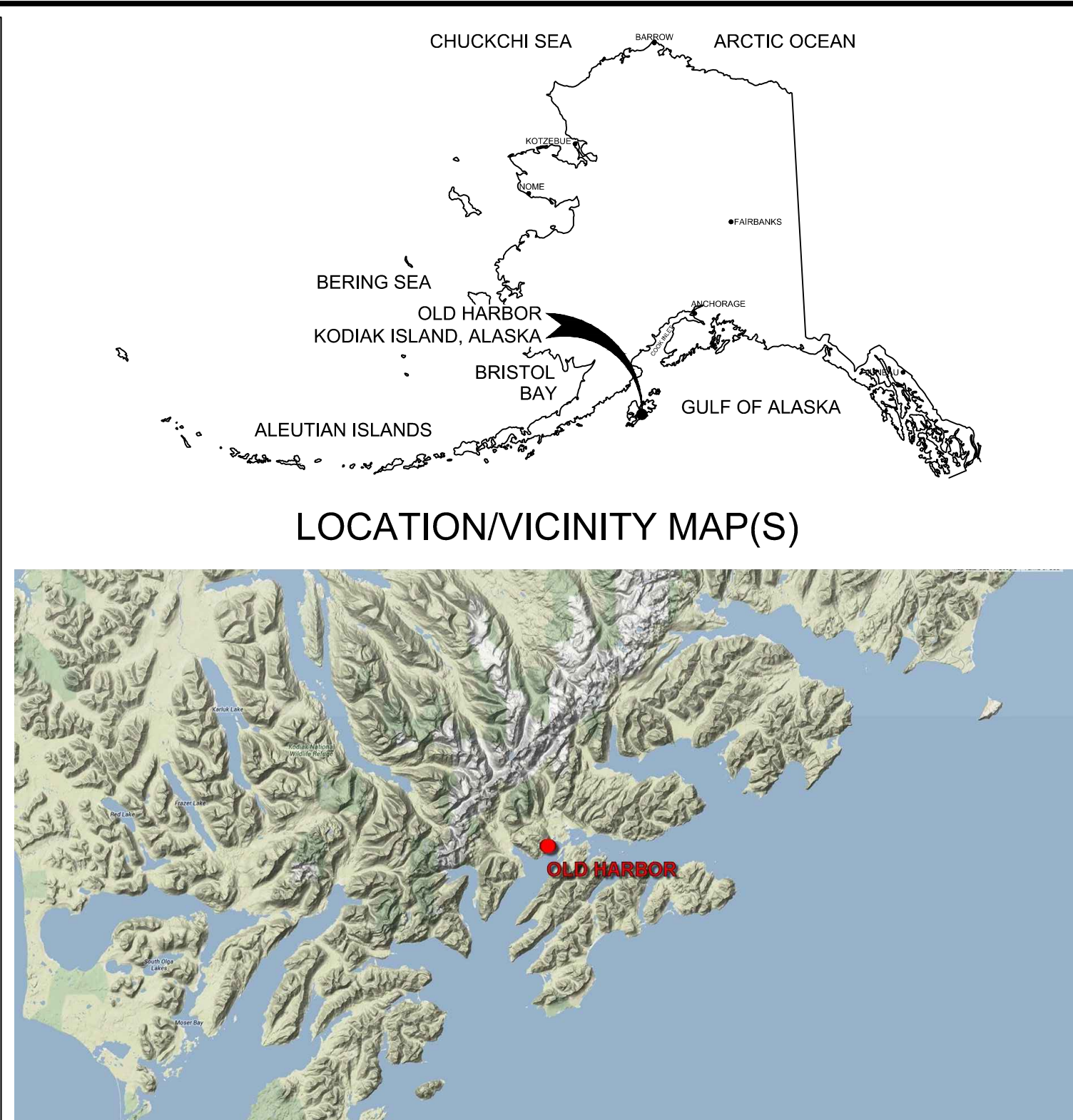
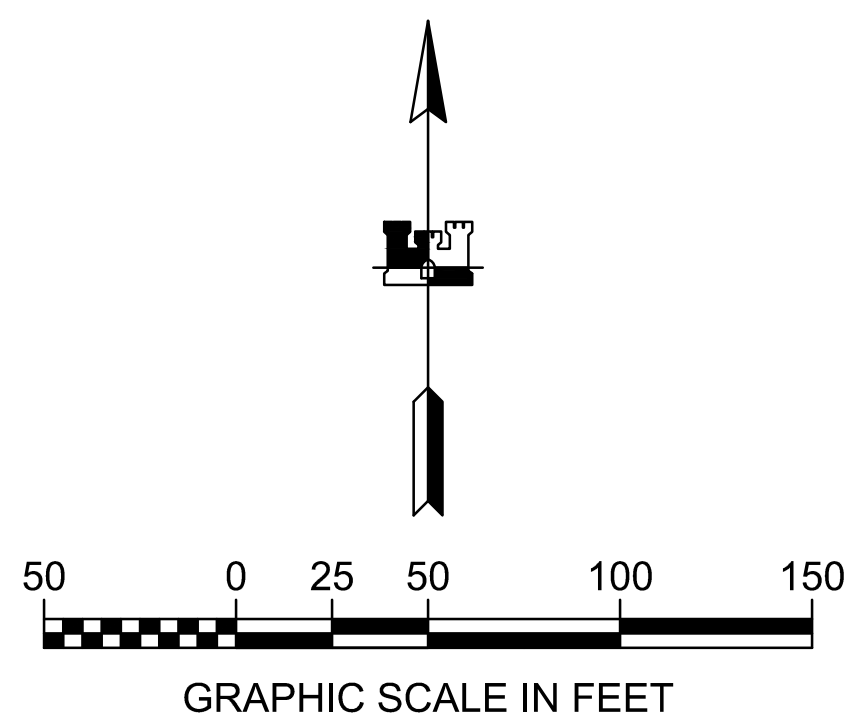




VOLUME COMPUTATIONS (CU YD)	
REQUIRED DEPTH -9.0' (MAX PAY DEPTH -10.0')	
AVAILABLE IN ZONE A	860 (2008)
AVAILABLE IN ZONE B	814 (1353)
AVAILABLE IN ZONE C	1335 (2052)
AVAILABLE IN ZONE D	53 (459)
AVAILABLE IN SIDESLOPES (3 TO 1 & 5 TO 1)	7754
TOTAL REQUIRED [TOTAL AVAILABLE]	3062 [13626]

TOTAL AMOUNT DREDGED = 21,929 CY



SURVEY NOTES:

1. UPLANDS WERE SURVEYED BY MAX A. SCHILLINGER, ALL POINTS NORTH, ON SEPTEMBER 1 - SEPTEMBER 5, 2015. THIS SURVEY WAS PERFORMED USING ALTAUS APS-3 RTK GPS SYSTEMS. THE CONTROL LIST WAS VERIFIED EXCEPT AS NOTED IN THE LIST.
2. HYDROGRAPHIC SURVEYING WAS PERFORMED BY HUGHES AND ASSOCIATES ON AUGUST 22, 2015.
 - TRIMBLE R8 BASE STATION AND R8 RTK ROVER
 - RSONIC 2022 MULTIBeam ECHOSOUNDER
 - APPLIX WAVEMASTER POS MV
 - TRIMBLE DNI DIGITAL LEVEL

DATUM AND COORDINATE SYSTEM NOTES:

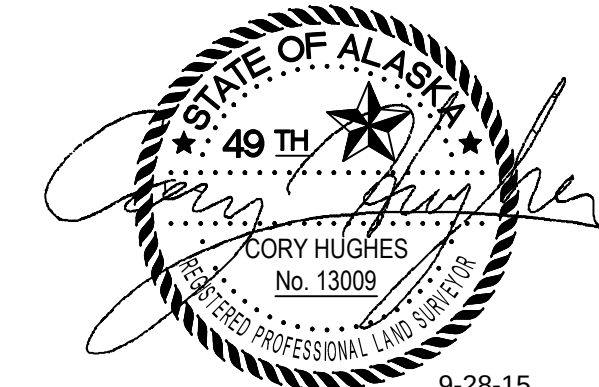
1. PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 5, NAD83 (CORS96). IN US SURVEY FEET BASED ON A STATIC GPS NETWORK HOLDING THE NGS EPOCH 2003.00 OPUS DB PUBLISHED VALUES FOR OH-1 1998* (PID BBL02) AS N 1,172,541.61, E 1,778,666.59 AND NOAA/NOS TIDAL BENCHMARK "7527 E 2009" (PID BBL05) AS N 1,169,770.12, E 1,777,807.88.
2. LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 5, NAD83. IN US SURVEY FEET HOLDING NOAA/NOS TIDAL BENCHMARK "7527 E 2009" (PID BBL05) AS N 1,169,772.46, E 1,777,811.43.
3. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0'), BASED ON THE NOAA/NOS TIDAL BENCHMARK LIST: "945 7527, OLD HARBOR, KODIAK ISLAND, ALASKA" PUBLISHED 04/17/2014. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA/NOS TIDAL BENCHMARK "7527 E 2009" AS 14.45'.
4. VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD83 ELEVATIONS HOLDING NOAA/NOS TIDAL BENCHMARK "7527 E 2009" (PID BBL05) AS 13.71'.

TOPOGRAPHIC SURVEYOR:



RESPONSIBLE FOR:
ALL UPLAND SURVEYING, MAPPING AND
QUANTITY COMPUTATIONS

HYDROGRAPHIC SURVEYOR:



RESPONSIBLE FOR:
ALL HYDROGRAPHIC SURVEYING AND
HYDROGRAPHIC POINT FILES.

SURVEY CONTROL DATA				
STATION	NORTHING	EASTING	MLLW	DESCRIPTION
1444-2 1987	1,171,640.28	1,778,958.50	13.03	USACE SAC
1444-5 1987	1,172,311.20	1,779,239.32	13.47	USACE SAC- MONUMENT DISTURBED
1444-6 1987	1,171,856.89	1,779,055.10	13.54	USACE SAC
1444-7 1987	1,171,844.44	1,779,063.43	11.60	USACE SAC- MONUMENT DISTURBED
7527 D 2009	1,169,882.67	1,777,658.17	15.06	NOAA/NOS TIDAL BM
7527 E 2009	1,169,770.12	1,777,807.88	14.43	NOAA/NOS TIDAL BM
OH-1 1998	1,172,541.61	1,778,666.59	13.09	3.25 INCH DOMED BC
OH-2 1998	1,173,107.61	1,779,136.41	11.34	USACE SBC
OH-3 2002	1,172,174.03	1,779,047.75	13.42	USACE SBC
OH-5 2005	1,171,836.07	1,778,809.95	9.38	3 INCH DOMED BC
OH-6 2005	1,171,449.03	1,778,307.56	12.07	3 INCH DOMED BC
OH-7 2009	1,172,350.46	1,779,163.60	15.26	3.25 INCH DOMED ALCAP ON REBAR

NAVIGATION AIDS			
USCG NO.	NORTHING	EASTING	DESCRIPTION
26879	1,172,339.30	1,779,792.10	DAY BEACON 1 GREEN SG ON PILE
26880	1,172,429.30	1,779,829.20	DAY BEACON 2 RED TR ON PILE
26885	1,172,597.40	1,779,205.10	DAY BEACON 3 GREEN SG ON PILE
26890	1,172,742.90	1,779,116.10	DAY BEACON 4 RED TR ON PILE

PROJECT LIMITS			PROJECT LIMITS		
CORNER#	NORTHING	EASTING	CORNER#	NORTHING	EASTING
1	1,172,420.99	1,779,806.58	4	1,172,584.40	1,779,135.56
1A	1,172,305.38	1,780,068.43	5	1,171,942.08	1,778,857.31
2	1,172,366.10	1,779,782.34	6	1,172,021.58	1,778,673.79
2A	1,172,250.49	1,780,044.19	7	1,172,663.90	1,778,952.04
3	1,172,616.52	1,779,215.17	8	1,172,728.08	1,779,111.06

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

Name: *Cory Hughes*

US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO. WJLHSL-14-CORR
CONTRACTOR: WESTERN MARINE CONSTRUCTION, INC.
CITY: SEATTLE
STATE: WA
DATE: 8/22/2015
APPROVED: [Signature]
BY: [Signature]

DATE	DESCRIPTION	BY	APPROVED
8/22/2015	FINAL	[Signature]	[Signature]

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
JBER, ALASKA 99506-0898
WESTERN MARINE CONSTRUCTION, INC.
4775 SEATTLE, WA 98125

KODIAK ISLAND, ALASKA
OLD HARBOR
POST-DREDGE SURVEY
AUGUST 22 - SEPTEMBER 5, 2015

SHEET IDENTIFICATION
V-101
Sheet 1 of 7

