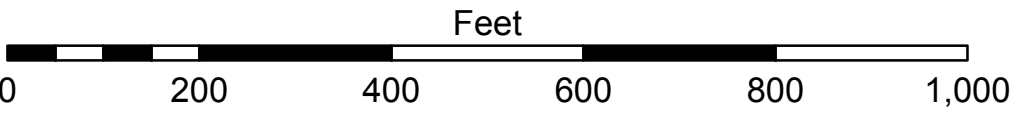


LEGEND

— Federal Navigation Channel	□ Placement Area	■ Shoaling Above Project Depth	◇ Typical Lighted Buoy
— Federal Navigation Center Line	□ Beneficial Use Site	● Shoalest Sounding**	◇ Typical Buoy
— Contour Line		✂ Wrecks	! Typical Light
.... Cable Submarine		⊗ Obstructions	△ Typical Daymarks
- - - Cable Overhead			



** Shoalest sounding per quarter, per each area. Areas are defined by change in width and/or depth.

DU_03_DUW_20200121_CS_E_12_2_1_190

NOTES:

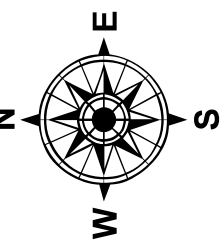
The channel alignment shown on this map is Alignment 1998

The following equipment was used for this survey:

R2 Sonic 2024 Multibeam, 140 degree swath (varies), 1.5 x 1.5 individual beam
310 kHz transducer.
Survey Vessel, NWS 1-16-34

The following surveys were used to create this drawing set:

After Dredge, 21 January 2020, 2020se007



- NOTES:**
1. Sounding and elevations are in feet and refer to the plane of NOS Mean Lower Low Water (MLLW). Epoch 1983-2001. Tide correction based on Geoid 2012A using Real Time Kinematic (RTK). Soundings taken above the datum plane are prefixed with a (+) sign.
 2. Horizontal Datum: WGS-84. Projected coordinate system: Lambert Grid Projection, State Plane, Washington North Zone, 4601, Surveyed in North American Datum of 1983/2011, Plotted in North American Datum of 1983/91. Horizontal units are U.S. Survey Feet.
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 5. Base imagery prepared from natural color four band imagery provided by the National Agriculture Imagery Program (NAIP) taken by United States Department of Agriculture (2017).
 6. Every effort has been made to provide all pertinent details on the location of obstructions/utilities. The data furnished on the drawings are believed to be substantially correct. However, the exact locations may vary from that shown.
 7. Placement Sites are used for dredge material placement, Beneficial Use Sites can be used for placement of dredged material when needed.
 8. (Project Depth, Stations, Width): (30', 0+00 to 134+00, 200'); (20', 134+00 to 176+00, 150'); (15', 176+00 to 270+56, 150'); (15', 270+56 to 275+56, 250); Turning Basin (20', 150+00 to 160+00, 350').



US Army Corps
of Engineers
Seattle District

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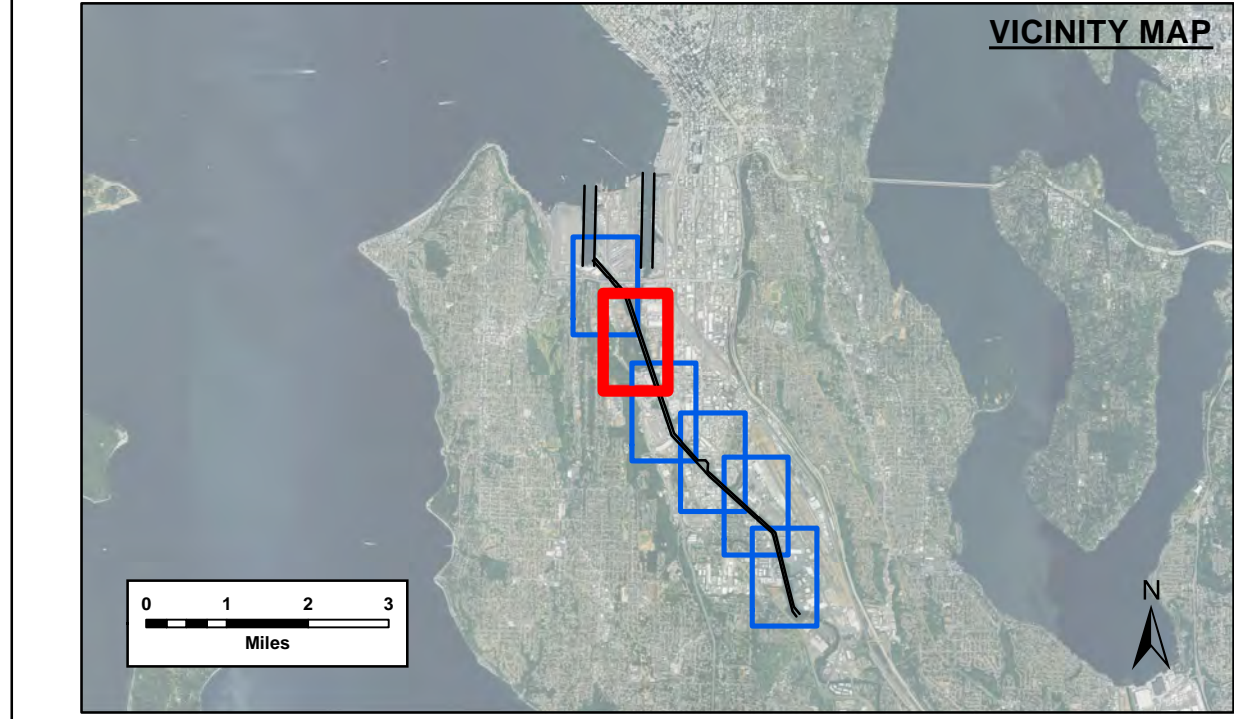
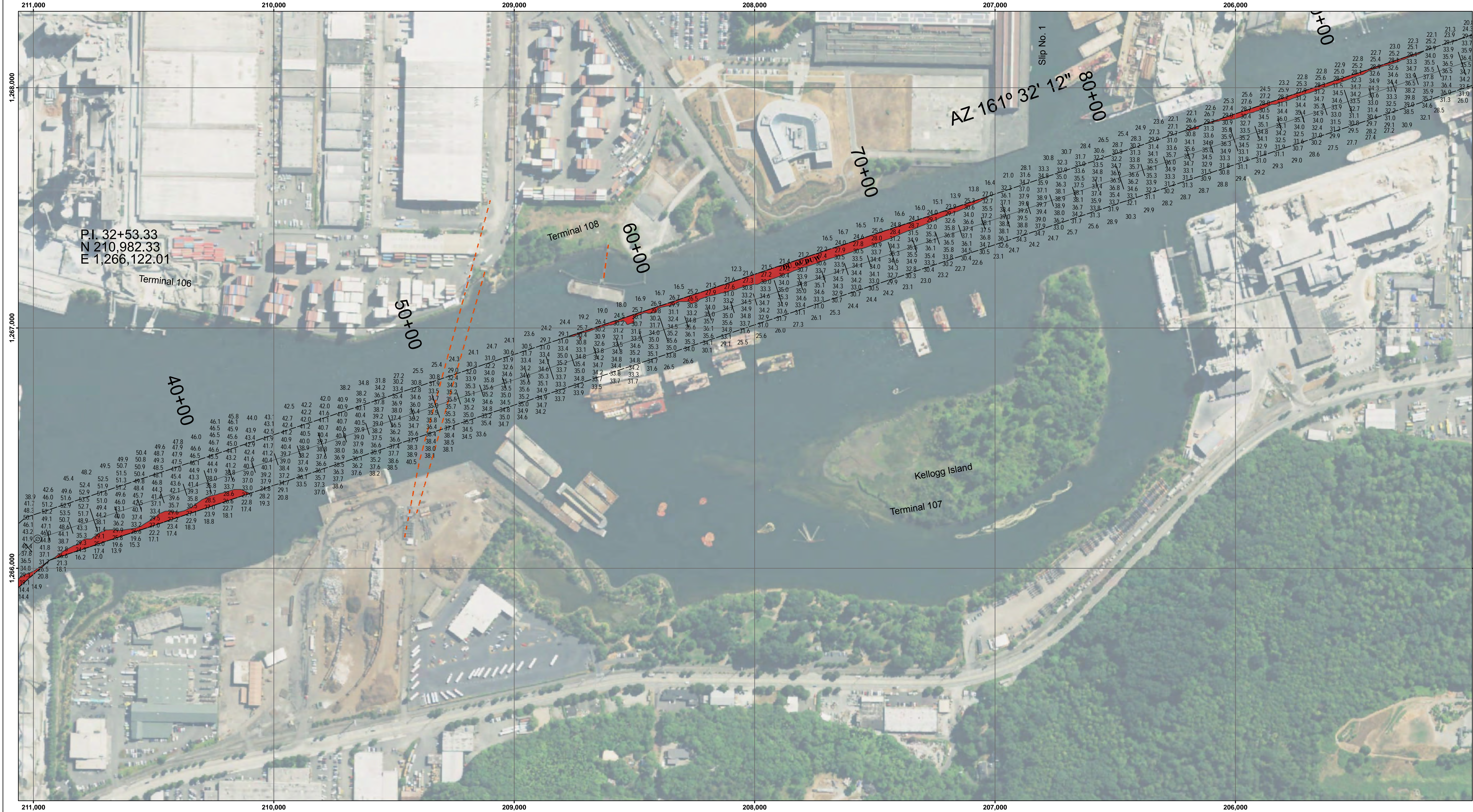
U.S. ARMY CORPS OF ENGINEERS
SEATTLE DISTRICT

Surveyed By: JJA/CA	Plotted By: SCJ	Checked By:
PREPARED: MICHAEL W. SUH PROJECT MANAGER, NAVIGATION SECTION		
SUBMITTED: JOHN A. HICKS CHIEF NAVIGATION SECTION		

SEATTLE HARBOR
DUWAMISH WATERWAY
E-12-2-1-190

Sheet
Number
1 of 6

Revision Date:
05 AUG 2020



LEGEND

— Federal Navigation Channel	□ Placement Area	■ Shoaling Above Project Depth	◇ Typical Lighted Buoy
— Federal Navigation Center Line	□ Beneficial Use Site	● Shoalest Sounding**	◇ Typical Buoy
— Contour Line		✂ Wrecks	! Typical Light
..... Cable Submarine		⊗ Obstructions	△ Typical Daymarks
- - - Cable Overhead			

Feet

0 200 400 600 800 1,000

** Shoalest sounding per quarter, per each area. Areas are defined by change in width and/or depth.

DU_03_DUW_20200121_CS_E_12_2_1_190

NOTES:

The channel alignment shown on this map is Alignment 1998

The following equipment was used for this survey:

R2 Sonic 2024 Multibeam, 140 degree swath (varies), 1.5 x 1.5 individual beam 310 kHz transducer.

Survey Vessel, NWS 1-16-34

The following surveys were used to create this drawing set:

After Dredge, 21 January 2020, 2020se007

- NOTES:**
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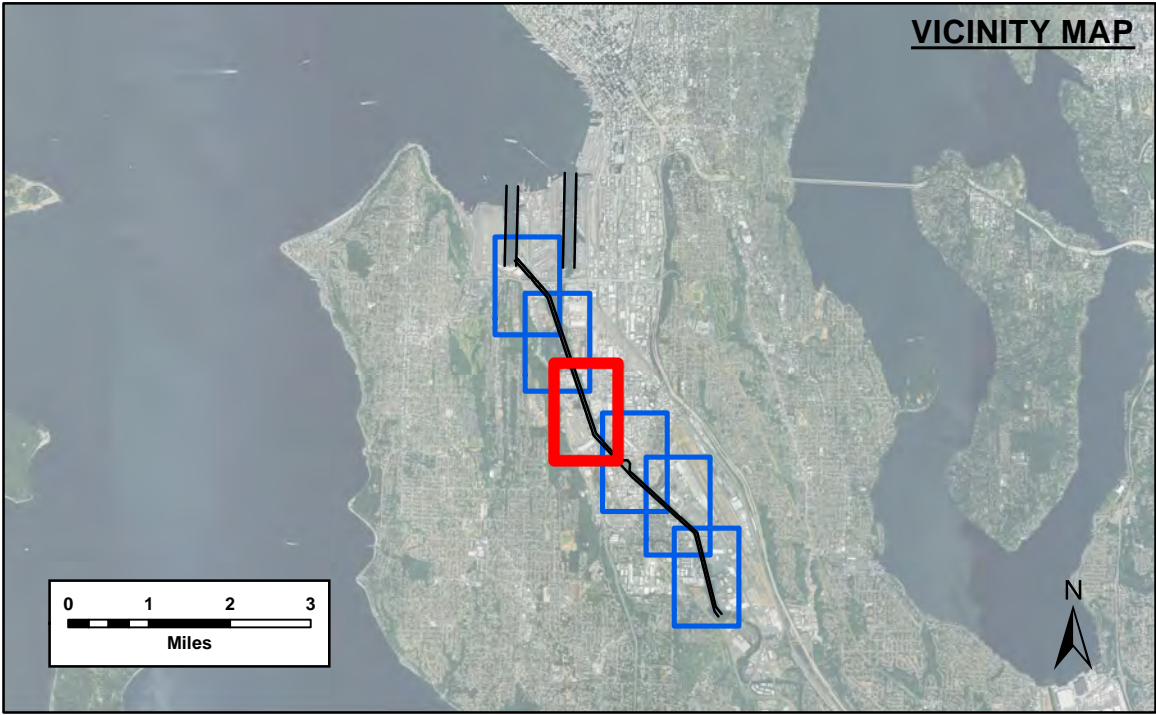
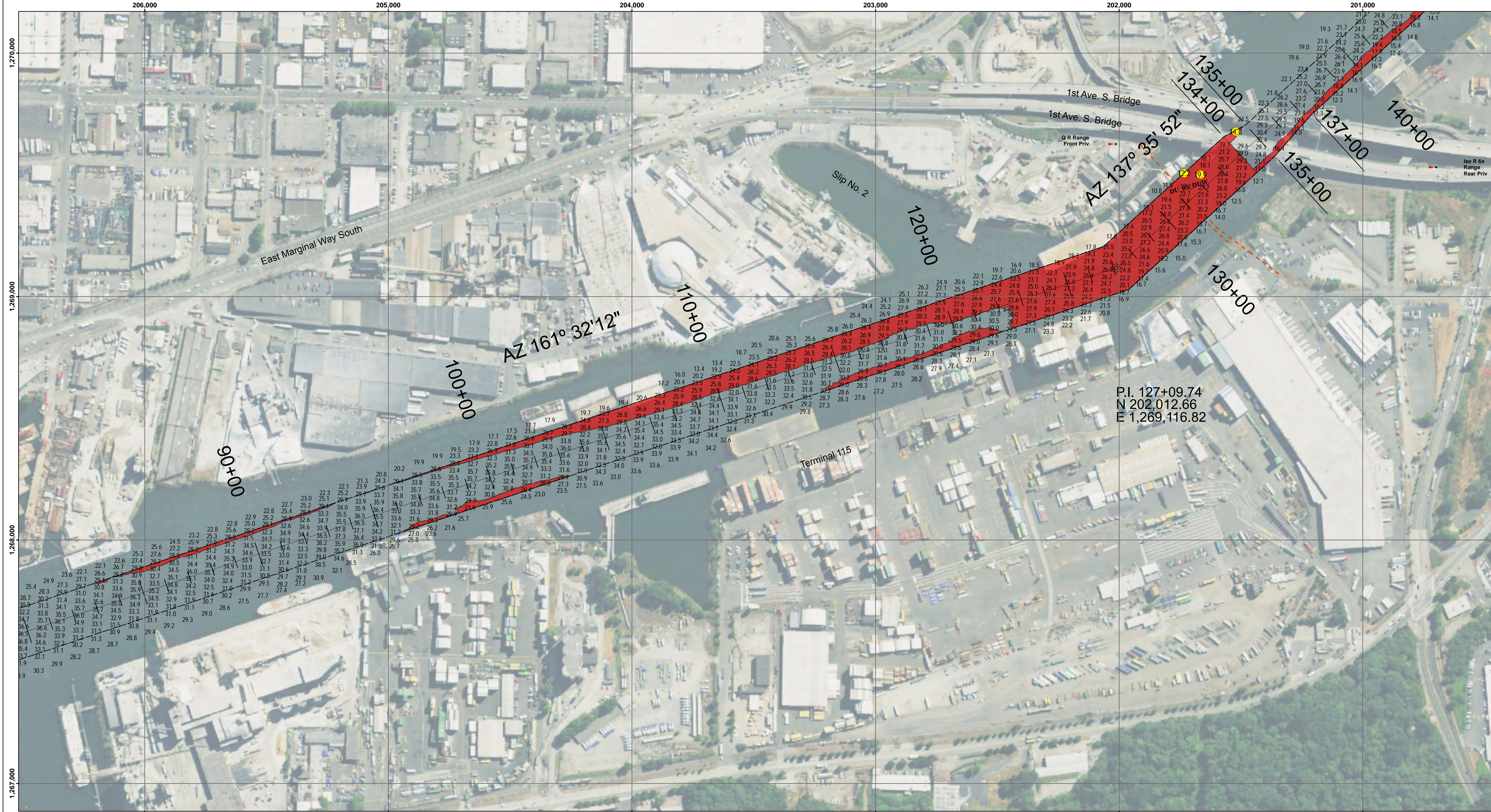


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U.S. ARMY CORPS OF ENGINEERS SEATTLE DISTRICT	Surveyed By: JJA/CA
	Plotted By: SCJ
PREPARED: MICHAEL W. SUH PROJECT MANAGER, NAVIGATION SECTION	Checked By: _____
SUBMITTED: JOHN A. HOKS CHIEF NAVIGATION SECTION	_____

SEATTLE HARBOR
DUWAMISH WATERWAY
E-12-2-1-190



LEGEND

Federal Navigation Channel

Federal Navigation Center Line

Contour Line

Cable Submarine

Cable Overhead

Placement Area

Beneficial Use Site

Shoaling Above Project Depth

Shoalest Sounding**

Wrecks

Obstructions

Typical Lighted Buoy

Typical Buoy

Typical Light

Typical Daymarks

Feet

0 200 400 600 800 1,000

** Shoalest sounding per quarter, per each area. Areas are defined by change in width and/or depth.

DU_03_DUW_20200121_CS_E_12_2_1_190

NOTES:

The channel alignment shown on this map is Alignment 1998

The following equipment was used for this survey:

R2 Sonic 2024 Multibeam, 140 degree swath (varies), 1.5 x 1.5 individual beam 310 kHz transducer.

Survey Vessel, NWS 1-16-34

The following surveys were used to create this drawing set:

After Dredge, 21 January 2020, 2020se007

NOTES:

1. Sounding and elevations are in feet and refer to the plane of NOS Mean Lower Low Water (MLLW). Epoch 1983-2001. Tide correction based on Geoid 2012A using Real Time Kinematic (RTK). Soundings taken above the datum plane are prefixed with a (+) sign.
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U.S. ARMY CORPS OF ENGINEERS SEATTLE DISTRICT	Surveyed By: JJA/CA	Plotted By: SCJ	Checked By:
	PROJECT MANAGER, NAVIGATION SECTION		
	SUBMITTED: JOHN A. HOKS CHIEF NAVIGATION SECTION		

SEATTLE HARBOR

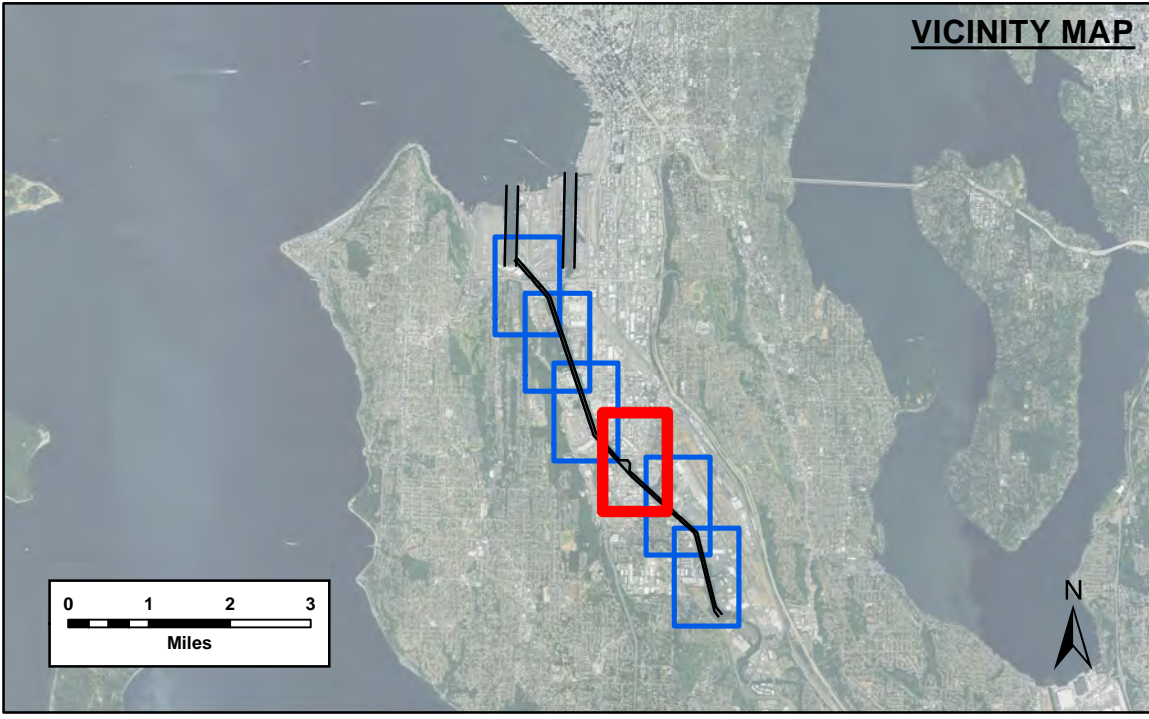
DUWAMISH WATERWAY

E-12-2-1-190

Sheet Number

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Revision Date:
05 AUG 2020



LEGEND

Federal Navigation Channel	Placement Area	Shoaling Above Project Depth	Typical Lighted Buoy
Federal Navigation Center Line	Beneficial Use Site	Shoalest Sounding**	Typical Buoy
Contour Line	Wrecks	Obstructions	Typical Light
Cable Submarine	Typical Daymarks		
Cable Overhead			

Feet

0 200 400 600 800 1,000

** Shoalest sounding per quarter, per each area. Areas are defined by change in width and/or depth.

DU_03_DUW_20200121_CS_E_12_2_1_190

NOTES:

The channel alignment shown on this map is Alignment 1998

The following equipment was used for this survey:

R2 Sonic 2024 Multibeam, 140 degree swath (varies), 1.5 x 1.5 individual beam 310 kHz transducer.

Survey Vessel, NWS 1-16-34

The following surveys were used to create this drawing set:

After Dredge, 21 January 2020, 2020se007

- NOTES:**
1. Sounding and elevations are in feet and refer to the plane of NOS Mean Lower Low Water (MLLW). Epoch 1983-2001. Tide correction based on Geoid 2012A using Real Time Kinematic (RTK). Soundings taken above the datum plane are prefixed with a (+) sign.
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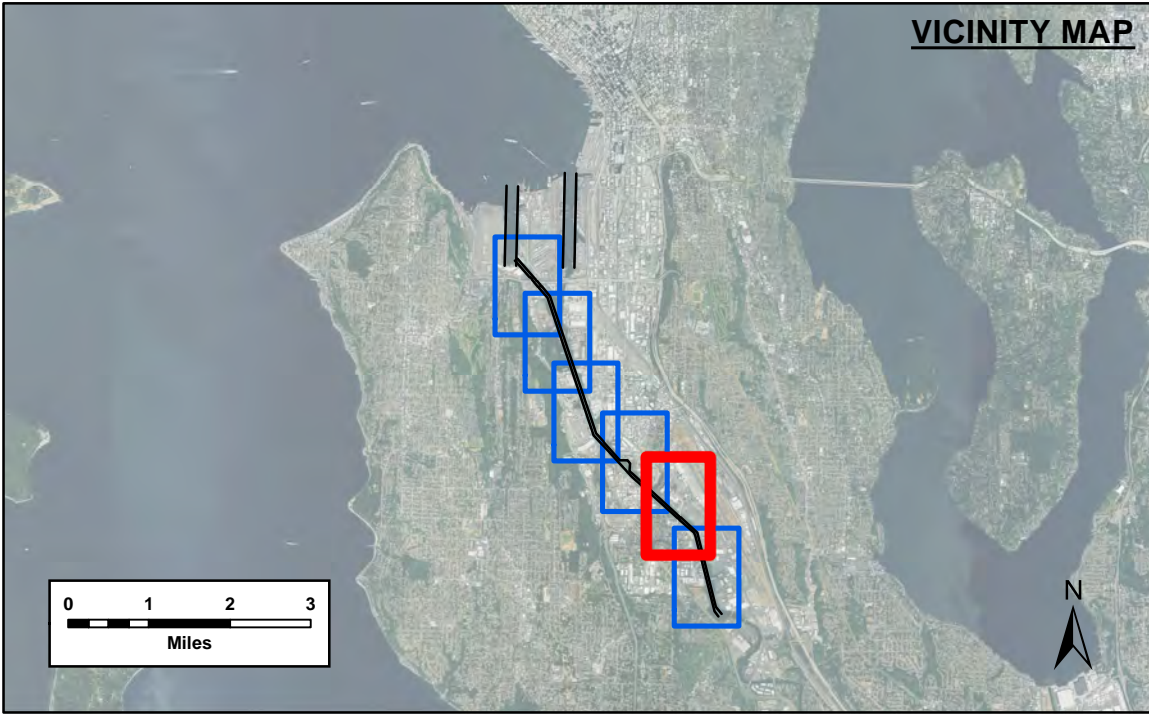
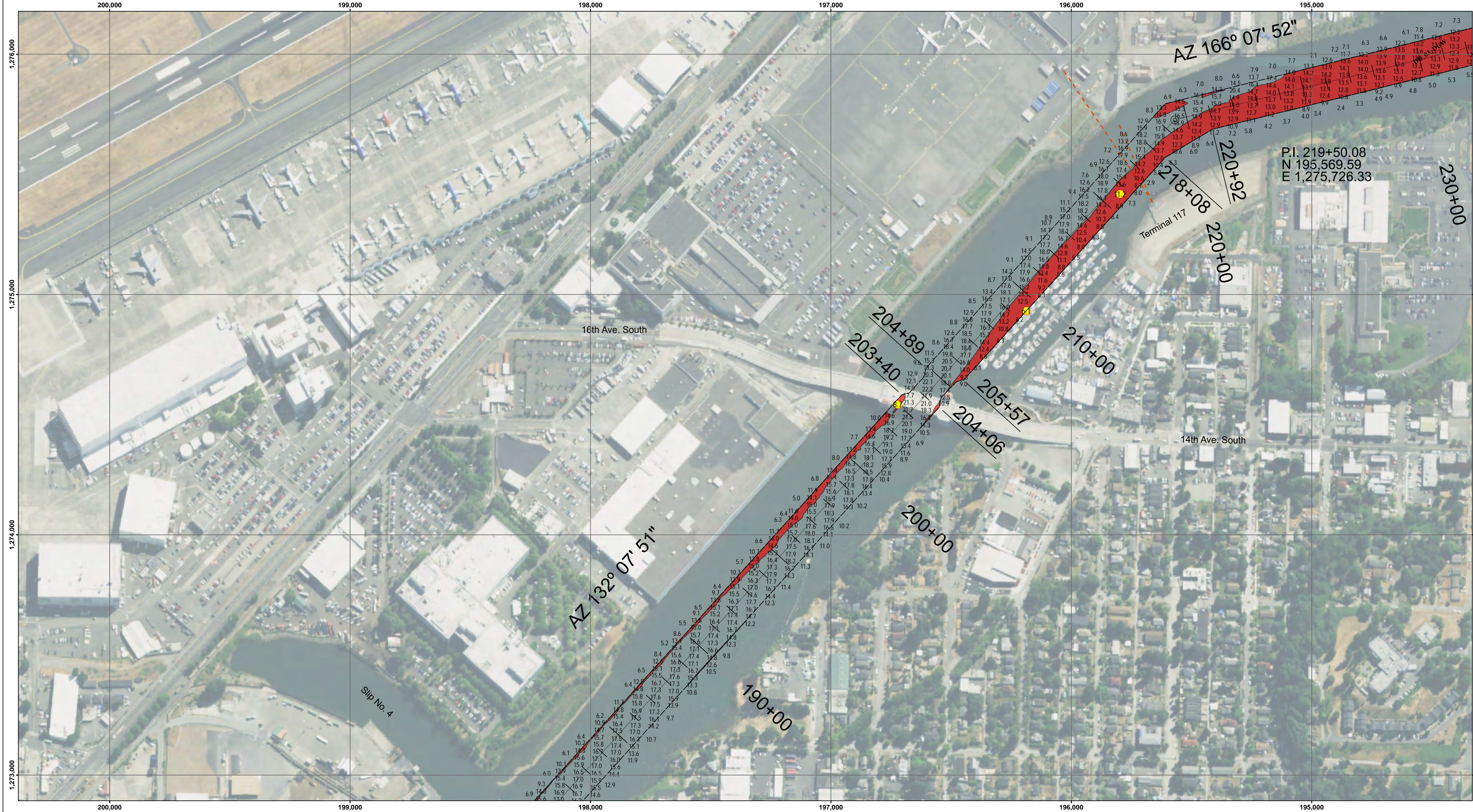
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U.S. ARMY CORPS OF ENGINEERS SEATTLE DISTRICT	Surveyed By: JJA/CA	Plotted By: SCJ	Checked By: _____
	PREPARED: MICHAEL W. SUH PROJECT MANAGER, NAVIGATION SECTION		
	SUBMITTED: JOHN A. HOKS CHIEF NAVIGATION SECTION		

SEATTLE HARBOR
DUWAMISH WATERWAY
E-12-2-1-190

Sheet
Number
4 of 6



LEGEND

Federal Navigation Channel

Federal Navigation Center Line

Contour Line

Cable Submarine

Cable Overhead

Placement Area

Beneficial Use Site

Shoaling Above Project Depth

Shoalest Sounding**

Wrecks

Obstructions

Typical Lighted Buoy

Typical Buoy

Typical Light

Typical Daymarks

Feet

0 200 400 600 800 1,000

** Shoalest sounding per quarter, per each area. Areas are defined by change in width and/or depth.

DU_03_DUW_20200121_CS_E_12_2_1_190

NOTES:

The channel alignment shown on this map is Alignment 1998

The following equipment was used for this survey:

R2 Sonic 2024 Multibeam, 140 degree swath (varies), 1.5 x 1.5 individual beam 310 kHz transducer.

Survey Vessel, NWS 1-16-34

The following surveys were used to create this drawing set:

After Dredge, 21 January 2020, 2020se007

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U.S. ARMY CORPS OF ENGINEERS SEATTLE DISTRICT	Surveyed By: JJA/CA
	Plotted By: SCJ
	Checked By: _____
PREPARED: MICHAEL W. SUH PROJECT MANAGER, NAVIGATION SECTION	
SUBMITTED: JOHN A. HOKS CHIEF NAVIGATION SECTION	

SEATTLE HARBOR

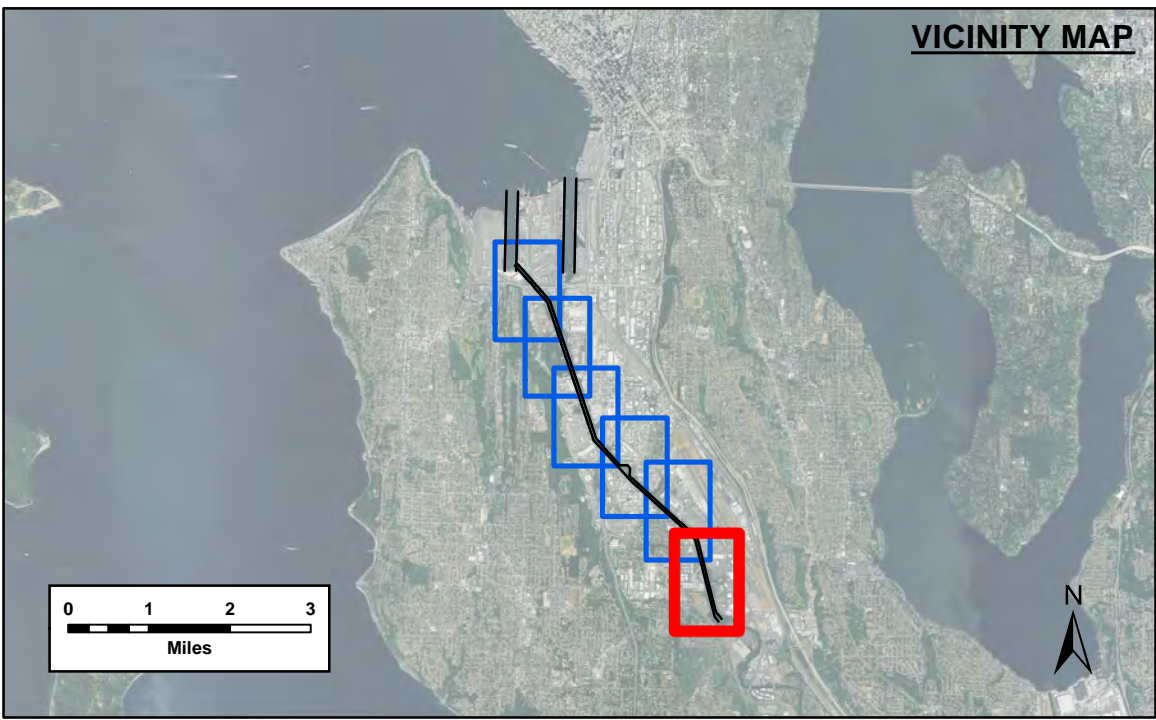
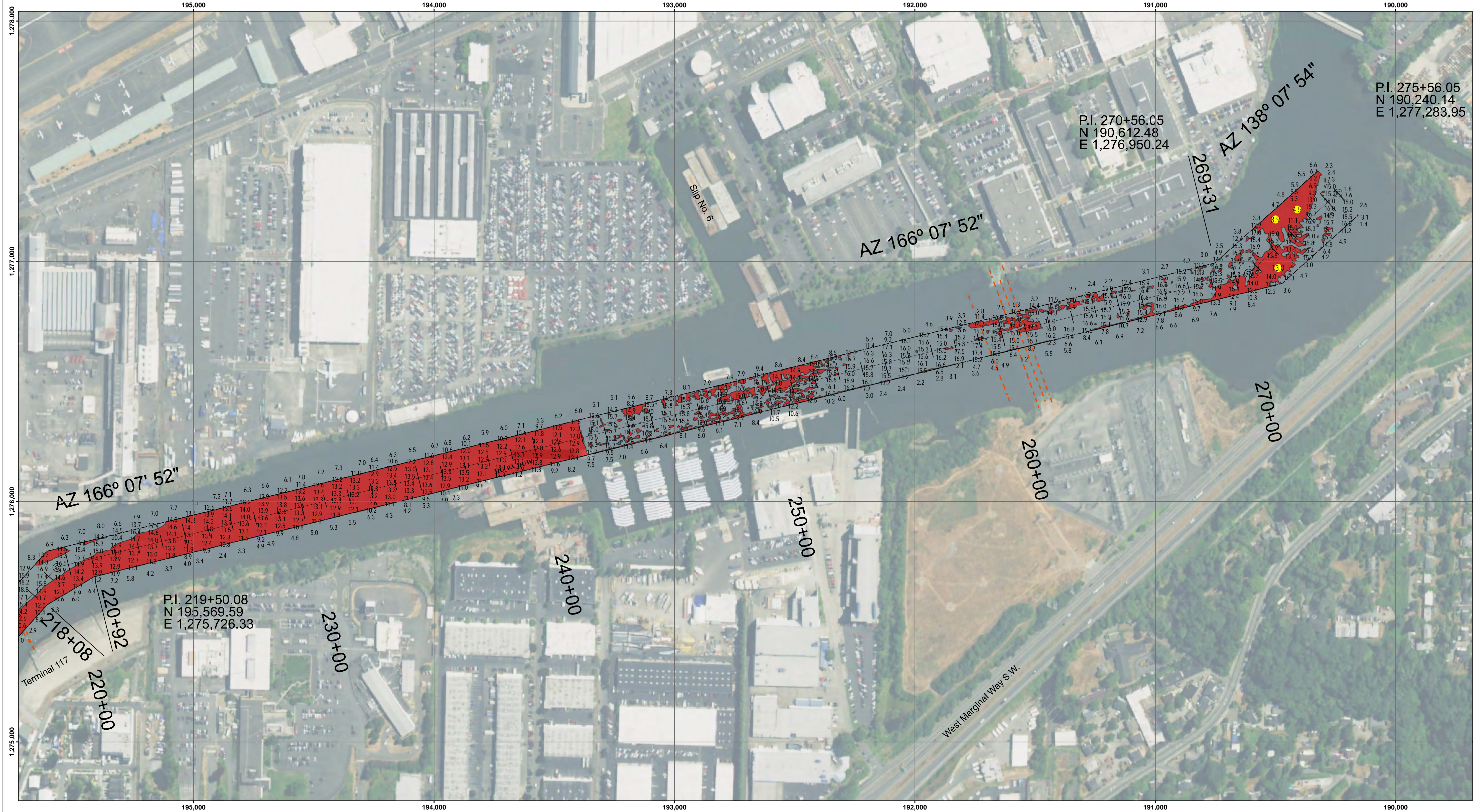
DUWAMISH WATERWAY

E-12-2-1-190

Sheet Number

5 of 6

Revision Date:
05 AUG 2020



LEGEND

— Federal Navigation Channel	□ Placement Area	■ Shoaling Above Project Depth	⬮ Typical Lighted Buoy
— Federal Navigation Center Line	□ Beneficial Use Site	● Shoalest Sounding**	⬮ Typical Buoy
— Contour Line		✈ Wrecks	! Typical Light
— Cable Submarine		⊗ Obstructions	△ Typical Daymarks
— Cable Overhead			

0 200 400 600 800 1,000

Feet

** Shoalest sounding per quarter, per each area. Areas are defined by change in width and/or depth.

DU_03_DUW_20200121_CS_E_12_2_1_190

NOTES:

The channel alignment shown on this map is Alignment 1998

The following equipment was used for this survey:

R2 Sonic 2024 Multibeam, 140 degree swath (varies), 1.5 x 1.5 individual beam
310 kHz transducer.
Survey Vessel, NWS 1-16-34

The following surveys were used to create this drawing set:

After Dredge, 21 January 2020, 2020se007

- NOTES:**
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U.S. ARMY CORPS OF ENGINEERS SEATTLE DISTRICT		
Surveyed By: JJA/CA	Plotted By: SCJ	Checked By: _____
PREPARED: MICHAEL W. SUH PROJECT MANAGER, NAVIGATION SECTION		SUBMITTED: JOHN A. HOKS CHIEF NAVIGATION SECTION

**SEATTLE HARBOR
DUWAMISH WATERWAY
E-12-2-1-190**

**Sheet
Number
6 of 6**