



PROJECT LIMITS			
CORNER#	NORTHING	EASTING	DESCRIPTION
1	2,365,030.22	2,537,792.73	PI
2	2,365,300.33	2,538,062.84	PI
3	2,365,713.99	2,537,649.18	PT
4	2,365,735.21	2,537,627.97	PI
5	2,365,713.99	2,537,606.76	PT
6	2,365,692.78	2,537,627.97	RP
7	2,365,409.06	2,537,301.82	PI
8	2,365,208.45	2,537,220.77	PI
9	2,365,170.99	2,537,313.49	PI
10	2,365,370.03	2,537,393.91	PT
11	2,365,412.06	2,537,410.89	PI
12	2,365,380.01	2,537,442.94	PT
13	2,365,358.79	2,537,421.73	RP

VOLUME COMPUTATIONS		
DREDGE AREA	MLLW=0	CU. YD.
AVAILABLE TO PROJECT DEPTH (PD)	-12.0	4,322
AVAILABLE TO MAX PAY DEPTH (MP)	-13.0	6,778
AVAILABLE SIDE SLOPES (SS) AT 3:1 (H:V) & 25' WIDE	VARIES	2,719
TOTAL MAXIMUM VOLUME AVAILABLE (MP + SS)		9,497

LEGEND

- CULVERT <
- CATCH BASIN ☒



NOTES

- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE ZONE 1, NAD83 (2011) 2010.00, IN U.S. SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAD83 (2011) 2010.00 EPOCH VALUES OF NGS STATIONS: "JNU TIDAL GPS" (PID:A14908) AS N 2,362,232.94', E 2,541,120.78'; "JNU C" (PID:A14906) AS N 2,382,651.51', E 2,511,618.99'. LOCAL PROJECT HORIZONTAL CONTROL AT THE HARBOR IS ALASKA STATE PLANE, ZONE 1, NAD83 (2011) 2010.00, IN U.S. SURVEY FEET HOLDING "JA-1 RESET 1989" (PID:BBFS28) AS N 2,363,834.84', E 2,538,657.82'. LOCAL PROJECT HORIZONTAL CONTROL AT THE DISPOSAL AREA IS ALASKA STATE PLANE ZONE 1, NAD83 (2011) 2010.00 IN U.S. SURVEY FEET HOLDING "DH-C 2000" (PID:BBGJ87) AS N 2,353,359.31' E 2,546,726.69'.
- VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0 FT), BASED ON THE NOAA/NOS TIDAL BENCH MARK LIST "9452210 JUNEAU, GASTINEAU CHANNEL, STEPHENS PASS, ALASKA", PUBLISHED 02/16/2018. THIS TIDAL DATUM IS BASED ON THE 2012-2016 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA/NOS TIDAL BENCH MARK "945 2210 C" (VM#1196) AS 30.19'.
- SOUNDINGS ARE IN U.S. SURVEY FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
- BATHYMETRY WAS COLLECTED OCTOBER 26 - 29, 2020. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2020 MULTIBEAM ECHOSOUNDER OPERATING AT 400 KHZ. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN AML BASE X SOUND VELOCITY PROBE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSMV WAVEMASTER V5 SYSTEM RECEIVING RTK CORRECTIONS FROM A TRIMBLE R8 MODEL 3 GPS RECEIVER SET AT CONTROL STATION "JA-1 RESET 1989" AND "DH-C 2000". DATA WAS COLLECTED AND PROCESSED USING QINSY 8.1 AND QIMERA 1.7 SOFTWARE. HORIZONTAL AND VERTICAL CONTROL WAS VERIFIED USING RTK GNSS EQUIPMENT AND TECHNIQUES.
- THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
- MAP SOUNDINGS IN THE HARBORS ARE BINNED AT 24 FEET AND ARE SHOAL BIASED. CONTOURS ARE BINNED AT 12 FEET AND ARE SHOAL BIASED. VOLUME SOUNDINGS ARE BINNED AT 3 FEET AND ARE MEAN-VALUE. MAP SOUNDINGS IN THE DISPOSAL AREA ARE BINNED AT 96 FEET AND ARE SHOAL BIASED. CONTOURS ARE BINNED AT 12 FEET AND ARE SHOAL BIASED.

SURVEY CONTROL DATA

STATION	NORTHING	EASTING	MLLW	DESCRIPTION
945 2210 M	2,362,530.33	2,542,076.08	27.63	3-1/2 IN. NOS SBC
DH-C 2000	2,353,359.31	2,546,726.69	26.30	3-1/4 IN. BC
JA-1 RESET 1989	2,363,834.84	2,538,657.82	24.62	3-1/2 IN. USACE SBC
JH-1 1972	2,362,671.49	2,539,630.95	29.95	4 IN. USACE TRI. SBC
RAMP 1975	2,353,048.30	2,547,438.98	23.57	3-1/2 IN. USACESBC



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

 David R. Neff C.H. (275)

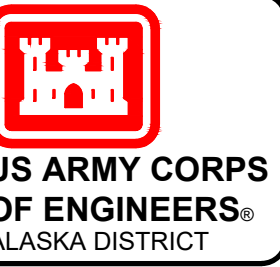


REV.	DATE	BY	APPR.	DESCRIPTION

U.S. ARMY CORPS OF ENGINEERS 2043 3RD STREET JBER, ALASKA 99505-0888	UPC: JUN004	CONTRACT NO.: W911KB-19-C-0031	STATE: ALASKA
SURVEYED BY: JOHN EPPS	PLOT DATE: 12-Nov-20	TASK ORDER NO.:	IBASILLA
DRAWN BY: ROBERT GOUGHNOUR	ANSI D:	JOB NO.:	
CHECKED BY: TAS/JBGALT	SCALE: 1" = 150'	CONTRACTOR: IETRAC INC.	
APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	FILE: JUN004_AURORA_PRE.DWG		

JUNEAU, ALASKA
JUN004 - HARRIS HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

REFERENCE NUMBER:
1-JUN-91-01-01
 SHEET 1 OF 8



REV.	DATE	BY	APPR.	DESCRIPTION

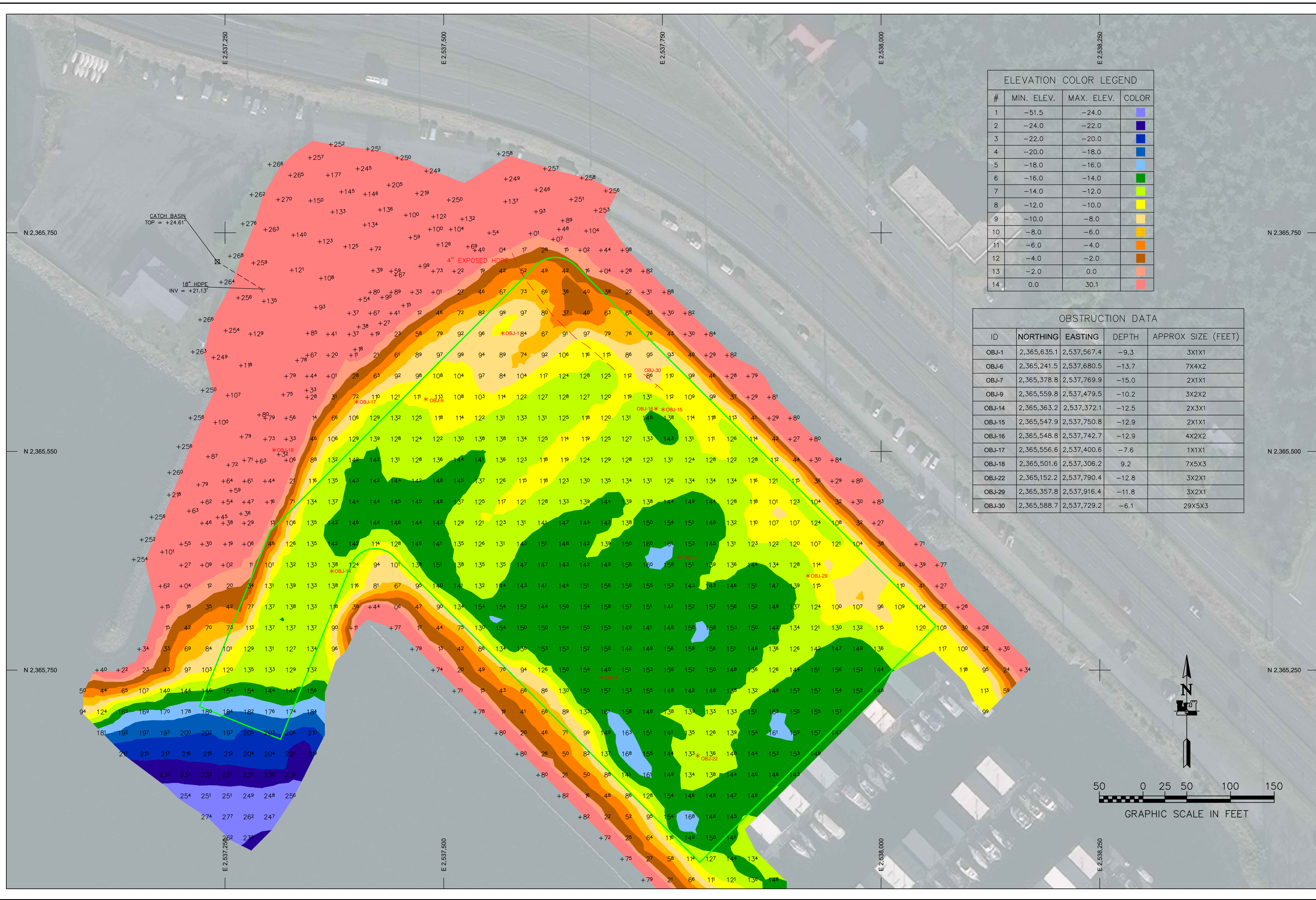
SURVEYED BY: JOHN EPPS DRAWN BY: ROBERT GOUGHNOUR CHECKED BY: TAS/BBG/ALT	UIC: JUN004	PLOT DATE: 12-Nov-20	SCALE: 1" = 50'	JOB NO.: ITRAC INC.	STATE: ALASKA
	CONTRACT NO.: W911KH-19-C-0031	TASK ORDER NO.:	FILE: JUN004_AURORA_PRR_DWG	CONTRACTOR: ITRAC INC.	CITY: WASILLA

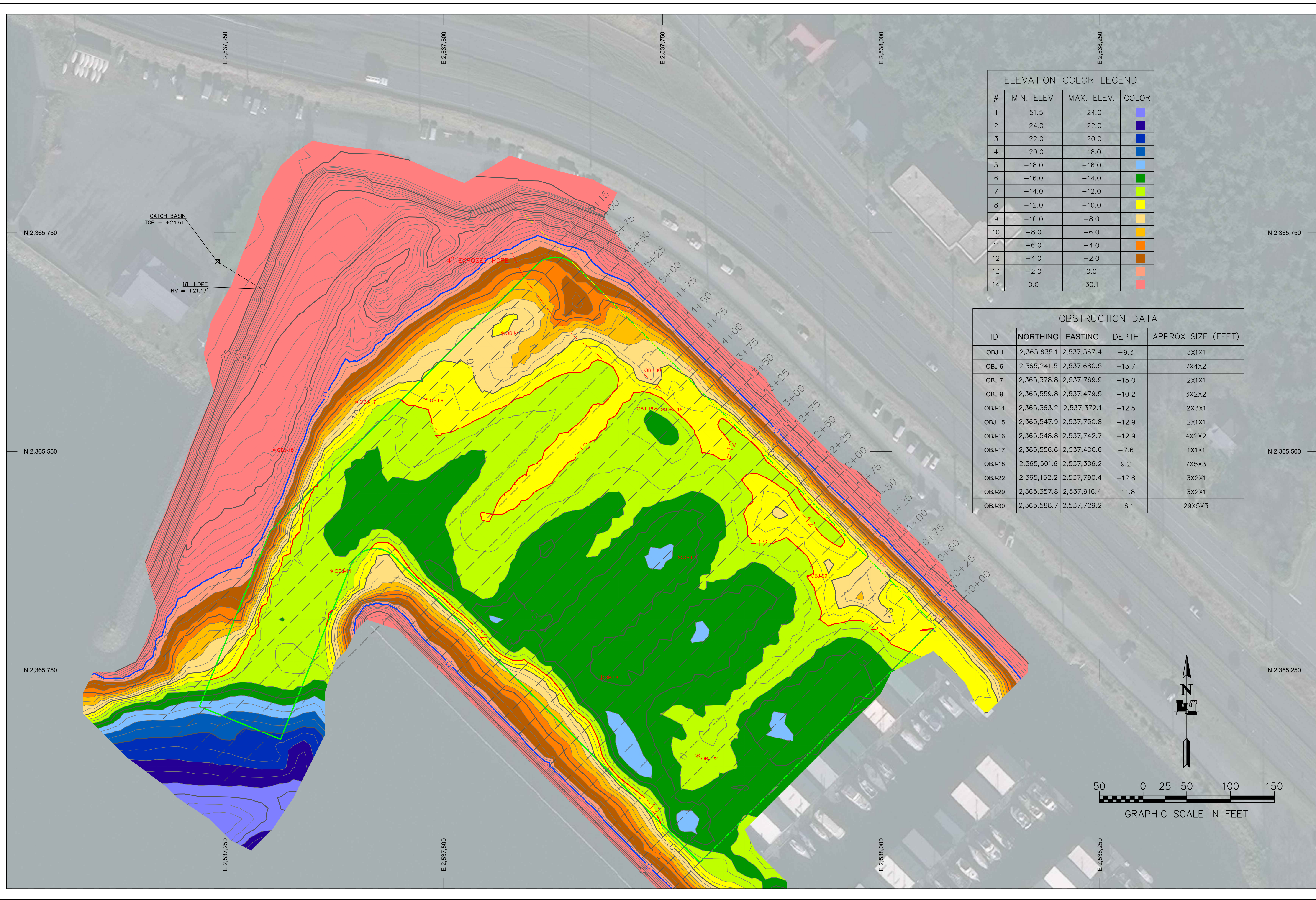
JUNEAU, ALASKA
JUN004 - AURORA HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

REFERENCE NUMBER:
1-JUN-91-01-01
 SHEET 2 OF 8

ELEVATION COLOR LEGEND			
#	MIN. ELEV.	MAX. ELEV.	COLOR
1	-51.5	-24.0	Light Blue
2	-24.0	-22.0	Dark Blue
3	-22.0	-20.0	Blue
4	-20.0	-18.0	Light Blue
5	-18.0	-16.0	Light Green
6	-16.0	-14.0	Green
7	-14.0	-12.0	Yellow-Green
8	-12.0	-10.0	Yellow
9	-10.0	-8.0	Light Yellow
10	-8.0	-6.0	Yellow
11	-6.0	-4.0	Orange
12	-4.0	-2.0	Dark Orange
13	-2.0	0.0	Red-Orange
14	0.0	30.1	Red

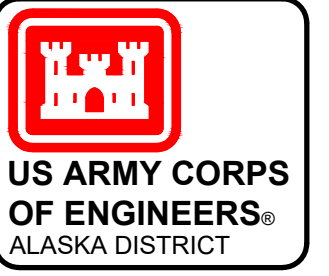
OBSTRUCTION DATA				
ID	NORTHING	EASTING	DEPTH	APPROX SIZE (FEET)
OBJ-1	2,365,635.1	2,537,567.4	-9.3	3X1X1
OBJ-6	2,365,241.5	2,537,680.5	-13.7	7X4X2
OBJ-7	2,365,378.8	2,537,769.9	-15.0	2X1X1
OBJ-9	2,365,559.8	2,537,479.5	-10.2	3X2X2
OBJ-14	2,365,363.2	2,537,372.1	-12.5	2X3X1
OBJ-15	2,365,547.9	2,537,750.8	-12.9	2X1X1
OBJ-16	2,365,548.8	2,537,742.7	-12.9	4X2X2
OBJ-17	2,365,556.6	2,537,400.6	-7.6	1X1X1
OBJ-18	2,365,501.6	2,537,306.2	9.2	7X5X3
OBJ-22	2,365,152.2	2,537,790.4	-12.8	3X2X1
OBJ-29	2,365,357.8	2,537,916.4	-11.8	3X2X1
OBJ-30	2,365,588.7	2,537,729.2	-6.1	29X5X3





ELEVATION COLOR LEGEND			
#	MIN. ELEV.	MAX. ELEV.	COLOR
1	-51.5	-24.0	Light Blue
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6	-16.0	-14.0	Green
7	-14.0	-12.0	Yellow-Green
8	-12.0	-10.0	Yellow
9	-10.0	-8.0	Light Orange
10	-8.0	-6.0	Orange
11	-6.0	-4.0	Dark Orange
12	-4.0	-2.0	Red-Orange
13	-2.0	0.0	Red
14	0.0	30.1	Dark Red

OBSTRUCTION DATA				
ID	NORTHING	EASTING	DEPTH	APPROX SIZE (FEET)
OBJ-1	2,365,635.1	2,537,567.4	-9.3	3X1X1
OBJ-6	2,365,241.5	2,537,680.5	-13.7	7X4X2
OBJ-7	2,365,378.8	2,537,769.9	-15.0	2X1X1
OBJ-9	2,365,559.8	2,537,479.5	-10.2	3X2X2
OBJ-14	2,365,363.2	2,537,372.1	-12.5	2X3X1
OBJ-15	2,365,547.9	2,537,750.8	-12.9	2X1X1
OBJ-16	2,365,548.8	2,537,742.7	-12.9	4X2X2
OBJ-17	2,365,556.6	2,537,400.6	-7.6	1X1X1
OBJ-18	2,365,501.6	2,537,306.2	9.2	7X5X3
OBJ-22	2,365,152.2	2,537,790.4	-12.8	3X2X1
OBJ-29	2,365,357.8	2,537,916.4	-11.8	3X2X1
OBJ-30	2,365,588.7	2,537,729.2	-6.1	29X5X3

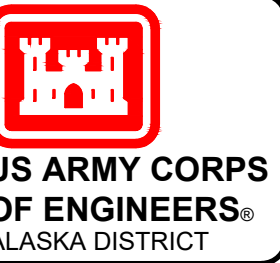


REV.	DATE	BY	APPR.	DESCRIPTION

U.S. ARMY CORPS OF ENGINEERS 204 3RD STREET BER ALASKA 99505-0888	SURVEYED BY: JOHN EPPS	UIC: JUN004	CONTRACT NO.: W911KB-19-C-0031
DRAWN BY: ROBERT GOUGHNOUR	PLOT DATE: 12-Nov-20	TASK ORDER NO.:	JOB NO.:
CHECKED BY: TAS/BJG/ALT	SCALE: 1" = 50'	CONTRACTOR: IETRAC INC.	STATE: ALASKA
APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	FILE: JUN004_AURORA_PRE.DWG	CITY: WASILLA	COUNTY: MATANUSKA-SITKA

JUNEAU, ALASKA
JUN004 - AURORA HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

REFERENCE NUMBER:
1-JUN-91-01-01
 SHEET 3 OF 8



REV.	DATE	BY	APPR.	DESCRIPTION

U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT 204 3RD STREET BEREAVEMENT, ALASKA 99505-0888	UPC: JUN004 SURVEYED BY: JOHN EPPS DRAWN BY: ROBERT GOUGHNOUR CHECKED BY: TAS/DBG/ALT	CONTRACT NO.: W911KB-19-C-0031 TASK ORDER NO.: JOB NO.: SCALE: 1" = 50'	CONTRACTOR: IETRAC, INC. STATE: ALASKA WASILLA
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JUNEAU, ALASKA
JUN004 - AURORA HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

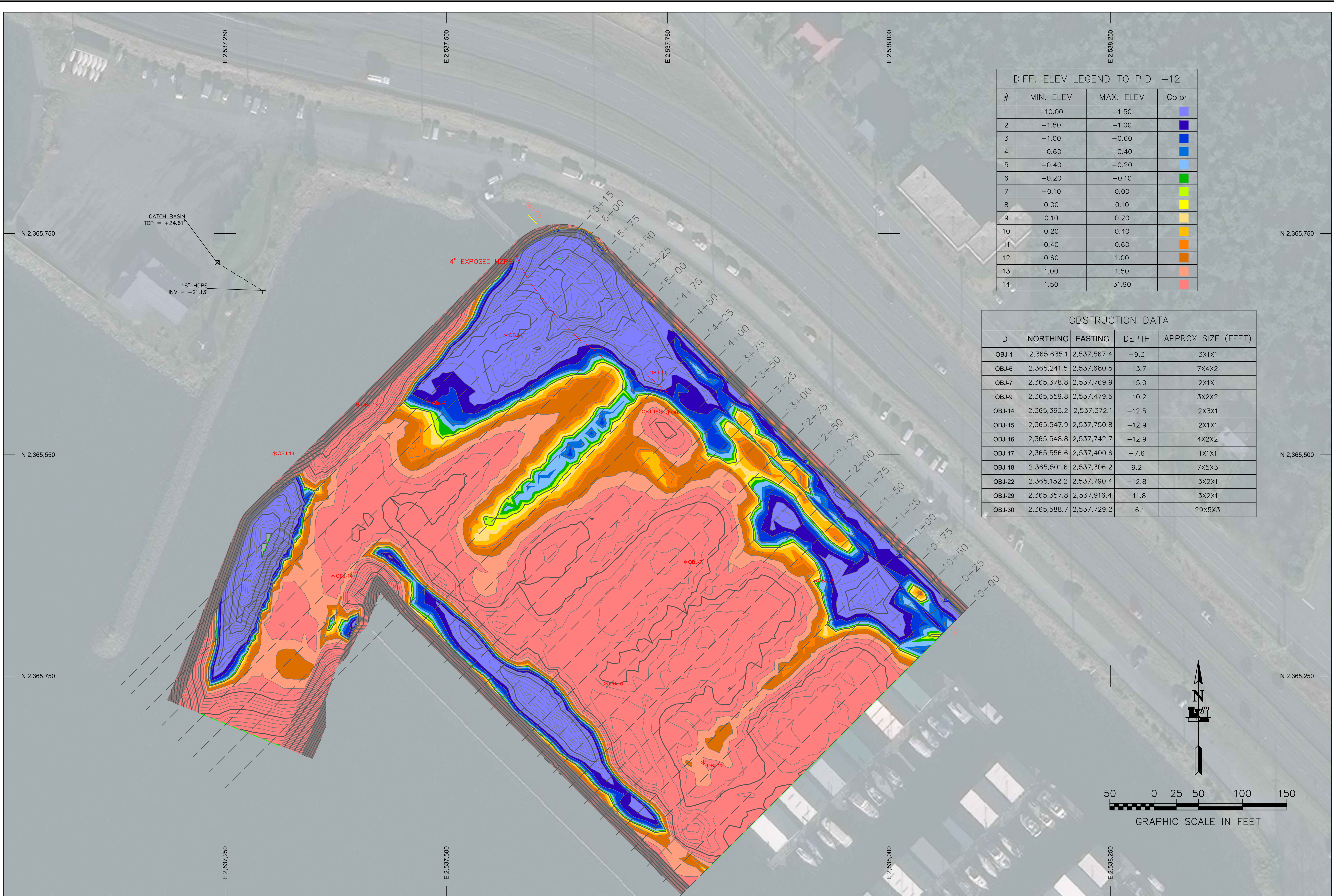
REFERENCE NUMBER:
1-JUN-91-01-01
 SHEET 4 OF 8

DIFF. ELEV LEGEND TO P.D. -12

#	MIN. ELEV	MAX. ELEV	Color
1	-10.00	-1.50	Light Blue
2	-1.50	-1.00	Dark Blue
3	-1.00	-0.60	Blue
4	-0.60	-0.40	Light Blue
5	-0.40	-0.20	Light Green
6	-0.20	-0.10	Green
7	-0.10	0.00	Yellow-Green
8	0.00	0.10	Yellow
9	0.10	0.20	Light Orange
10	0.20	0.40	Orange
11	0.40	0.60	Dark Orange
12	0.60	1.00	Red-Orange
13	1.00	1.50	Red
14	1.50	31.90	Dark Red

OBSTRUCTION DATA

ID	NORTHING	EASTING	DEPTH	APPROX SIZE (FEET)
OBJ-1	2,365,635.1	2,537,567.4	-9.3	3X1X1
OBJ-6	2,365,241.5	2,537,680.5	-13.7	7X4X2
OBJ-7	2,365,378.8	2,537,769.9	-15.0	2X1X1
OBJ-9	2,365,559.8	2,537,479.5	-10.2	3X2X2
OBJ-14	2,365,363.2	2,537,372.1	-12.5	2X3X1
OBJ-15	2,365,547.9	2,537,750.8	-12.9	2X1X1
OBJ-16	2,365,548.8	2,537,742.7	-12.9	4X2X2
OBJ-17	2,365,556.6	2,537,400.6	-7.6	1X1X1
OBJ-18	2,365,501.6	2,537,306.2	9.2	7X5X3
OBJ-22	2,365,152.2	2,537,790.4	-12.8	3X2X1
OBJ-29	2,365,357.8	2,537,916.4	-11.8	3X2X1
OBJ-30	2,365,588.7	2,537,729.2	-6.1	29X5X3



CATCH BASIN
 TOP = +24.61'
 18" HDPE
 INV = +21.13'

4" EXPOSED HDPE

*OBJ-18

*OBJ-14

*OBJ-22

*OBJ-17

*OBJ-10

*OBJ-7

*OBJ-6

*OBJ-16

*OBJ-15

*OBJ-14

*OBJ-9

*OBJ-7

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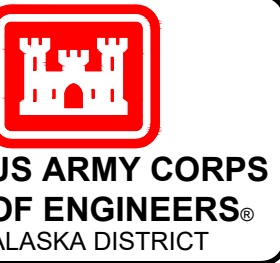
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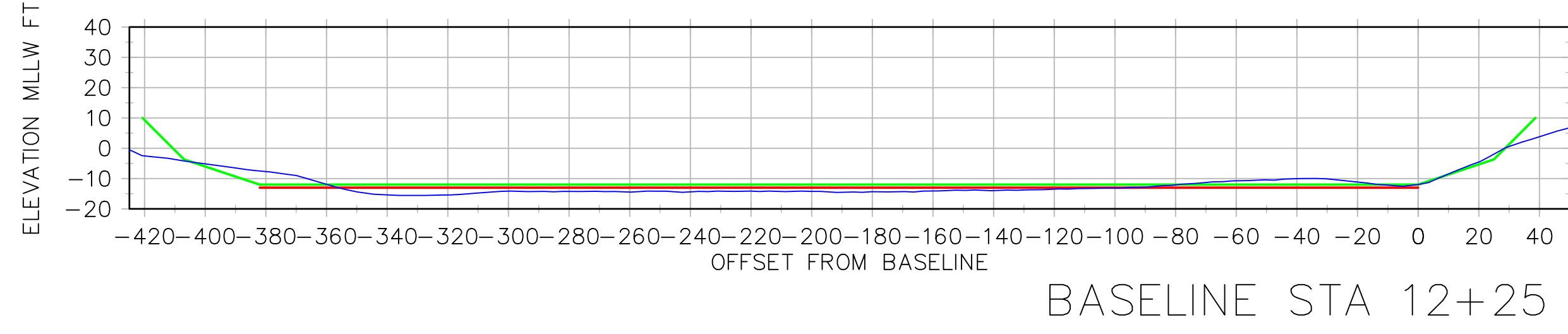
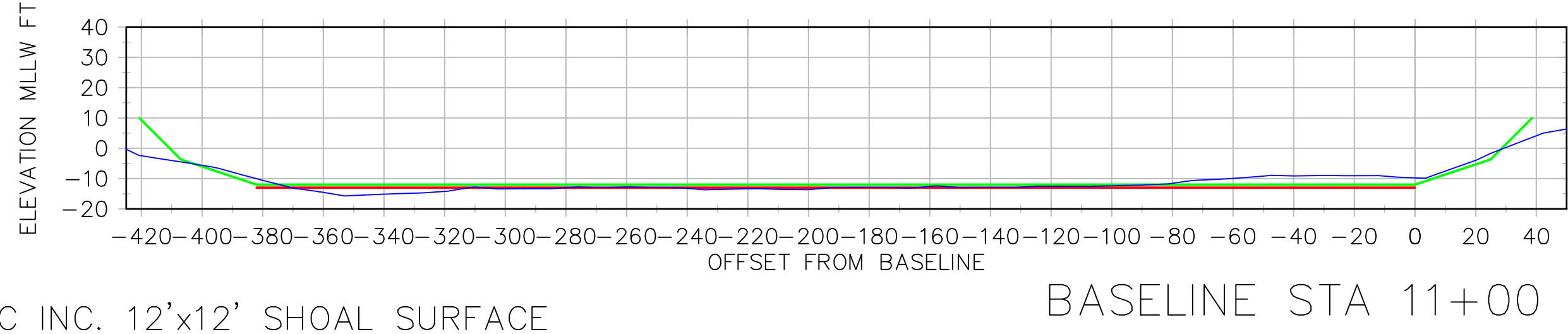
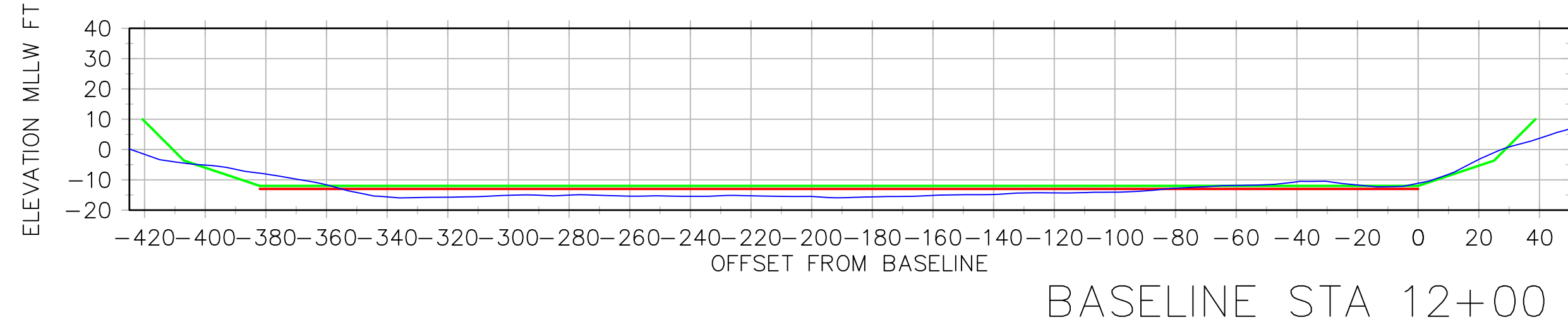
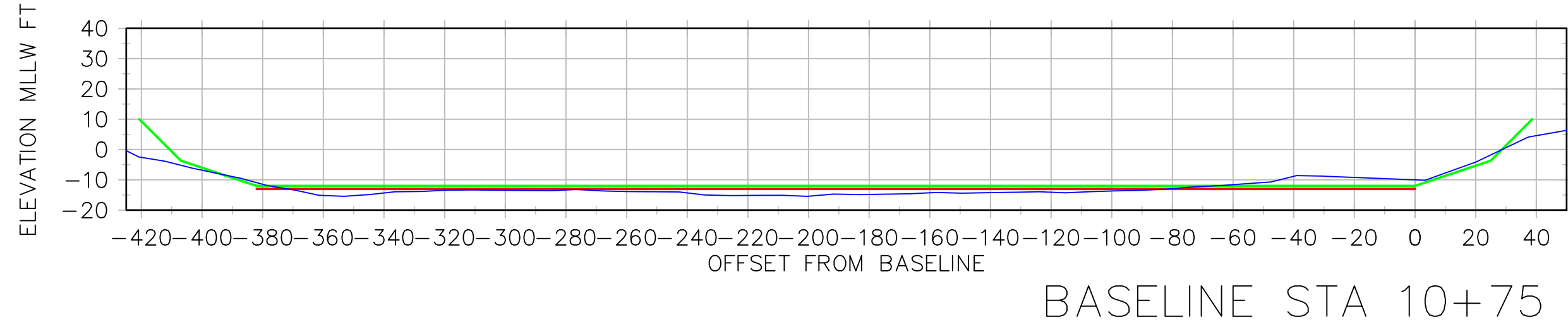
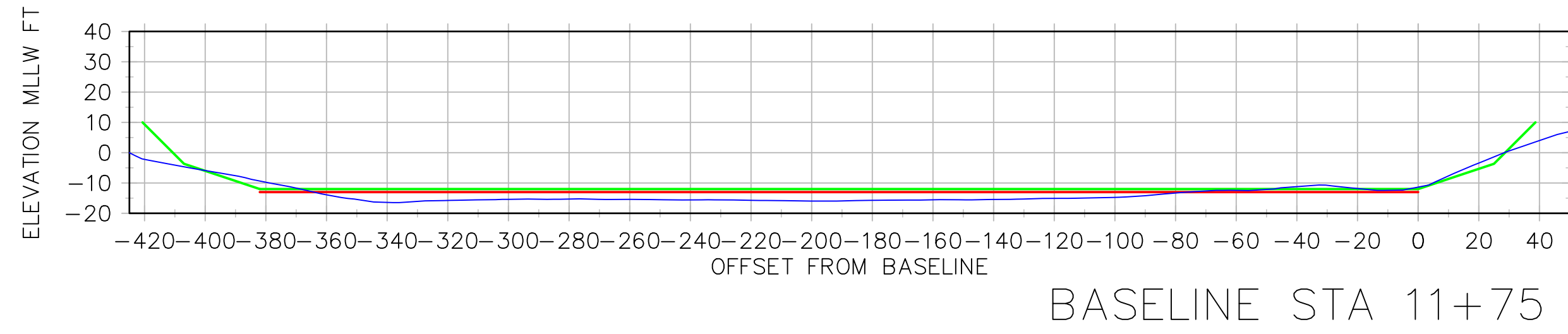
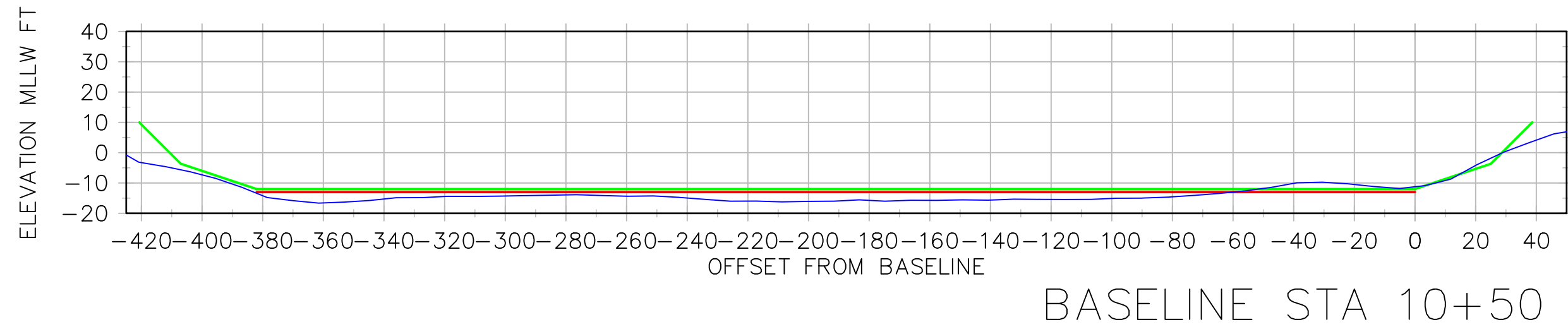
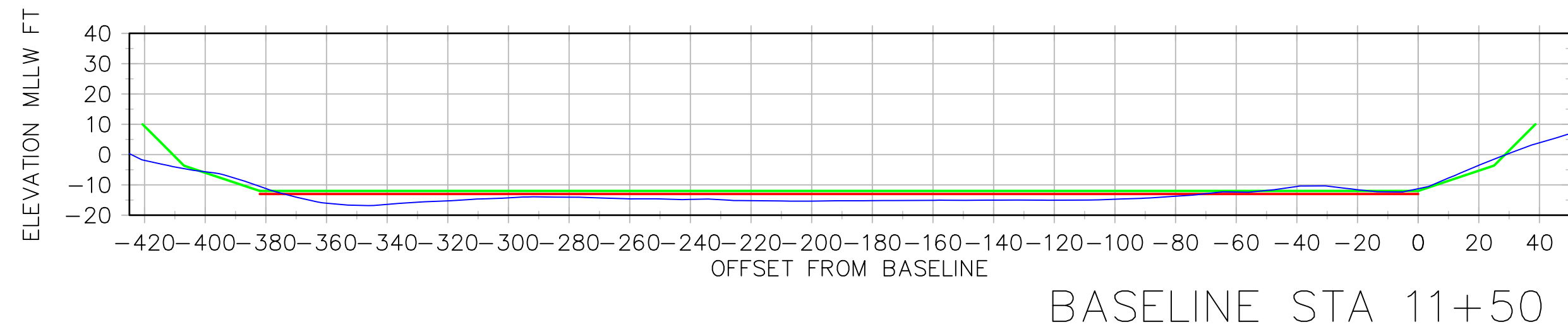
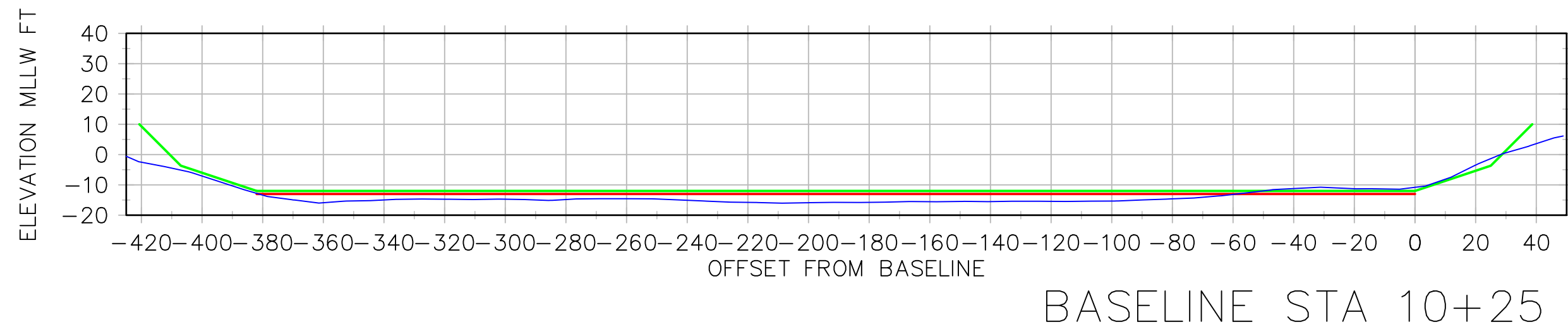
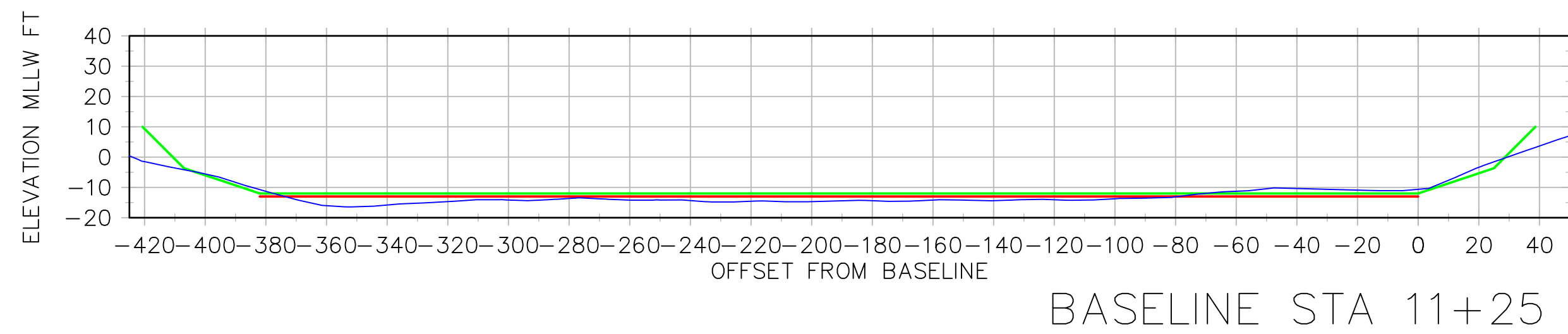
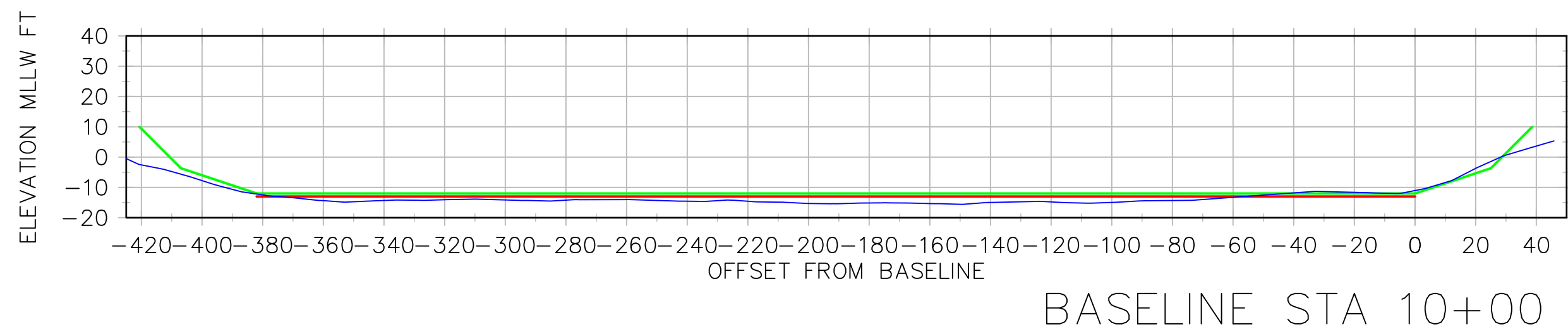
US ARMY CORPS OF ENGINEERS ALASKA DISTRICT

REV.	DATE	BY	APPR.	DESCRIPTION

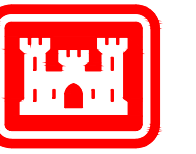
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UPC: JUN004	PLOT DATE: 12-Nov-20	ANSI D:	SCALE: 1" = 50'	FILE: JUN004_AURORA_PRE.DWG
SURVEYED BY: JOHN LEPPS	DRAWN BY: ROBERT GOUGHNOUR	CHECKED BY: TAS/JBG/ALT	APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	
US ARMY CORPS OF ENGINEERS 200 3RD STREET BER, ALASKA 99505-0888				

JUNEAU, ALASKA
JUN004 - AURORA HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

REFERENCE NUMBER:
1-JUN-91-01-01
 SHEET 5 OF 8



ETRAC INC. 12'x12' SHOAL SURFACE
 SURVEYED OCT 24-29, 2020
 PROJECT DEPTH -12' MLLW
 MAX PAY DEPTH -13' MLLW



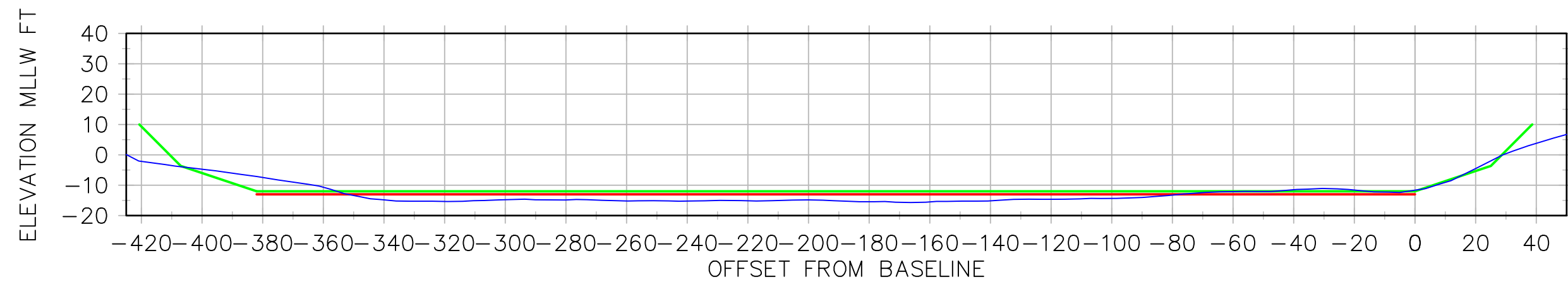
US ARMY CORPS OF ENGINEERS ALASKA DISTRICT

REV.	DATE	BY	APPR.	DESCRIPTION

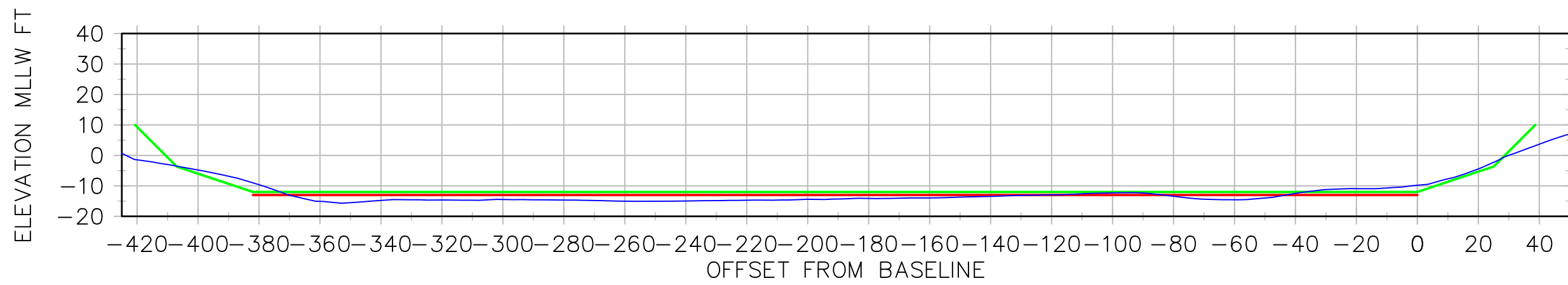
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UPC: JUN004	PLOT DATE: 12-Nov-20	ANSI D:	SCALE: 1" = 50'	FILE: JUN004_AURORA_PRE.DWG
SURVEYED BY: JOHN LEPPS	DRAWN BY: ROBERT GOUGHNOUR	CHECKED BY: TAS/JBG/ALT	APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	
U.S. ARMY CORPS OF ENGINEERS 204 3RD STREET BER, ALASKA 99505-0888				

JUNEAU, ALASKA
JUN004 - AURORA HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

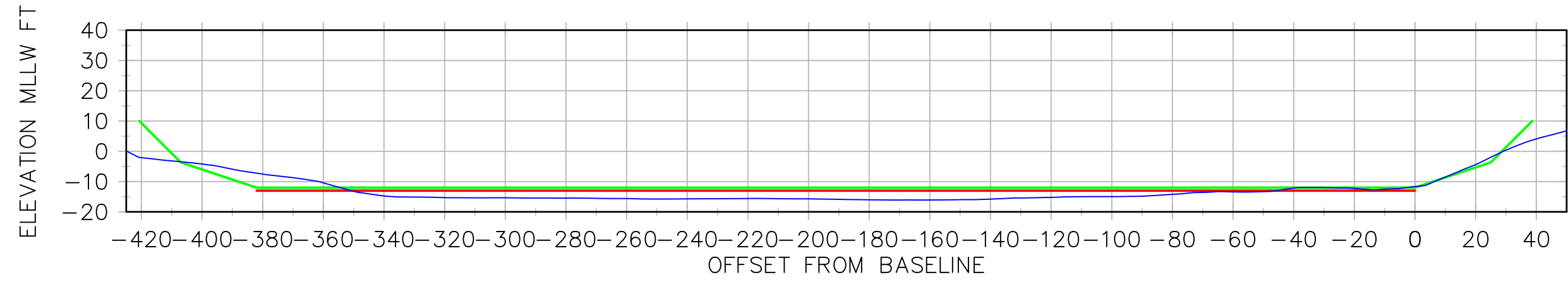
REFERENCE NUMBER:
1-JUN-91-01-01
 SHEET 6 OF 8



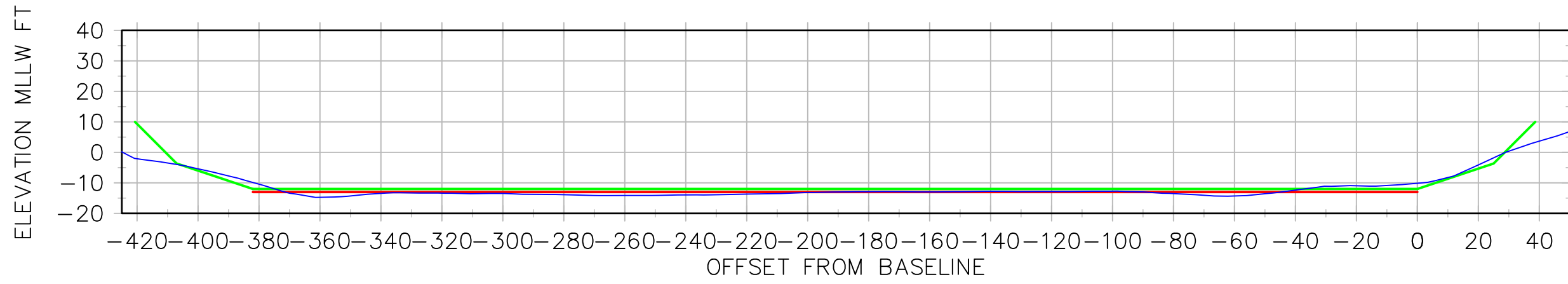
BASELINE STA 12+50



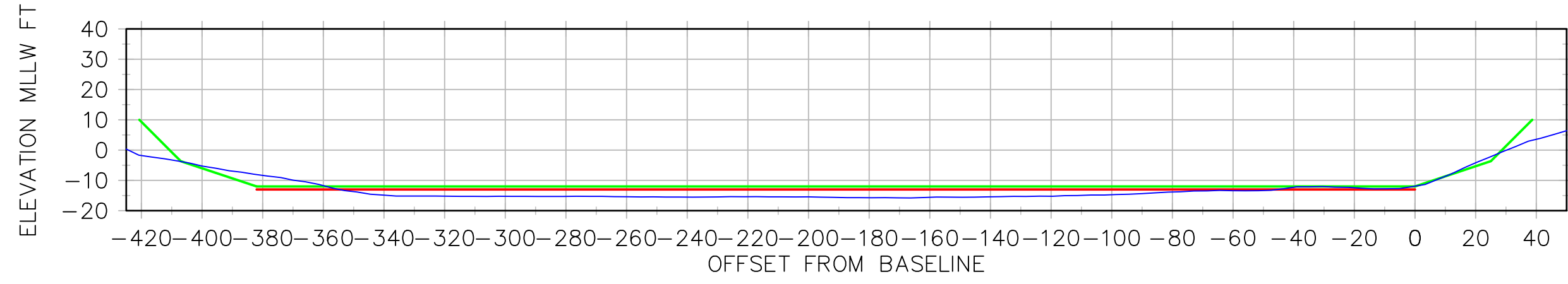
BASELINE STA 13+75



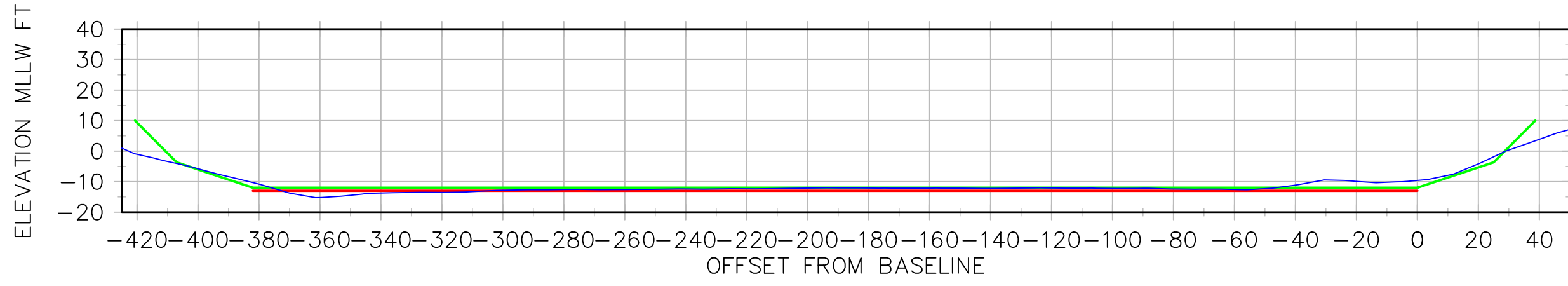
BASELINE STA 12+75



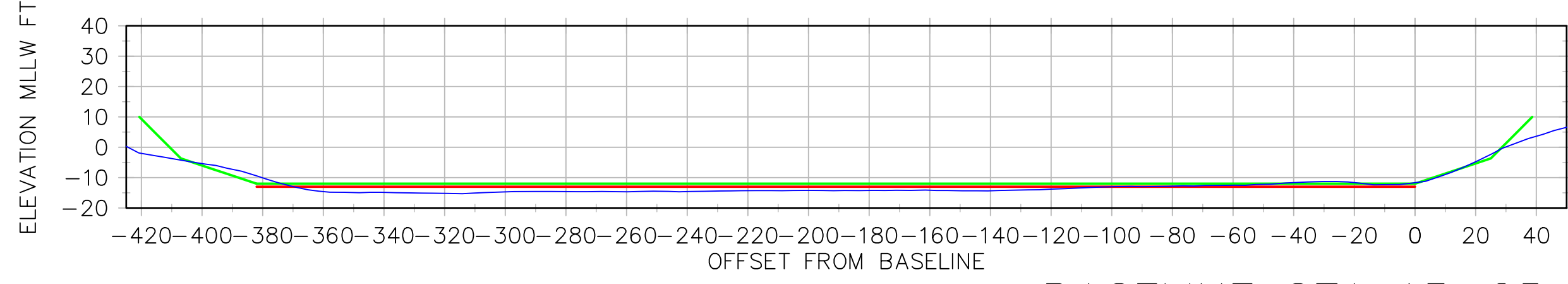
BASELINE STA 14+00



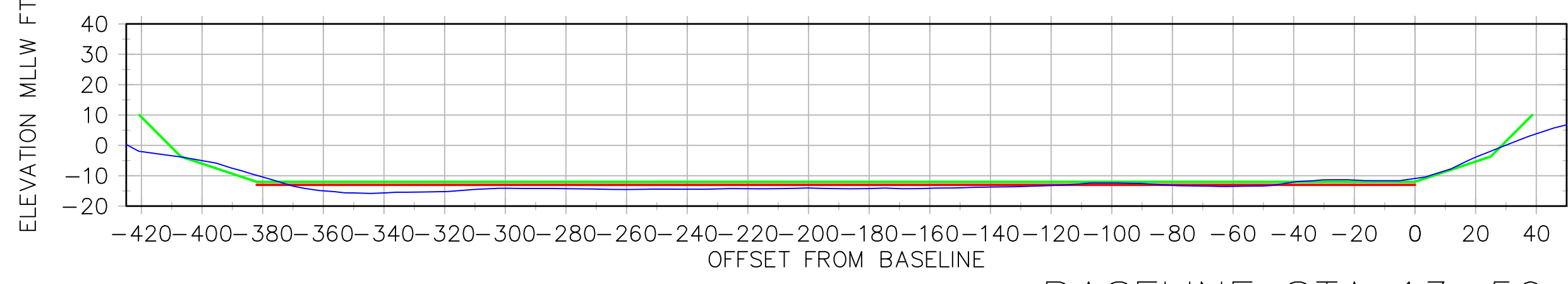
BASELINE STA 13+00



BASELINE STA 14+25

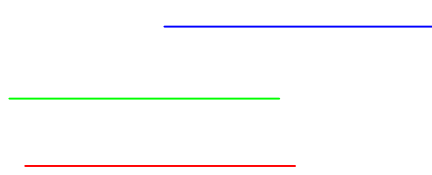


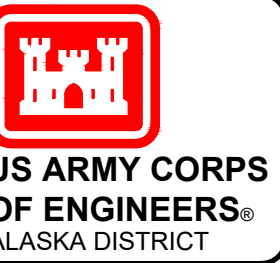
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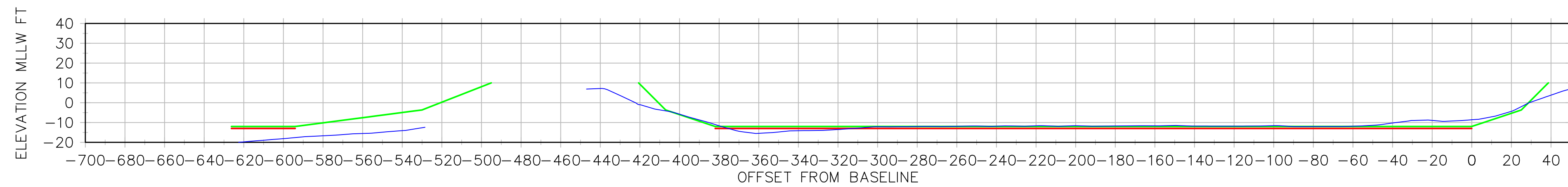
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ETRAC INC. 12'x12' SHOAL SURFACE
 SURVEYED OCT 24-29, 2020
 PROJECT DEPTH -12' MLLW
 MAX PAY DEPTH -13' MLLW

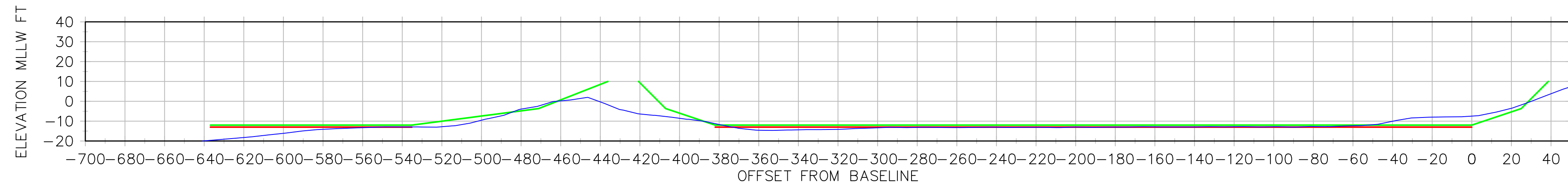




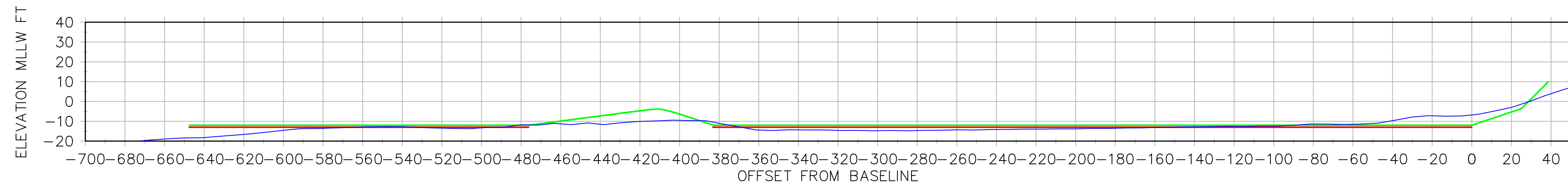
US ARMY CORPS OF ENGINEERS ALASKA DISTRICT



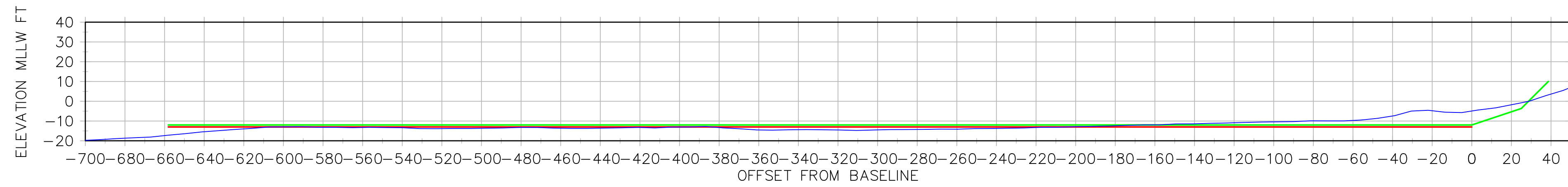
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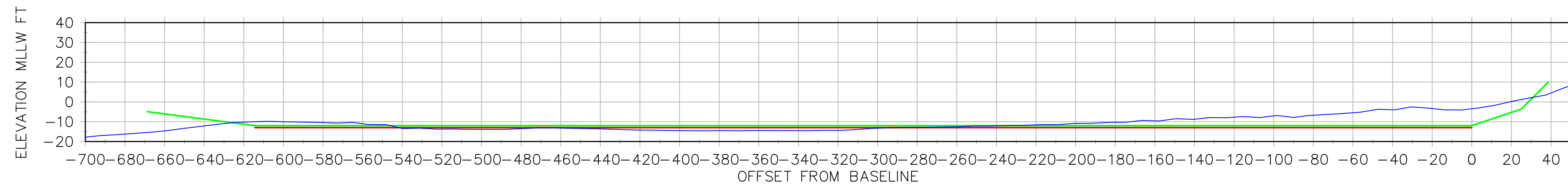
BASELINE STA 14+75



BASELINE STA 15+00

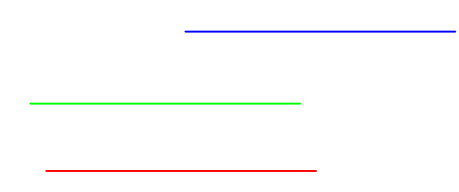


BASELINE STA 15+25



BASELINE STA 15+50

ETRAC INC. 12'x12' SHOAL SURFACE
 SURVEYED OCT 24-29, 2020
 PROJECT DEPTH -12' MLLW
 MAX PAY DEPTH -13' MLLW



REV.	DATE	BY	APPR.	DESCRIPTION

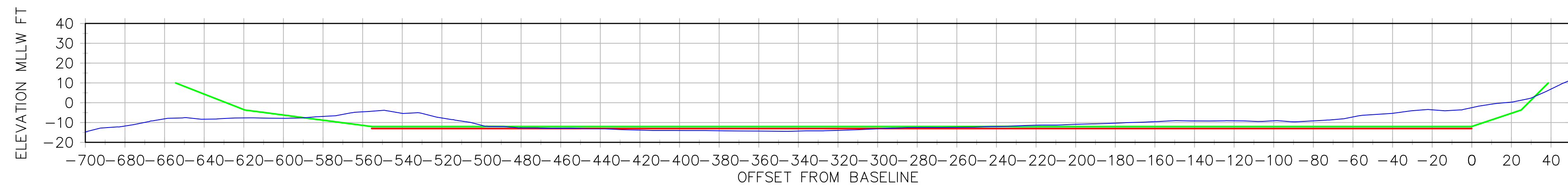
CONTRACT NO.: W911KB-19-C-0031	TASK ORDER NO.:	JOB NO.:	CONTRACTOR: ETRAC INC.	STATE: ALASKA
UPC: JUN004	PLOT DATE: 12-Nov-20	SCALE: 1" = 50'	CONTRACTOR: ETRAC INC.	CITY: WASILLA
SURVEYED BY: JOHN EPPS	DRAWN BY: ROBERT GOUGHNOUR	CHECKED BY: TAS/JBG/ALT	APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	FILE: JUN004_AURORA_PRE.DWG
U.S. ARMY CORPS OF ENGINEERS 200 W. STREET BER, ALASKA 99505-0888				

JUNEAU, ALASKA
JUN004 - AURORA HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

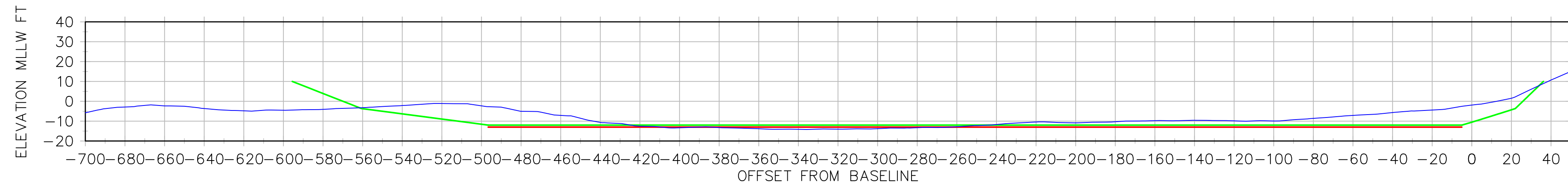
REFERENCE NUMBER:
1-JUN-91-01-01
 SHEET 7 OF 8



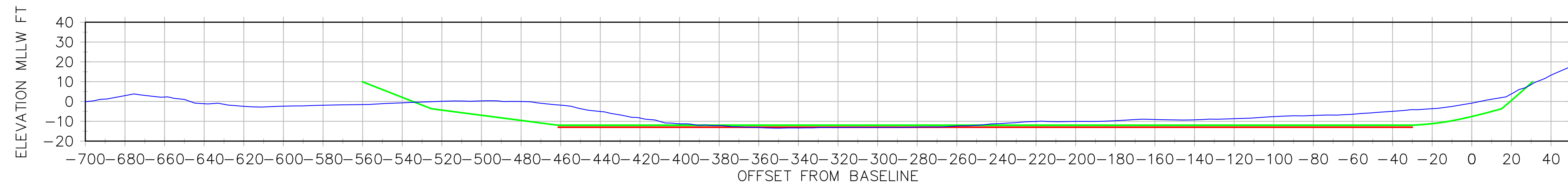
US ARMY CORPS OF ENGINEERS ALASKA DISTRICT



BASELINE STA 15+75



BASELINE STA 16+00



BASELINE STA 16+15

ETRAC INC. 12'x12' SHOAL SURFACE
 SURVEYED OCT 24-29, 2020
 PROJECT DEPTH -12' MLLW
 MAX PAY DEPTH -13' MLLW

REV.	DATE	BY	APPR.	DESCRIPTION

CONTRACT NO.: W911KB-19-C-0031	CONTRACTOR: IETRAC INC.
TASK ORDER NO.:	CLASSIFICATION: IASBILLA
JOB NO.:	STATE: ALASKA
SCALE: 1" = 50'	
ANSI D:	
SIZE:	
PLOT DATE: 12-Nov-20	
UPC: JUN004	
SURVEYED BY: JOHN EPPS	FILE: JUN004_AURORA_PRE.DWG
DRAWN BY: ROBERT GOUGHNOUR	
CHECKED BY: TAS/JBGALT	
APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	

JUNEAU, ALASKA
JUN004 - AURORA HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

REFERENCE NUMBER:
1-JUN-91-01-01
 SHEET 8 OF 8