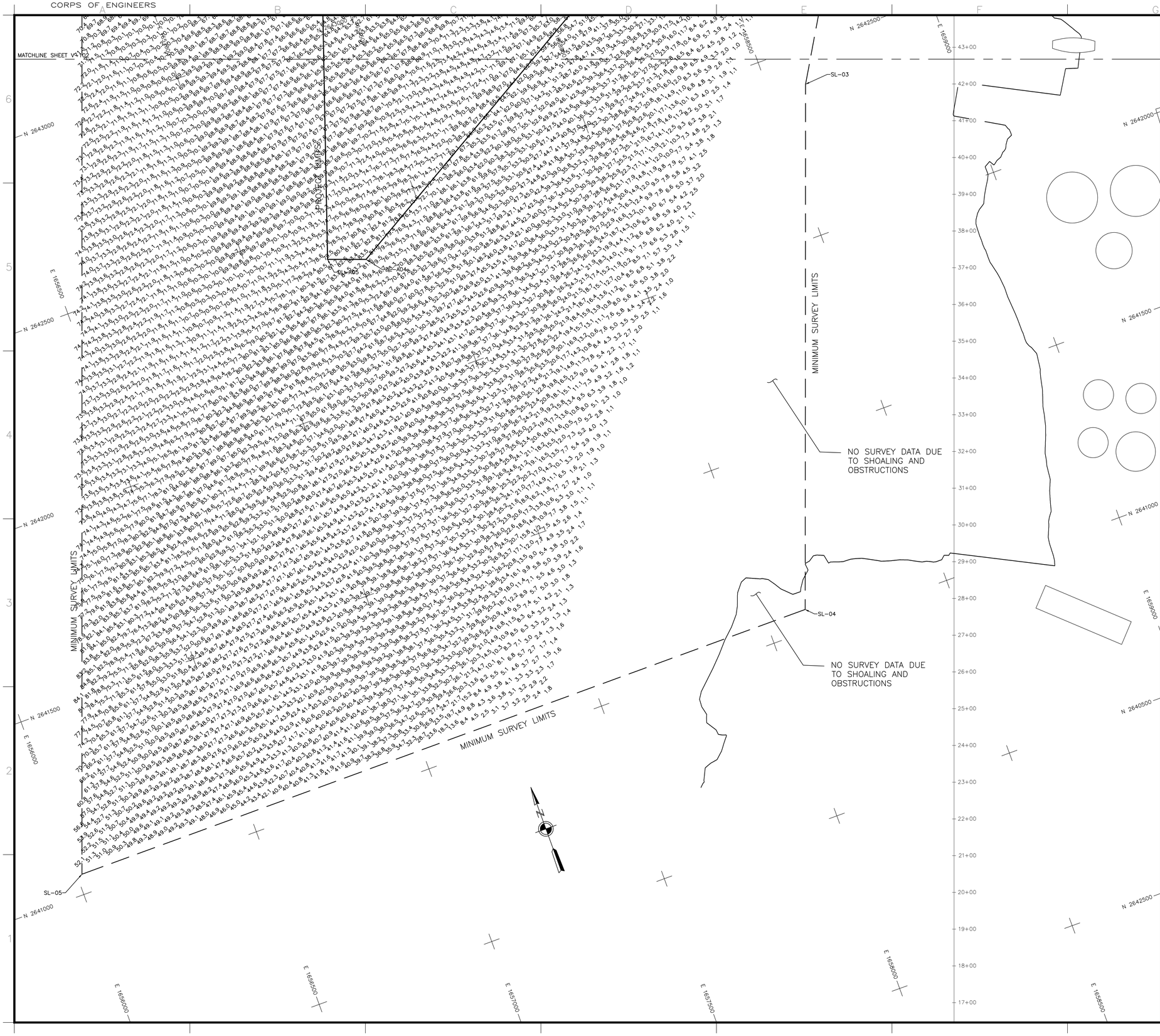
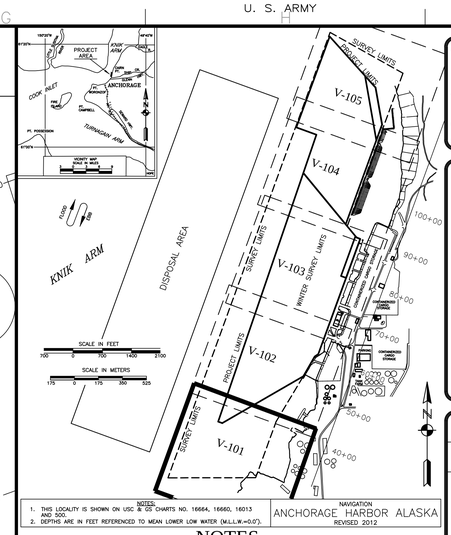
CORPS OF ENGINEERS

U. S. ARMY





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2. DEPTHS ARE IN FEET REFERENCED TO MEAN LOWER LOW WATER (M.L.L.W.=0.0').

NAVIGATION
ANCHORAGE HARBOR ALASKA
REVISED 2012

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

David R. Neff C.H.(275)

STATE OF ALASKA
49TH
REGISTERED
PROFESSIONAL
(LAND U. EJPD)
05/20/14
No. 3510
PROFESSIONAL LAND SURVEYOR

DREDGE LIMIT POINT TABLE

CORNER	NORTHING	EASTING
DL-A01	2,644,001.92	1,659,611.68
DL-A02	2,643,944.48	1,659,516.63
DL-A03	2,643,483.73	1,659,245.67
DL-B03	2,649,256.22	1,659,566.97
DL-A04	2,642,359.80	1,657,316.67
DL-A05	2,642,398.68	1,657,218.16
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SL-07	2,646,897.79	1,660,717.23
SL-08	2,647,352.20	1,660,406.89

DISPOSAL AREA POINT TABLE

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DS02	2,650,809.80	1,656,779.24
DS03	2,642,354.11	1,653,700.90
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CONTROL DATA

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ETRAC-2	2,644,443.04	1,660,120.66	36.38	Brass Cap
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ETRAC-1	2,646,395.57	1,660,814.72	38.34	Brass Cap
N. END	2,646,649.84	1,660,584.80	41.56	USACE SBC 1978 (APPROX. STA 88+73.09)

100 0 100 200 300
SCALE IN FEET
HORIZONTAL SCALE: 1"=100'

BATHYMETRY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB-12-C-0004
CONTRACTOR MANSON CONSTRUCTION CO.
CITY SEATTLE STATE WASHINGTON
Recommended: Approved: Date:
PROJ. CONTRACTOR RESIDENT ENGINEER

Cont Action	Description	Date	Approv

Date: 05/20/14
Dwg Scale: 1"=100'
Plot Scale: 1:1
File: PREDREDGE_SD140428_FINAL.dwg

Designed: S. OLSON
Drawn: S. OLSON
Reviewed: J. ANDERSON
Submitted: A. CHURCHILL
USACE Survey No.: 3172-14

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

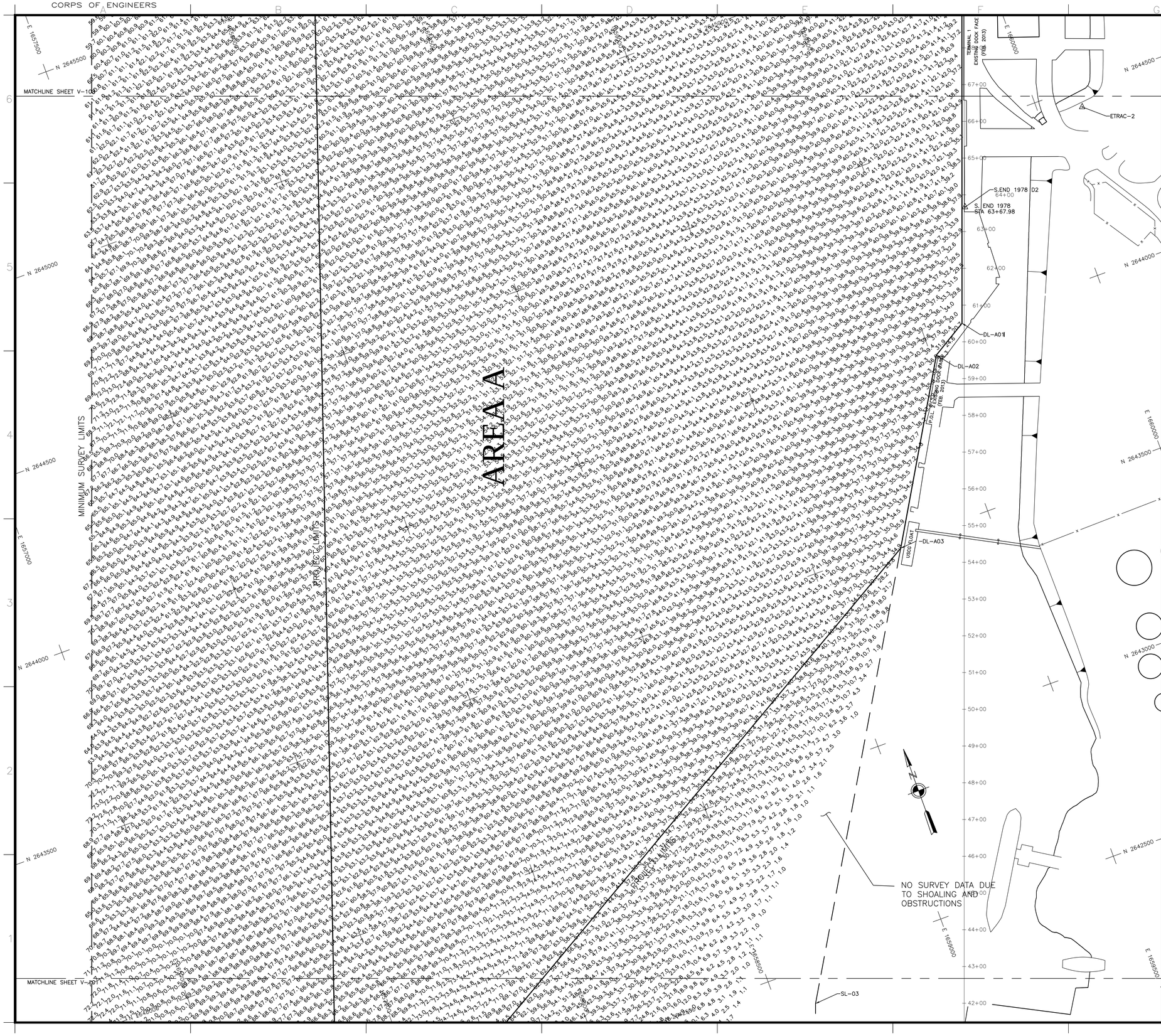
PREDREDGE SURVEY

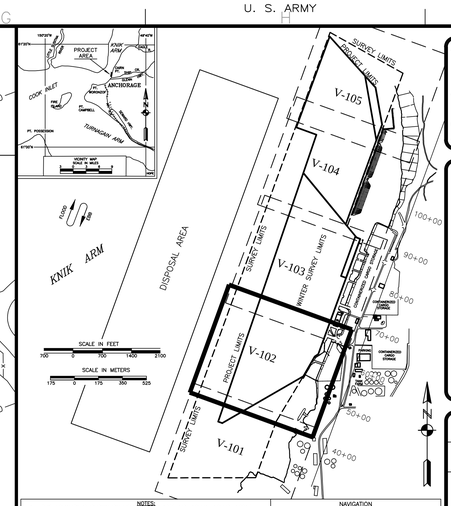
ANCHORAGE, ALASKA
PORT OF ANCHORAGE
2012-2014
MAINTENANCE DREDGING
28 APRIL 2014
PREDREDGE SURVEY

Reference number:
V-101
Sheet 1 of 6

CORPS OF ENGINEERS

U. S. ARMY





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ANCHORAGE HARBOR ALASKA
REVISED 2012

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REGISTERED
PROFESSIONAL
HYDROGRAPHER
(LMS/J.C.Epps)
05/20/14
No. 3510
PROFESSIONAL ENGINEER

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HORIZONTAL SCALE: 1"=100'

BATHYMETRY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB-12-C-0004
CONTRACTOR MANSON CONSTRUCTION CO.
CITY SEATTLE STATE WASHINGTON
Recommended: Approved: Date:
FIELD CONTRACTOR RESIDENT ENGINEER

Rev.	Action	Description	Date	Approv.

Date: 05/20/14
Dwg Scale: 1"=100'
Plot Scale: 1:1
File: PREDREDGE_SD140428_FINAL.dwg

Designed: S. OLSON
Drawn: S. OLSON
Reviewed: J. ANDERSON
Submitted: A. CHURCHILL

USACE Survey No.: 3172-14

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

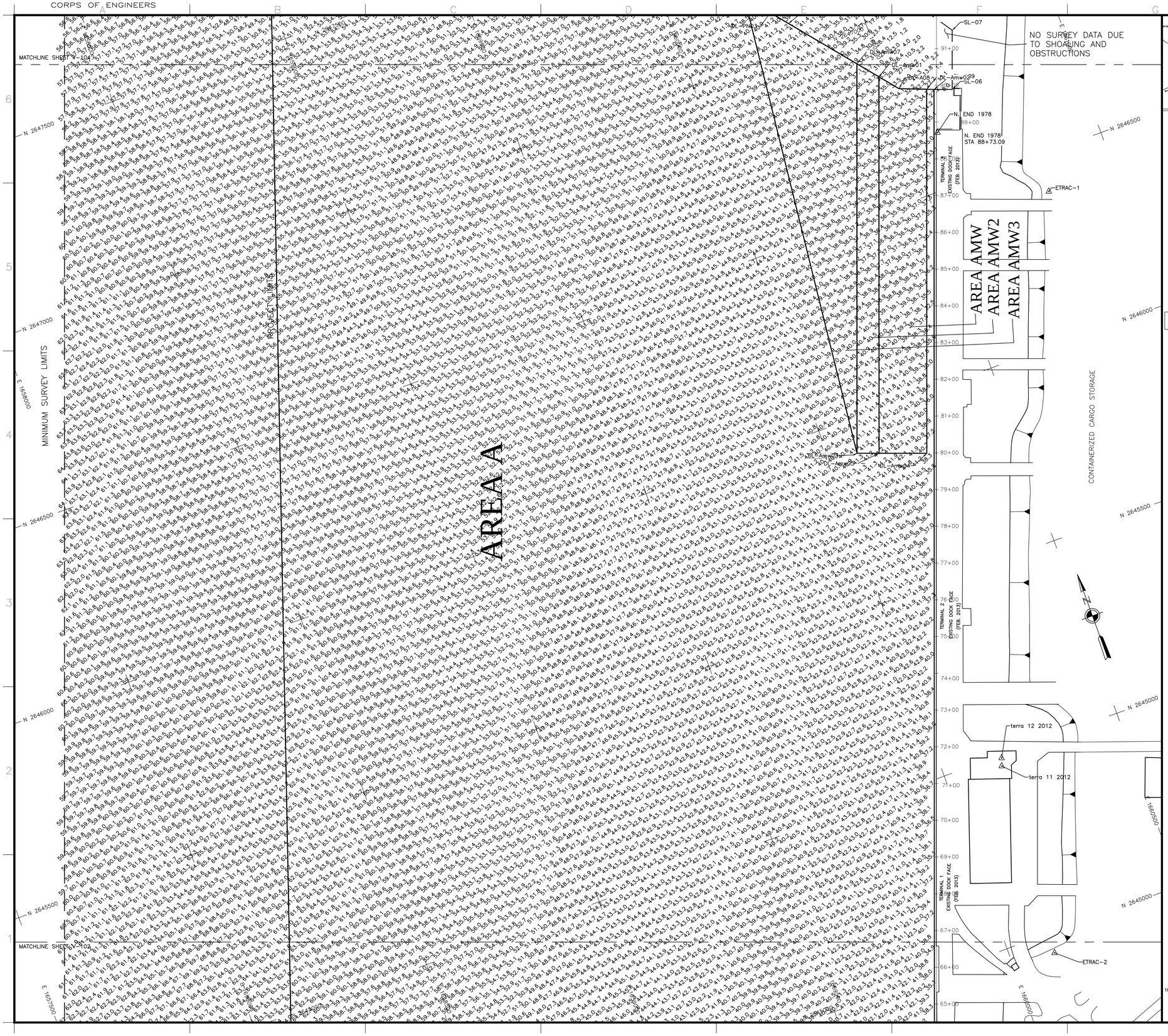
PREDREDGE SURVEY

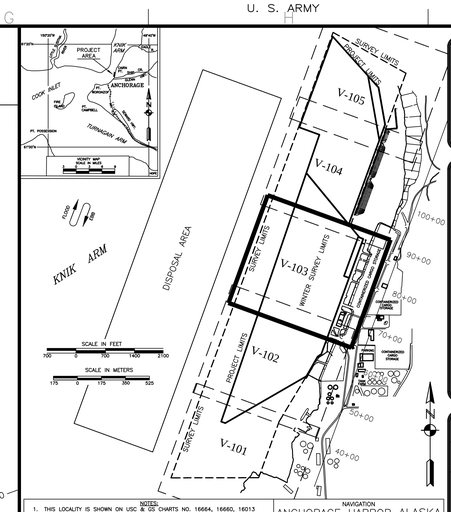
ANCHORAGE, ALASKA
PORT OF ANCHORAGE
2012-2014
MAINTENANCE DREDGING
28 APRIL 2014
PREDREDGE SURVEY

Reference number:
V-102
Sheet 2 of 6

CORPS OF ENGINEERS

U. S. ARMY





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ANCHORAGE HARBOR ALASKA
REVISED 2012

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Dwg Scale: 1"=1
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File: PREDREDGE_20140428_FINAL.dwg

Designed: S. OLSON
Drawn: S. OLSON
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CORPS OF ENGINEERS
ANCHORAGE, ALASKA

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MAINTENANCE DREDGING
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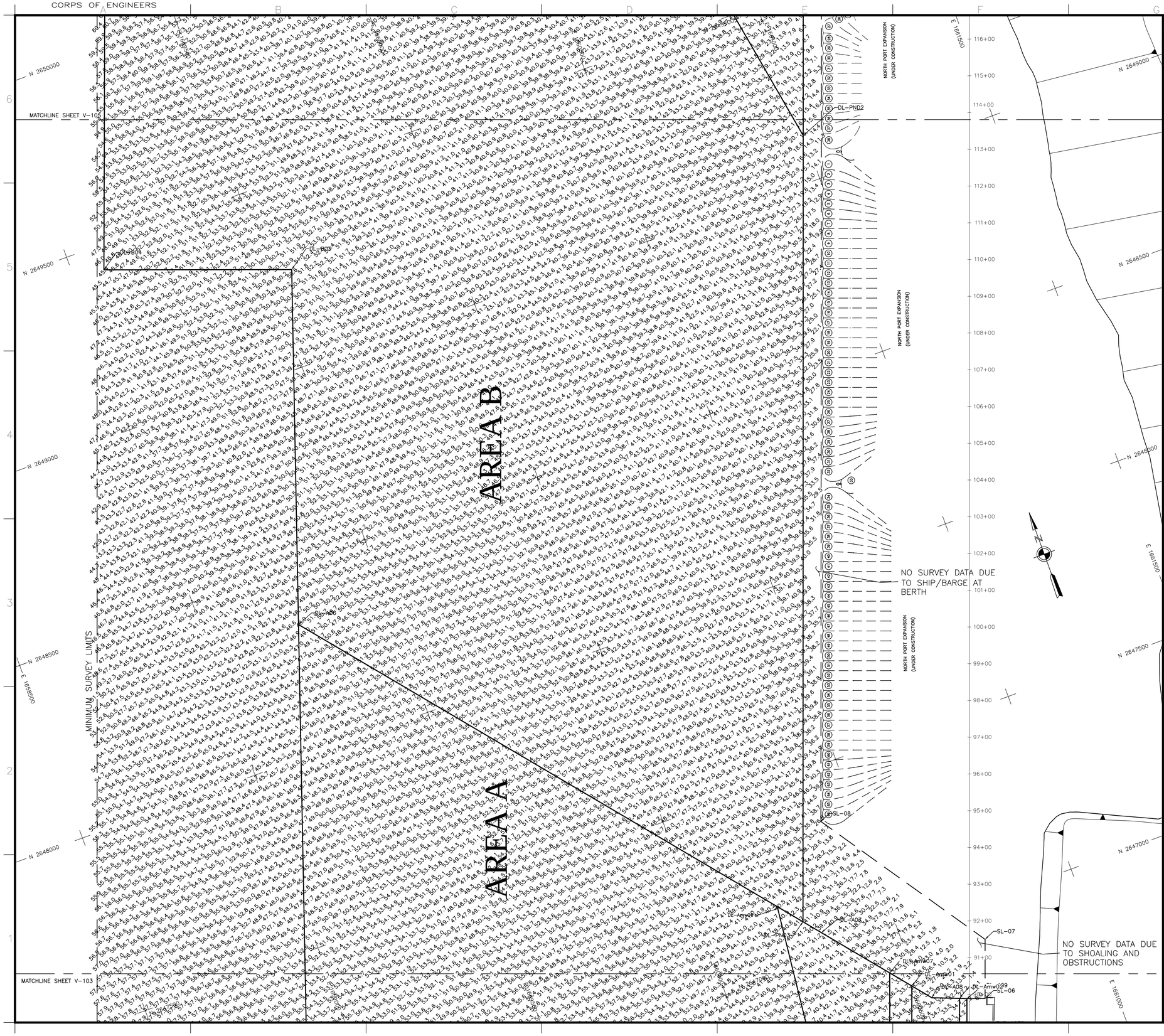
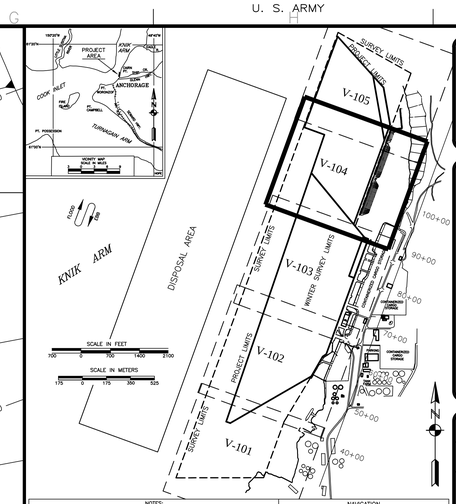
Reference number:
V-103
Sheet 3 of 6

CORPS OF ENGINEERS

U. S. ARMY





NOTES:
1. THIS LOCALITY IS SHOWN ON USC & GS CHARTS NO. 16664, 16660, 16013 AND 500.
2. DEPTHS ARE IN FEET REFERENCED TO MEAN LOWER LOW WATER (M.L.L.W.=0.0').

NAVIGATION
ANCHORAGE HARBOR ALASKA
REVISED 2012

NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83, US SURVEY FEET, HOLDING USACE SBC "N END 1978" AS N 2,646,649. 84', E 1,660,584.80' AND USACE SBC "S END 1978" AS N 2,644,296.27', E 1,659,728.03'.

2. VERTICAL CONTROL: ELEVATIONS ARE MEAN LOWER LOW WATER (MLLW) BASED ON THE 1983-2001 TIDAL EPOCH EXPRESSED IN US FEET. THE BASIS OF ELEVATIONS IS NOAA/NOS TIDE STATION 9455920 "ANCHORAGE, KNICK ARM, COOK INLET, ALASKA" PUBLISHED 10/24/2011 HOLDING "NO 15 RESET 1966" (PID TT0711 / VM# 1332) AS 37.14', " B 75 1964 (PID TT0712 / VM# 1334) AS 36.81', "TIDAL 16 1966" (PID TT0713 / VM# 1335) AS 40.53, "5920 B 1980" (VM# 1336) AS 38.96, "5290 D 1980" (VM# 1337) AS 44.69', AND "5920 THERMO 1 1988 (vm# 1339) AS 37.32'.

3. BASE MAP AND PROJECT LIMITS WERE TRANSFORMED USING EXISTING BASELINE ("N END 1978" TO "S END 1978") PROVIDED BY USACE TRANSLATED, ROTATED, AND SCALED TO 2012 BASELINE ("N END 1978" TO "S END 1978").

4. BASE MAP FEATURES INCLUDING BUT NOT LIMITED TO DOCK FACES, BUILDINGS, PILINGS, AND ROADS ARE PROVIDED BY USACE AND ARE NOT VERIFIED BY ETRAC ENGINEERING.

5. THIS SURVEY WAS PERFORMED BY ETRAC INC. ON 28 APRIL, 2014.

6. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2024 MULTIBEAM ECHO SOUNDER OPERATING AT 200kHz. SURFACE VELOCITY WAS MEASURED USING A VALEPORT SV-PLUS MOUNTED TO THE SONAR HEAD.

7. SOUND VELOCITY PROFILES WERE COLLECTED USING A TELEDYNE ODOM DIGIBAR-PRO SVP UNIT.

8. VESSEL POSITION, HEADING, ATTITUDE, AND RTK TIDES WERE ACQUIRED USING AN APPLANIX POSMV WAVEMASTER GPS/INERTIAL POSITIONING SYSTEM RECEIVING RTK CORRECTIONS FROM A TRIMBLE SPS855 GPS RECEIVER SET AT CONTROL STATION "TERRA 11", LOCATED ATOP THE PORT OFFICE BUILDING.

9. SURVEY NAVIGATION AND DATA COLLECTION WERE PERFORMED USING QPS QINSY (V8.0). DATA PROCESSING WAS PERFORMED IN QPS QLOUD (V2.2.0.0)

10. SOUNDING MINUS AND IN FEET UNLESS OTHERWISE INDICATED.

11. SURVEY DATA IS VALID ONLY WITHIN THE TIMEFRAME IN WHICH THE SURVEY WAS CONDUCTED.

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

David R. Neff C.H.(275)

STATE OF ALASKA 49TH
David R. Neff
(Lewis & Clark)
05/20/14
No. 3510
PROFESSIONAL LAND SURVEYOR

DREDGE LIMIT POINT TABLE

CORNER	NORTHING	EASTING
DL-A01	2,644,001.92	1,659,611.68
DL-A02	2,643,944.48	1,659,516.63
DL-A03	2,643,483.73	1,659,245.67
DL-B03	2,649,256.22	1,659,566.97
DL-A04	2,642,359.80	1,657,316.67
DL-A05	2,642,395.68	1,657,218.16
DL-A06	2,648,342.16	1,659,254.03
DL-B03	2,649,256.22	1,659,566.97
DL-B04	2,649,430.26	1,659,086.40
DL-B05	2,651,604.46	1,659,885.47
DL-B06	2,650,382.05	1,660,981.32
DL-PND1	2,649,498.45	1,661,136.91
DL-PND2	2,649,122.65	1,661,000.03
DL-PND3	2,647,112.20	1,660,267.74
DL-A08	2,646,798.05	1,660,535.57
DL-Amw02	2,646,770.56	1,660,595.87

SUMMER SURVEY LIMITS POINT TABLE

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DL-A09	2,646,763.28	1,660,615.50
SL-01	2,651,701.73	1,659,893.33
SL-02	2,650,726.25	1,661,637.33
SL-03	2,642,398.54	1,658,604.02
SL-04	2,641,055.81	1,658,114.19
SL-05	2,641,052.18	1,656,017.62
SL-06	2,646,746.32	1,660,662.07
SL-07	2,646,897.79	1,660,717.23
SL-08	2,647,352.20	1,660,406.89

DISPOSAL AREA POINT TABLE

CORNER	NORTHING	EASTING
DS01	2,650,125.73	1,658,658.25
DS02	2,650,809.80	1,656,779.24
DS03	2,642,354.11	1,653,700.90
DS04	2,641,670.05	1,655,579.94

CONTROL DATA

POINT ID	NORTHING	EASTING	ELEV (MLLW)	DESCRIPTION
PORT 1989	2,639,934.29	1,656,925.43	39.55	Almon
5920 THERMO 1 1988	2,642,784.70	1,660,183.87	37.32	Almon
S. END	2,644,296.27	1,659,728.03	40.50	USACE SBC 1978 (APPROX STA 63+67.98)
ETRAC-2	2,644,043.04	1,660,120.66	36.38	Brass Cap
TERRA 11	2,644,969.84	1,660,159.24	80.48	Antennae Reference Point
TERRA 12	2,644,990.65	1,660,198.56	81.21	Antennae Reference Point
ETRAC-1	2,646,395.57	1,660,814.72	38.34	Brass Cap
N. END	2,646,649.84	1,660,584.80	41.56	USACE SBC 1978 (APPROX STA 88+73.09)

100 0 100 200 300
SCALE IN FEET
HORIZONTAL SCALE: 1"=100'

BATHYMETRY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB-12-C-0004
CONTRACTOR MANSON CONSTRUCTION CO.
CITY SEATTLE STATE WASHINGTON
Recommended: Approved: Date:
PROJECT ENGINEER / PROJECT MANAGER / PROJECT ENGINEER

Rev. Action	Description	Date	Approv.

Date: 05/20/14
Dwg Scale: 1"=100'
Plot Scale: 1:1
File: PREDREDGE_SD140428_FINAL.dwg

Designed: S. OLSON
Drawn: S. OLSON
Reviewed: J. ANDERSON
Submitted: A. CHURCHILL
USACE Survey No: 3172-14

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

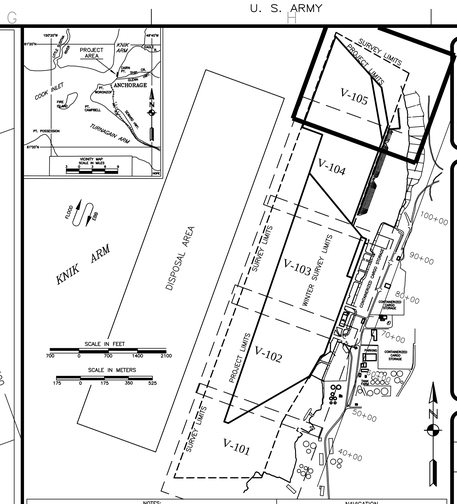
PREDREDGE SURVEY

ANCHORAGE, ALASKA
PORT OF ANCHORAGE
2012-2014
MAINTENANCE DREDGING
28 APRIL 2014
PREDREDGE SURVEY

Reference number:
V-104
Sheet 4 of 6

CORPS OF ENGINEERS

U. S. ARMY



NOTES:
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NAVIGATION
ANCHORAGE HARBOR ALASKA
REVISED 2012

NOTES

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David R. Neff C.H.(275)

STATE OF ALASKA 49TH
David R. Neff
(Lewis J. Epps)
05/20/14
No. 3510
REGISTERED PROFESSIONAL LAND SURVEYOR

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100 0 100 200 300
SCALE IN FEET
HORIZONTAL SCALE: 1"=100'

BATHYMETRY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB-12-C-0004
CONTRACTOR MANSON CONSTRUCTION CO.
CITY SEATTLE STATE WASHINGTON
Recommended: Approved: Date:
PROJECT ENGINEER / PROJECT MANAGER — RESIDENT ENGINEER

No.	Description	Date	Appr.

Date: 05/20/14
Dwg. Scale: 1"=100'
Plot Scale: 1:1
File: PREDREDGE_20140428_FINAL.dwg

Designed: S. OLSON
Drawn: S. OLSON
Reviewed: J. ANDERSON
Submitted: A. CHURCHILL
USACE Survey No.: 3172-14

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

PREDREDGE SURVEY

ANCHORAGE, ALASKA
PORT OF ANCHORAGE
2012-2014
MAINTENANCE DREDGING
28 APRIL, 2014
PREDREDGE SURVEY

Reference number:
V-105
Sheet 5 of 6

CORPS OF ENGINEERS

U. S. ARMY

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

David R. Neff C.H.(275)

STATE OF ALASKA
49TH
(Lewis J. Epps)
05/20/14
No. 3510
REGISTERED PROFESSIONAL LAND SURVEYOR

NOTES

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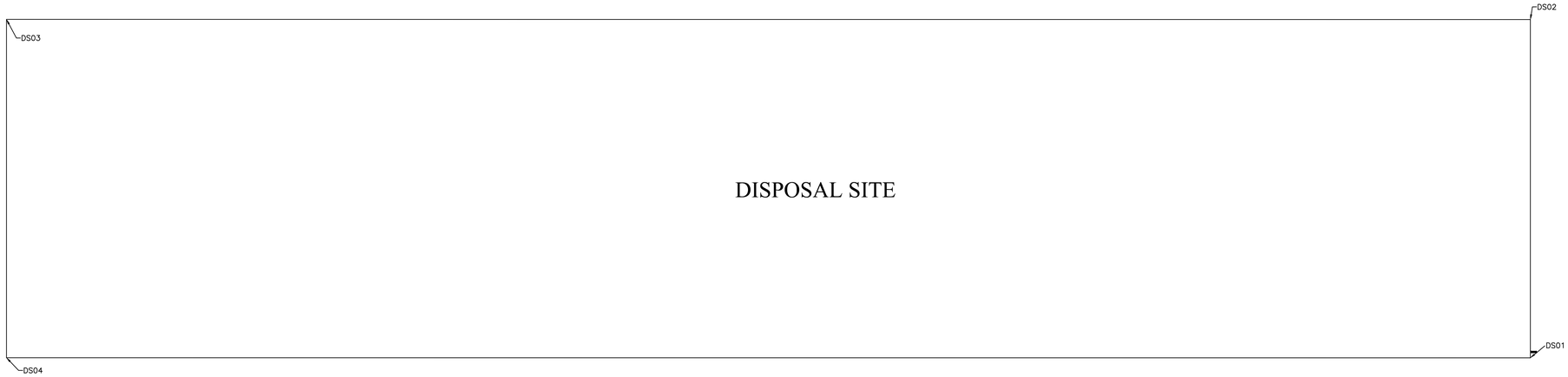
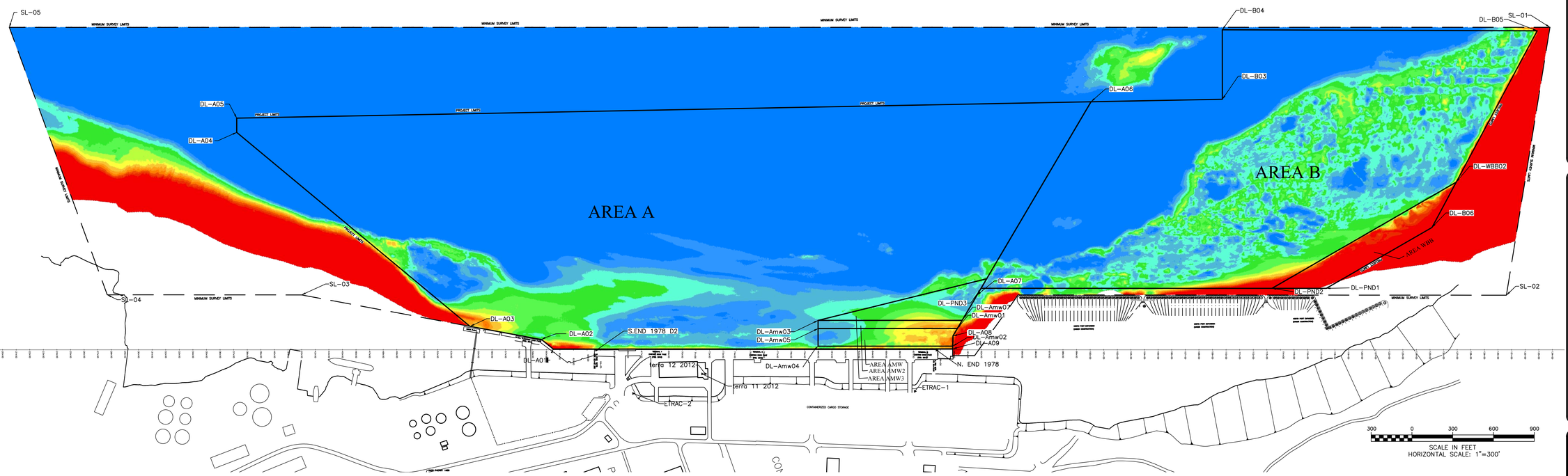
SOUNDING ELEVATIONS TABLE

MINIMUM ELEVATION	MAXIMUM ELEVATION	COLOR
-44 & BELOW	-43	
-43	-42	
-42	-41	
-41	-40	
-40	-39	
-39	-38	
-38	-37	
-37	-36	
-36	-35	
-35	-34	
-34	-33	
-33	-32	
-32	-31	
-31	+10	





BATHYMETRY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB-12-C-0004
CONTRACTOR MANSON CONSTRUCTION CO.
CITY SEATTLE STATE WASHINGTON
Recommended: Approved: Date:
PRME CONTRACTOR RESIDENT ENGINEER

Num	Action	Description	Date	Approv

Date: 05/20/14
Dwg Scale: 1"=300'
Plot Scale: 1:1
File: PREDREDGE_20140428_FINAL.dwg

Designed: S. OLSON
Drawn: S. OLSON
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

PREDREDGE SURVEY

ANCHORAGE, ALASKA
PORT OF ANCHORAGE
2012-2014
MAINTENANCE DREDGING
28 APRIL, 2014
PREDREDGE SURVEY

Reference number:
V-106
Sheet 6 of 6