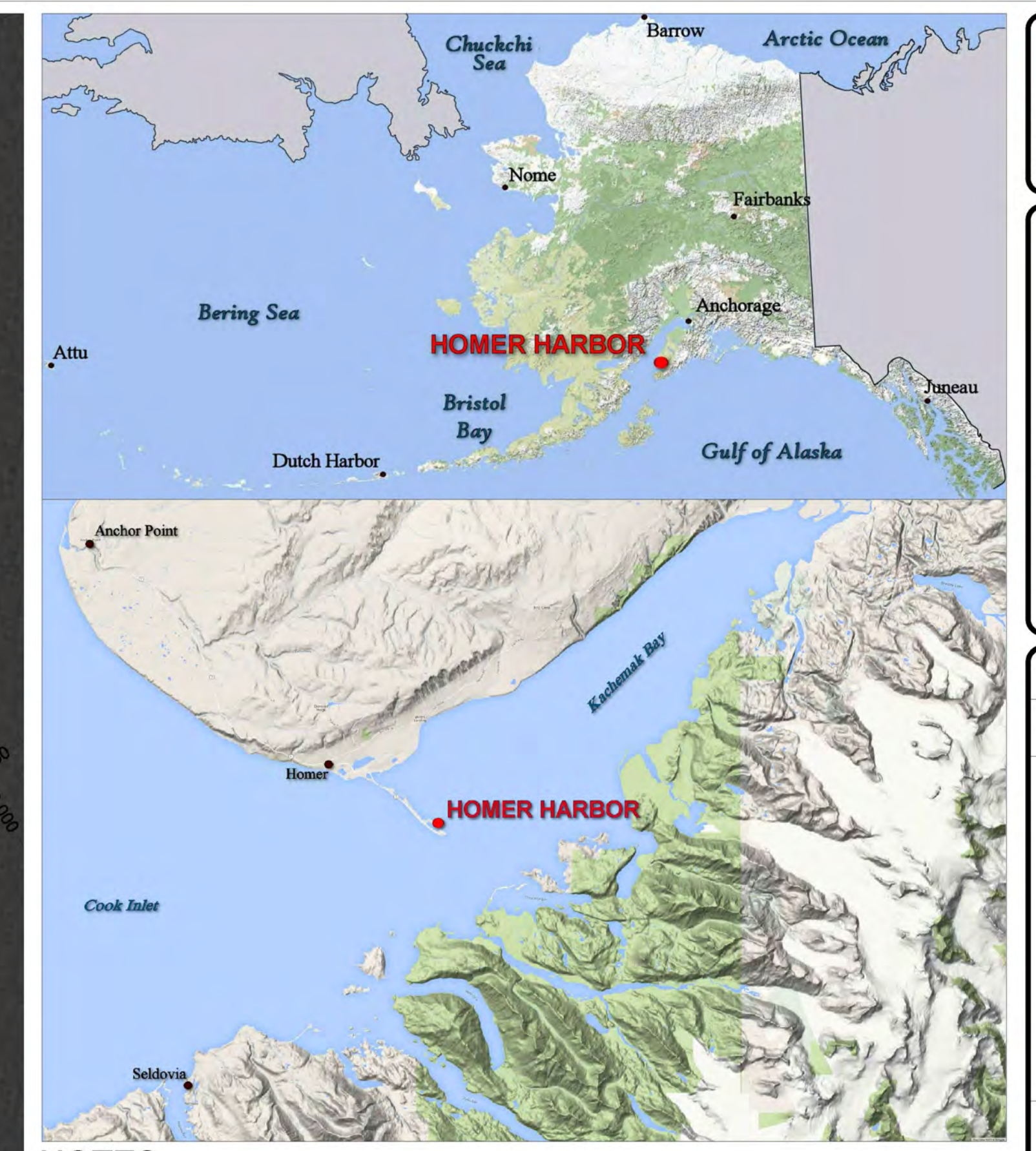


PROJECT LIMITS CURVE DATA

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE
C1	82.67'	98.68'	068°12'42.5"
C2	172.88'	149.28'	049°28'29.9"
C3	185.63'	338.77'	104°33'41.9"
C4	95.61'	174.50'	104°34'21.5"
C5	160.18'	208.51'	074°34'49.9"
C6	104.07'	181.44'	105°23'39.2"

PROJECT LIMITS

CORNER#	NORTHING	EASTING
7	2,049,519.03	1,377,882.50
8	2,049,207.15	1,377,883.23
9	2,049,313.35	1,377,517.38
10	2,049,705.59	1,376,903.13
11	2,050,281.01	1,376,002.56
12	2,050,544.76	1,375,589.76
13	2,050,893.93	1,375,219.67
14	2,051,074.98	1,375,335.41
15	2,051,159.30	1,375,389.23
16	2,051,420.46	1,375,556.10
17	2,050,887.56	1,376,390.12
18	2,050,312.15	1,377,290.69
19	2,050,626.40	1,376,223.25
20	2,050,542.13	1,376,169.40
21	2,050,096.16	1,377,152.69
22	2,050,011.48	1,377,098.58
23	2,049,823.34	1,377,690.34
24	2,049,707.99	1,377,696.69
25	2,049,954.10	1,379,383.98
26	2,049,539.77	1,379,277.46
CG1	2,049,821.31	1,379,028.43
CG2	2,049,755.11	1,378,885.74
CG3	2,049,854.76	1,378,791.65
CG4	2,049,481.24	1,378,801.18
CG5	2,049,433.37	1,378,852.25
CG6	2,049,385.49	1,378,903.32
CG7	2,049,396.89	1,378,818.05
CG8	2,049,526.07	1,378,746.64
PC1A	2,049,852.14	1,378,351.33
PC2A	2,049,766.26	1,378,304.02
PC3A	2,049,989.05	1,378,221.58
PC4A	2,049,947.63	1,378,141.68
PC6A	2,049,768.41	1,377,752.69
PL-32	2,050,341.61	1,378,668.97
PL-33	2,050,254.64	1,376,619.37
PRC3B/5A	2,050,041.53	1,377,932.63
PT1B	2,049,696.45	1,378,269.64
PT2B	2,049,855.01	1,378,189.75
PT4B	2,049,974.64	1,377,992.85
PT5B	2,050,025.58	1,377,739.19
PT6B	2,049,593.40	1,377,766.24



- NOTES**
- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83 IN US VERTY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAD83(CORS) 2003.00 EPOCH VALUES OF NGS CORS STATIONS: "KENA 5 CORS ARP" (KENS - PID D33029), "ANCHORAGE CORS ARP" (TSEA - PID A0992). LOCAL HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, IN FEET, NAD 83, HOLDING USAGE SBC "HOMER BASIN 7" AS N 2,049,712.22, E 1,377,964.36 AND USAGE SBC "BL-2-A" AS N 2,049,793.81, E 1,378,015.52.
 - VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0'), BASED ON THE NOAA'S TIDAL BENCH MARK LIST FOR STATION "945 5557, HOMER, ALASKA" PUBLISHED 08/11/2003. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING SBC "BL-2-A" AS 32.49'.
 - SOUNDINGS ARE IN FEET AND ARE NEGATIVE UNLESS OTHERWISE INDICATED.
 - THIS DRAWING IS INDICATIVE OF CONDITIONS AT THE TIME OF SURVEY.
 - BATHYMETRY WAS COLLECTED SEPTEMBER 12 & 13, 2016. SOUNDINGS WERE COLLECTED USING A "SONIC 2022" MULTIBEAM SOUNDER AT 90° SWATH ANGLE. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN AML BASE X2 VELOCITY PROBE. POSITIONING AND VESSEL ATTITUDE WERE MEASURED USING AN "APPLIX POS MV" SYSTEM. RTK CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION OCCUPYING HOMER "BL-2-A" DATA WAS COLLECTED AND FIELD PROCESSED USING "HYPACK 2015" SOFTWARE. TIDE ELEVATIONS WERE MEASURED USING A "TRIMBLE RB RTK" SYSTEM.
 - THE CONTROL VALUES SHOWN ON THIS PLAT WERE VERIFIED PRIOR TO THE PRE DREDGE SURVEY AND HELD AS PUBLISHED.
 - MAP SOUNDINGS ARE BINNED AT 12 FEET AND ARE SHOAL BIASED. VOLUME SOUNDINGS ARE BINNED AT 3 FEET AND ARE MEAN VALUE.

SURVEY CONTROL DATA

STATION	NORTHING	EASTING	MLLW	DESCRIPTION
AUDREY	2,051,507.88	1,375,406.60	33.31	1-1/2 IN ALUMINUM CAP (FOUND)
BL-2-A 1989	2,049,793.81	1,378,015.52	32.49	USACE SBC (FOUND)
BM NO 6 1965			27.28	US&GC SBC (NOT FOUND)
BOLL 1996	2,050,682.88	1,375,195.75	35.48	3-1/4 IN FLAT BRASS CAP (FOUND)
C 103 1965			26.95	US&GC SBC (NOT FOUND)
HB-08 2009	2,050,150.78	1,377,830.73	31.92	3-1/4 IN DOMED ALUMINUM CAP (FOUND)
HB-09 2009	2,051,199.61	1,375,120.24	32.01	3-1/4 IN DOMED ALUMINUM CAP (FOUND)
HOMER BASIN 4 1965	2,050,038.11	1,378,340.09	31.28	USACE SBC (NOT SEARCH)
HOMER BASIN 5 1965	2,049,940.32	1,378,344.30	30.87	USACE SBC (FOUND, NOT GPS SUITABLE)
HOMER BASIN 6 1965	2,049,887.28	1,378,073.96	31.21	USACE SBC (FOUND)
HOMER BASIN 7 1965	2,049,712.22	1,377,964.36	31.46	USACE SBC (FOUND)

NAVIGATION AIDS

USCG NO.	NORTHING	EASTING	DESCRIPTION
26210	2,049,940	1,378,351	HOMER BREAKWATER LIGHT 2
26216	2,049,932	1,378,484	SOUTH LIGHTED MOORING BUOY

VOLUME COMPUTATIONS

AREA	MLLW (FT)	CU. YD.
AREA A: OUTER ENTRANCE CHANNEL		
REMOVED TO DREDGE DEPTH (DD)	-20.0	35
REMOVED BETWEEN DD AND MAX PAY DEPTH (MP)	-21.0	227
REMOVED SIDE SLOPES (SS) AT 3:1 (H:V) & 25' WIDE	VARIES	47
AREA B: USCG BASIN AREA		
REMOVED TO DD	-22 TO -26	879
REMOVED BETWEEN DD AND MP	-23 TO -27	202
REMOVED SS	VARIES	1,651
AREA C: INNER CHANNEL AREA		
REMOVED TO DD	-20.0	451
REMOVED BETWEEN DD AND MP	-21.0	137
REMOVED SS	VARIES	1,606
AREA D: MANEUVERING AREA (NOT DREDGED)		
AREA E: MANEUVERING AREA (NOT DREDGED)		
AREA F: MANEUVERING AREA (NOT DREDGED)		
TOTAL MAXIMUM VOLUME REMOVED (MP + SS)	VARIES	5,236
DREDGED AREA OVERDREDGE (AREA A,B,&C)	VARIES	346
SIDE SLOPE AREA OVERDREDGE (AREA A,B,&C)	VARIES	341

US Army Corps of Engineers - ALASKA DISTRICT

CONTRACT NO. W11H612-C-0005
 CONTRACTOR: ALASKA MARINE EXCAVATION
 CITY: ANCHORAGE
 STATE: ALASKA
 APPROVED: [Signature]
 DATE: [Date]

REVISIONS:

NO.	DESCRIPTION	DATE

DESIGNED BY: [Name]
 CHECKED BY: [Name]
 DRAWN BY: [Name]
 APPROVED BY: [Name]
 DATE: [Date]
 FILE NAME: [Name]
 SIZE: [Name]
 AND E: [Name]

**HOMER, ALASKA
 HOMER HARBOR
 POST DREDGE SURVEY
 SEPTEMBER 12 & 13, 2016**

SHEET IDENTIFICATION
 V-101
 Sheet 1 of 3



NOTES

- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83 IN US SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAD83(CORS) 2003.00 EPOCH VALUES OF NOS CORRS STATIONS: "KENAI 5 CORRS ARP" (KENS - PID D3J329), "ANCHORAGE CORRS ARP" (TSEA - PID A0692), LOCAL HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, IN FEET, NAD 83, HOLDING USACE SBC "HOMER BASIN 7" AS V 2,049,712.22, E 1,377,964.36 AND USACE SBC "BL-2-A" AS N 2,049,793.81, E 1,378,015.52.
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NAVIGATION AIDS

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26210	2,049,940	1,378,351	HOMER BREAKWATER LIGHT 2
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US Army Corps of Engineers - ALASKA DISTRICT

CONTRACT NO. W11H912-C-0005
 CONTRACTOR: ALASKA MARINE EXCAVATION
 CITY: ANCHORAGE POINT
 STATE: ALASKA
 Approved: _____ Date: _____
 Recommended: _____
 Review: _____ Date: _____

**HOMER, ALASKA
HOMER HARBOR
POST DREDGE SURVEY
SEPTEMBER 12 & 13, 2016**

SHEET IDENTIFICATION
V-102
Sheet 2 of 3



NOTES

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US Army Corps of Engineers - ALASKA DISTRICT

CONTRACT NO. W11H9-12-C-0005
 CONTRACTOR: ALASKA MARINE EXCAVATION
 CITY: ANCHORAGE
 STATE: ALASKA
 DATE: _____

APPROVED: _____
 RECOMMENDED: _____
 BY: _____ DATE: _____

DESCRIPTION: _____

DESIGNED BY: _____ DATE: _____
 DRAWN BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 APPROVED BY: _____ DATE: _____
 FILE NAME: _____
 SIZE: _____
 DATE: _____

**U.S. ARMY CORPS OF ENGINEERS
 ALASKA DISTRICT
 JBER, ALASKA 99506-0888**

**HUGHES & ASSOCIATES
 1000 COTLE LOOP
 WASILLA, ALASKA**

**HOMER, ALASKA
 HOMER HARBOR
 POST DREDGE SURVEY
 SEPTEMBER 12 & 13, 2016**

SHEET IDENTIFICATION
 V-103
 Sheet 3 of 3