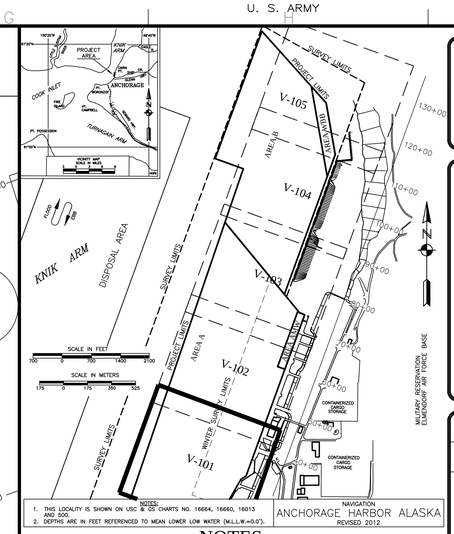
CORPS OF ENGINEERS

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 2,646,649.75' , E 1,660,584.91' AND USACE SBC "S END 1978" AS N 2,644,296.16' , E 1,659,728.14'.
2. VERTICAL CONTROL IS IN FEET REFERRING TO MEAN LOWER LOW WATER (MLLW=0.0), BASED ON NOAA/NOS 1983-2001 TIDAL EPOCH BENCH MARK LIST "9455920 ANCHORAGE, KNIK ARM, COOK INLET, ALASKA" PUBLISHED 4/21/2003, HOLDING USCGS SBC "TIDAL 16 1966" AS 40.53', USCGS SBC "B 75 1964" AS 36.81'.
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 ENGINEERING, ON 20 & 23 APRIL, 2012.
6. SOUNDINGS WERE COLLECTED USING A 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-S 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 TIMBLE 750 GPS RECEIVER SET AT CONTROL STATION "TERRA 11 2012", 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.

PROJECT AREA LIMITS

CORNER	NORTHING	EASTING
DL-A01	2,644,010.53	1,659,612.55
DL-A02	2,643,952.31	1,659,524.59
DL-A03	2,643,480.57	1,659,254.35
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-B07	2,649,399.97	1,661,154.25
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-A07	2,647,067.43	1,660,304.63
DL-A08	2,646,798.05	1,660,526.57
DL-A09	2,646,763.43	1,660,615.09
DL-Amw01	2,646,829.42	1,660,500.79
DL-Amw04	2,645,833.07	1,660,276.28
DL-Amw05	2,645,877.55	1,660,154.15
DL-WBB01	2,649,024.19	1,661,017.37
DL-WBB02	2,650,663.91	1,660,728.64

Summer Survey Limit

CORNER	NORTHING	EASTING
DL-A01	2,644,010.53	1,659,612.55
DL-A03	2,643,480.57	1,659,254.35
DL-A07	2,647,067.43	1,660,304.63
DL-A08	2,646,798.05	1,660,526.57
DL-A09	2,646,763.43	1,660,615.09
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

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

W MEL SAUNDERS CH(152)

STATE OF ALASKA 49TH
(LEWIS J. EPPS)
05/15/2012
No. 3510
REGISTERED HYDROGRAPHER

DISPOSAL AREA LIMITS

DESCRIPTION	NORTHING	EASTING
DS01	2,650,125.73	1,658,658.35
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)	ELEV. (NAVD88)	DESCRIPTION
5920 D 1980	2,640,284.57	1,659,986.34	44.69	34.2	-
5920 THERM1 1988	2,642,784.64	1,660,183.94	37.19	26.7	-
945 5920TIDAL16	2,644,294.91	1,659,725.86	40.53	30.04	-
ANC2	2,621,462.07	1,643,344.12	176.66	166.17	-
ANDERSON DOCK	2,639,486.80	1,657,147.53	46.56	36.07	-
B 75 1964	2,644,592.40	1,660,096.71	36.81	26.32	-
ETRAC-1	2,646,395.45	1,660,814.83	38.38	27.89	-
ETRAC-2	2,644,442.93	1,660,120.79	36.32	25.83	-
N. END 1978	2,646,649.75	1,660,584.91	41.56	31.07	USACE SBC 1978
S. END 1978 D2	2,644,296.16	1,659,728.14	40.5	30.01	USACE SBC 1978
NO 15 RESET 1966	2,644,993.12	1,660,198.28	37.14	26.65	-
PORT 1989	2,639,934.24	1,656,925.53	39.27	28.78	-
TERRA 11 2012	2,644,969.78	1,660,159.36	80.43	69.94	ALL-THREAD ON ROOF POA BLDG
TERRA 12 2012	2,644,990.60	1,660,166.65	81.16	70.67	ALL-THREAD ON ROOF POA BLDG
TSEA	2,625,899.97	1,658,953.12	128.44	117.95	-
UAAG	2,627,295.76	1,671,456.72	205.75	195.26	-
ZAN1	2,641,258.26	1,679,145.49	251.77	241.28	-

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

Ver.	Action	Description	Date	Approv.

Designed: S. OLSON
Drawn: S. OLSON
Reviewed: J. ANDERSON
Submitted: A. CHURCHILL
USACE Survey No: 2987-12
Date: 05/15/12
Dwg Scale: 1"=100'
Plot Scale: 1:1
File: Predredge_20120420.dwg

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

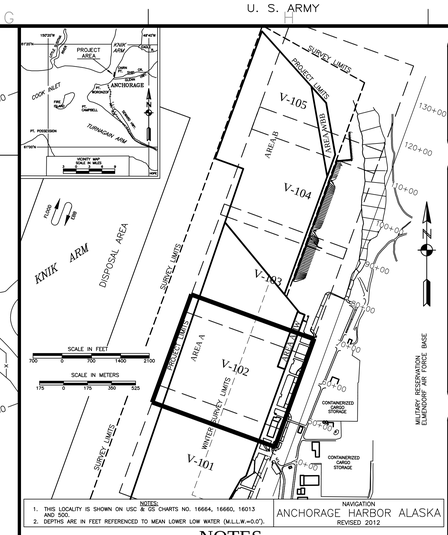
PREDREDGE SURVEY

ANCHORAGE, ALASKA
PORT OF ANCHORAGE
2012–2014
MAINTENANCE DREDGING
20 & 23 APRIL, 2012
PREDREDGE SURVEY

Reference number:
V-101
Sheet 1 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 (MLLW=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 2,646,649.75' , E 1,660,584.91' AND USACE SBC "S END 1978" AS N 2,644,296.16' , E 1,659,728.14'.

2. VERTICAL CONTROL IS IN FEET REFERRING TO MEAN LOWER LOW WATER (MLLW=0.0), BASED ON NOAA/NOS 1983-2001 TIDAL EPOCH BENCH MARK LIST "9455920 ANCHORAGE, KNIK ARM, COOK INLET, ALASKA" PUBLISHED 4/21/2003, HOLDING USCGS SBC "TIDAL 16 1966" AS 40.53', USCGS SBC "B 75 1964" AS 36.81'.

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 ENGINEERING, ON 20 & 23 APRIL, 2012.

6. SOUNDINGS WERE COLLECTED USING A 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-S 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 TIMBLE 750 GPS RECEIVER SET AT CONTROL STATION "TERRA 11 2012", 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.

PROJECT AREA LIMITS

CORNER	NORTHING	EASTING
DL-A01	2,644,010.53	1,659,612.55
DL-A02	2,643,952.31	1,659,524.59
DL-A03	2,643,480.57	1,659,254.35
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-B07	2,649,399.97	1,661,154.25
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-A07	2,647,067.49	1,660,304.63
DL-A08	2,646,798.05	1,660,526.57
DL-A09	2,646,763.41	1,660,615.09
DL-Amw01	2,646,829.42	1,660,500.79
DL-Amw04	2,645,833.07	1,660,276.28
DL-Amw05	2,645,877.55	1,660,154.15
DL-WBB01	2,649,024.19	1,661,017.37
DL-WBB02	2,650,663.91	1,660,728.64

Summer Survey Limit

CORNER	NORTHING	EASTING
DL-A01	2,644,010.53	1,659,612.55
DL-A03	2,643,480.57	1,659,254.35
DL-A07	2,647,067.49	1,660,304.63
DL-A08	2,646,798.05	1,660,526.57
DL-A09	2,646,763.41	1,660,615.09
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

DISPOSAL AREA LIMITS

DESCRIPTION	NORTHING	EASTING
DS01	2,650,125.73	1,658,658.35
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)	ELEV. (NAVD88)	DESCRIPTION
5920 D 1980	2,640,284.57	1,659,986.34	44.69	34.2	-
5920 THERM1 1988	2,642,784.64	1,660,183.94	37.19	26.7	-
945 5920TIDAL16	2,644,294.93	1,659,725.86	40.53	30.04	-
ANC2	2,621,462.07	1,643,344.12	176.66	166.17	-
ANDERSON DOCK	2,639,486.80	1,657,147.53	46.56	36.07	-
B 75 1964	2,644,592.40	1,660,096.71	36.81	26.32	-
ETRAC-1	2,646,395.45	1,660,834.83	38.38	27.89	-
ETRAC-2	2,644,442.91	1,660,320.79	36.32	25.83	-
N. END 1978	2,646,649.75	1,660,584.91	41.56	31.07	USACE SBC 1978
S. END 1978 D2	2,644,296.16	1,659,728.14	40.5	30.01	USACE SBC 1978
NO 15 RESET 1966	2,644,993.12	1,660,198.28	37.14	26.65	-
PORT 1989	2,639,934.24	1,656,925.53	39.27	28.78	-
TERRA 11 2012	2,644,969.78	1,660,159.36	80.43	69.94	ALL-THREAD ON ROOF POA BLDG
TERRA 12 2012	2,644,990.60	1,660,166.65	81.16	70.67	ALL-THREAD ON ROOF POA BLDG
TSEA	2,625,899.97	1,658,953.12	128.44	117.95	-
UAAG	2,627,295.76	1,671,456.72	205.75	195.26	-
ZAN1	2,641,258.26	1,679,145.49	251.77	241.28	-

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

W MEL SAUNDERS CH(152)

STATE OF ALASKA
49TH
W. MEL SAUNDERS
(LAND U. EDGE)
05/15/2012
No. 3510
PROFESSIONAL

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 RESIDENT ENGINEER
FIELD CONTRACTOR

Ref. Action	Description	Date	Approv.

Date: 05/15/12
Dwg Scale: 1"=100'
Plot Scale: 1:1
File: Predredge_20120420.dwg

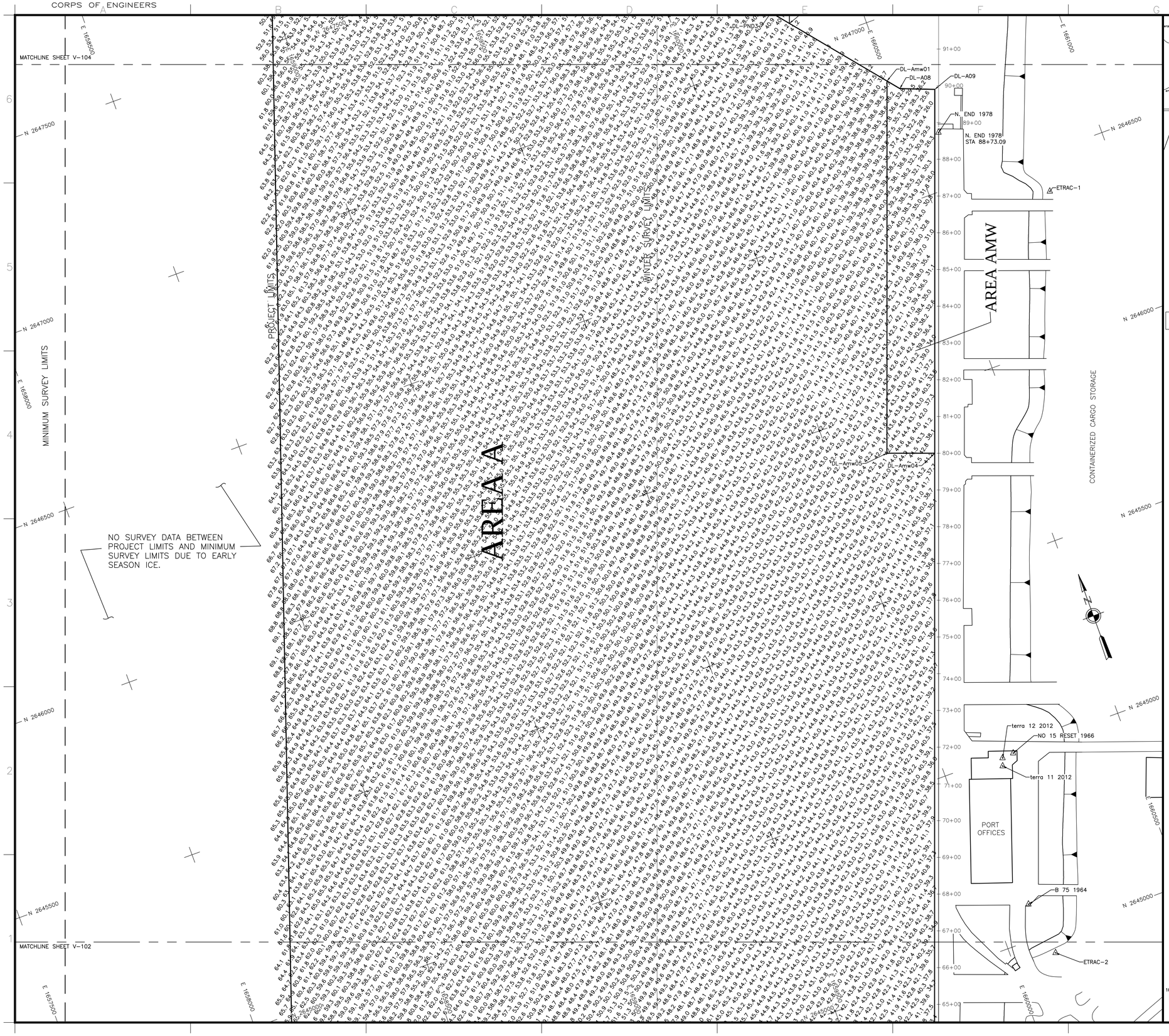
Designed: S. OLSON
Drawn: S. OLSON
Reviewed: J. ANDERSON
Submitted: A. CHURCHILL
USACE Survey No.: 2987-12

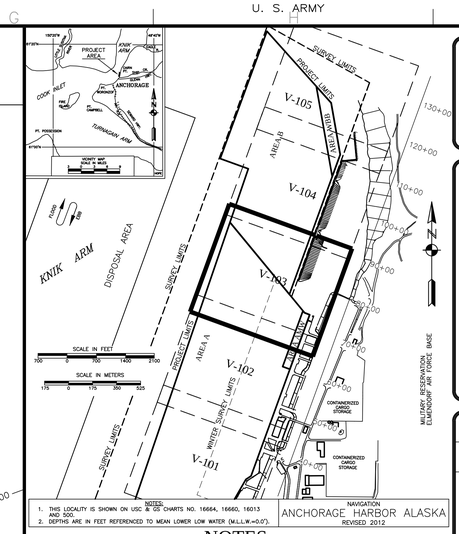
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

PREDREDGE SURVEY

ANCHORAGE, ALASKA
PORT OF ANCHORAGE
2012–2014
MAINTENANCE DREDGING
20 & 23 APRIL, 2012
PREDREDGE SURVEY

Reference number:
V-102
Sheet 2 of 6





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').

NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83, US SURVEY FEET, HOLDING USACE SBC "N END 1978" AS N 2,646,649.75' , E 1,660,584.91' AND USACE SBC "S END 1978" AS N 2,644,296.16' , E 1,659,728.14'.
2. VERTICAL CONTROL IS IN FEET REFERRING TO MEAN LOWER LOW WATER (MLLW=0.0), BASED ON NOAA/NOS 1983-2001 TIDAL EPOCH BENCH MARK LIST "9455920 ANCHORAGE, KNIK ARM, COOK INLET, ALASKA" PUBLISHED 4/21/2003, HOLDING USCGS SBC "TIDAL 16 1966" AS 40.53', USCGS SBC "B 75 1964" AS 36.81'.
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 ENGINEERING, ON 20 & 23 APRIL, 2012.
6. SOUNDINGS WERE COLLECTED USING A 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-S 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 TIMBLE 750 GPS RECEIVER SET AT CONTROL STATION "TERRA 11 2012", 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.

PROJECT AREA LIMITS

CORNER	NORTHING	EASTING
DL-A01	2,644,010.53	1,659,612.55
DL-A02	2,643,952.31	1,659,524.59
DL-A03	2,643,480.57	1,659,254.35
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-B07	2,649,399.97	1,661,154.25
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-A07	2,647,067.41	1,660,304.63
DL-A08	2,646,798.05	1,660,526.57
DL-A09	2,646,763.43	1,660,615.09
DL-Amw01	2,646,829.42	1,660,500.79
DL-Amw04	2,645,833.07	1,660,276.28
DL-Amw05	2,645,877.55	1,660,154.15
DL-WEB01	2,649,024.19	1,661,017.37
DL-WEB02	2,650,663.91	1,660,728.64

Summer Survey Limit

CORNER	NORTHING	EASTING
DL-A01	2,644,010.53	1,659,612.55
DL-A03	2,643,480.57	1,659,254.35
DL-A07	2,647,067.41	1,660,304.63
DL-A08	2,646,798.05	1,660,526.57
DL-A09	2,646,763.43	1,660,615.09
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

DISPOSAL AREA LIMITS

DESCRIPTION	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)	ELEV. (NAVD88)	DESCRIPTION
5920 D 1980	2,640,284.57	1,659,986.34	44.69	34.2	-
5920 THERM1 1988	2,642,784.64	1,660,183.94	37.19	26.7	-
945 5920TIDAL16	2,644,294.91	1,659,725.86	40.53	30.04	-
ANC2	2,621,462.07	1,643,344.12	176.66	166.17	-
ANDERSON DOCK	2,639,486.80	1,657,147.53	46.56	36.07	-
B 75 1964	2,644,592.40	1,660,096.71	36.81	26.32	-
ETRAC-1	2,646,395.45	1,660,814.83	38.38	27.89	-
ETRAC-2	2,644,442.93	1,660,120.79	36.32	25.83	-
N. END 1978	2,646,649.75	1,660,584.91	41.56	31.07	USACE SBC 1978
S. END 1978 D2	2,644,296.16	1,659,728.14	40.5	30.01	USACE SBC 1978
NO 15 RESET 1966	2,644,993.12	1,660,198.28	37.14	26.65	-
PORT 1989	2,639,934.24	1,656,925.53	39.27	28.78	-
TERRA 11 2012	2,644,969.78	1,660,159.36	80.43	69.94	ALL-THREAD ON ROOF POA BLDG
TERRA 12 2012	2,644,990.60	1,660,166.65	81.16	70.67	ALL-THREAD ON ROOF POA BLDG
TSEA	2,625,899.97	1,658,953.12	128.44	117.95	-
UAAG	2,627,295.78	1,671,456.72	205.75	195.26	-
ZAN1	2,641,258.26	1,679,145.49	251.77	241.28	-

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

W MEL SAUNDERS CH(152)

STATE OF ALASKA 49TH Mel Saunders (Lewis J. Espos) 05/15/2012 No. 3510 PROFESSIONAL HYDROGRAPHER

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 / PRINC. CONTRACTOR

Ref. Action	Description	Date	Approv.

Date: 05/15/12
Dwg Scale: 1"=100'
Plot Scale: 1:1
File: Predredge_20120420.dwg

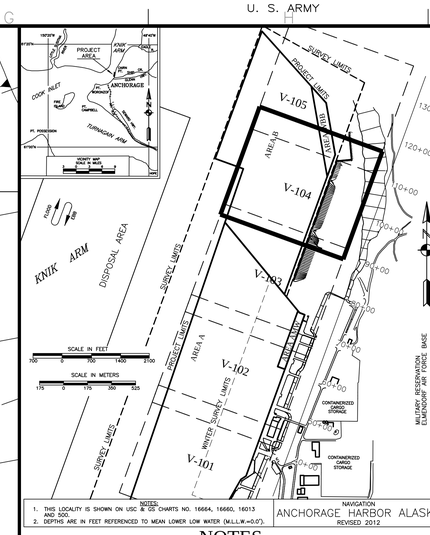
Designed: S. OLSON
Drawn: S. OLSON
Reviewed: J. ANDERSON
Submitted: A. CHURCHILL
USACE Survey No: 2987-12

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

PREDREDGE SURVEY

ANCHORAGE, ALASKA
PORT OF ANCHORAGE
2012–2014
MAINTENANCE DREDGING
20 & 23 APRIL, 2012
PREDREDGE SURVEY

Reference number:
V-103
Sheet 3 of 6



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 / RESIDENT ENGINEER
PROJECT CONTRACTOR

Ref. Action	Description	Date	Approv

NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83, US SURVEY FEET, HOLDING USACE SBC "N END 1978" AS N 2,646,649.75', E 1,660,584.91' AND USACE SBC "S END 1978" AS N 2,644,296.16', E 1,659,728.14'.
2. VERTICAL CONTROL IS IN FEET REFERRING TO MEAN LOWER LOW WATER (MLLW=0.0), BASED ON NOAA/NOS 1983-2001 TIDAL EPOCH BENCH MARK LIST "9455920 ANCHORAGE, KNIK ARM, COOK INLET, ALASKA" PUBLISHED 4/21/2003, HOLDING USCGS SBC "TIDAL 16 1966" AS 40.53', USCGS SBC "B 75 1964" AS 36.81'.
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 ENGINEERING, ON 20 & 23 APRIL, 2012.
6. SOUNDINGS WERE COLLECTED USING A 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-S 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 TIMBLE 750 GPS RECEIVER SET AT CONTROL STATION "TERRA 11 2012", 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.

PROJECT AREA LIMITS

CORNER	NORTHING	EASTING
DL-A01	2,644,010.53	1,659,612.55
DL-A02	2,643,952.31	1,659,524.59
DL-A03	2,643,480.57	1,659,254.35
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-B07	2,649,399.97	1,661,154.25
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-A07	2,647,067.43	1,660,304.63
DL-A08	2,646,798.05	1,660,526.57
DL-A09	2,646,763.43	1,660,615.09
DL-Amw01	2,646,829.42	1,660,500.79
DL-Amw04	2,645,833.07	1,660,276.28
DL-Amw05	2,645,877.55	1,660,154.15
DL-WBB01	2,649,024.19	1,661,017.37
DL-WBB02	2,650,663.91	1,660,728.64

Summer Survey Limit

CORNER	NORTHING	EASTING
DL-A01	2,644,010.53	1,659,612.55
DL-A03	2,643,480.57	1,659,254.35
DL-A07	2,647,067.43	1,660,304.63
DL-A08	2,646,798.05	1,660,526.57
DL-A09	2,646,763.43	1,660,615.09
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

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

W MEL SAUNDERS CH(152)

STATE OF ALASKA 49TH
Lewis J. Espes
05/15/2012
No. 3510
PROFESSIONAL ENGINEER

DISPOSAL AREA LIMITS

DESCRIPTION	NORTHING	EASTING
DS01	2,650,125.73	1,658,658.35
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)	ELEV. (NAVD88)	DESCRIPTION
5920 D 1980	2,640,284.57	1,659,986.34	44.69	34.2	-
5920 THERM1 1988	2,642,784.64	1,660,183.94	37.19	26.7	-
945 5920TIDAL16	2,644,294.91	1,659,725.86	40.53	30.04	-
ANC2	2,621,462.07	1,643,344.12	176.66	166.17	-
ANDERSON DOCK	2,639,486.80	1,657,147.53	46.56	36.07	-
B 75 1964	2,644,592.40	1,660,096.71	36.81	26.32	-
ETRAC-1	2,646,395.45	1,660,814.83	38.38	27.89	-
ETRAC-2	2,644,442.93	1,660,120.79	36.32	25.83	-
N. END 1978	2,646,649.75	1,660,584.91	41.56	31.07	USACE SBC 1978
S. END 1978 D2	2,644,296.16	1,659,728.14	40.5	30.01	USACE SBC 1978
NO 15 RESET 1966	2,644,993.12	1,660,198.28	37.14	26.65	-
PORT 1989	2,639,934.24	1,656,925.53	39.27	28.78	-
TERRA 11 2012	2,644,969.78	1,660,159.36	80.43	69.94	ALL-THREAD ON ROOF POA BLDG
TERRA 12 2012	2,644,990.60	1,660,166.65	81.16	70.67	ALL-THREAD ON ROOF POA BLDG
TSEA	2,625,899.97	1,658,953.12	128.44	117.95	-
UAAG	2,627,295.76	1,671,456.72	205.75	195.26	-
ZAN1	2,641,258.26	1,679,145.49	251.77	241.28	-

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

BATHYMETRY

Date: 05/15/12
Dwg Scale: 1"=100'
Plot Scale: 1:1
File: Predredge_20120420.dwg

Designed: S. OLSON
Drawn: S. OLSON
Reviewed: J. ANDERSON
Submitted: A. CHURCHILL
USACE Survey No: 2987-12

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

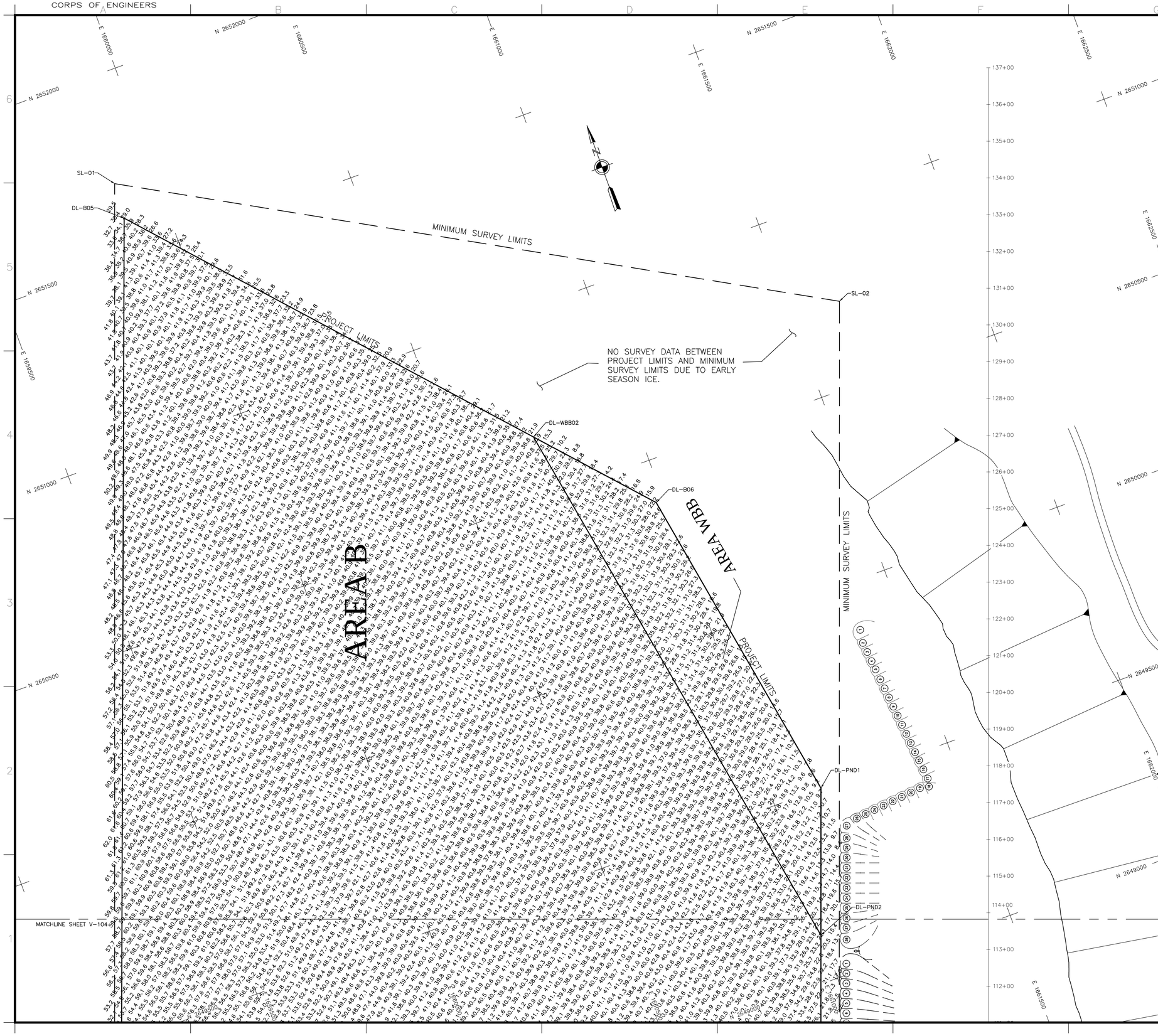
PREDREDGE SURVEY

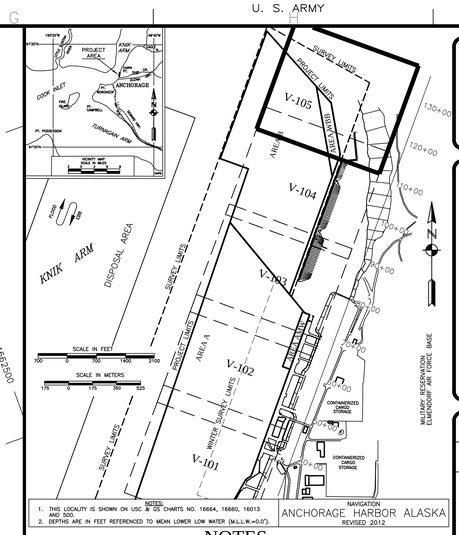
ANCHORAGE, ALASKA
PORT OF ANCHORAGE
2012-2014
MAINTENANCE DREDGING
20 & 23 APRIL, 2012
PREDREDGE SURVEY

Reference number:
V-104
Sheet 4 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 (MLLW=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 2,646,649.75', E 1,660,584.91' AND USACE SBC "S END 1978" AS N 2,644,296.16', E 1,659,728.14'.
2. VERTICAL CONTROL IS IN FEET REFERRING TO MEAN LOWER LOW WATER (MLLW=0.0), BASED ON NOAA/NOS 1983-2001 TIDAL EPOCH BENCH MARK LIST "9455920 ANCHORAGE, KNIK ARM, COOK INLET, ALASKA" PUBLISHED 4/21/2003, HOLDING USCGS SBC "TIDAL 16 1966" AS 40.53', USCGS SBC "B 75 1964" AS 36.81'.
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 ENGINEERING, ON 20 & 23 APRIL, 2012.
6. SOUNDINGS WERE COLLECTED USING A 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-S 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 TIMBLE 750 GPS RECEIVER SET AT CONTROL STATION "TERRA 11 2012", 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.

PROJECT AREA LIMITS

CORNER	NORTHING	EASTING
DL-A01	2,644,010.53	1,659,612.55
DL-A02	2,643,952.31	1,659,524.59
DL-A03	2,643,480.57	1,659,254.35
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-B07	2,649,399.97	1,661,154.25
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-A07	2,647,067.43	1,660,304.63
DL-A08	2,646,798.05	1,660,526.57
DL-A09	2,646,763.43	1,660,615.09
DL-Amw01	2,646,829.42	1,660,500.79
DL-Amw04	2,645,833.07	1,660,276.28
DL-Amw05	2,645,877.55	1,660,154.15
DL-WBB01	2,649,024.19	1,661,017.37
DL-WBB02	2,650,663.91	1,660,728.64

Summer Survey Limit

CORNER	NORTHING	EASTING
DL-A01	2,644,010.53	1,659,612.55
DL-A03	2,643,480.57	1,659,254.35
DL-A07	2,647,067.43	1,660,304.63
DL-A08	2,646,798.05	1,660,526.57
DL-A09	2,646,763.43	1,660,615.09
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

DISPOSAL AREA LIMITS

DESCRIPTION	NORTHING	EASTING
D501	2,650,125.73	1,658,658.25
D502	2,650,809.80	1,656,779.24
D503	2,642,354.11	1,653,700.90
D504	2,641,670.05	1,655,579.94

CONTROL DATA

POINT ID	NORTHING	EASTING	ELEV. (MLLW)	ELEV. (NAVD88)	DESCRIPTION
5920 D 1980	2,640,284.57	1,659,986.34	44.69	34.2	-
5920 THERM1 1988	2,642,784.64	1,660,183.94	37.19	26.7	-
945 5920TIDAL16	2,644,294.93	1,659,725.86	40.53	30.04	-
ANC2	2,621,462.07	1,643,344.12	176.66	166.17	-
ANDERSON DOCK	2,639,486.80	1,657,347.53	46.56	36.07	-
B 75 1964	2,644,592.40	1,660,096.71	36.81	26.32	-
ETRAC-1	2,646,395.45	1,660,814.83	38.38	27.89	-
ETRAC-2	2,644,442.91	1,660,120.79	36.32	25.83	-
N. END 1978	2,646,649.75	1,660,584.91	41.56	31.07	USACE SBC 1978
S. END 1978 D2	2,644,296.16	1,659,728.14	40.5	30.01	USACE SBC 1978
NO 15 RESET 1966	2,644,993.12	1,660,198.28	37.14	26.65	
PORT 1989	2,639,934.24	1,656,925.53	39.27	28.78	
TERRA 11 2012	2,644,969.78	1,660,159.36	80.43	69.94	ALL-THREAD ON ROOF POA BLDG
TERRA 12 2012	2,644,990.60	1,660,166.65	81.16	70.67	ALL-THREAD ON ROOF POA BLDG
TSEA	2,625,899.97	1,658,953.12	128.44	117.95	-
UAAG	2,627,295.76	1,671,456.72	205.75	195.26	-
ZAN1	2,641,258.26	1,679,145.49	251.77	241.28	-

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

W MEL SAUNDERS CH(152)

STATE OF ALASKA
49TH
W. MEL SAUNDERS
(Lewis J. Epps)
05/15/2012
No. 3510
PROFESSIONAL LAND SURVEYOR

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 — PRESIDENT / CONTRACTOR

Ref. Action	Description	Date	Approv

Date: 05/15/12
Dwg. Scale: 1"=100'
Plot. Scale: 1:1
File: Predredge_20120420.dwg

Designed: S. OLSON
Drawn: S. OLSON
Reviewed: J. ANDERSON
Submitted: A. CHURCHILL
ESACE Survey No.: 2987-12

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

PREDREDGE SURVEY

ANCHORAGE, ALASKA
PORT OF ANCHORAGE
2012-2014
MAINTENANCE DREDGING
20 & 23 APRIL, 2012
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

W MEL SAUNDERS CH(152)

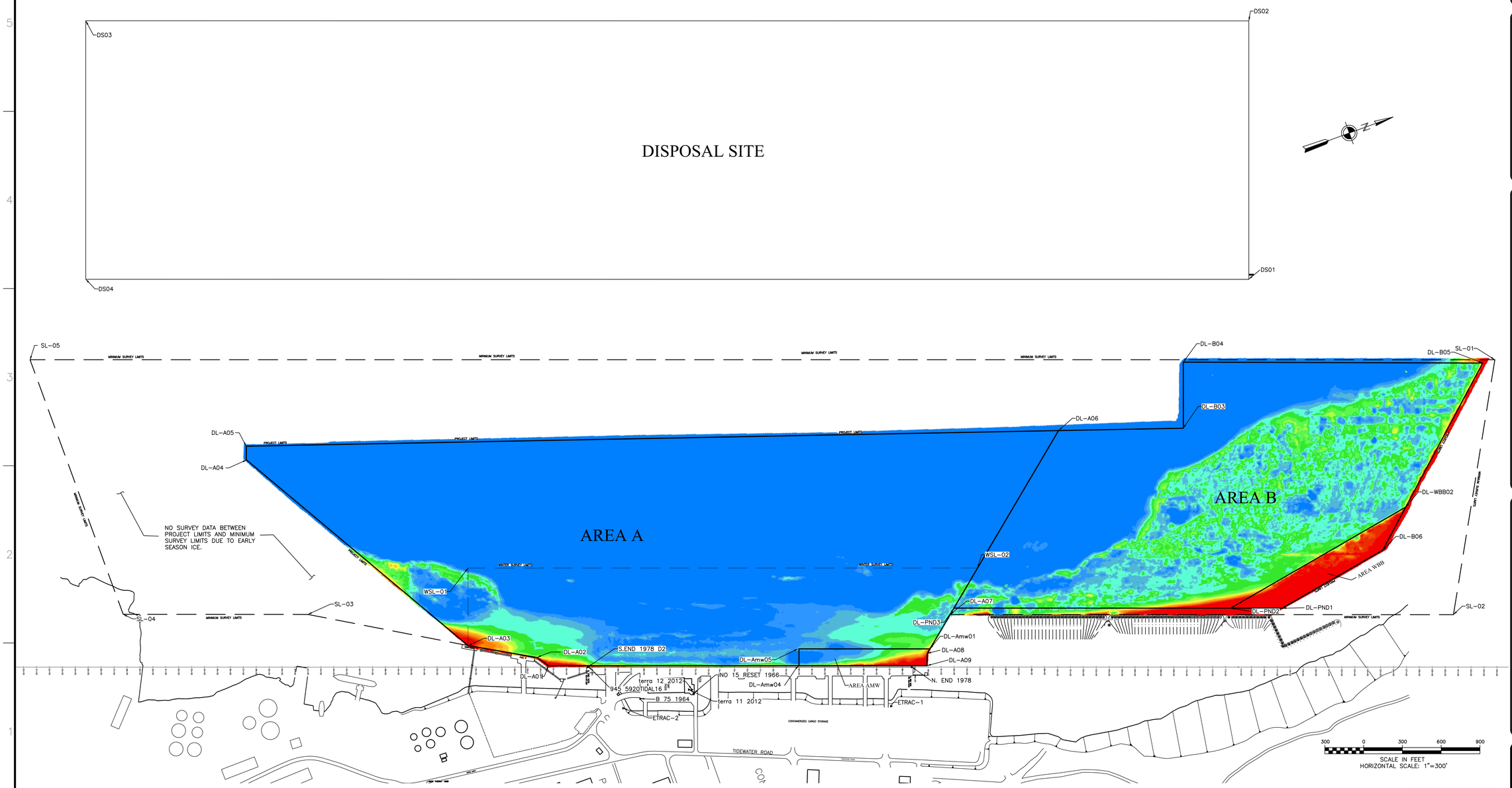
STATE OF ALASKA — 49TH — PROFESSIONAL LAND SURVEYOR — (Lewis J. Epps) — 05/15/2012 — No. 3510

NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83, US SURVEY FEET, HOLDING USACE SBC "N END 1978" AS N 2,646,649.75' , E 1,660,584.91' AND USACE SBC "S END 1978" AS N 2,644,296.16' , E 1,659,728.14'.
2. VERTICAL CONTROL IS IN FEET REFERRING TO MEAN LOWER LOW WATER (MLLW=0.0), BASED ON NOAA/NOS 1983-2001 TIDAL EPOCH BENCH MARK LIST "9455920 ANCHORAGE, KNIK ARM, COOK INLET, ALASKA" PUBLISHED 4/21/2003, HOLDING USCGS SBC "TIDAL 16 1966" AS 40.53', USCGS SBC "B 75 1964" AS 36.81'.
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 ENGINEERING, ON 20 & 23 APRIL, 2012.
6. SOUNDINGS WERE COLLECTED USING A 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-S 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 TIMBLE 750 GPS RECEIVER SET AT CONTROL STATION "TERRA 11 2012", 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.

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:
PRIME CONTRACTOR RESIDENT ENGINEER

Num	Action	Description	Date	Approv

Date: 05/15/12
Dwg Scale: 1"=300'
Plot Scale: 1:1
File: Predredge_20120420.dwg

Designed: S. OLSON
Drawn: S. OLSON
Reviewed: J. ANDERSON
Submitted: A. CHURCHILL
USACE Survey No. 2987-12

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

PREDREDGE SURVEY

ANCHORAGE, ALASKA
PORT OF ANCHORAGE
2012-2014
MAINTENANCE DREDGING
20 & 23 APRIL, 2012
PREDREDGE SURVEY

Reference number:
V-106
Sheet 6 of 6