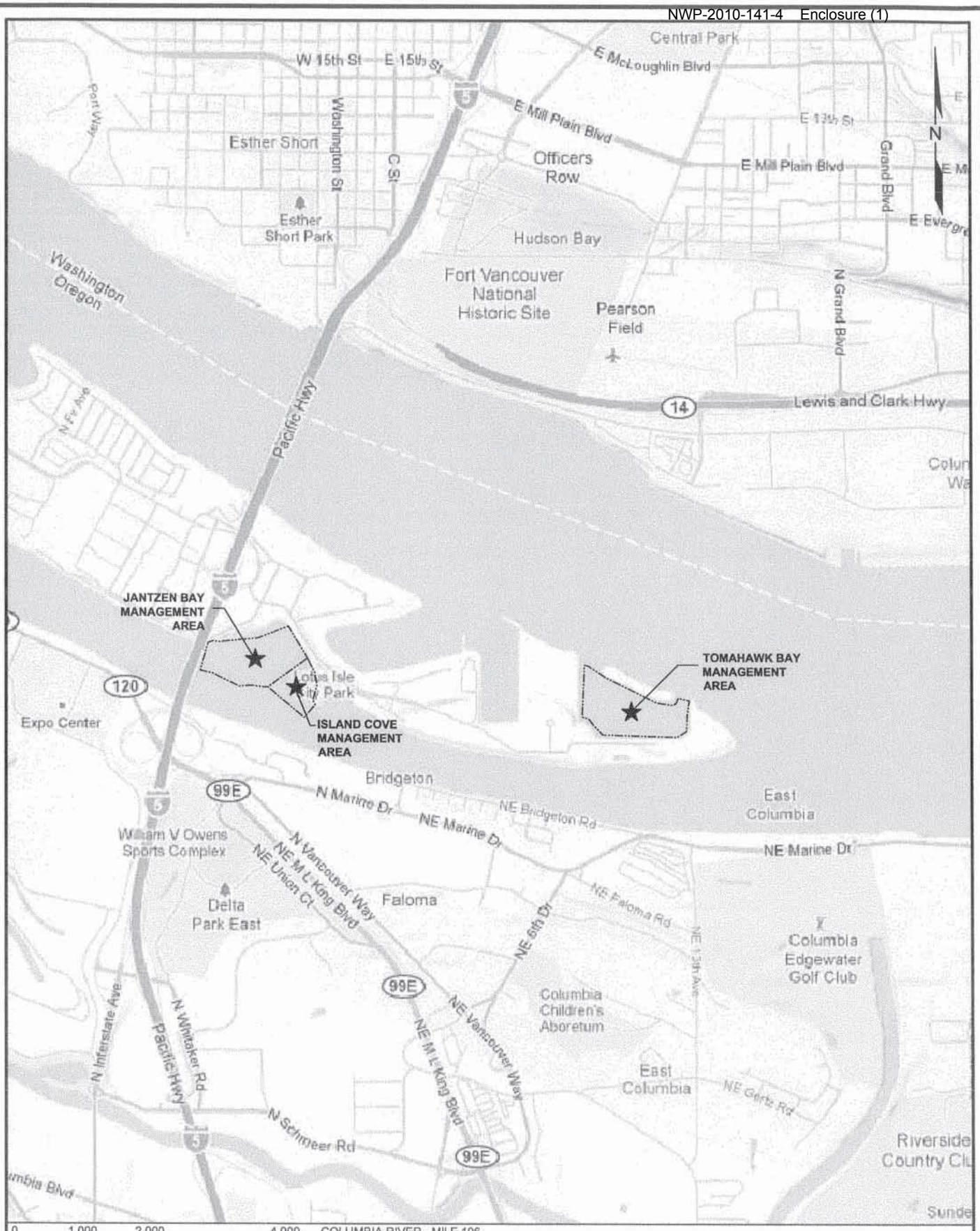
P:\0458 TEUTSCH PARTNERS LLC\0458-003 COLUMBIA CROSSINGS\TECHNICAL\CAD\FIGURE 1\0458-003_FIG1.DWG



SoundEarth Strategies
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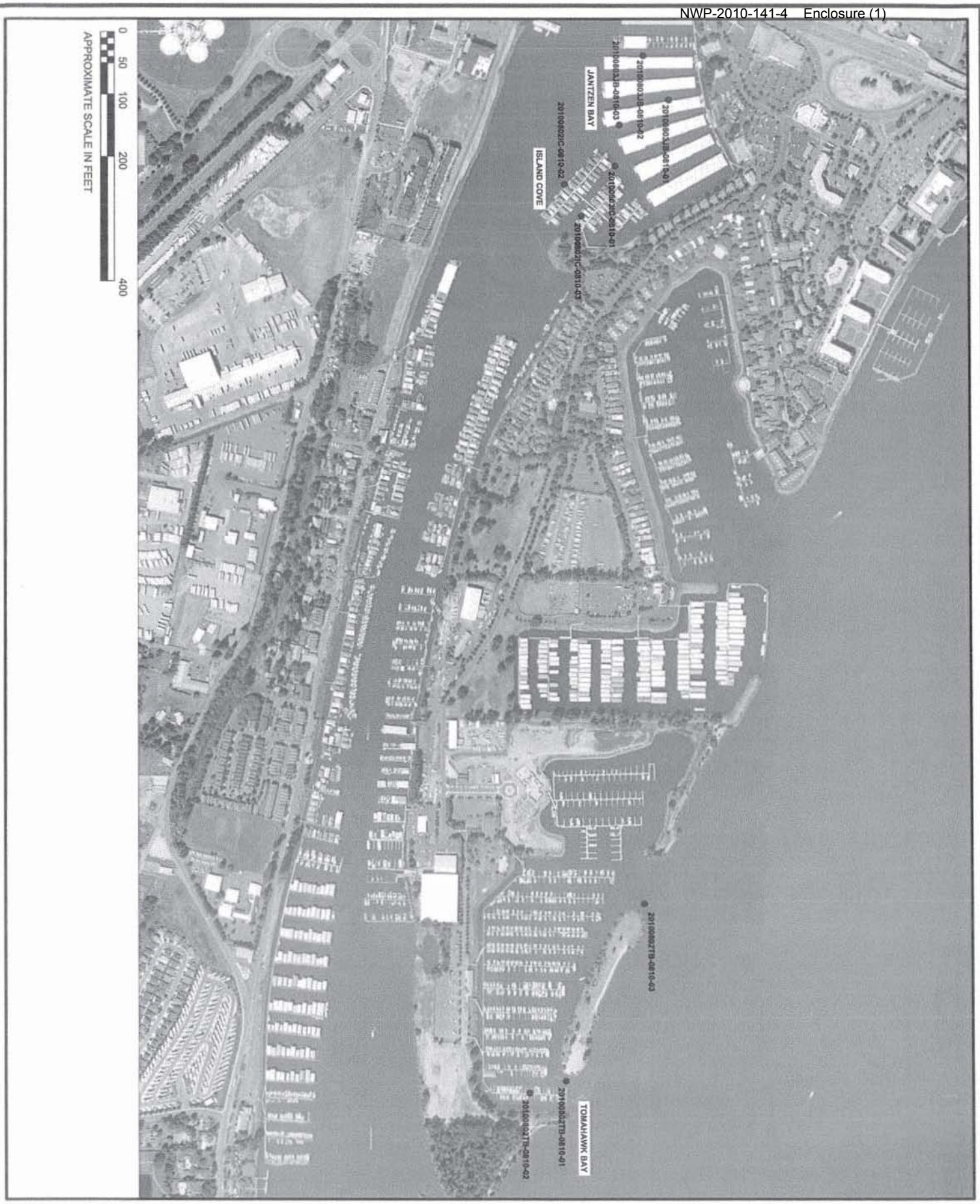
DATE: 02/22/12
DRAWN BY: V. BACHMANN
CHECKED BY: EKR
CAD FILE: 0458-003_SITE-VICINITY

PROJECT NAME: TOMAHAWK ISLAND PROPERTY
PROJECT NUMBER: 0458-003-01
STREET ADDRESS: TOMAHAWK ISLAND
CITY, STATE: PORTLAND, OREGON

FIGURE 1
PROPERTY LOCATION MAP

WWW.SOUNDEARTHINC.COM



SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 2/21/2012
DRAWN BY: VPB
CHECKED BY: EKR
CAD FILE: 0458-003_SEDIMENT

PROJECT NAME: TOMAHAWK ISLAND PROPERTY
PROJECT NUMBER: 0458-003
STREET ADDRESS: TOMAHAWK ISLAND
CITY, STATE: PORTLAND, OREGON

FIGURE 2
PROPERTY PLAN

SOUNDEARTHINC.COM

NWP-2010-141-4 Enclosure (1)

COLUMBIA CROSSINGS

PLAT MAP
FROM MULTNOMAH COUNTY
ASSESSORS OFFICE
NOT TO SCALE

COLUMBIA
RIVER 106
LAT: 45°36'22.37" N
LON: 122°40'18.34" W
DATUM: CRD

THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY

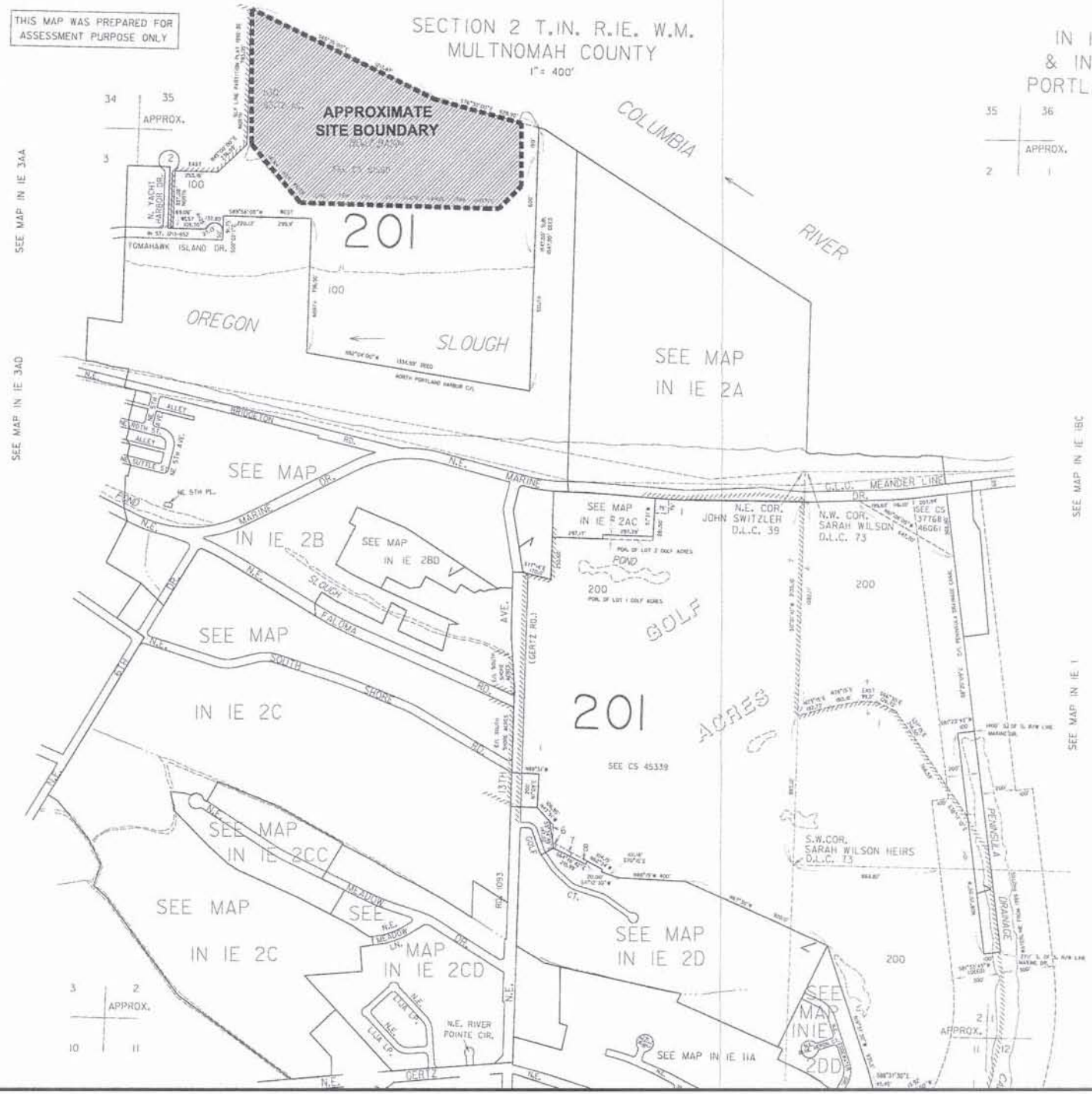


FIGURE 3
TOMAHAWK BAY MANAGEMENT AREA
PLAT MAP WITH SITE LOCATION

PROJECT NAME: TOMAHAWK ISLAND PROPERTY
PROJECT NUMBER: 0458-003
STREET ADDRESS: TOMAHAWK ISLAND
CITY, STATE: PORTLAND, OREGON

DATE: 2/28/2010
DRAWN BY: VPB
CHECKED BY: EKR
CAD FILE: 0458-003_TOM-PLAN

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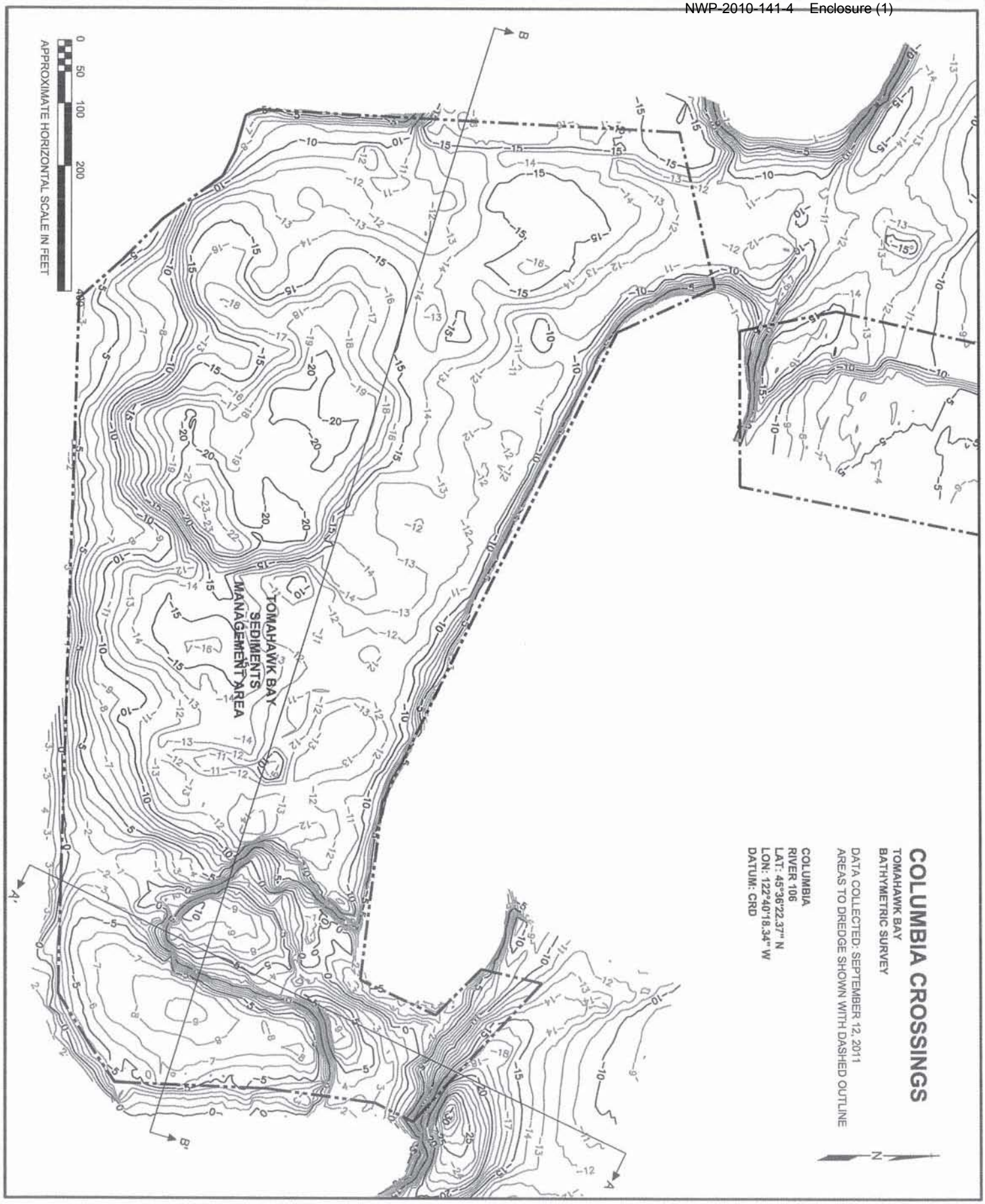

SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE:	2/21/2012
DRAWN BY:	VPB
CHECKED BY:	EKR
CAD FILE:	0458-003_TOM-PLAN

PROJECT NAME:	TOMAHAWK ISLAND PROPERTY
PROJECT NUMBER:	0458-003
STREET ADDRESS:	TOMAHAWK ISLAND
CITY, STATE:	PORTLAND, OREGON

FIGURE 4
TOMAHAWK BAY MANAGEMENT AREA
BATHYMETRIC SURVEY CONTOURS
WITH CROSS SECTION LOCATIONS

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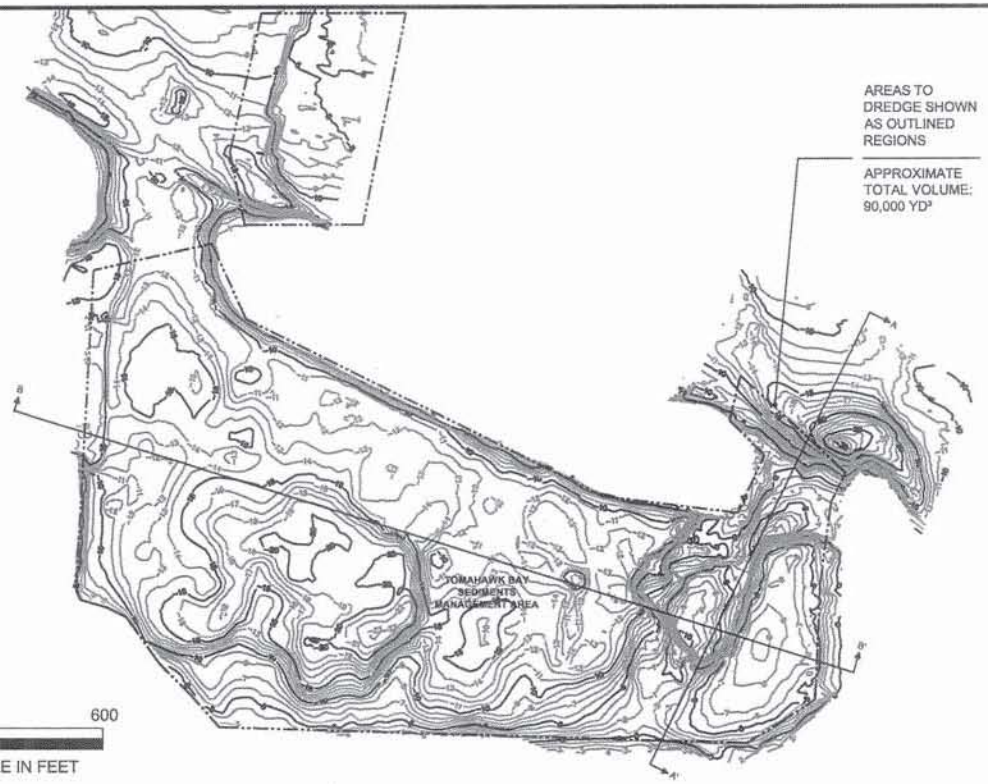
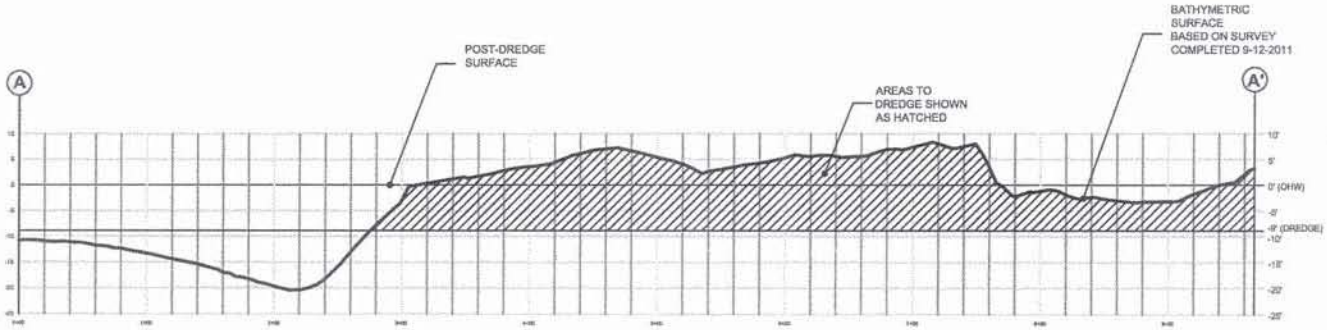
NWP-2010-141-4 Enclosure (1)



COLUMBIA
RIVER MILE 106
LAT: 45°36'22.37" N
LON: 122°40'18.34" W
DATUM: CRD

0 75 150 300 600

APPROXIMATE HORIZONTAL SCALE IN FEET



SECTION A - A'
4X VERTICAL EXAGGERATION

0 75 150 300

APPROXIMATE HORIZONTAL SCALE IN FEET
VERTICAL EXAGGERATION: 4X

NOTE:
APPROXIMATE TOTAL VOLUME: 90,000 YD³

VOLUMES WERE ESTIMATED USING DATA COLLECTED DURING THE BATHYMETRIC SURVEY DATED 9-12-2011

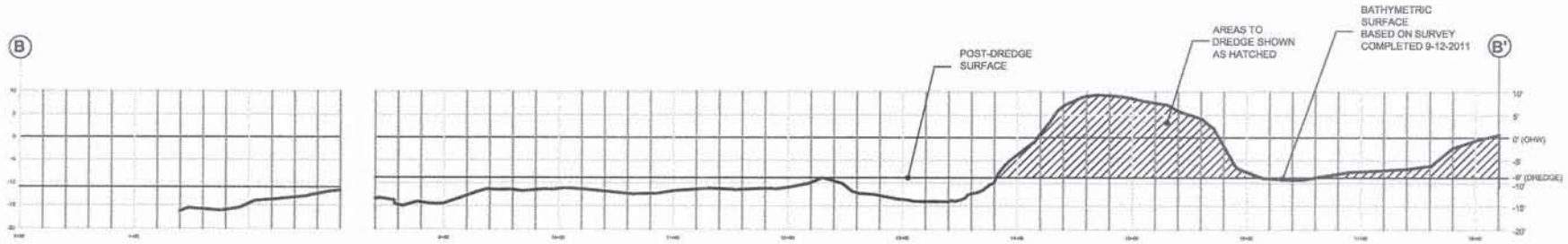


FIGURE 5
TOMAHAWK BAY PLAN WITH DREDGE VOLUME CALCULATIONS AND CROSS SECTIONS

PROJECT NAME: TOMAHAWK ISLAND PROPERTY
PROJECT NUMBER: 0458-003
STREET ADDRESS: TOMAHAWK ISLAND
CITY, STATE: PORTLAND, OREGON

DATE: 11/14/2011
DRAWN BY: VPB
CHECKED BY: EKR
CAD FILE: 0458-003_TOM-PLAN

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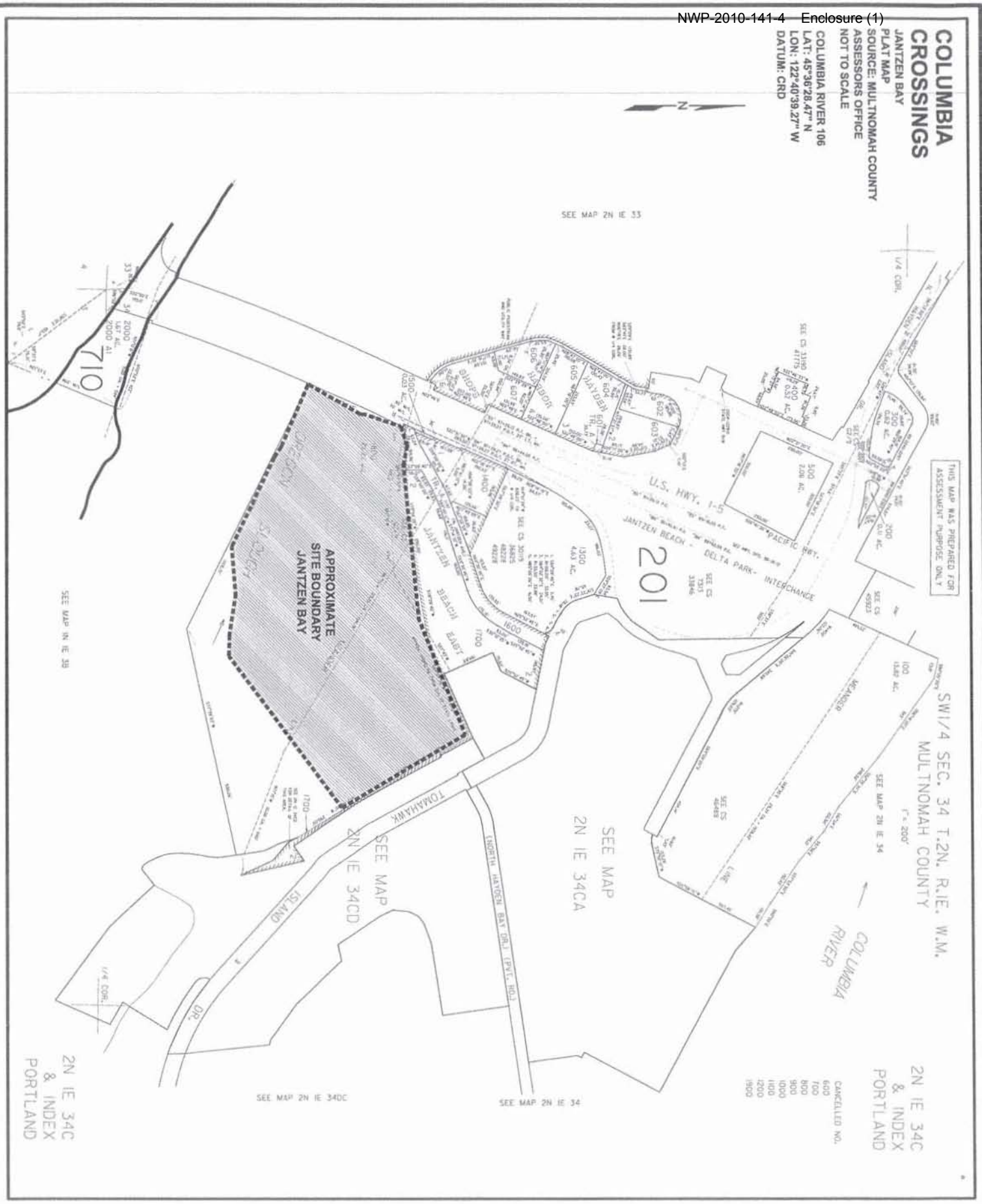

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DATE: 2/28/2010
DRAWN BY: VPB
CHECKED BY: EKR
CAD FILE: 0458-003_TOM-PLAN

PROJECT NAME: TOMAHAWK ISLAND PROPERTY
PROJECT NUMBER: 0458-003
STREET ADDRESS: TOMAHAWK ISLAND
CITY, STATE: PORTLAND, OREGON

FIGURE 6
JANTZEN BAY MANAGEMENT AREA
PLAT MAP WITH SITE LOCATION

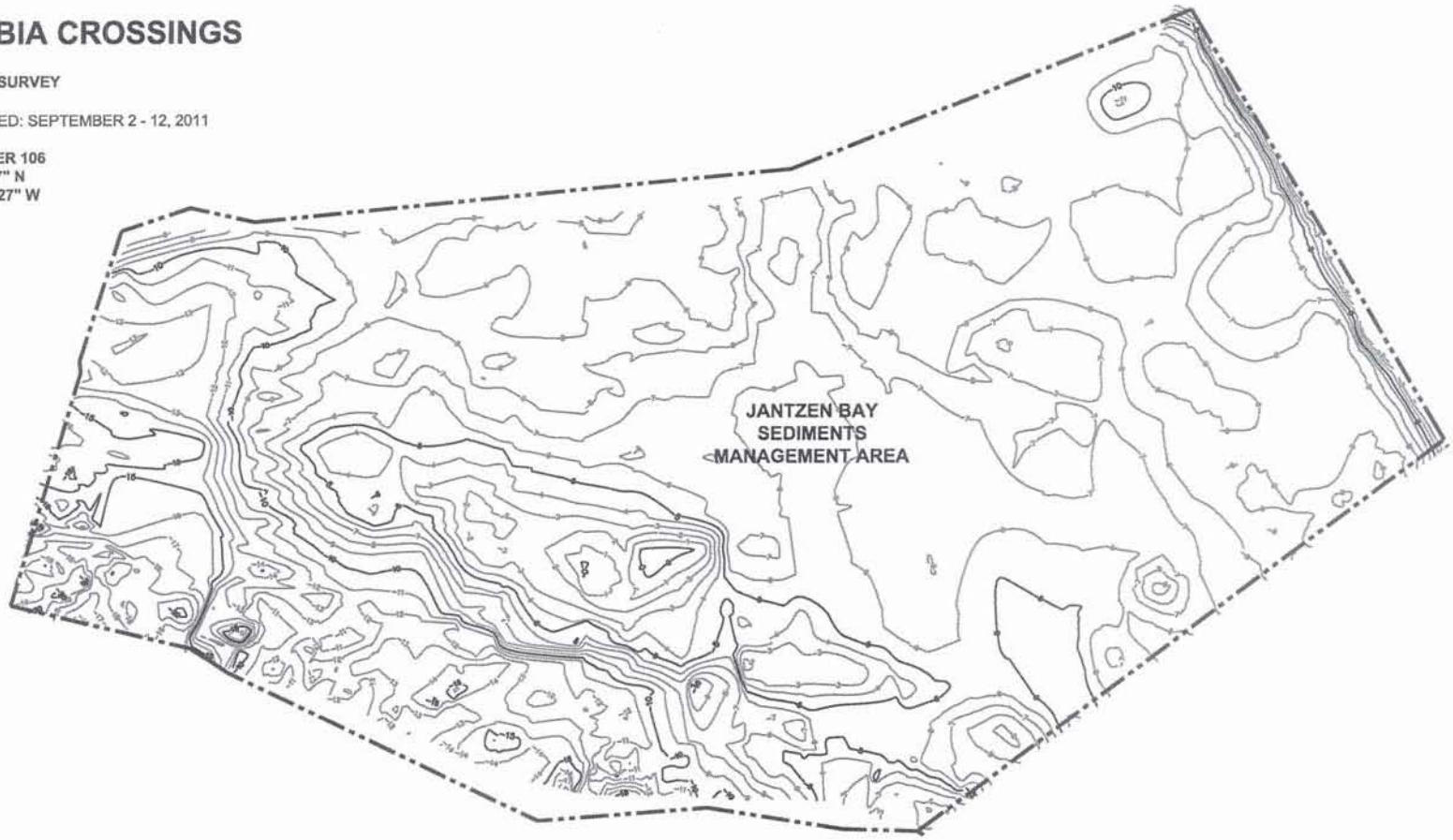
NWP-2010-141-4 Enclosure (1)

COLUMBIA CROSSINGS

JANTZEN BAY
BATHYMETRIC SURVEY

DATA COLLECTED: SEPTEMBER 2 - 12, 2011

COLUMBIA RIVER 106
LAT: 45°36'28.47" N
LON: 122°40'39.27" W
DATUM: CRD



NOTES:

1. HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983, STATE PLANE COORDINATES, OREGON NORTH ZONE.
2. UNITS: INTERNATIONAL FEET.
3. VERTICAL DATUM: COLUMBIA RIVER DATUM (C.R.D). SOUNDINGS ARE IN FEET AND INDICATE DEPTHS BELOW COLUMBIA RIVER DATUM.
4. CONTOUR INTERVAL: 1 FOOT.
5. ALL HORIZONTAL POSITIONING FOR DATA ACQUISITION AND NAVIGATION WAS SUPPLIED BY A HEMISPHERE GPS VS-110 DUAL ANTENNAE DGPS SYSTEM. DIFFERENTIAL CORRECTIONS WERE RECEIVED FROM THE CONTINUOUSLY OPERATED REFERENCE STATION (CORS) LOCATED AT APPLETON, WA.
6. SURVEY DATA WAS COLLECTED USING A TWENTY-FIVE FOOT LINE SPACING INTERVAL. THE SURVEY DATA COLLECTED ALONG EACH LINE WAS THINNED USING A "SHOAL BIASED" METHOD TO AN APPROXIMATE HORIZONTAL SPACING OF 5 FEET.
7. THIS BATHYMETRIC SURVEY IS REPRESENTATIVE OF THE GENERAL CONDITION OF THE RIVER BOTTOM AT THE TIME OF THE SURVEY. THE CONDITION OF THE BOTTOM MAY CHANGE AT ANY TIME AFTER THE DATE OF THIS SURVEY. THERE MAY BE BOTTOM FEATURES THAT ARE NOT SHOWN ON THIS MAP DUE TO THE LINE SPACING INTERVAL. THIS SURVEY DOES NOT INCLUDE BATHYMETRIC DATA BETWEEN ADJACENT SURVEY LINES.
8. ALL BATHYMETRIC DATA WAS COLLECTED IN ACCORDANCE WITH THE U.S ARMY CORPS OF ENGINEERS HYDROGRAPHIC SURVEY MANUAL EM-112-02-1003 (JANUARY 2002). SURVEY CLASSIFICATION: NAVIGATION AND DREDGING SUPPORT SURVEYS, BOTTOM CLASSIFICATION OF SOFT.

0 50 100 200 400

APPROXIMATE HORIZONTAL SCALE IN FEET

THIS HYDROGRAPHIC SURVEY WAS COMPLETED BY AN AMERICAN CONGRESS ON SURVEYING AND MAPPING CERTIFIED HYDROGRAPHER.

JAMES W. GLAESER
AMERICAN CONGRESS ON SURVEYING AND MAPPING
CERTIFIED HYDROGRAPHER #222

FIGURE 7
JANTZEN BAY MANAGEMENT AREA
BATHYMETRIC SURVEY CONTOURS
WITH CROSS SECTION LOCATIONS

PROJECT NAME: TOMAHAWK ISLAND PROPERTY
PROJECT NUMBER: 0458-003
STREET ADDRESS: TOMAHAWK ISLAND
CITY, STATE: PORTLAND, OREGON

DATE: 2/28/2010
DRAWN BY: VPB
CHECKED BY: EKR
CAD FILE: 0458-003_TOM-PLAN

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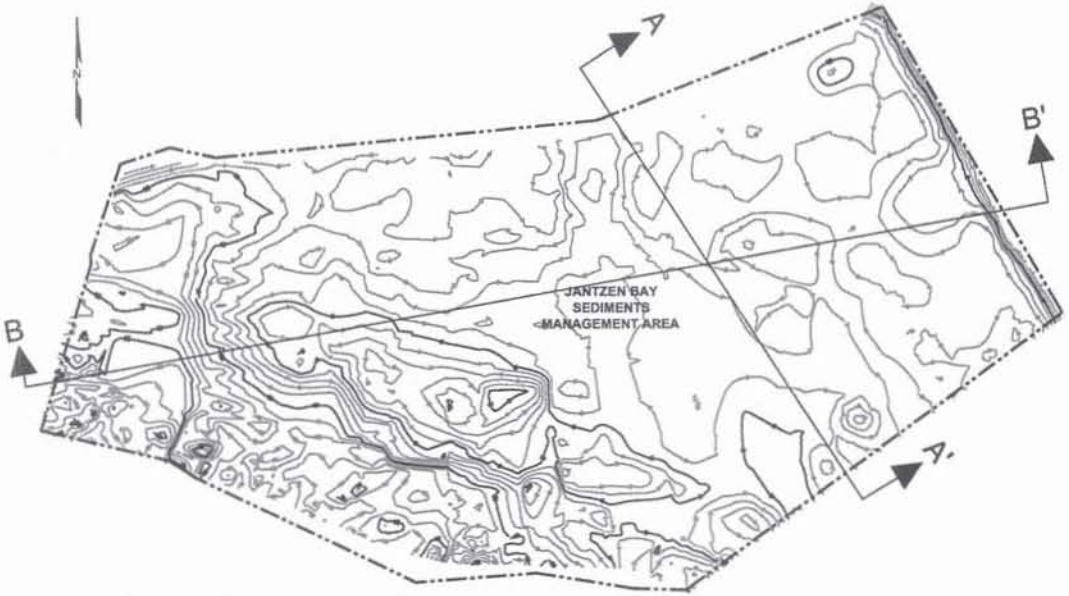
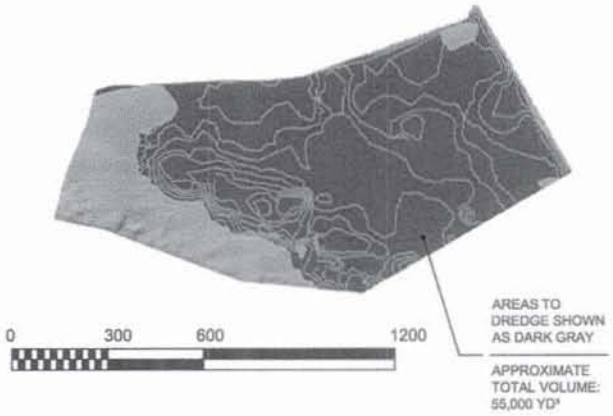
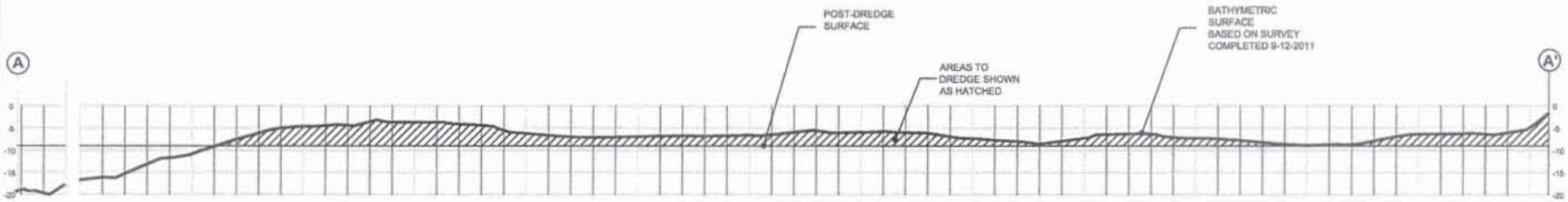
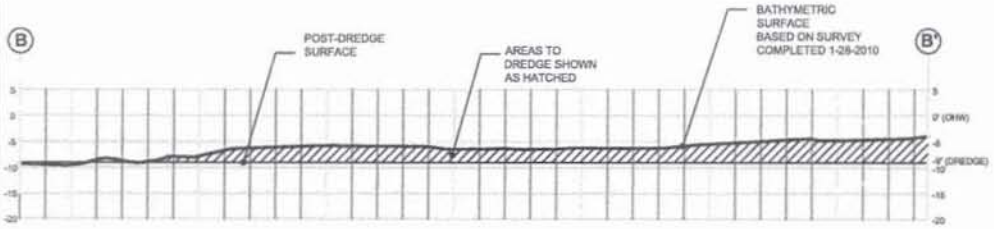
NWP-2010-141-4 Enclosure (1)









0 75 150 300

APPROXIMATE HORIZONTAL SCALE IN FEET
VERTICAL EXAGGERATION: 4X

NOTE:
APPROXIMATE TOTAL VOLUME: 55,000 YD³

BATHYMETRIC SURVEY DATED 9-2-2011.

COLUMBIA RIVER 106
LAT: 45°36'28.47" N
LON: 122°40'39.27" W
DATUM: CRD

FIGURE 8
JANTZEN BAY PLAN WITH DREDGE VOLUME
CALCULATIONS AND CROSS SECTIONS

PROJECT NAME: TOMAHAWK ISLAND PROPERTY
PROJECT NUMBER: 0458-003
STREET ADDRESS: TOMAHAWK ISLAND
CITY, STATE: PORTLAND, OREGON

DATE: 2/28/2010
DRAWN BY: VPB
CHECKED BY: EKR
CAD FILE: 0458-003_TOM-PLAN

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DATE: 2/28/2010
DRAWN BY: VPB
CHECKED BY: EKR
CAD FILE: 0458-003_TOM-PLAN

PROJECT NAME: TOMAHAWK ISLAND PROPERTY
PROJECT NUMBER: 0458-003
STREET ADDRESS: TOMAHAWK ISLAND
CITY, STATE: PORTLAND, OREGON

FIGURE 9
ISLAND COVE MANAGEMENT AREA
PLAT MAP WITH SITE LOCATION

0 75 150 300

APPROXIMATE HORIZONTAL SCALE IN FEET

COLUMBIA CROSSINGS

ISLAND COVE
BATHYMETRIC SURVEY

DATA COLLECTED: FEBRUARY 9, 2012

COLUMBIA RIVER 106
LAT: 45°36'25.25" N
LON: 122°40'30.20" W
DATUM: CRD

NOTES:

1. HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983, STATE PLANE COORDINATES, OREGON NORTH ZONE.
2. UNITS: INTERNATIONAL FEET.
3. VERTICAL DATUM: COLUMBIA RIVER DATUM (C.R.D). SOUNDINGS ARE IN FEET AND INDICATE DEPTHS BELOW COLUMBIA RIVER DATUM.
4. CONTOUR INTERVAL: 1 FOOT.
5. ALL HORIZONTAL POSITIONING FOR DATA ACQUISITION AND NAVIGATION WAS SUPPLIED BY A HEMISPHERE GPS VS-110 DUAL ANTENNAE DGPS SYSTEM. DIFFERENTIAL CORRECTIONS WERE RECEIVED FROM THE CONTINUOUSLY OPERATED REFERENCE STATION (CORS) LOCATED AT APPLETON, WA.
6. SURVEY DATA WAS COLLECTED USING A TWENTY-FIVE FOOT LINE SPACING INTERVAL. THE SURVEY DATA COLLECTED ALONG EACH LINE WAS THINNED USING A "SHOAL BIASED" METHOD TO AN APPROXIMATE HORIZONTAL SPACING OF 5 FEET.
7. THIS BATHYMETRIC SURVEY IS REPRESENTATIVE OF THE GENERAL CONDITION OF THE RIVER BOTTOM AT THE TIME OF THE SURVEY. THE CONDITION OF THE BOTTOM MAY CHANGE AT ANY TIME AFTER THE DATE OF THIS SURVEY. THERE MAY BE BOTTOM FEATURES THAT ARE NOT SHOWN ON THIS MAP DUE TO THE LINE SPACING INTERVAL. THIS SURVEY DOES NOT INCLUDE BATHYMETRIC DATA BETWEEN ADJACENT SURVEY LINES.
8. ALL BATHYMETRIC DATA WAS COLLECTED IN ACCORDANCE WITH THE U.S ARMY CORPS OF ENGINEERS HYDROGRAPHIC SURVEY MANUAL EM-112-02-1003 (JANUARY 2002). SURVEY CLASSIFICATION: NAVIGATION AND DREDGING SUPPORT SURVEYS, BOTTOM CLASSIFICATION OF SOFT.

THIS HYDROGRAPHIC SURVEY WAS COMPLETED BY AN AMERICAN CONGRESS ON SURVEYING AND MAPPING CERTIFIED HYDROGRAPHER.

JAMES W. GLAESER
AMERICAN CONGRESS ON SURVEYING AND MAPPING
CERTIFIED HYDROGRAPHER #222

FIGURE 10
ISLAND COVE MANAGEMENT AREA
BATHYMETRIC SURVEY CONTOURS
WITH CROSS SECTION LOCATIONS

PROJECT NAME: TOMAHAWK ISLAND PROPERTY
PROJECT NUMBER: 0458-003
STREET ADDRESS: TOMAHAWK ISLAND
CITY, STATE: PORTLAND, OREGON

DATE: 2/21/2012
DRAWN BY: VPB
CHECKED BY: EKR
CAD FILE: 0458-003_ISL-COVE_PLAN

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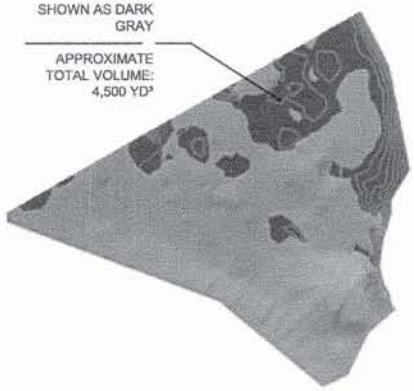
NWP-2010-141-4 Enclosure (1)

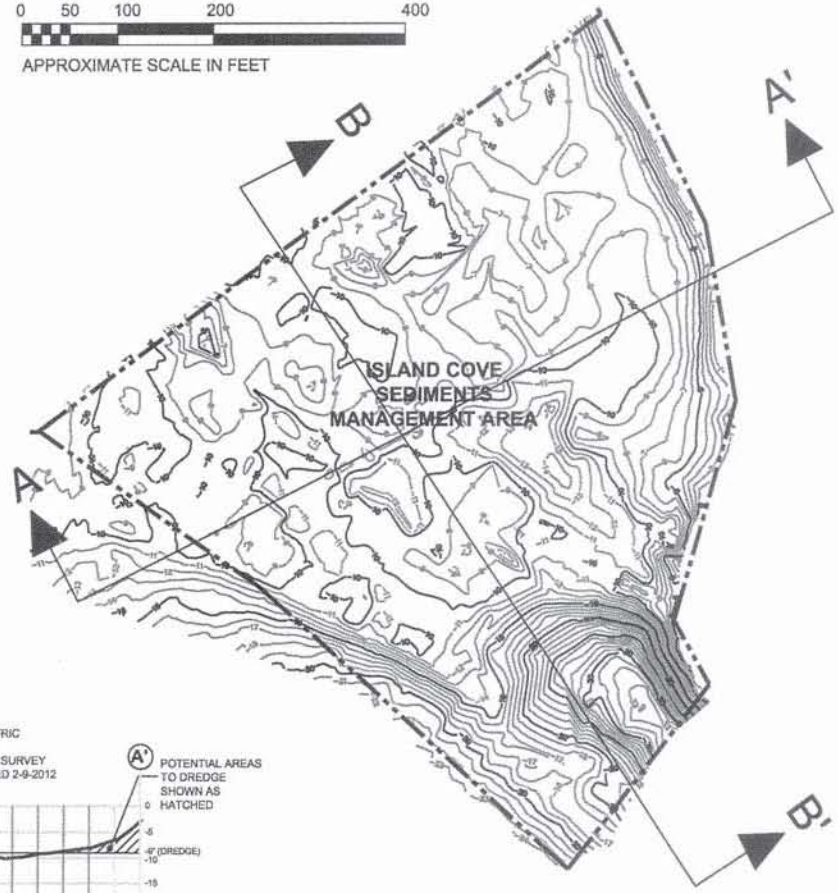


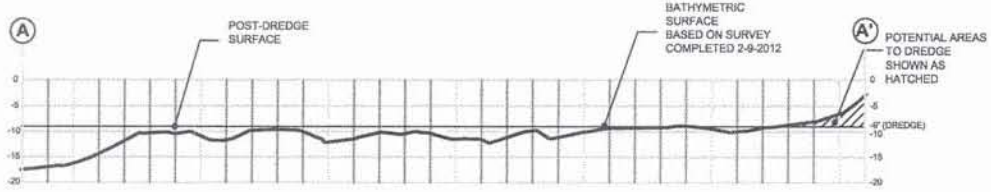
0 100 200 400 800

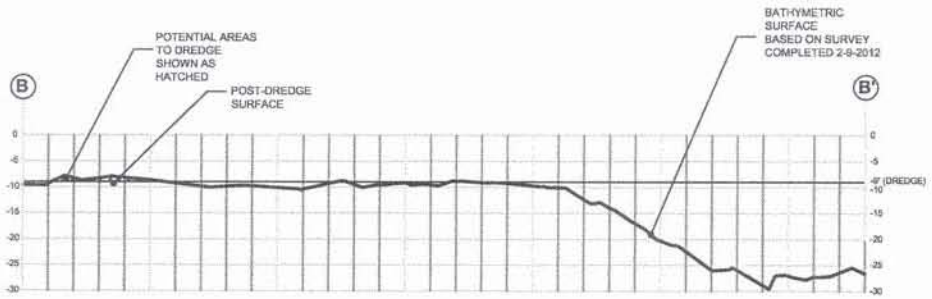
APPROXIMATE SCALE IN FEET

0 50 100 200 400

APPROXIMATE SCALE IN FEET







0 75 150 300

APPROXIMATE HORIZONTAL SCALE IN FEET
VERTICAL EXAGGERATION: 4X

NOTE:
APPROXIMATE TOTAL VOLUME: 4,500 YD³

BATHYMETRIC SURVEY DATED 2-9-2012

COLUMBIA RIVER 106
LAT: 45°36'25.25" N
LON: 122°40'30.20" W
DATUM: CRD

FIGURE 11
ISLAND COVE PLAN WITH DREDGE VOLUME CALCULATIONS AND CROSS SECTIONS

PROJECT NAME: TOMAHAWK ISLAND PROPERTY
PROJECT NUMBER: 0458-003
STREET ADDRESS: TOMAHAWK ISLAND
CITY, STATE: PORTLAND, OREGON

DATE: 2/21/2012
DRAWN BY: VPB
CHECKED BY: EKR
CAD FILE: 0458-003_ISL-COVE_XS

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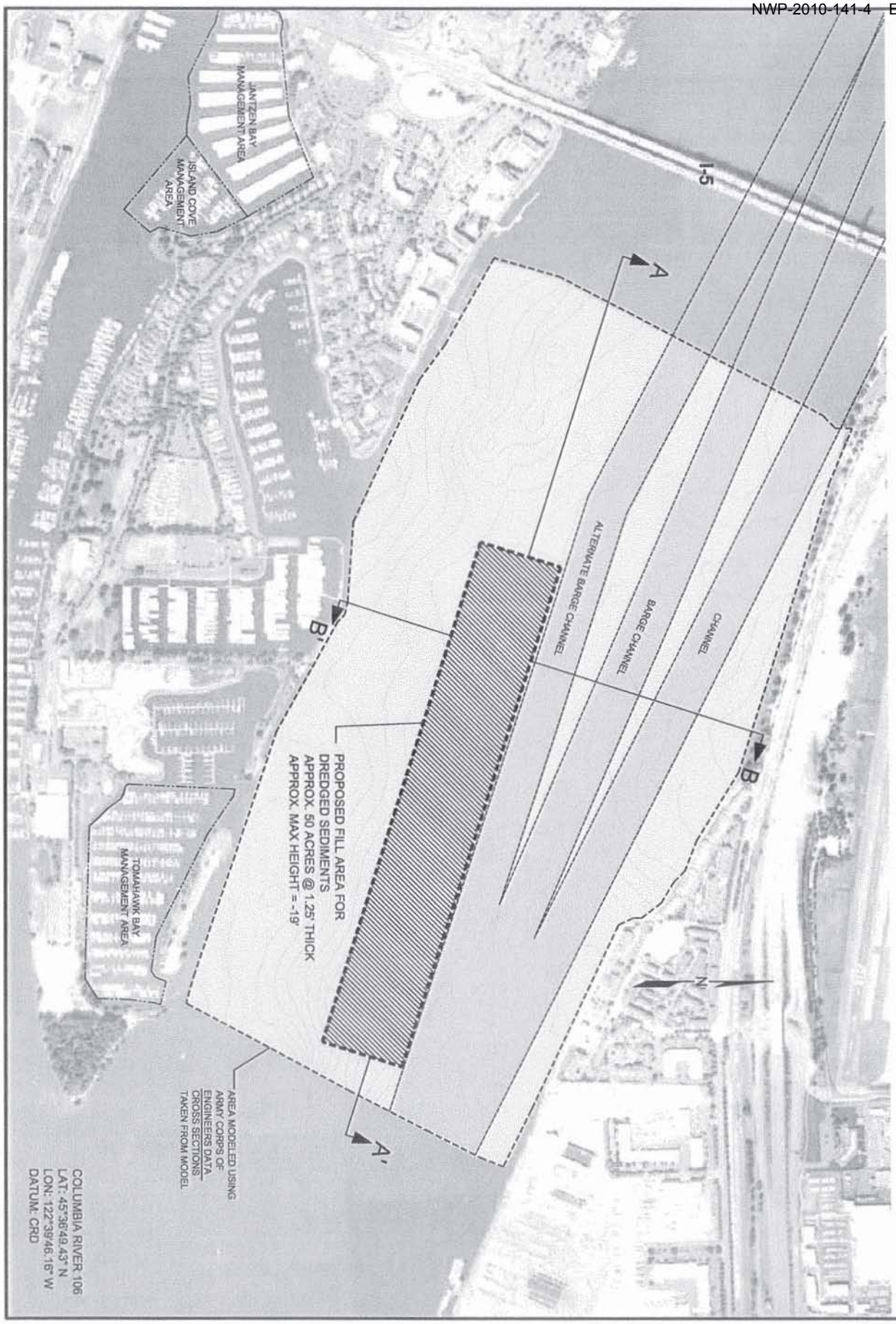

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DATE: 2/28/2010
DRAWN BY: VPB
CHECKED BY: EKR
CAD FILE: 0458-003_TOM-PLAN

PROJECT NAME: TOMAHAWK ISLAND PROPERTY
PROJECT NUMBER: 0458-003
STREET ADDRESS: TOMAHAWK ISLAND
CITY, STATE: PORTLAND, OREGON

FIGURE 12
COLUMBIA RIVER BASIN PROPOSED FILL AREA FOR DREDGED SEDIMENTS - PLAN VIEW WITH AERIAL

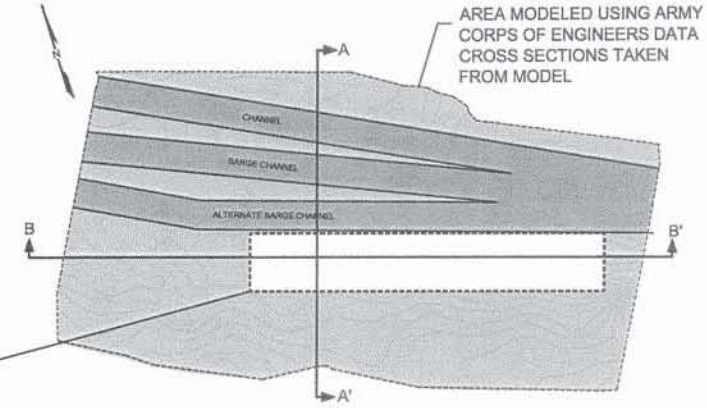
NWP-2010-141-4 Enclosure (1)

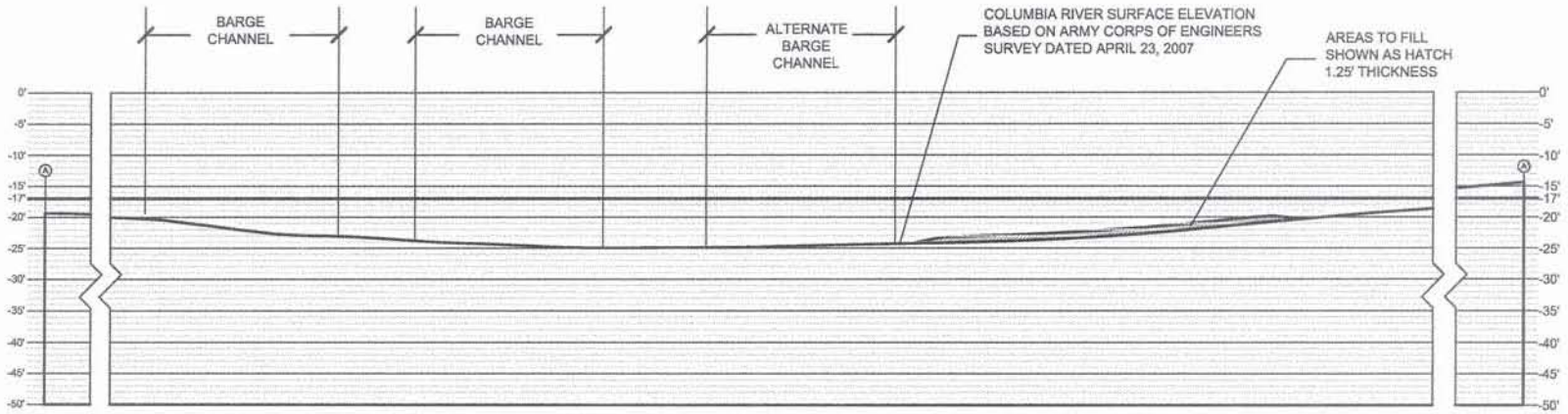
COLUMBIA CROSSINGS
COLUMBIA RIVER BASIN

PROPOSED FILL AREA FOR DREDGED SEDIMENTS

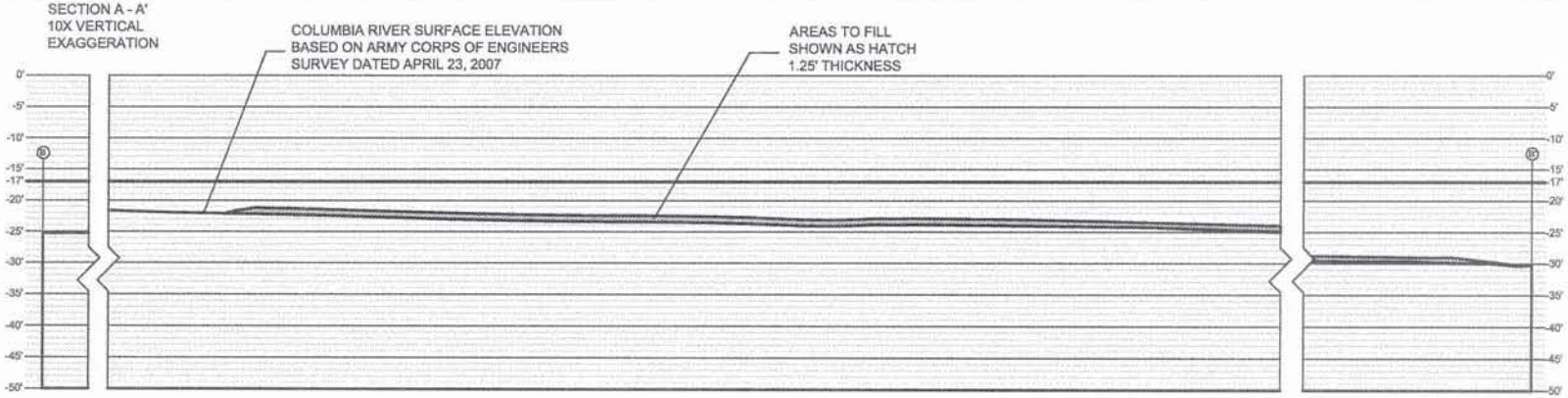
DATA COLLECTEDBY ARMY CORPS OF ENGINEERS:
APRIL 23, 2007

COLUMBIA RIVER 106
LAT: 45°36'49.43" N
LON: 122°39'46.16" W
DATUM: CRD





SECTION A - A'
10X VERTICAL EXAGGERATION



SECTION B - B'
10X VERTICAL EXAGGERATION

0 75 150 300 600

APPROXIMATE HORIZONTAL SCALE IN FEET

FIGURE 13
COLUMBIA RIVER BASIN PROPOSED FILL AREA FOR DREDGED SEDIMENTS - PLAN VIEW AND CROSS SECTIONS

PROJECT NAME: TOMAHAWK ISLAND PROPERTY
PROJECT NUMBER: 0458-003
STREET ADDRESS: TOMAHAWK ISLAND
CITY, STATE: PORTLAND, OREGON

DATE: 2/28/2010
DRAWN BY: VPB
CHECKED BY: EKR
CAD FILE: 0458-003_TOM-PLAN

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