

Appendix D  
Intermediate Drawings

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## DRAWING LIST

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This drawing list includes all drawings that are anticipated to be included in future design phases (i.e., Pre-Final [90%] and Final [100%] RD). The Intermediate (60%) drawings are shown in bold.

### GENERAL

<b>G001</b>	<b>Cover Sheet</b>
<b>G002</b>	<b>Sheet List</b>
<b>G003</b>	<b>General Notes &amp; Abbreviations</b>
<b>G004</b>	<b>Overview Map</b>
G005	Construction Sequencing
G006	Survey Control Plan
G007	Site Access and Staging Areas
G008	Haul Routes

### EXISTING CONDITIONS

<b>V101-V112</b>	<b>Existing Conditions</b>
V113-V1XX	Site Photographs

### CIVIL

<b>C101-C112</b>	<b>Dredging Plans</b>
<b>C151-C162</b>	<b>Material Placement Plans</b>
<b>C201-C214</b>	<b>Dredging Sections</b>
C251-CXX	Material Placement Sections
<b>C301</b>	<b>Offloading, Stockpiling, BMPs</b>
<b>C302</b>	<b>Dredging Details</b>
C303	Material Placement Details
C304	Final Grading and Habitat Material Placement Details

### STRUCTURAL

<b>S001</b>	<b>Structural Abbreviations and Symbols</b>
<b>S002</b>	<b>Structural General Notes</b>



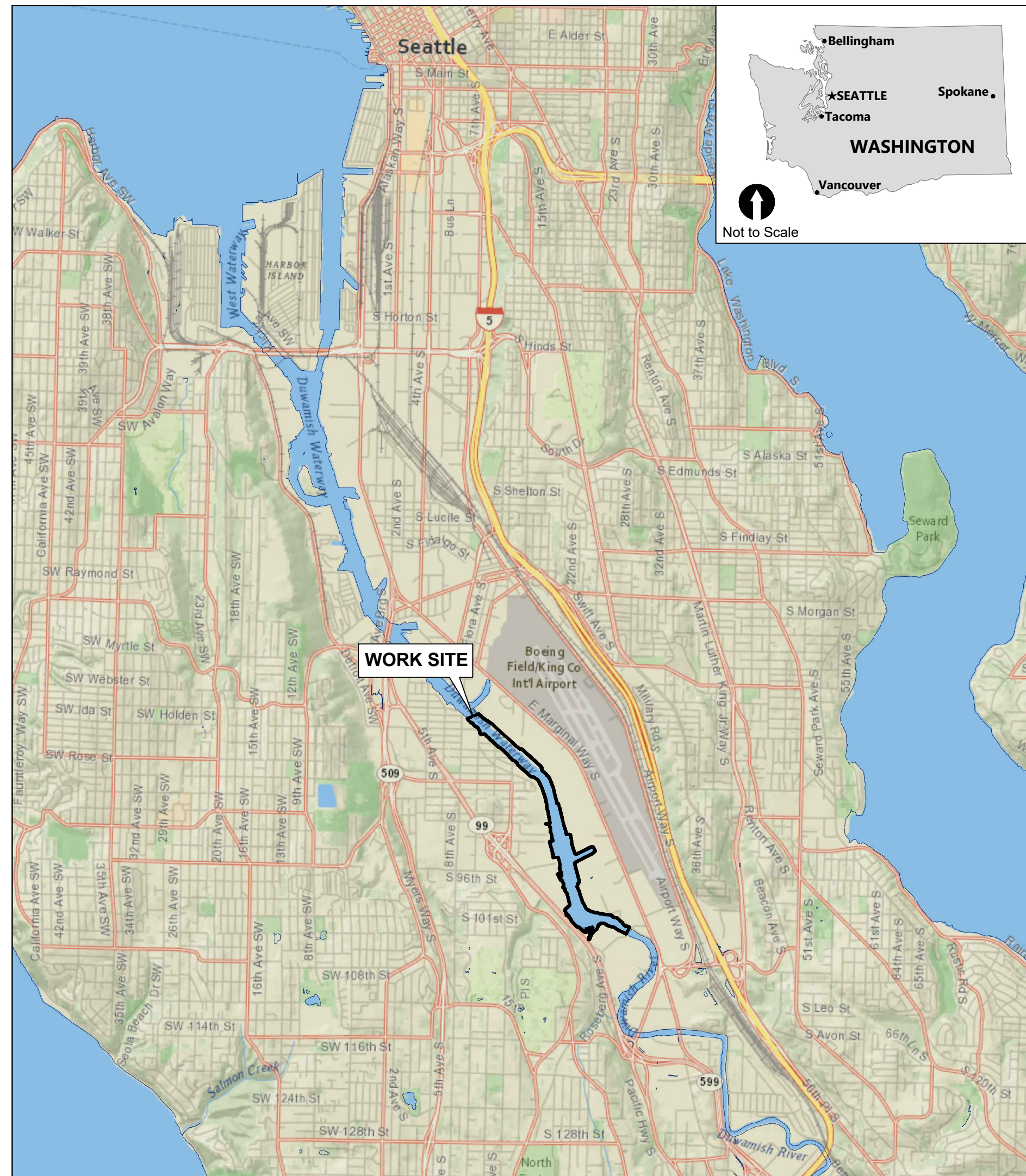
<b>S003</b>	<b>Statement of Special Inspections and Testing</b>
<b>S100</b>	<b>ST02 South Park Bridge Plan and Photos</b>
<b>S101</b>	<b>ST-02 South Park Marina Plan and Profile</b>
<b>S-110</b>	<b>ST20 South Park Marina Plan and Photos</b>
<b>S-111</b>	<b>ST-20 South Park Marina Replacement Sections and Pile Details</b>
<b>S120</b>	<b>ST03 Bulkheads Sheet 1 Plan and Photos</b>
<b>S121</b>	<b>ST03 Bulkheads Sheet 2 Plan and Photos</b>
S123	ST03 Bulkheads Plan and Profile
S124	ST03 Bulkheads Plan and Profile
S125	ST03 Bulkheads Plan and Profile
<b>S129</b>	<b>Bulkhead Sections and Details</b>
S130	Bulkhead Sections and Details
<b>S140</b>	<b>ST04 L-Shape Pier &amp; Dolphins Plan and Photos</b>
<b>S150</b>	<b>ST07 Wharf &amp; ST10 Pile Field Plan and Photos</b>
<b>S151</b>	<b>ST07 Groin Piles Plan and Photos</b>
<b>S200</b>	<b>Outfalls 2062, 2075 &amp; 2073 Plan and Photos</b>
<b>S201</b>	<b>Outfalls 2094 &amp; 2093 Plan and Photos</b>
<b>S202</b>	<b>Outfall Apron Details</b>
S203	Outfall Apron Details



# 60% DESIGN SUBMITTAL

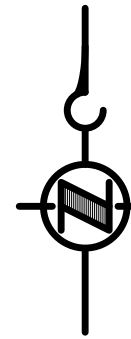
# LOWER DUWAMISH WATERWAY UPPER REACH

## LOWER DUWAMISH WATERWAY GROUP



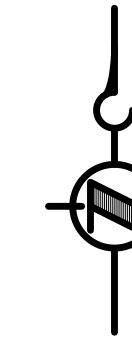
SOURCE: NATIONAL GEOGRAPHIC WORLD MAP - NATIONAL GEOGRAPHIC, ESRI, GARMIN, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, INCREMENT P CORP.

VICINITY MAP  
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SCALE IN FEET



SOURCE: AERIAL PHOTOGRAPH FROM ©MICROSOFT, BING MAPS

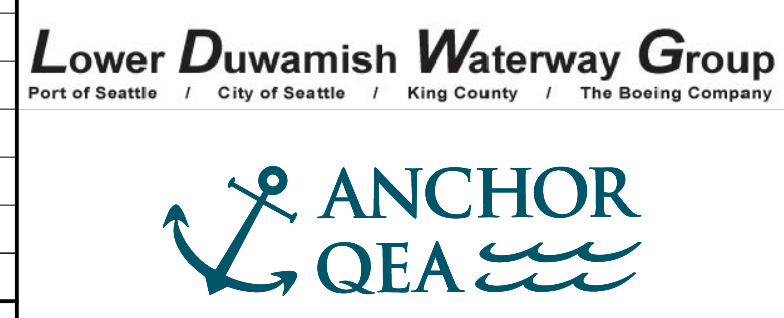
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PLOTTED: Feb 20, 2023-12:33:14am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE



**INTERMEDIATE ISSUE DRAWING**  
INFORMATION ONLY  
**60% REVIEW**  
FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
PROJECT ENGINEER: J. LAPLANTE  
DESIGN APPROVAL: T. WANG  
PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
SCALE: AS NOTED  
PROJECT FILE NO: E00559E18  
CONTRACT NO: C0XXXXCX



DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

**COVER SHEET**

DATE: FEBRUARY 2023  
DRAWING NO: **G001**  
SHT NO / TOTAL: 1 / 73  
REV NO: **0**





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 PLOTTED: Feb 20, 2023 - 12:33:18am By tgriga

**GENERAL NOTES:**

**HORIZONTAL DATUM:** WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET

**VERTICAL DATUM:** MLLW

**GENERAL SURVEY NOTES:**

1. TOPOGRAPHIC AND BATHYMETRIC SURVEY DATA WERE MERGED BY ANCHOR QEA TO PROVIDE A CONTINUOUS ELEVATION DATA SET. DATA SET INCLUDE 2019/2020 BATHYMETRY, 2021/2022 TOPOGRAPHIC, 2016 LIDAR, AND VARIOUS INTERPOLATED PATCHES.

**BATHYMETRIC SURVEY NOTES:**

1. THE BATHYMETRIC HYDROGRAPHIC SURVEY WAS COMPLETED BY NORTHWEST HYDRO INC.
2. SURVEY DATA COLLECTED APRIL 18, 2019 TO MAY 15, 2019 WITH ADDITIONAL SURVEY JUNE 2020.
3. HORIZONTAL DATUM: NAD83-2011 EPOCH 2010.00, STATE PLANE COORDINATES, WASHINGTON NORTH ZONE.
4. UNITS: U.S SURVEY FEET
5. VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW) EPOCH: 1983-2001. THE CONVERSION BETWEEN NAVD88 AND MLLW WAS DETERMINED USING NOAA/NOS VDATUM 3.9. THE VDATUM CALCULATED SEPARATION BETWEEN NAVD88 AND MLLW AT THE NOAA/NOS TIDE STATION 9447130 (SEATTLE) IS 2.34 FEET. (EXAMPLE: 10.00 FT NAVD88 = 12.34 FT MLLW)
6. ALL HORIZONTAL POSITIONING AND VESSEL ALTITUDE WAS PROVIDED IN REAL TIME USING AN APPLANIX POS/MV RTK GPS AIDED INERTIAL SENSOR. REAL TIME RTK CORRECTIONS FROM THE WSRN GNSS NETWORK WERE UTILIZED DURING ALL FIELDWORK FOR THIS PROJECT.
7. SOUNDINGS WERE COLLECTED USING A R2SONIC 2022 MULTIBEAM SONAR OPERATING AT 400 KHz. DATA PROCESSING WAS COMPLETED USING HYPACK HYWEEP SOFTWARE.
8. THE BATHYMETRIC SURVEY IS REPRESENTATIVE OF THE GENERAL CONDITION OF THE SEABED AT THE TIME OF THE SURVEY. THE CONDITION OF THE BOTTOM MAY CHANGE AT ANY TIME AFTER THE DATE OF THIS SURVEY.
9. ALL BATHYMETRIC DATA WERE COLLECTED IN ACCORDANCE WITH THE U.S ARMY CORPS OF ENGINEERS HYDROGRAPHIC SURVEY MANUAL EM-112-02-1003 (NOVEMBER 2013). SURVEY CLASSIFICATION: NAVIGATION AND DREDGING SUPPORT SURVEYS, BOTTOM CLASSIFICATION OF SOFT.

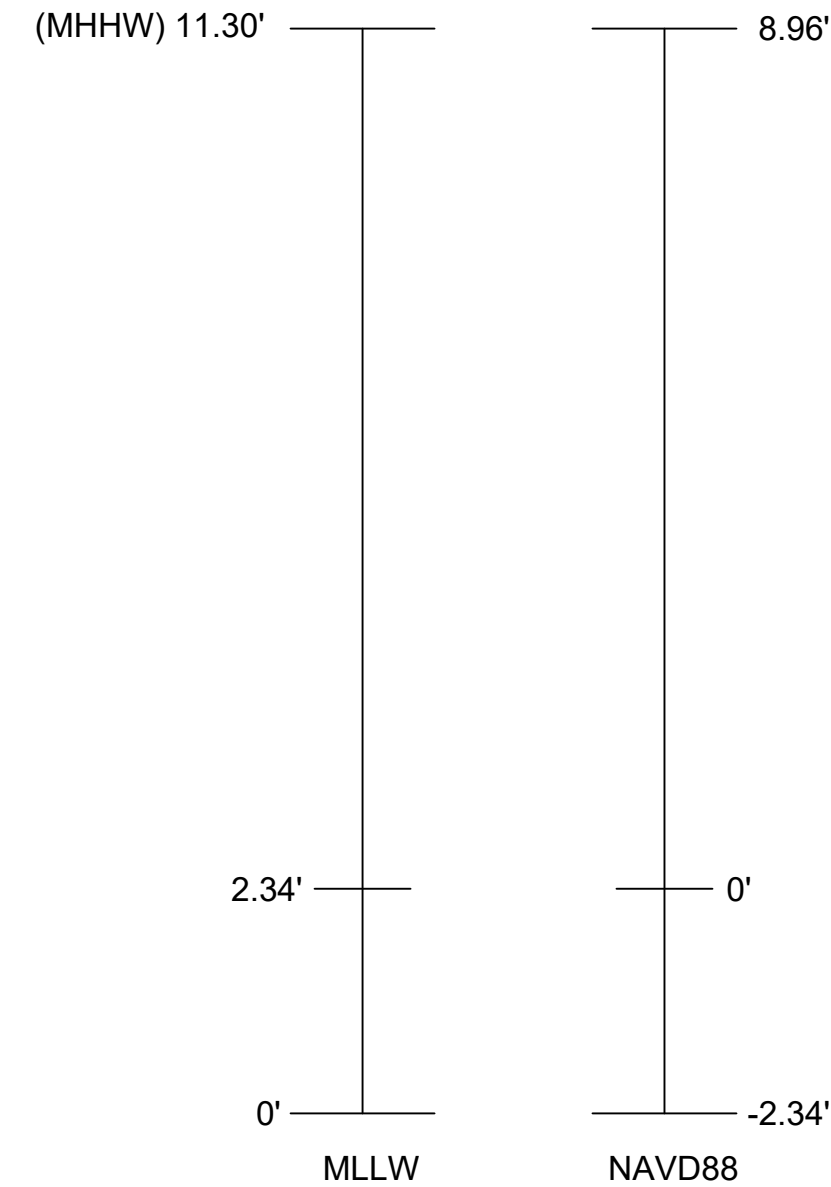
**TOPOGRAPHIC SURVEY NOTES:**

1. THE UPLAND TOPOGRAPHIC SURVEY WAS COMPLETED BY TRUE NORTH LAND SURVEYING, INC. DATE OF SURVEY: JULY 1 THROUGH AUGUST 10, 2021 AND OCTOBER 5-7, 2022.
2. HORIZONTAL DATUM: NAD83-2011, WA NORTH ZONE FROM WSDOT, WSDOT MON GP17005-176 & GP17005-181
3. VERTICAL DATUM: MLLW CONVERTED FROM NAD 88 (NAVD88 + 2.34 FEET TO MLLW)
4. VERTICAL BENCHMARK: COS BM 3765-4302 2" BRASS DISK SET AT 8TH AVE S & S PORTLAND ST IN CENTER OF CONC WALK. EL: 13.322 (NAVD88) CONVERTED EL: 15.662 (MLLW)
5. COS BM SNV-5411 2" BASS DISK STAMPED COS TOP OF CURB AROUND US BANK SIGN, AT SOUTHEAST CORNER, EAST MARGINAL WAY S & S MICHIGAN ST. EL: 16.866 (NAVD88) CONVERTED EL: 19.226 (MLLW)
6. EQUIPMENT USED: LEICA TS 16 AND GS 16.

**DATUM INFORMATION:**

1. IN-WATER ELEVATIONS ARE IN FEET MLLW, BASED ON THE NOAA/NOS TIDE STATION 9447130 (SEATTLE).
2. TO CONVERT ELEVATIONS FROM NAVD88 TO MLLW, ADD +2.34 FEET TO NAVD88 ELEVATIONS (EXAMPLE: 10.00 FEET NAVD88 = 12.34 FEET MLLW).
3. MHHW IS EQUAL TO 8.16 FEET BASED ON MLLW DATUM (8.02 FEET BASED ON NAVD88 DATUM).

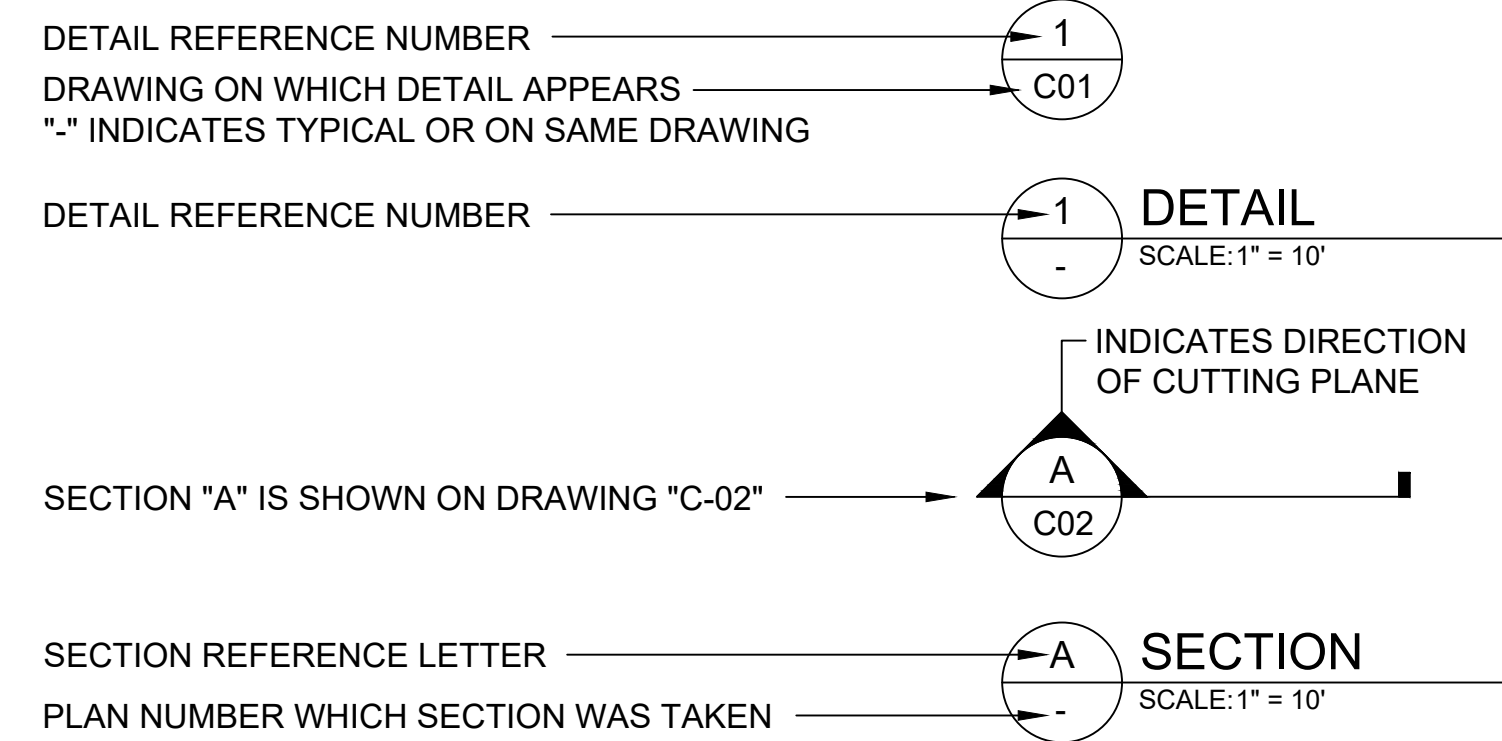
**DATUM CONVERSION**



**ABBREVIATIONS:**

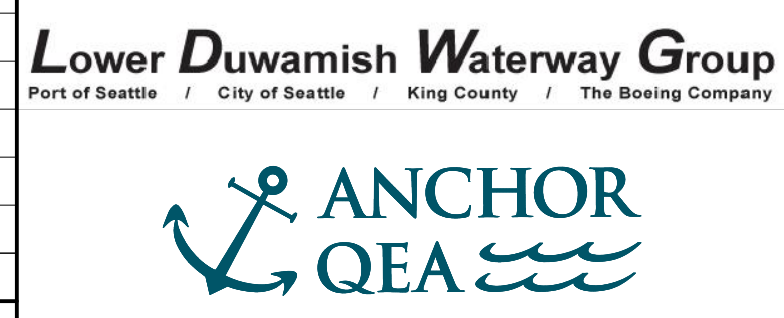
BLDG	BUILDING
BMP	BEST MANAGEMENT PRACTICE
CONC	CONCRETE
CONT	CONTINUED OR CONTINUOUS
CMP	CORRUGATED METAL PIPE
CP	CONTROL POINT
CY	CUBIC YARD
DI	DUCTILE IRON
DIA	DIAMETER
DWG	DRAWING
E	EAST
EAA	EARLY ACTION AREA
EL, ELEV	ELEVATION
EX	EXISTING
FT	FOOT OR FEET
IE	INVERT ELEVATION
IN	INCH OR INCHES
KCIW	KING COUNTY INDUSTRIAL WASTE DIVISION
MAX	MAXIMUM
MH	MANHOLE
MHHW	MEAN HIGHER HIGH WATER
MIN	MINIMUM
MLLW	MEAN LOWER LOW WATER
N	NORTH
NAD83	NORTH AMERICAN DATUM OF 1983
NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
OD	OVERDREDGE
PVC	POLYVINYL CHLORIDE
RAA	REMEDIAL ACTION AREA
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
S	SOUTH
SD	STORM DRAIN
SF	SQUARE FOOT OR SQUARE FEET
SHT	SHEET
SMU	SEDIMENT MANAGEMENT UNIT
SPEC	SPECIFICATION
STA	STATION
STD	STANDARD
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
TYP	TYPICAL
W	WEST
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

**DETAIL AND SECTION REFERENCING:**



**COLOR IMAGE**  
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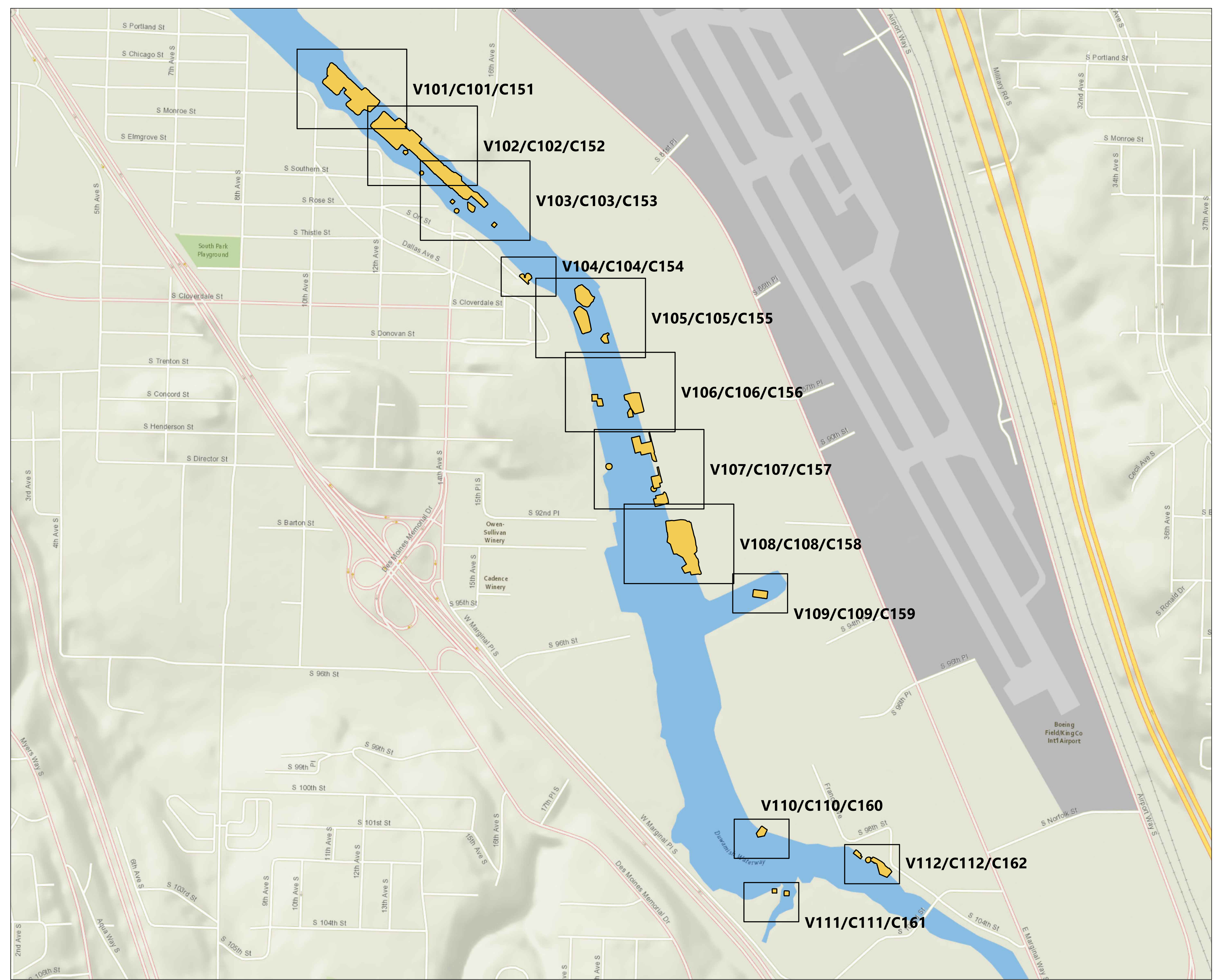
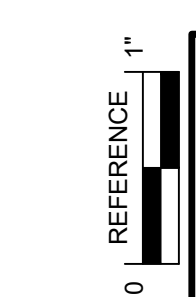
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PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX



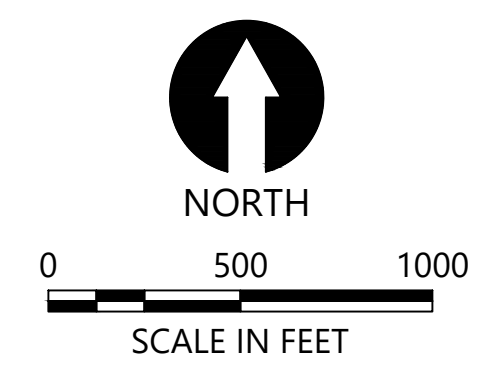
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**GENERAL NOTES & ABBREVIATIONS**

DATE: FEBRUARY 2023
DRAWING NO: <b>G003</b>
SHT NO / TOTAL 3 / 73
REV NO: <b>0</b>





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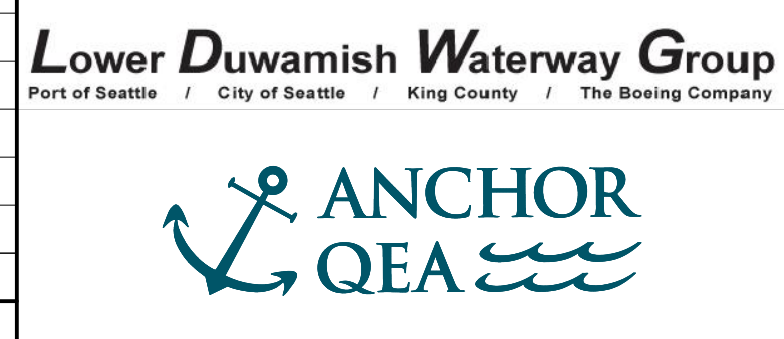


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DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
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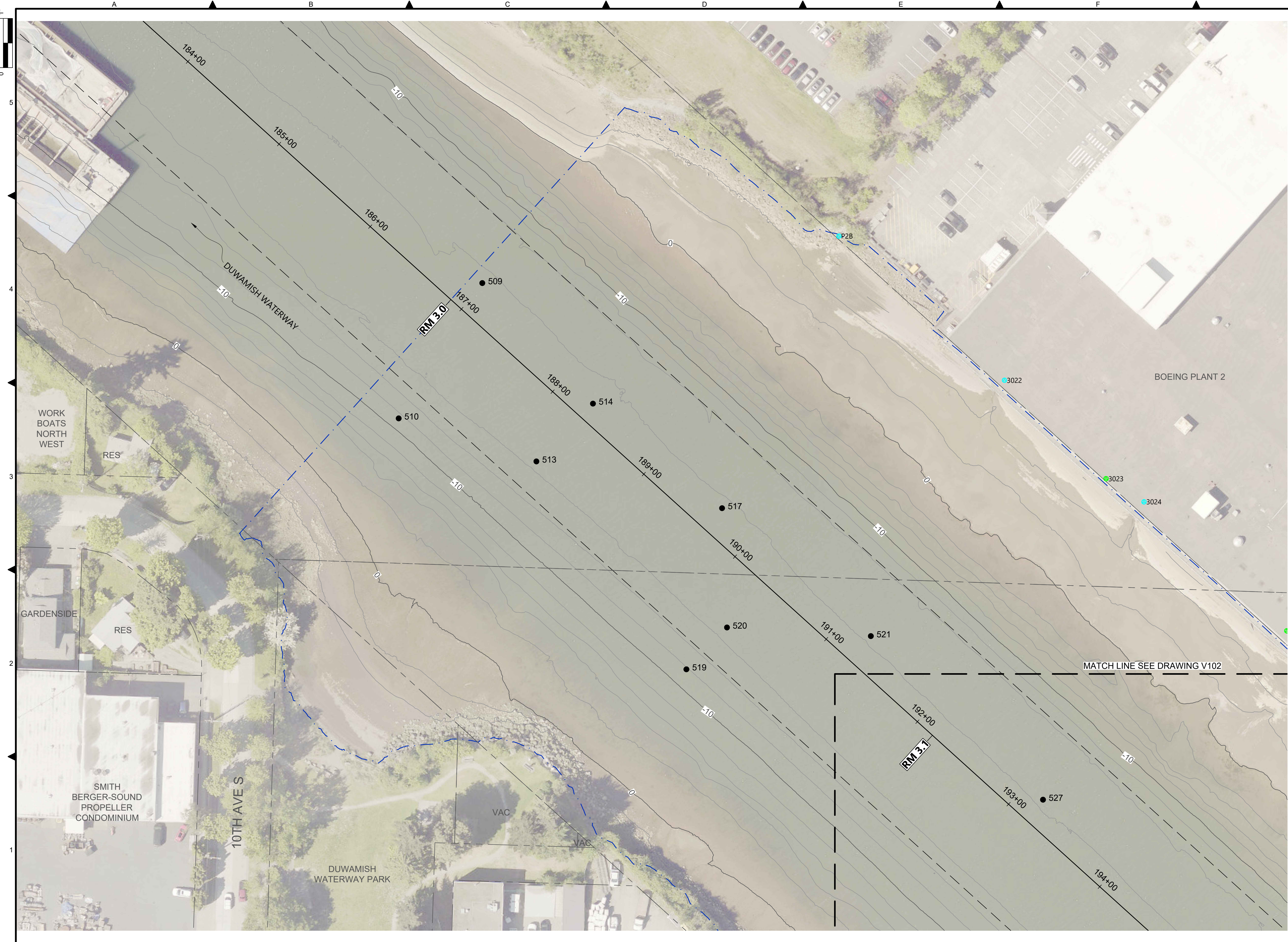
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 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**OVERVIEW MAP**

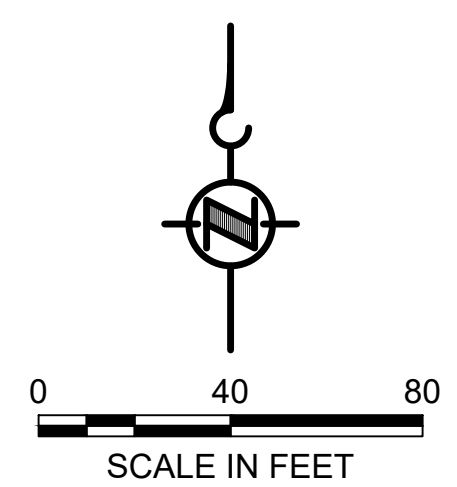
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 PLOTTED: Feb 20, 2023 - 12:35:04am By Igriga



- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - KING COUNTY PARCEL (GIS)
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. AERIAL SOURCE: KING COUNTY 2019

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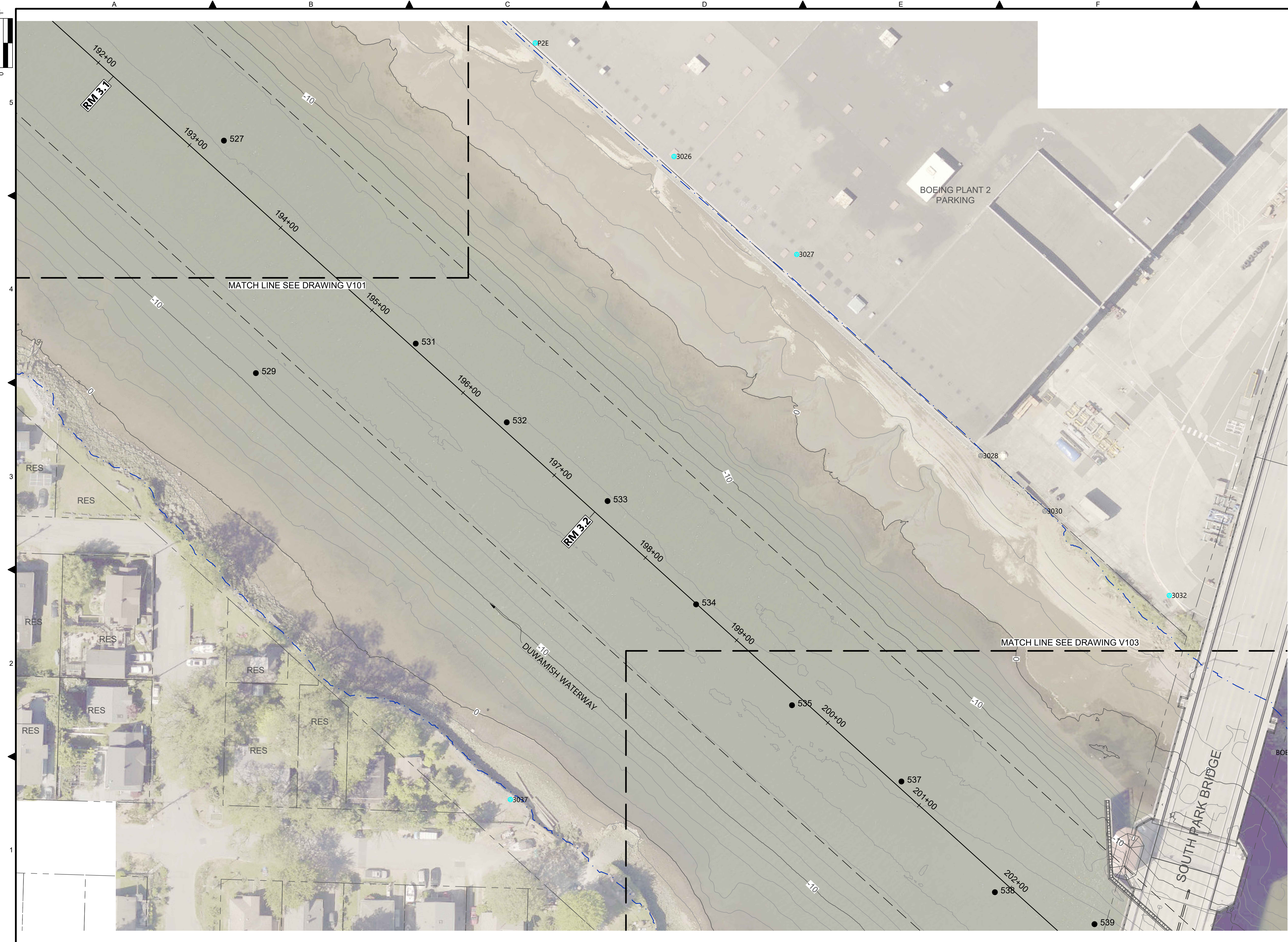
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WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

EXISTING CONDITIONS  
(RM 2.93 TO 3.15)

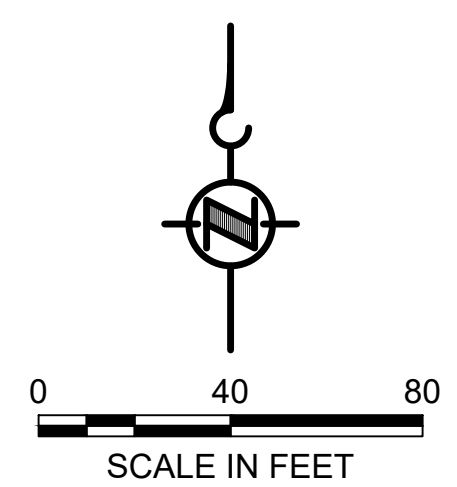
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- LEGEND:**
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  - KING COUNTY PARCEL (GIS)
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  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. AERIAL SOURCE: KING COUNTY 2019

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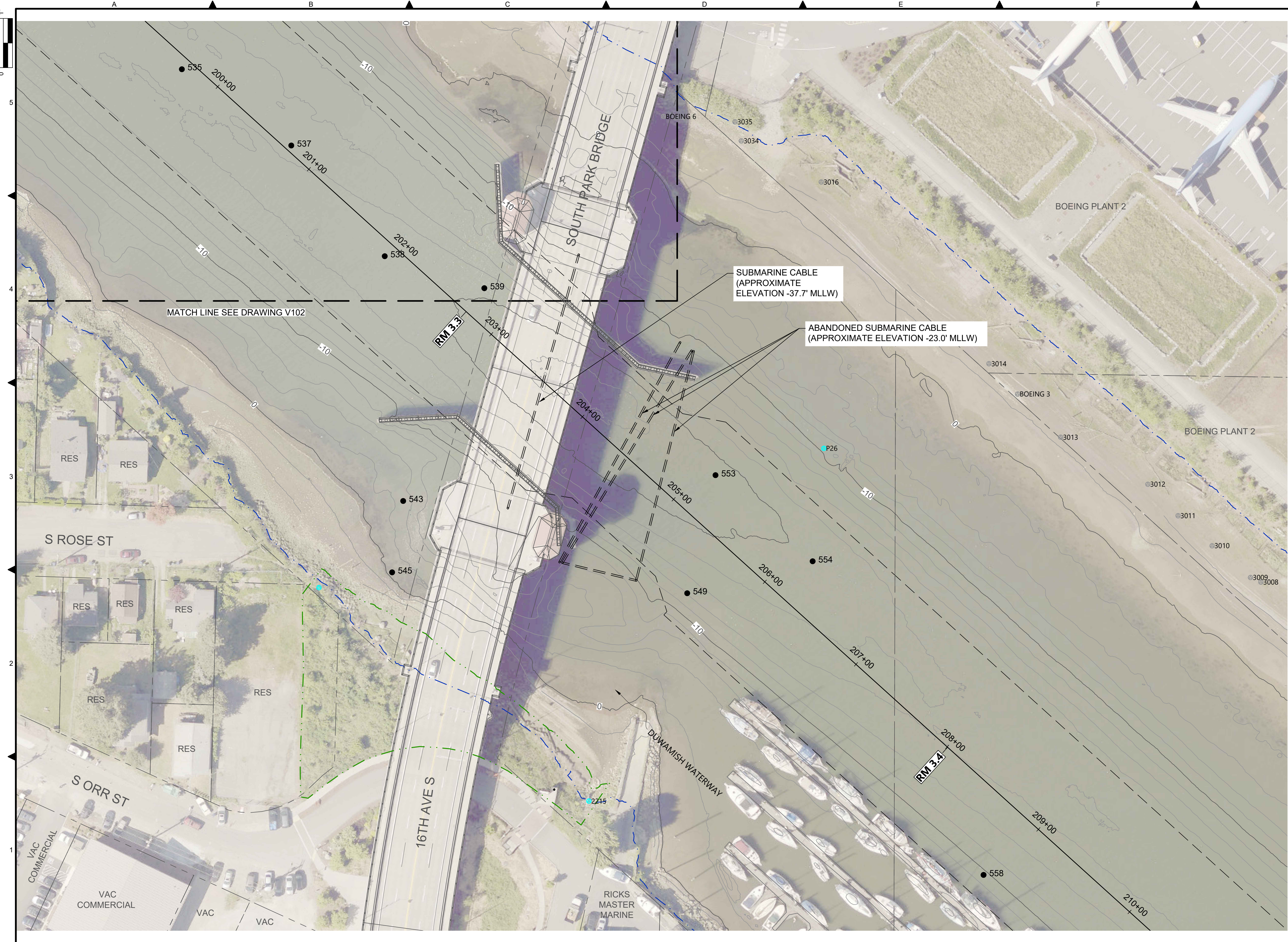
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 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**EXISTING CONDITIONS**  
 (RM 3.09 TO 3.29)

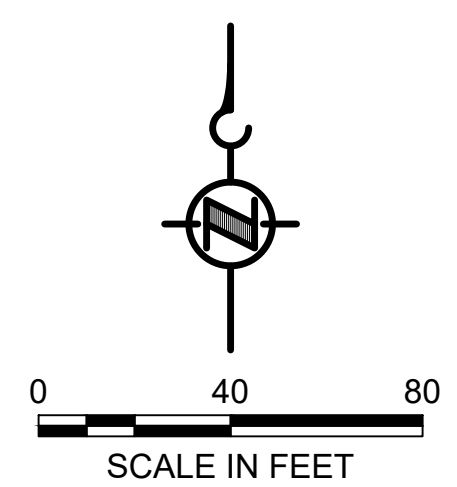
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- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - KING COUNTY PARCEL (GIS)
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. AERIAL SOURCE: KING COUNTY 2019

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PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

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 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**EXISTING CONDITIONS**  
**(RM 3.23 TO 3.44)**

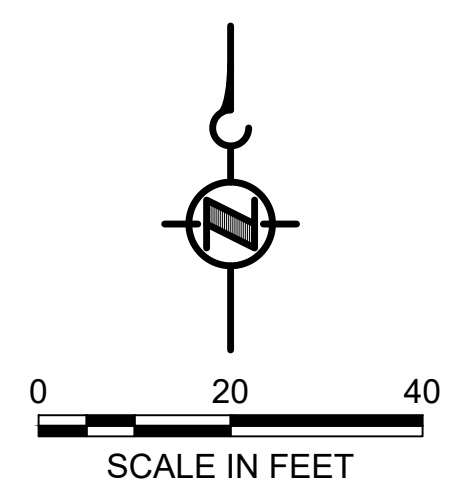
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- LEGEND:**
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  - FEDERAL NAVIGATION CHANNEL
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  - KING COUNTY PARCEL (GIS)
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  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - DOLPHINS
  - PILES



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. AERIAL SOURCE: KING COUNTY 2019

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DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

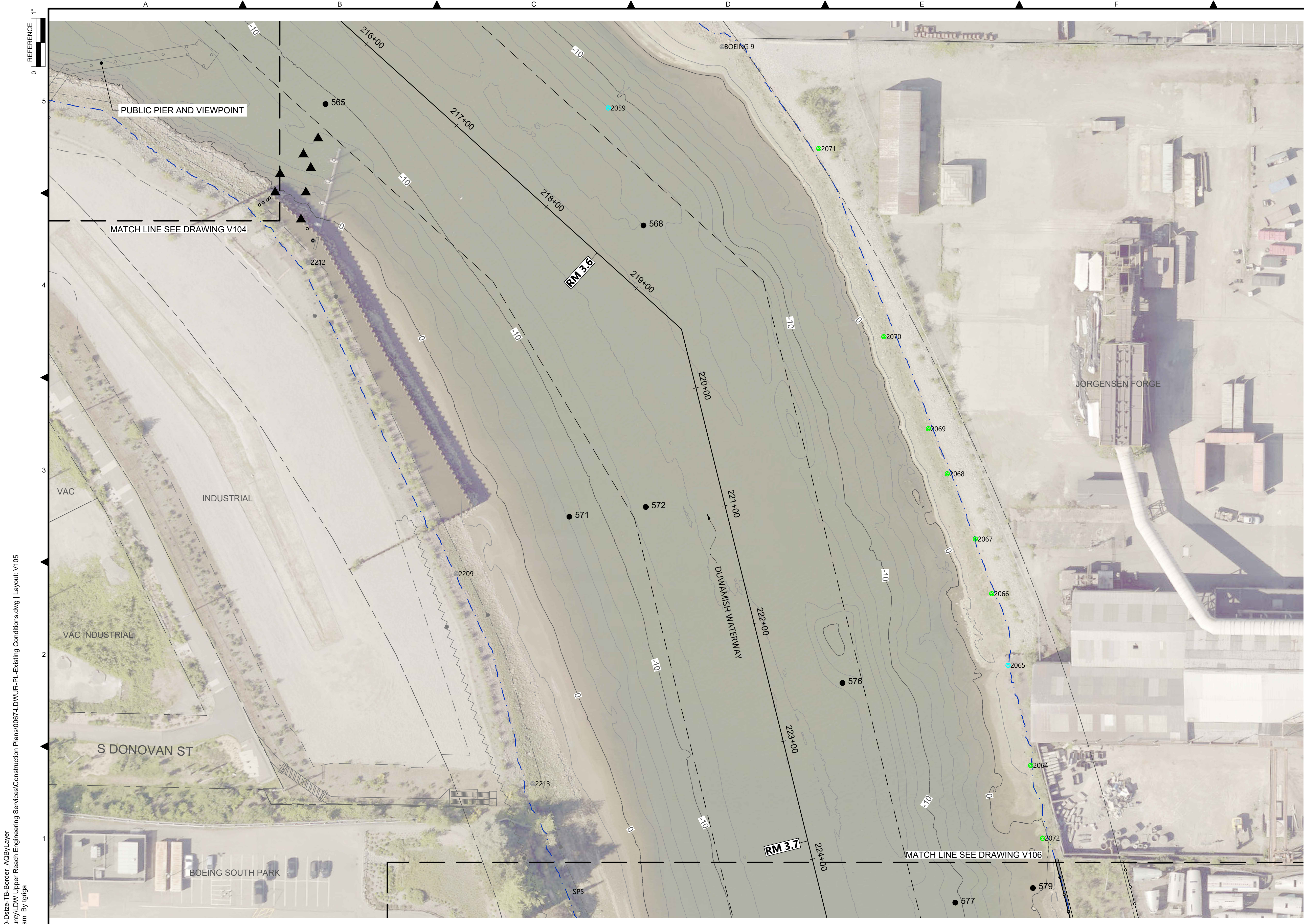
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP



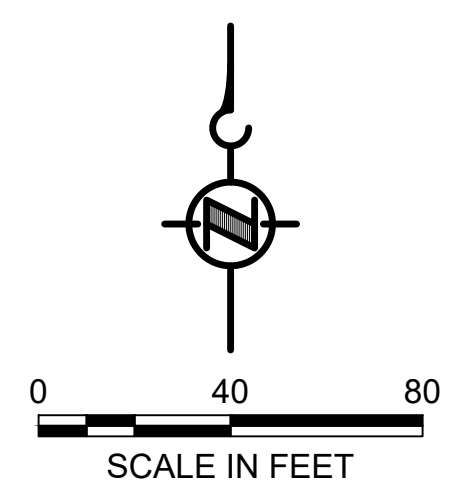
**EXISTING CONDITIONS**  
 (RM 3.49 TO 3.56)

DATE: FEBRUARY 2023
DRAWING NO: <b>V104</b>
SHT NO / TOTAL REV NO: 8 / 73 0





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - KING COUNTY PARCEL (GIS)
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - DOLPHINS
  - PILES

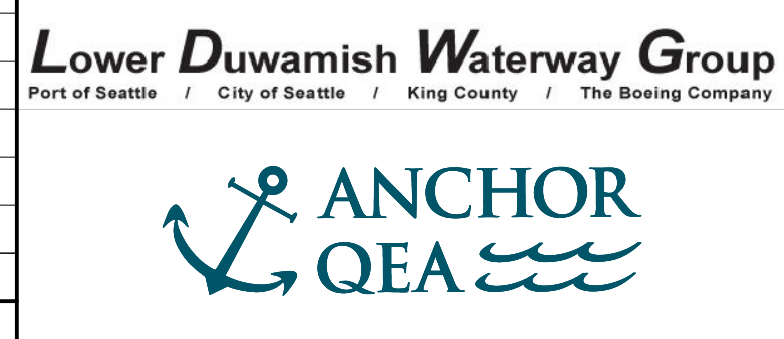


- NOTES:**
- HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  - VERTICAL DATUM: MLLW
  - AERIAL SOURCE: KING COUNTY 2019

**COLOR IMAGE**  
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 PLOTTED: Feb 20, 2023 - 12:38:19am By tgriga

NO	REVISION DESCRIPTION	BY	APVD	DATE



**INTERMEDIATE ISSUE DRAWING**  
 INFORMATION ONLY  
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 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
 PROJECT ENGINEER: J. LAPLANTE  
 DESIGN APPROVAL: T. WANG  
 PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
 SCALE: AS NOTED  
 PROJECT FILE NO: E00559E18  
 CONTRACT NO: C0XXXXCX



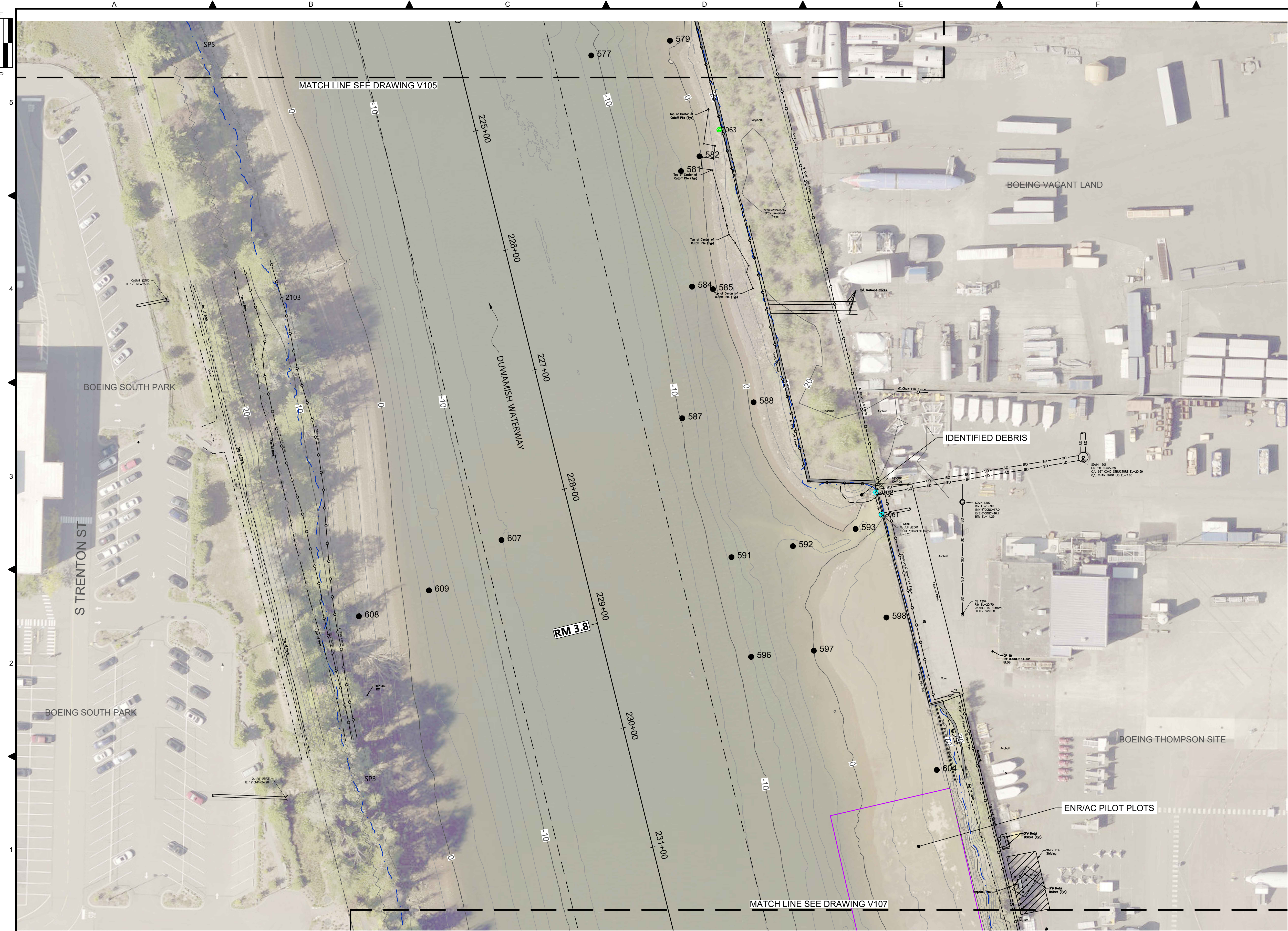
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**EXISTING CONDITIONS**  
 (RM 3.54 TO 3.71)

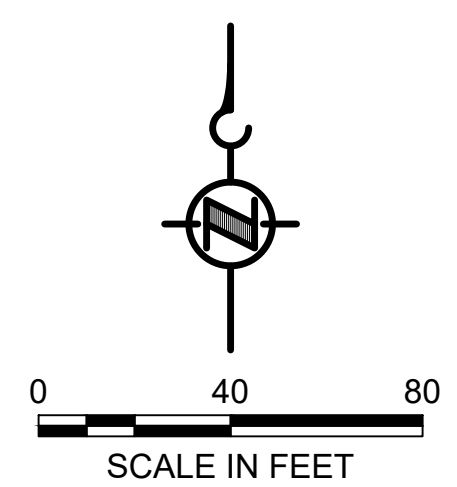
DATE: FEBRUARY 2023  
 DRAWING NO: **V105**  
 SHT NO / TOTAL: 9 / 73  
 REV NO: **0**



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 PLOTTED: Feb 20, 2023-12:39:06am By tgriga



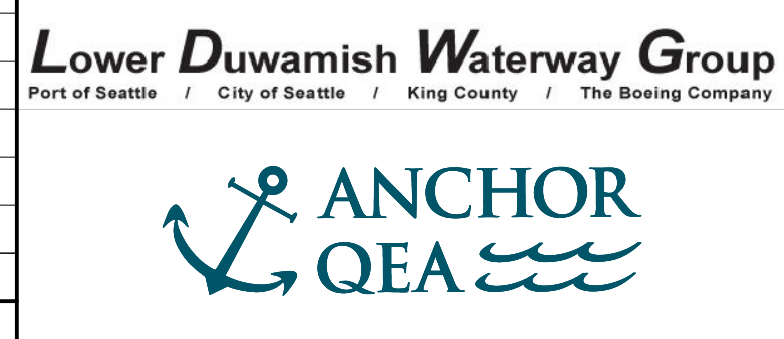
- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - KING COUNTY PARCEL (GIS)
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - ENR/AC PILOT PLOT



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. AERIAL SOURCE: KING COUNTY 2019

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NO	REVISION DESCRIPTION	BY	APVD	DATE



**INTERMEDIATE ISSUE DRAWING**  
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**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
 PROJECT ENGINEER: J. LAPLANTE  
 DESIGN APPROVAL: T. WANG  
 PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
 SCALE: AS NOTED  
 PROJECT FILE NO: E00559E18  
 CONTRACT NO: C0XXXXCX

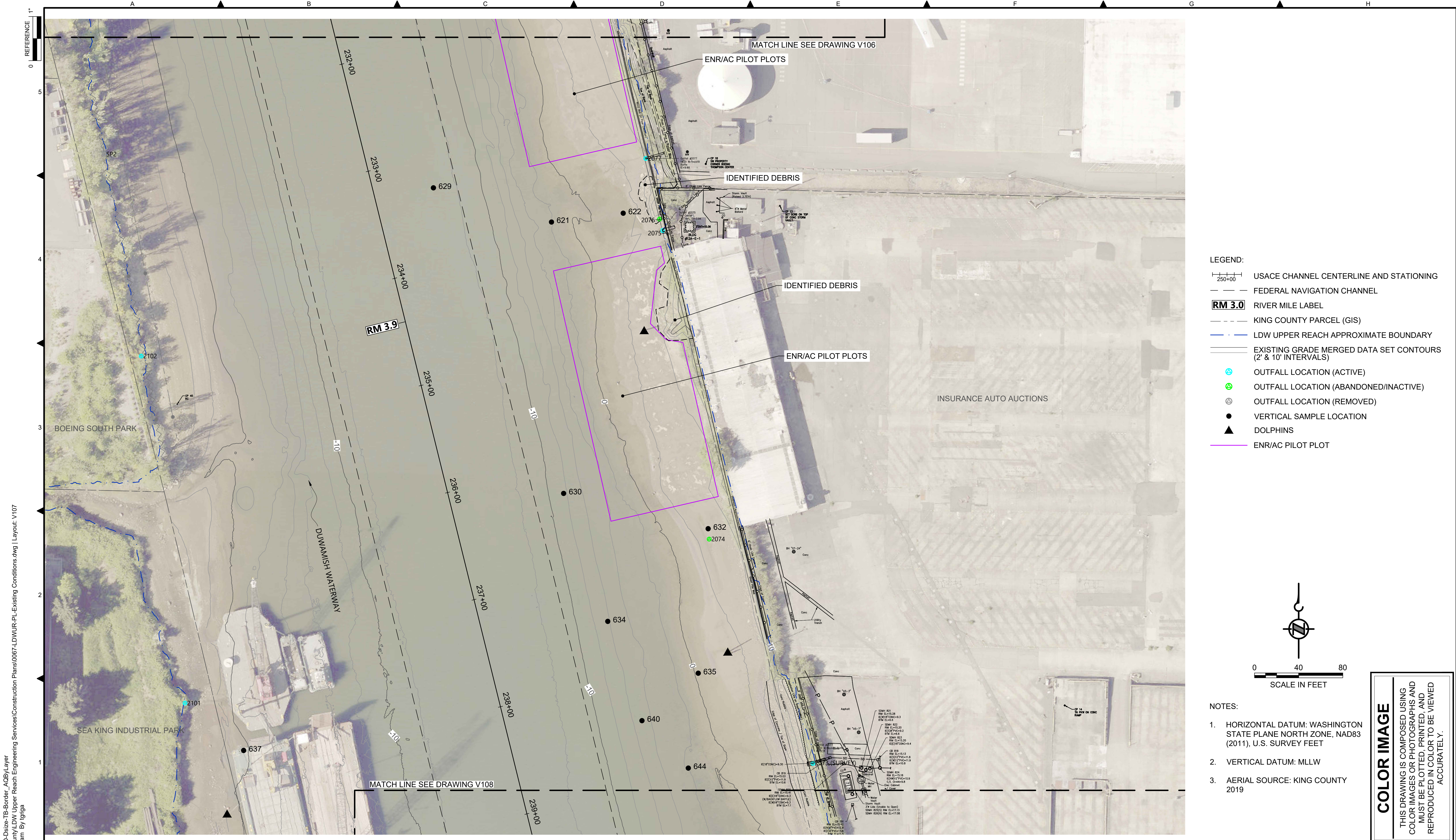


DEPARTMENT OF NATURAL RESOURCES & PARKS  
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 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**EXISTING CONDITIONS**  
 (RM 3.73 TO 3.84)

DATE: FEBRUARY 2023  
 DRAWING NO: **V106**  
 SHT NO / TOTAL: 10 / 73  
 REV NO: **0**





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - KING COUNTY PARCEL (GIS)
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - DOLPHINS
  - ENR/AC PILOT PLOT

- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. AERIAL SOURCE: KING COUNTY 2019

**COLOR IMAGE**  
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 PLOTTED: Feb 20, 2023-12:39:57am By tgriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
 Port of Seattle / City of Seattle / King County / The Boeing Company

**ANCHOR QEA**

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FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX



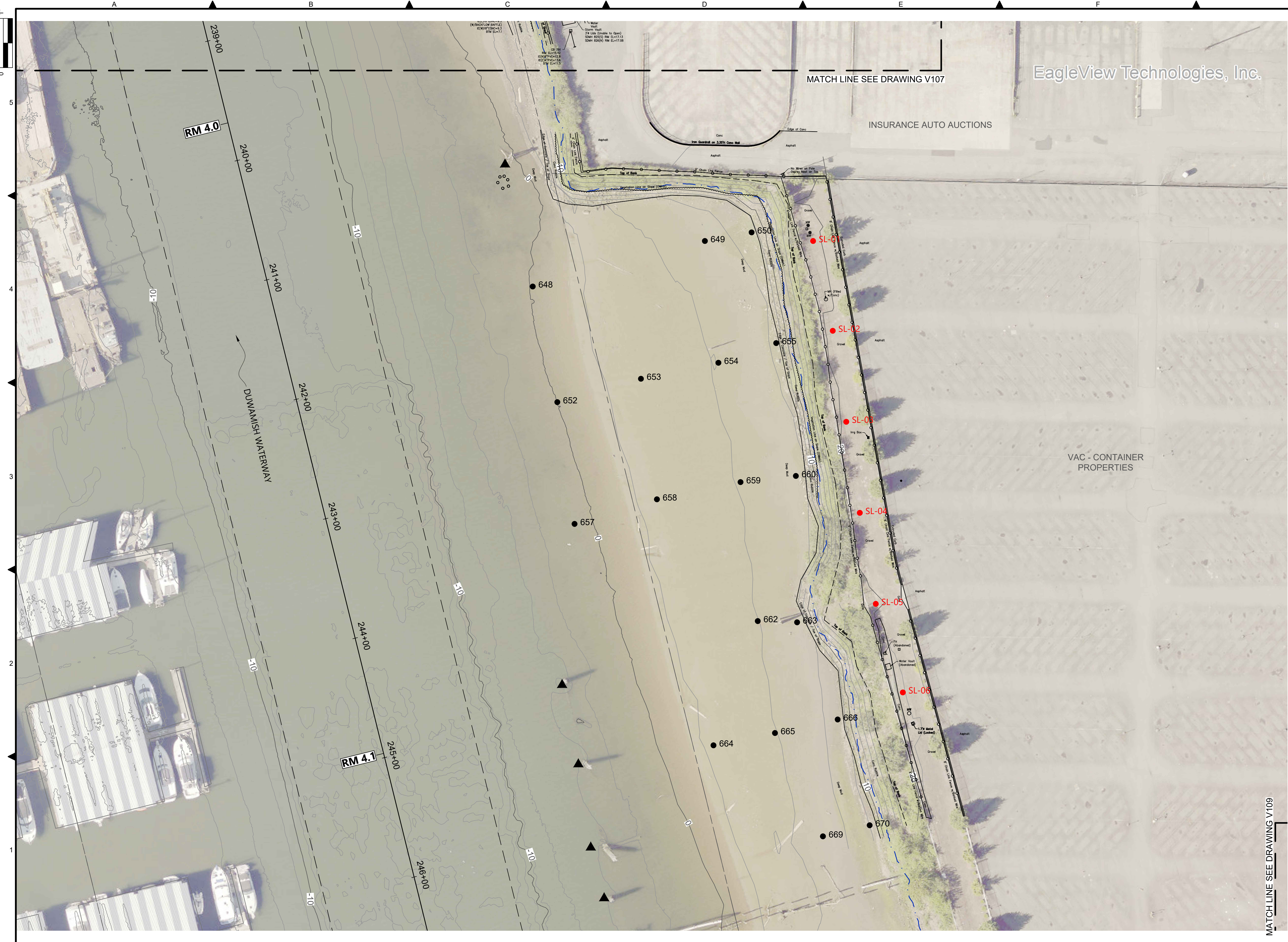
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**EXISTING CONDITIONS**  
 (RM 3.85 TO 3.99)

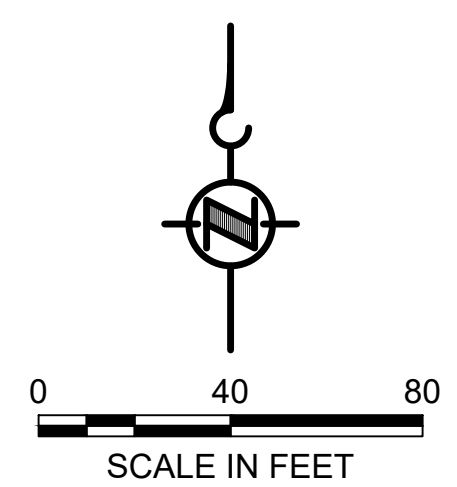
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 PLOTTED: Feb 20, 2023 12:40:43am By tgriga



- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - KING COUNTY PARCEL (GIS)
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - DOLPHINS
  - PILES
  - UPLAND SAMPLE LOCATIONS



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. AERIAL SOURCE: KING COUNTY 2019

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 FEBRUARY 2023

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PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX

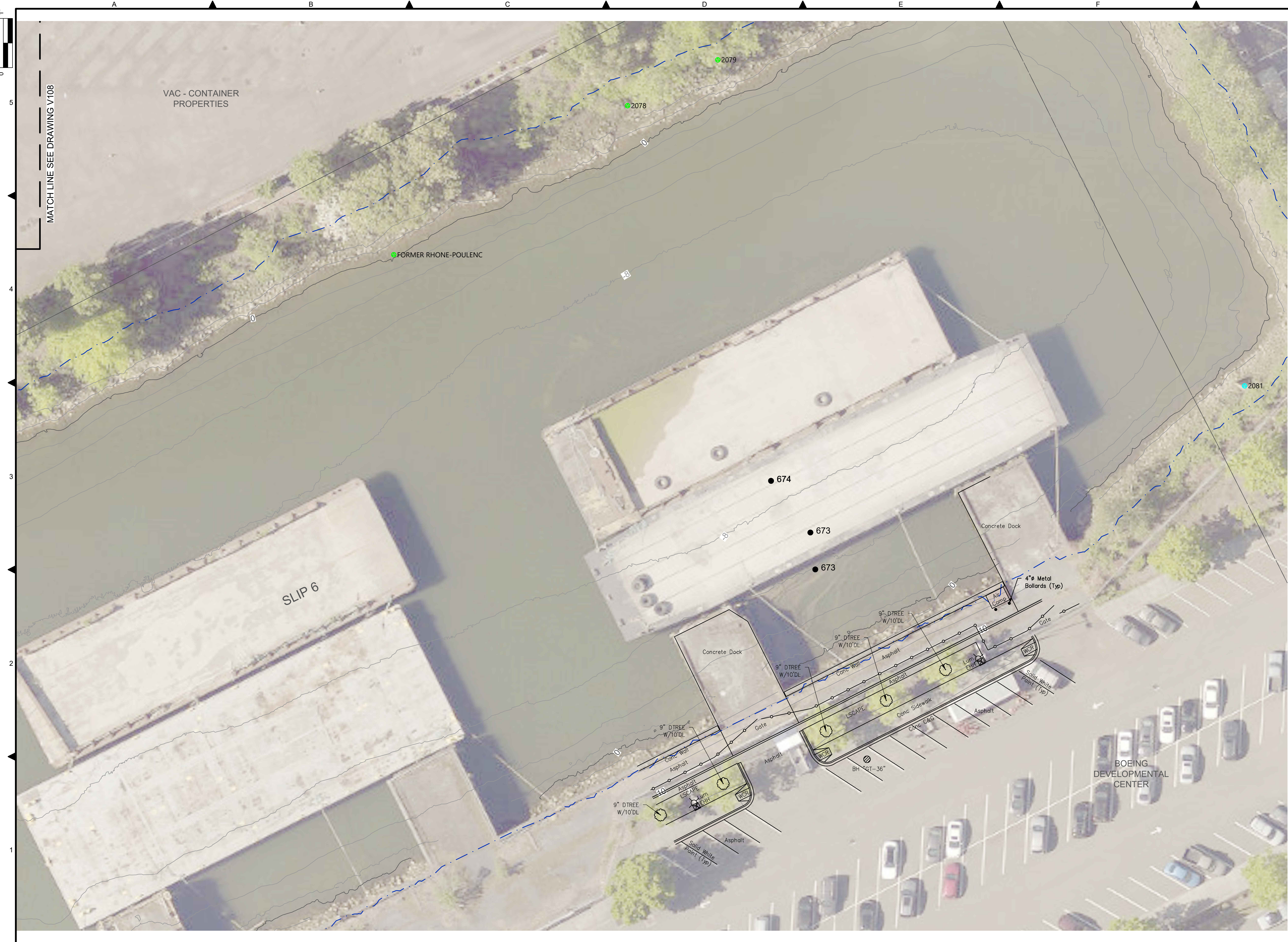
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**EXISTING CONDITIONS**  
 (RM 3.98 TO 4.13)

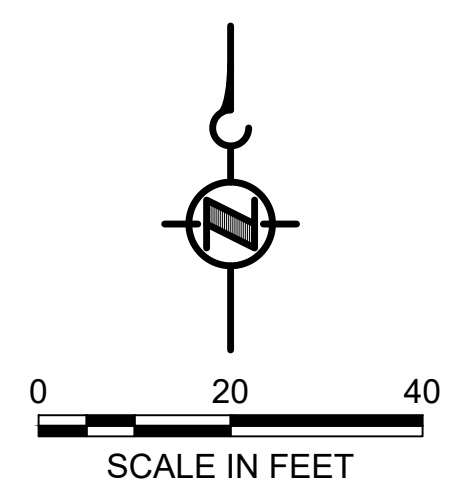
DATE: FEBRUARY 2023
DRAWING NO: <b>V108</b>
SHT NO / TOTAL 12 / 73
REV NO: <b>0</b>



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 PLOTTED: Feb 20, 2023 12:41:27am By Igriga



- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - KING COUNTY PARCEL (GIS)
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION



- NOTES:**
- HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  - VERTICAL DATUM: MLLW
  - AERIAL SOURCE: KING COUNTY 2019

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**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

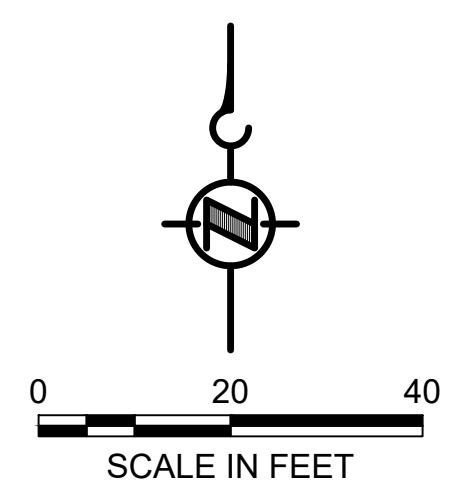
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 (RM 4.14 TO 4.23)

DATE: FEBRUARY 2023
DRAWING NO: <b>V109</b>
SHT NO / TOTAL 13 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - KING COUNTY PARCEL (GIS)
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - PILES

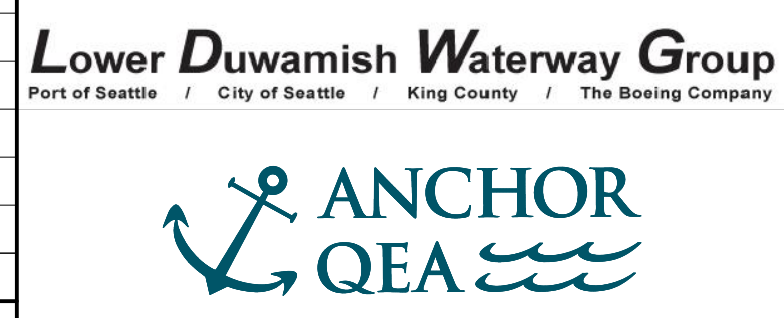


- NOTES:**
- HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  - VERTICAL DATUM: MLLW
  - AERIAL SOURCE: KING COUNTY 2019

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 PLOTTED: Feb 20, 2023-12:42:11am By tgriga

NO	REVISION DESCRIPTION	BY	APVD	DATE



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 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
 PROJECT ENGINEER: J. LAPLANTE  
 DESIGN APPROVAL: T. WANG  
 PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
 SCALE: AS NOTED  
 PROJECT FILE NO: E00559E18  
 CONTRACT NO: C0XXXXCX



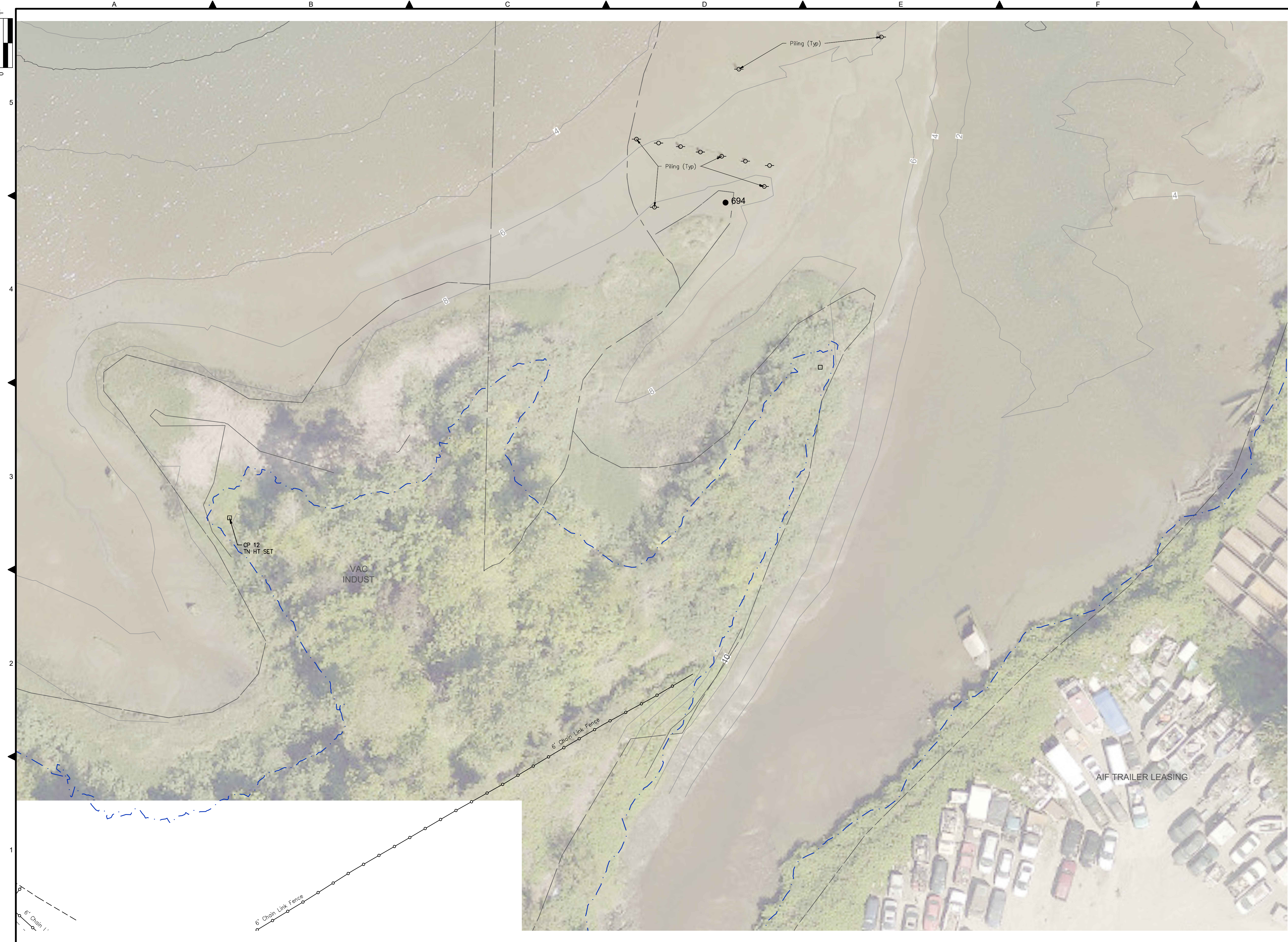
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**EXISTING CONDITIONS**  
 (RM 4.57 TO 4.66)

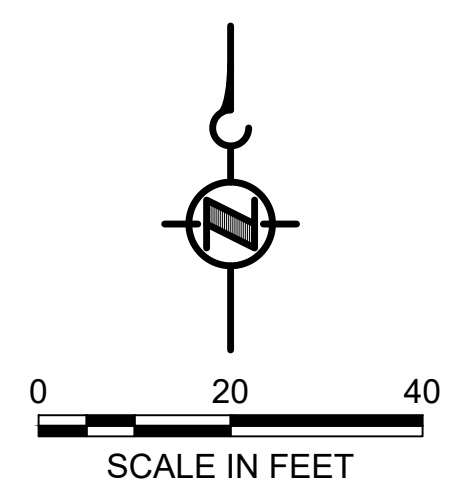
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 SHT NO / TOTAL: 14 / 73  
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 PLOTTED: Feb 20, 2023 - 12:42:56am By Igriga



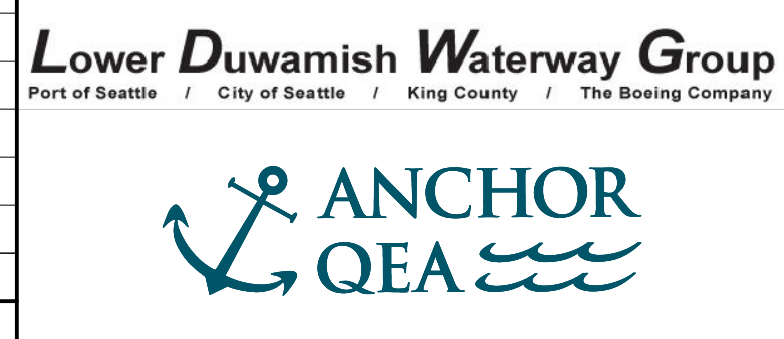
- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - KING COUNTY PARCEL (GIS)
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - PILES



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. AERIAL SOURCE: KING COUNTY 2019

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NO	REVISION DESCRIPTION	BY	APVD	DATE



**INTERMEDIATE ISSUE DRAWING**  
 INFORMATION ONLY  
**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
 PROJECT ENGINEER: J. LAPLANTE  
 DESIGN APPROVAL: T. WANG  
 PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
 SCALE: AS NOTED  
 PROJECT FILE NO: E00559E18  
 CONTRACT NO: C0XXXXCX

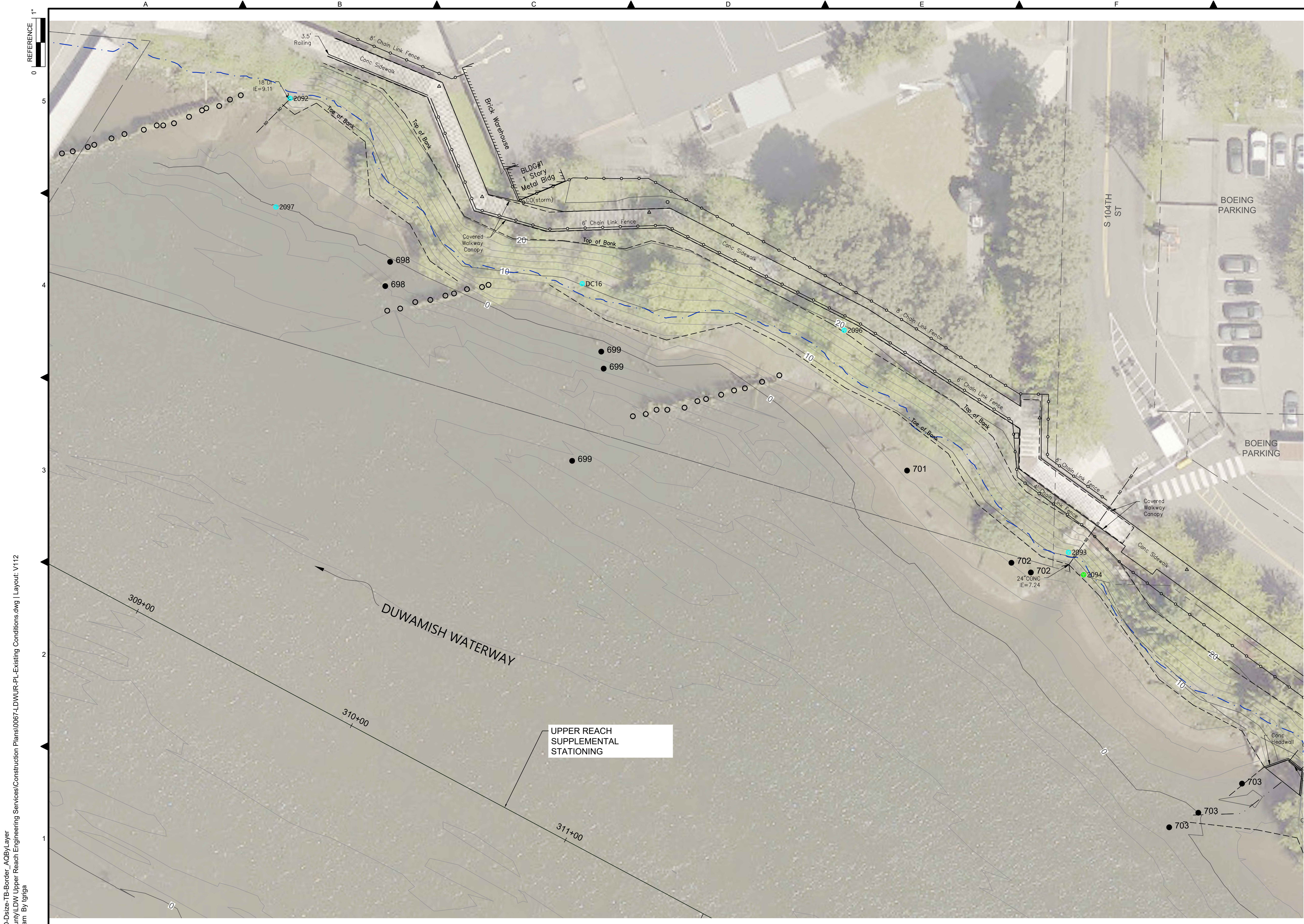


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

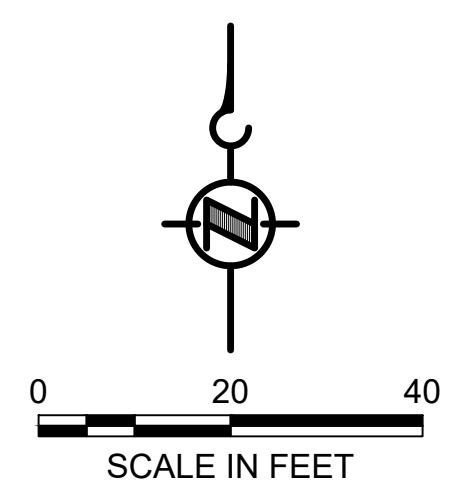
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 (RM 4.64 TO 4.76)

DATE: FEBRUARY 2023  
 DRAWING NO: **V111**  
 SHT NO / TOTAL: 15 / 73  
 REV NO: **0**





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - KING COUNTY PARCEL (GIS)
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
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  - VERTICAL SAMPLE LOCATION
  - PILES



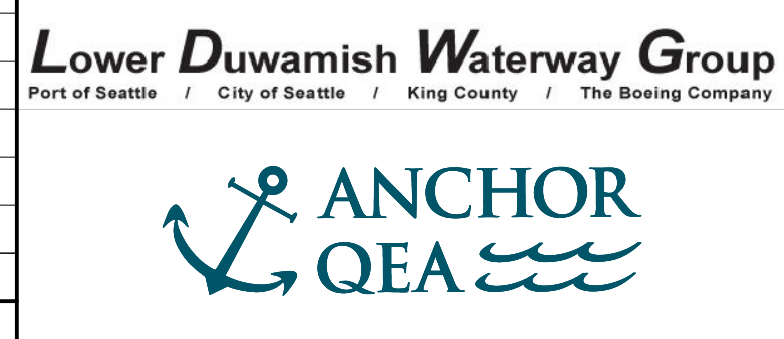
- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. AERIAL SOURCE: KING COUNTY 2019

**COLOR IMAGE**

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**INTERMEDIATE ISSUE DRAWING**  
**INFORMATION ONLY**  
**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
 PROJECT ENGINEER: J. LAPLANTE  
 DESIGN APPROVAL: T. WANG  
 PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
 SCALE: AS NOTED  
 PROJECT FILE NO: E00559E18  
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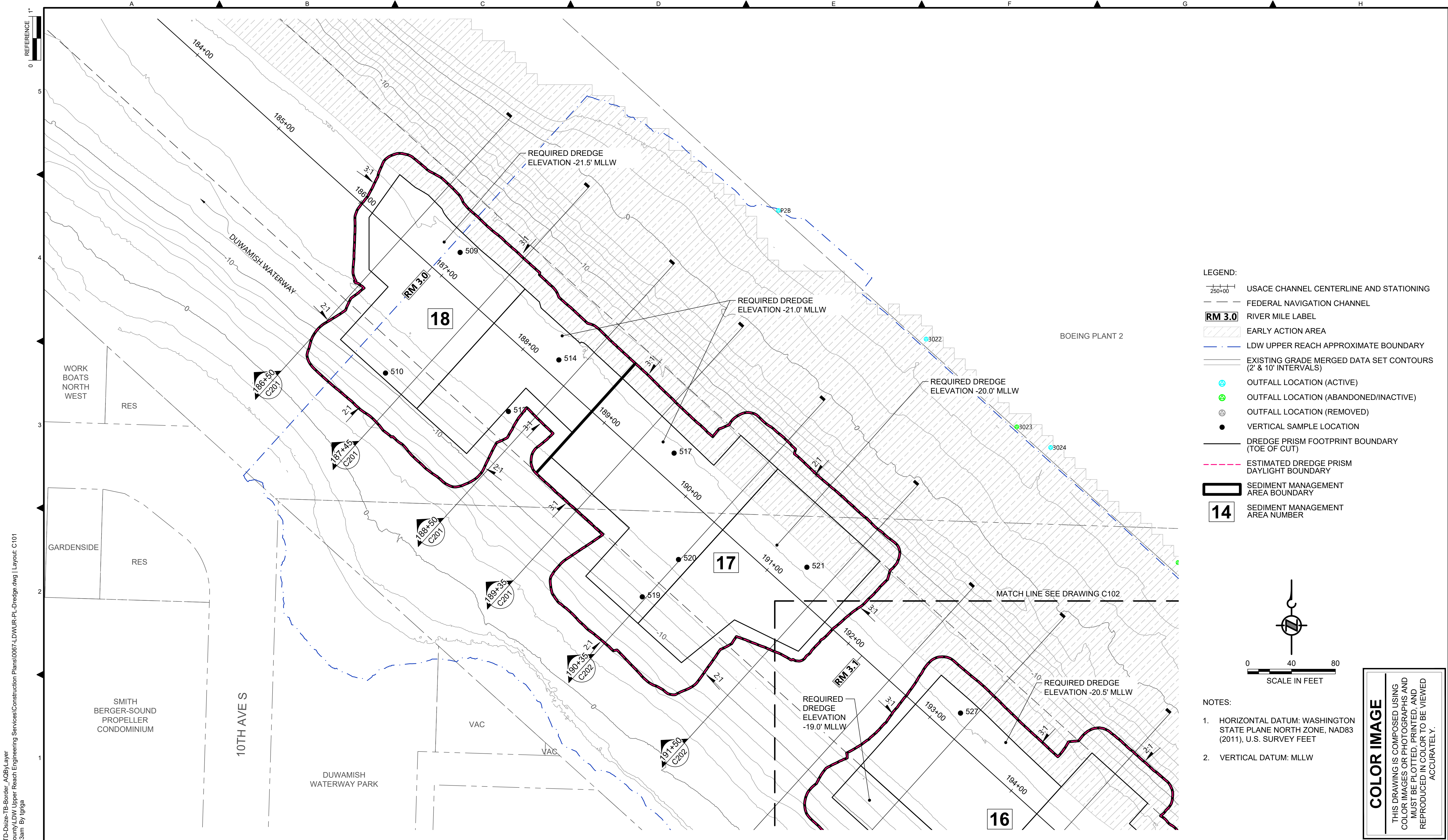


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

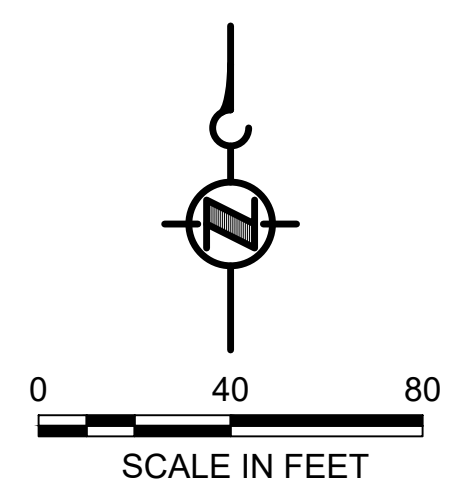
**EXISTING CONDITIONS**  
**(RM 4.84 TO 4.95)**

DATE: FEBRUARY 2023  
 DRAWING NO: **V112**  
 SHT NO / TOTAL: 16 / 73  
 REV NO: **0**





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - 14** SEDIMENT MANAGEMENT AREA NUMBER



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW

**COLOR IMAGE**  
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 PLOTTED: Feb 20, 2023 12:45:23am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

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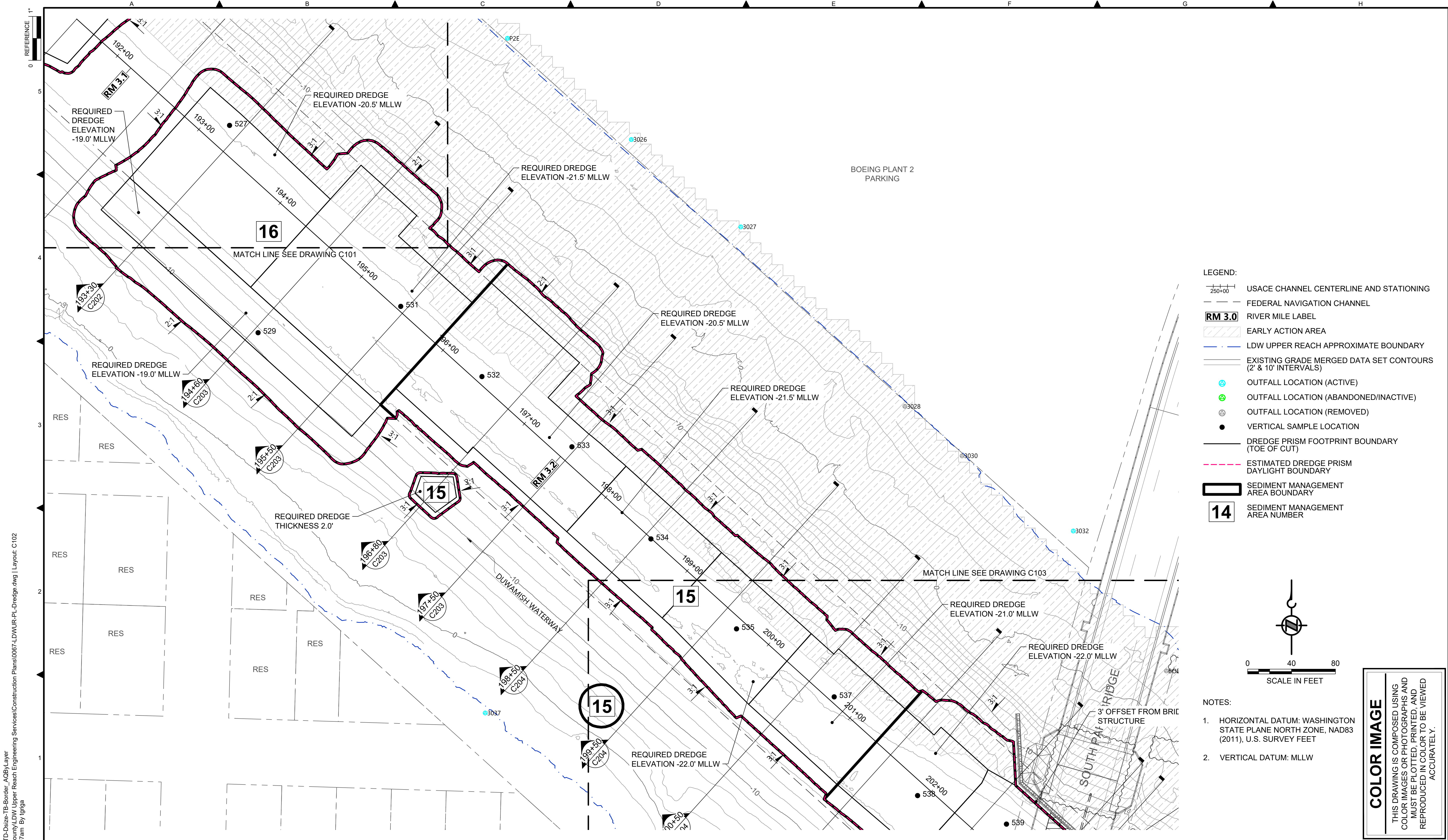
**INTERMEDIATE ISSUE DRAWING**  
 INFORMATION ONLY  
**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

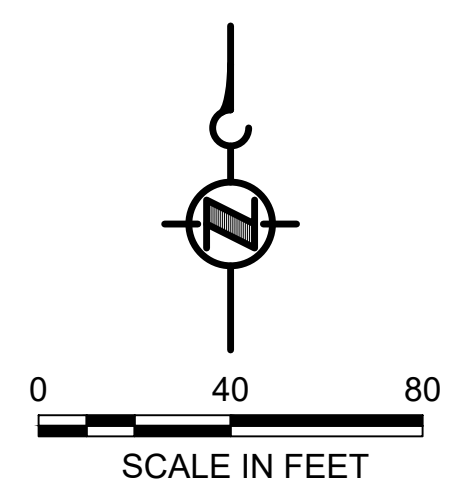
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**DREDGE PLAN (RM 2.93 TO 3.15)**

DATE: FEBRUARY 2023
DRAWING NO: <b>C101</b>
SHT NO / TOTAL 17 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - SEDIMENT MANAGEMENT AREA NUMBER



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW

**COLOR IMAGE**  
 THIS DRAWING IS COMPOSED USING COLOR IMAGES OR PHOTOGRAPHS AND MUST BE PLOTTED, PRINTED, AND REPRODUCED IN COLOR TO BE VIEWED ACCURATELY.

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 PLOTTED: Feb 20, 2023 - 12:46:07am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

Lower Duwamish Waterway Group  
 Port of Seattle / City of Seattle / King County / The Boeing Company  
  
 ANCHOR QEA

**INTERMEDIATE ISSUE DRAWING**  
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 FEBRUARY 2023

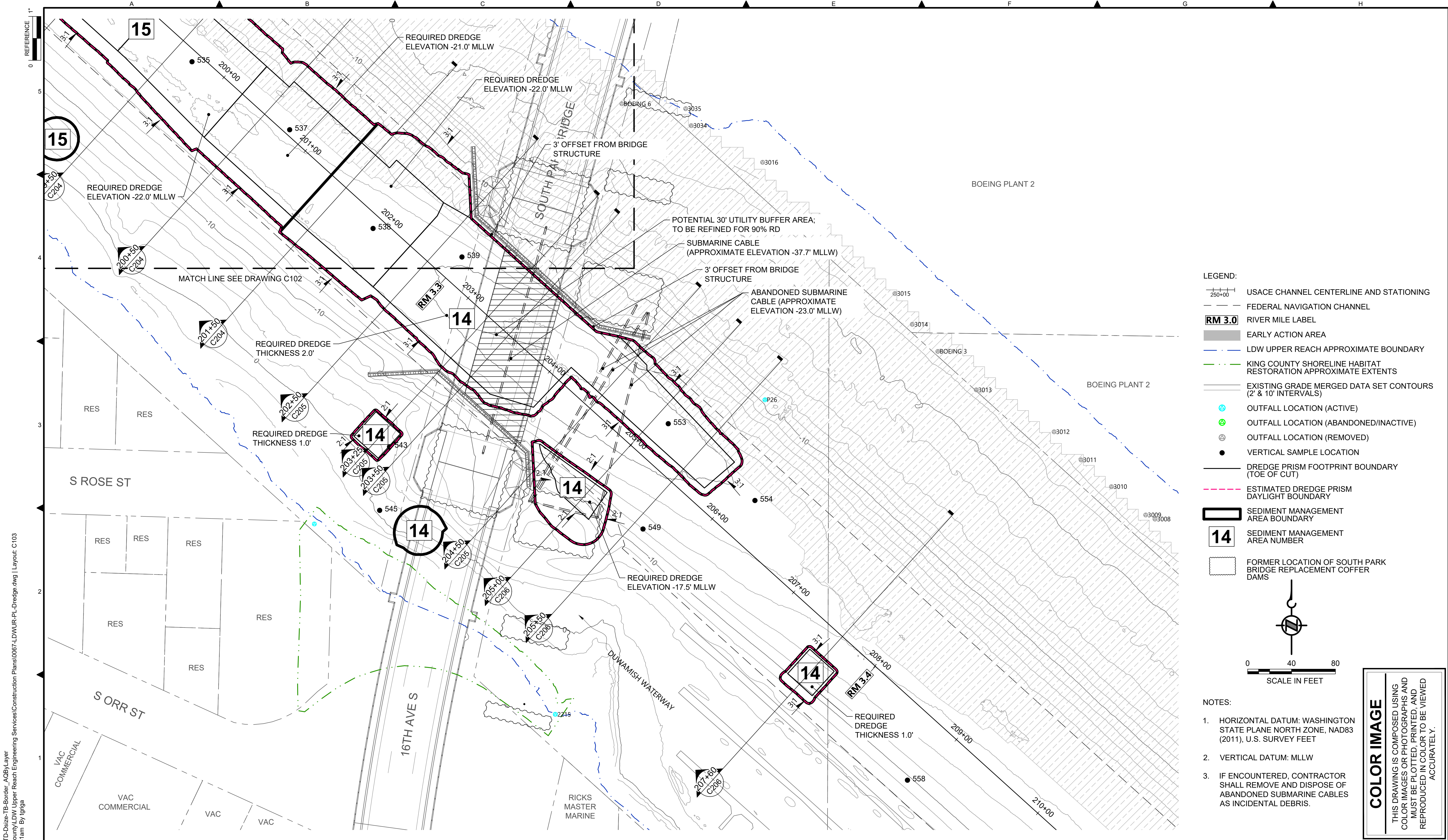
DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX



DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**DREDGE PLAN (RM 3.09 TO 3.29)**

DATE: FEBRUARY 2023
DRAWING NO: <b>C102</b>
SHT NO / TOTAL 18 / 73
REV NO: <b>0</b>





**LEGEND:**

- USACE CHANNEL CENTERLINE AND STATIONING
- FEDERAL NAVIGATION CHANNEL
- RM 3.0** RIVER MILE LABEL
- EARLY ACTION AREA
- LDW UPPER REACH APPROXIMATE BOUNDARY
- KING COUNTY SHORELINE HABITAT RESTORATION APPROXIMATE EXTENTS
- EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
- OUTFALL LOCATION (ACTIVE)
- OUTFALL LOCATION (ABANDONED/INACTIVE)
- OUTFALL LOCATION (REMOVED)
- VERTICAL SAMPLE LOCATION
- DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
- ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
- SEDIMENT MANAGEMENT AREA BOUNDARY
- 14** SEDIMENT MANAGEMENT AREA NUMBER
- FORMER LOCATION OF SOUTH PARK BRIDGE REPLACEMENT COFFER DAMS

**SCALE IN FEET**

0 40 80

- NOTES:**
- HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  - VERTICAL DATUM: MLLW
  - IF ENCOUNTERED, CONTRACTOR SHALL REMOVE AND DISPOSE OF ABANDONED SUBMARINE CABLES AS INCIDENTAL DEBRIS.

**COLOR IMAGE**

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 PLOTTED: Feb 20, 2023 - 12:46:51am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

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PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

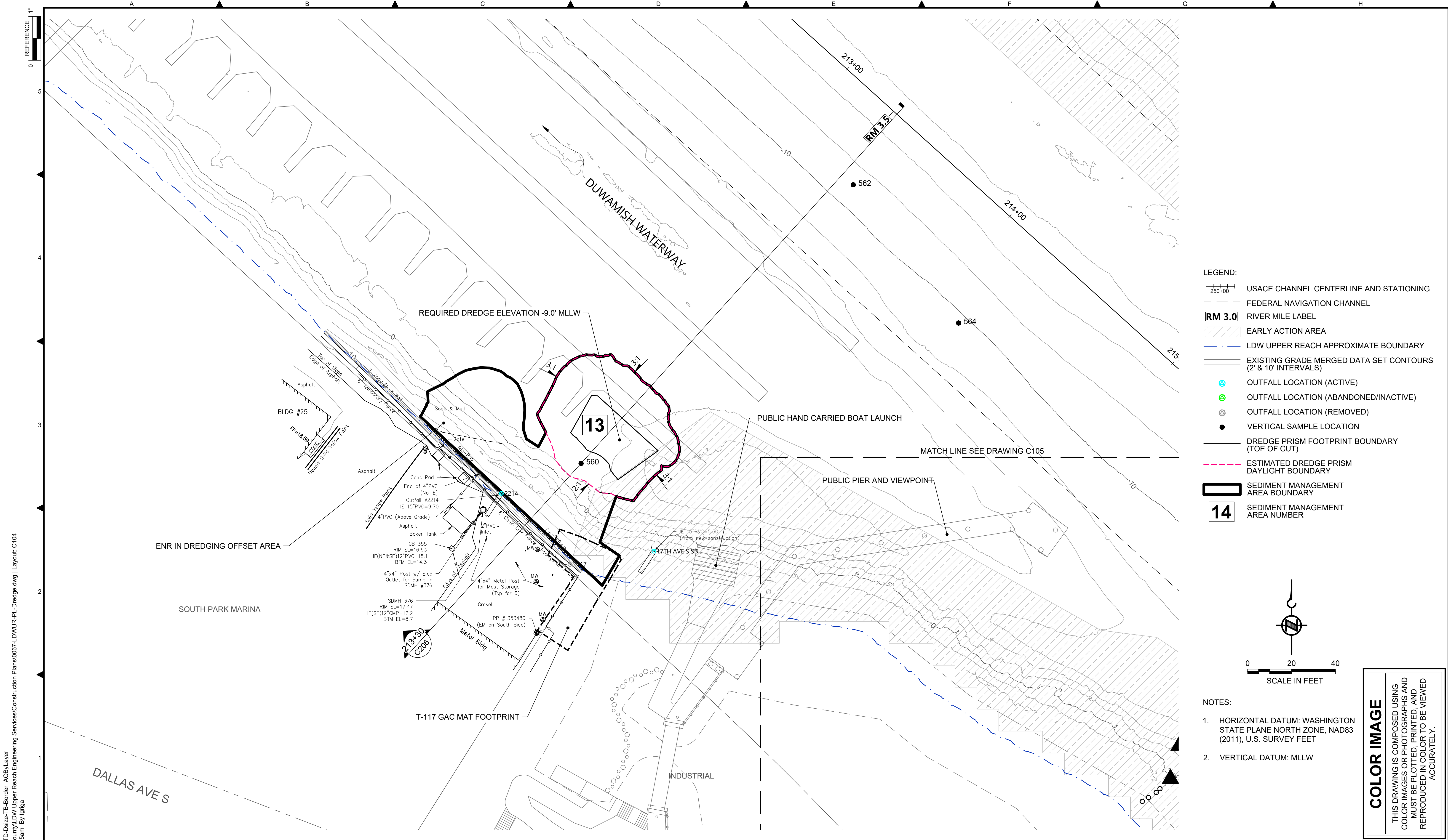


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 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

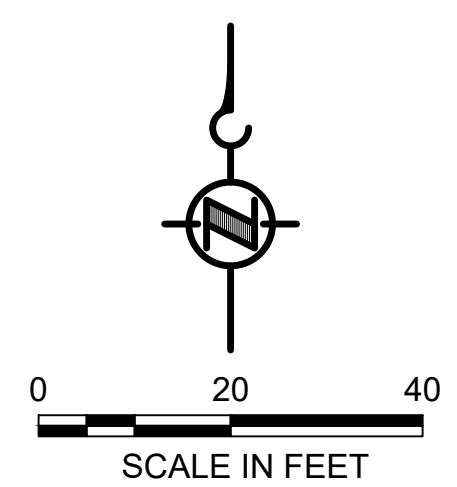
**DREDGE PLAN (RM 3.23 TO 3.44)**

DATE: FEBRUARY 2023
DRAWING NO: <b>C103</b>
SHT NO / TOTAL 19 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - SEDIMENT MANAGEMENT AREA NUMBER



- NOTES:**
- HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  - VERTICAL DATUM: MLLW

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 PLOTTED: Feb 20, 2023 12:47:35am By Igriga

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FEBRUARY 2023

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PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

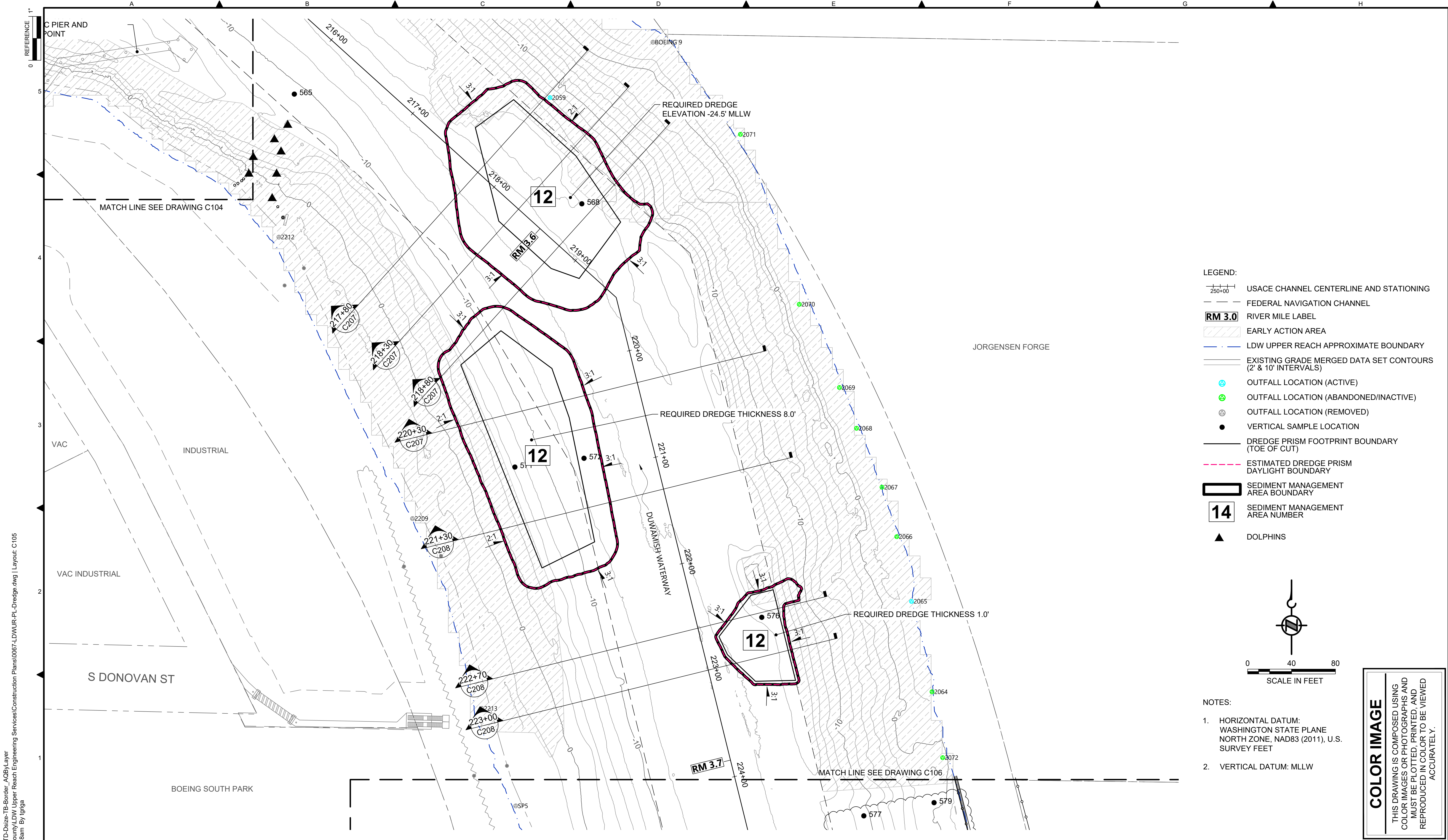


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

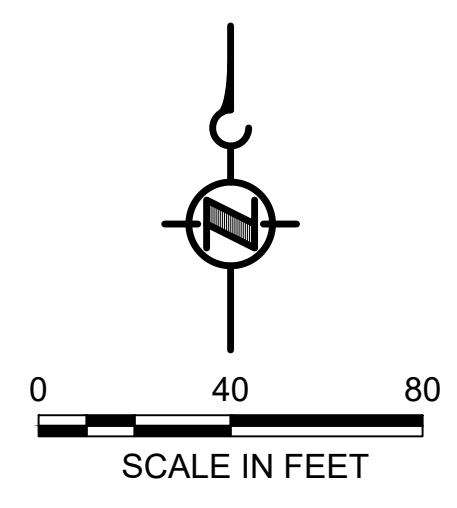
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DATE: FEBRUARY 2023
DRAWING NO: <b>C104</b>
SHT NO / TOTAL 20 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - 14** SEDIMENT MANAGEMENT AREA NUMBER
  - DOLPHINS



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW

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 PLOTTED: Feb 20, 2023 12:48:18am By Igriga

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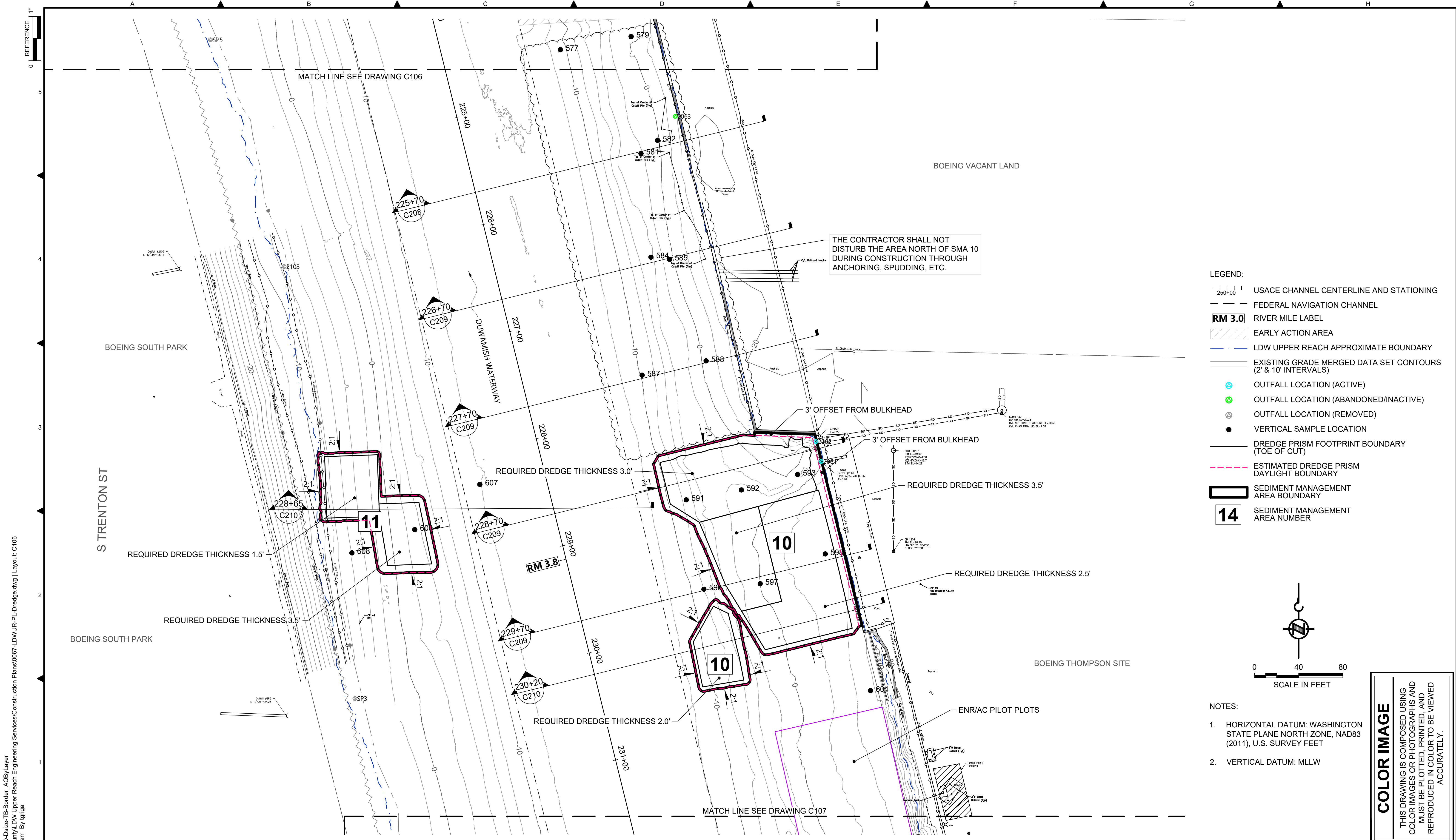
DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

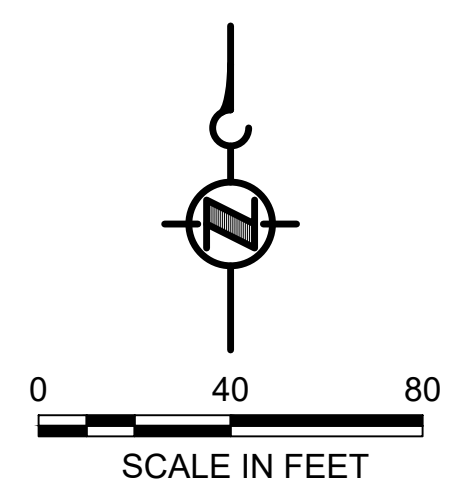
**DREDGE PLAN (RM 3.54 TO 3.71)**

DATE: FEBRUARY 2023
DRAWING NO: <b>C105</b>
SHT NO / TOTAL 21 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - 14** SEDIMENT MANAGEMENT AREA NUMBER



- NOTES:**
- HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  - VERTICAL DATUM: MLLW

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 PLOTTED: Feb 20, 2023 12:49:02am By Igriga

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PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

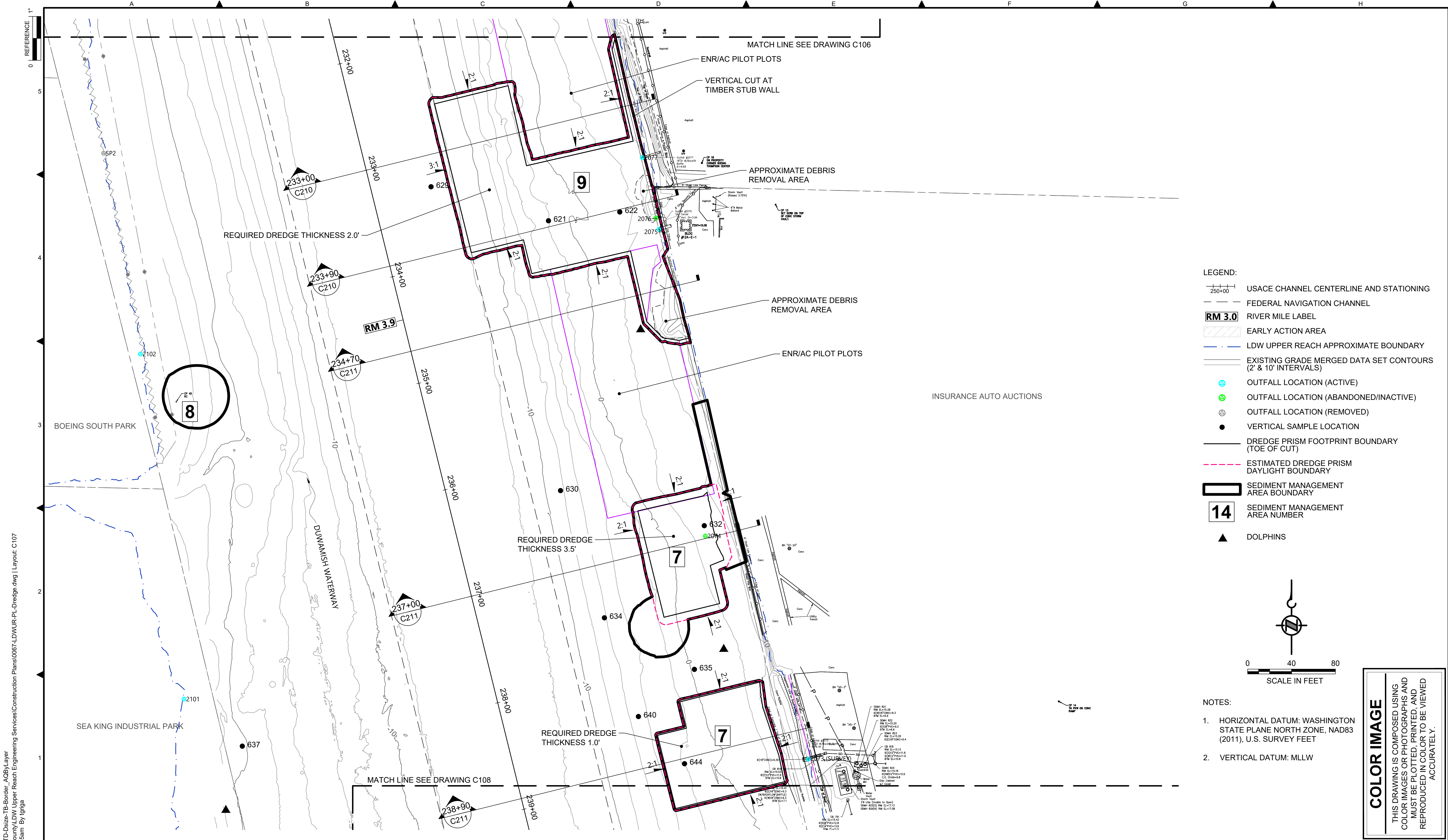


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

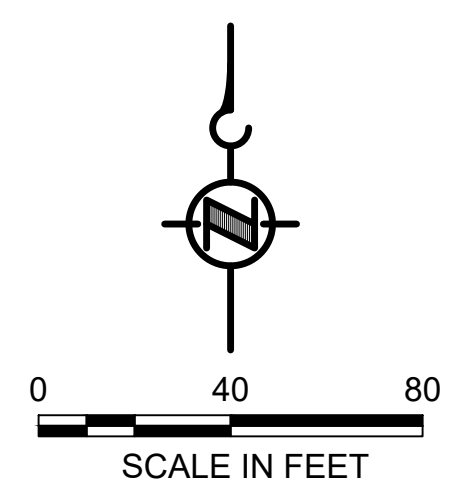
**DREDGE PLAN (RM 3.73 TO 3.84)**

DATE: FEBRUARY 2023
DRAWING NO: <b>C106</b>
SHT NO / TOTAL 22 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - SEDIMENT MANAGEMENT AREA NUMBER
  - DOLPHINS



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW

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PLOTTED: Feb 20, 2023 12:49:45am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

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FEBRUARY 2023

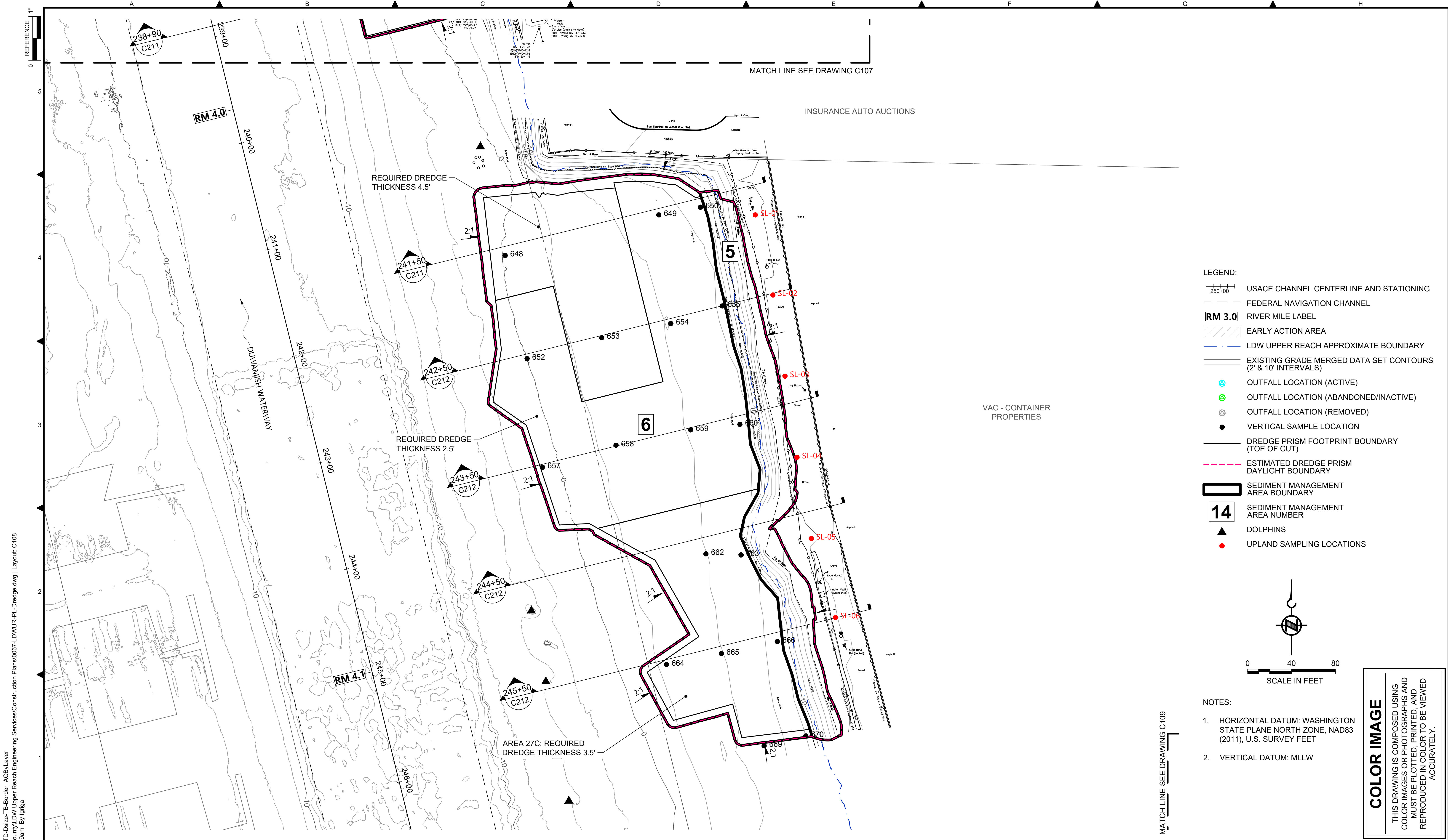
DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

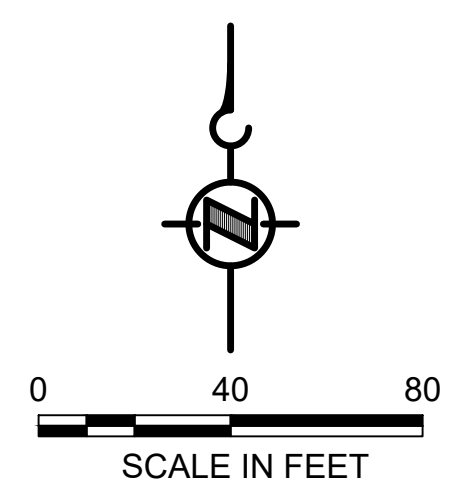
**DREDGE PLAN (RM 3.85 TO 3.99)**

DATE: FEBRUARY 2023
DRAWING NO: <b>C107</b>
SHT NO / TOTAL 23 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - SEDIMENT MANAGEMENT AREA NUMBER
  - DOLPHINS
  - UPLAND SAMPLING LOCATIONS



- NOTES:**
- HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  - VERTICAL DATUM: MLLW

**COLOR IMAGE**  
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PLOTTED: Feb 20, 2023 12:50:29am By Igriga

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MATCH LINE SEE DRAWING C107

DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

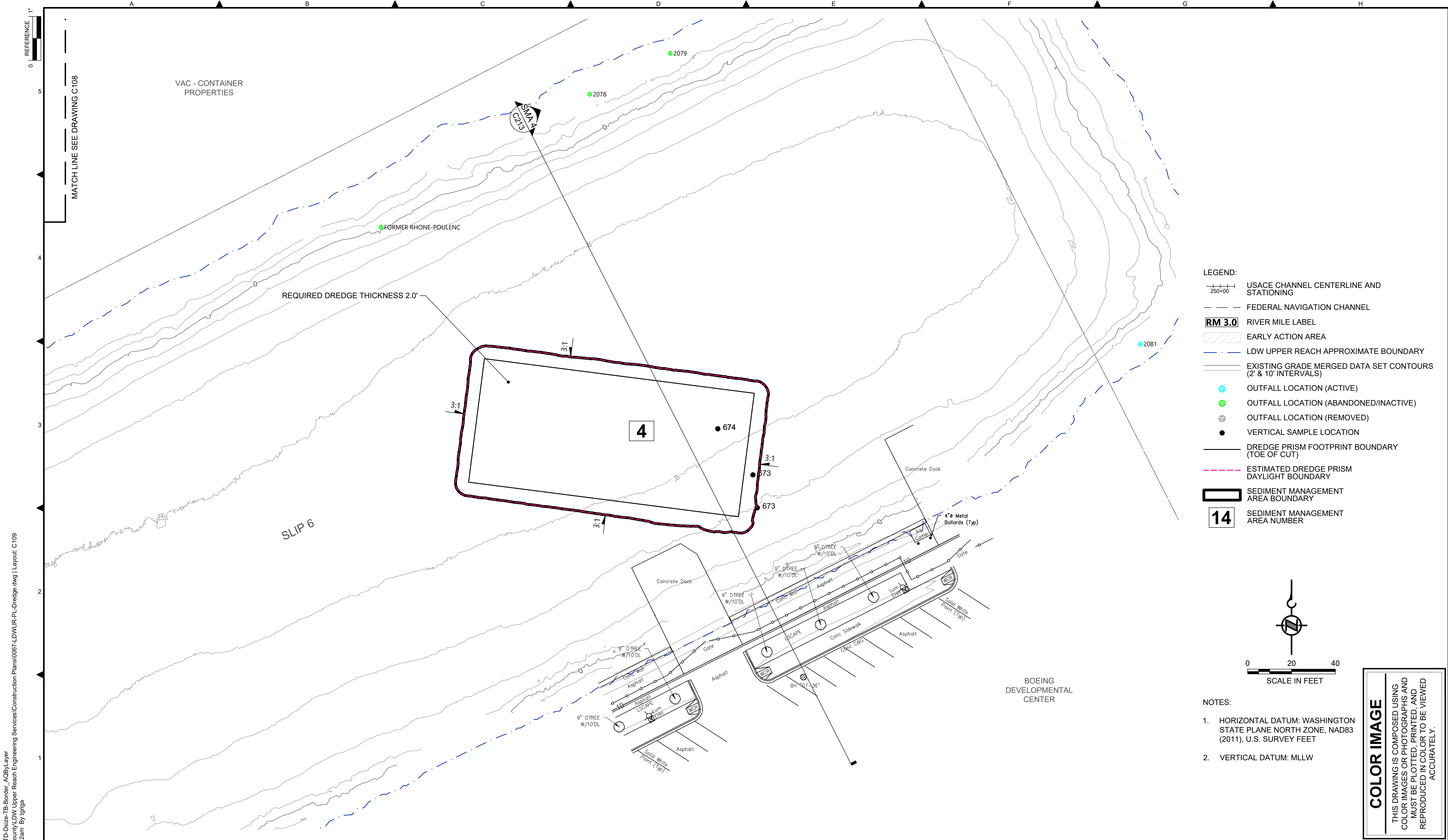


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WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

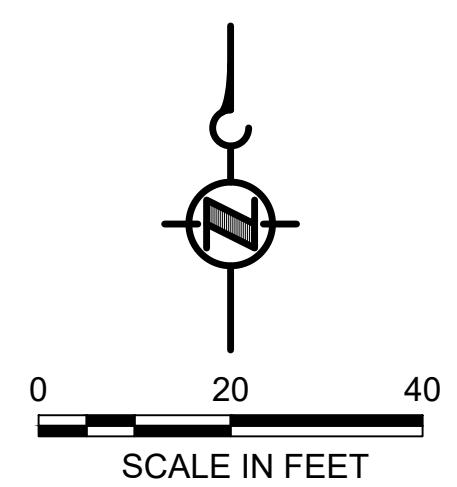
**DREDGE PLAN (RM 3.98 TO 4.13)**

DATE: FEBRUARY 2023
DRAWING NO: <b>C108</b>
SHT NO / TOTAL 24 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
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  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - 14** SEDIMENT MANAGEMENT AREA NUMBER



- NOTES:**
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  - VERTICAL DATUM: MLLW

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 PLOTTED: Feb 20, 2023-12:51:12am By Igriga

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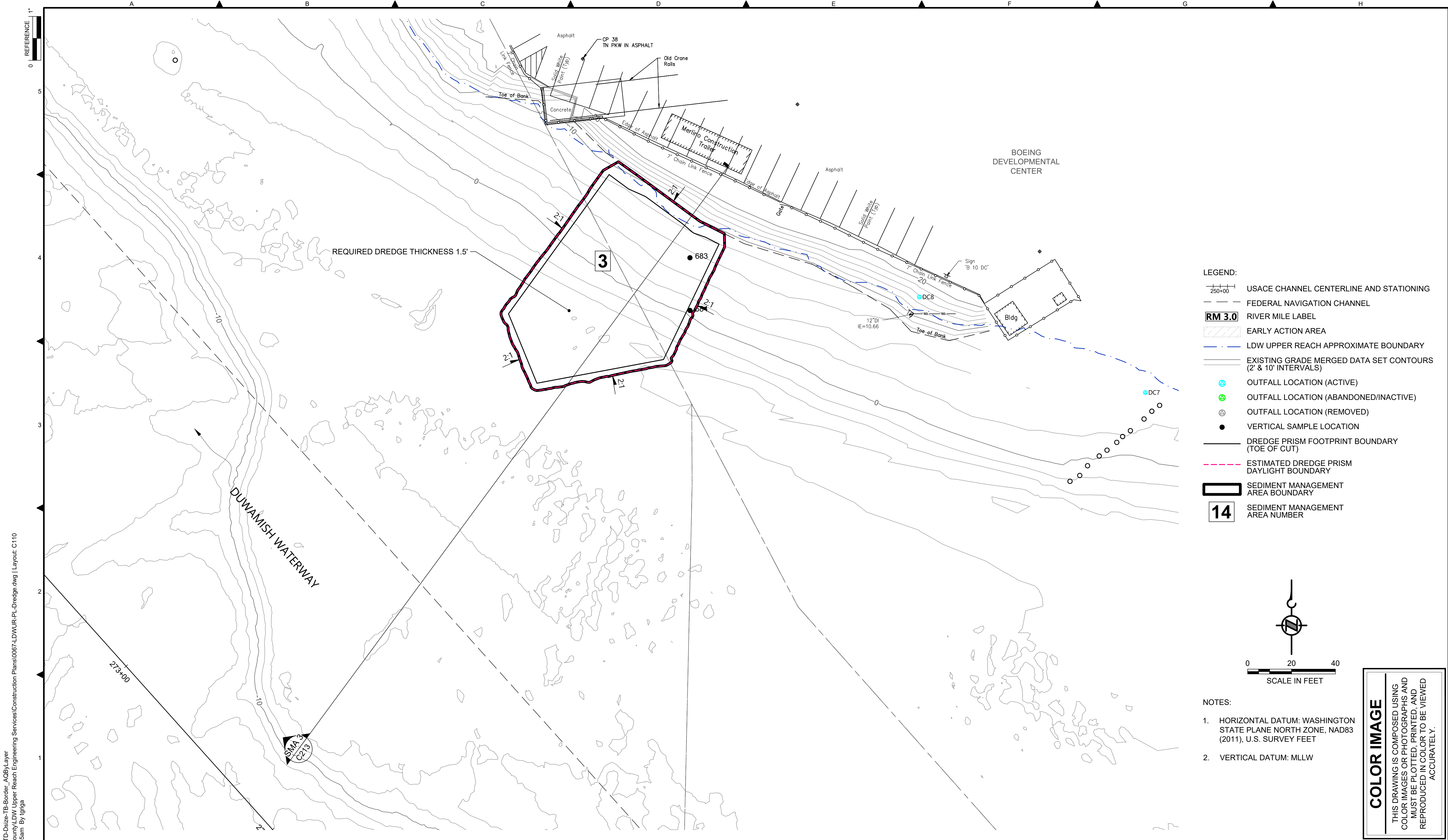
DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX

DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**DREDGE PLAN (RM 4.14 TO 4.23)**

DATE: FEBRUARY 2023
DRAWING NO: <b>C109</b>
SHT NO / TOTAL 25 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
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 PLOTTED: Feb 20, 2023-12:51:55am By tgriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

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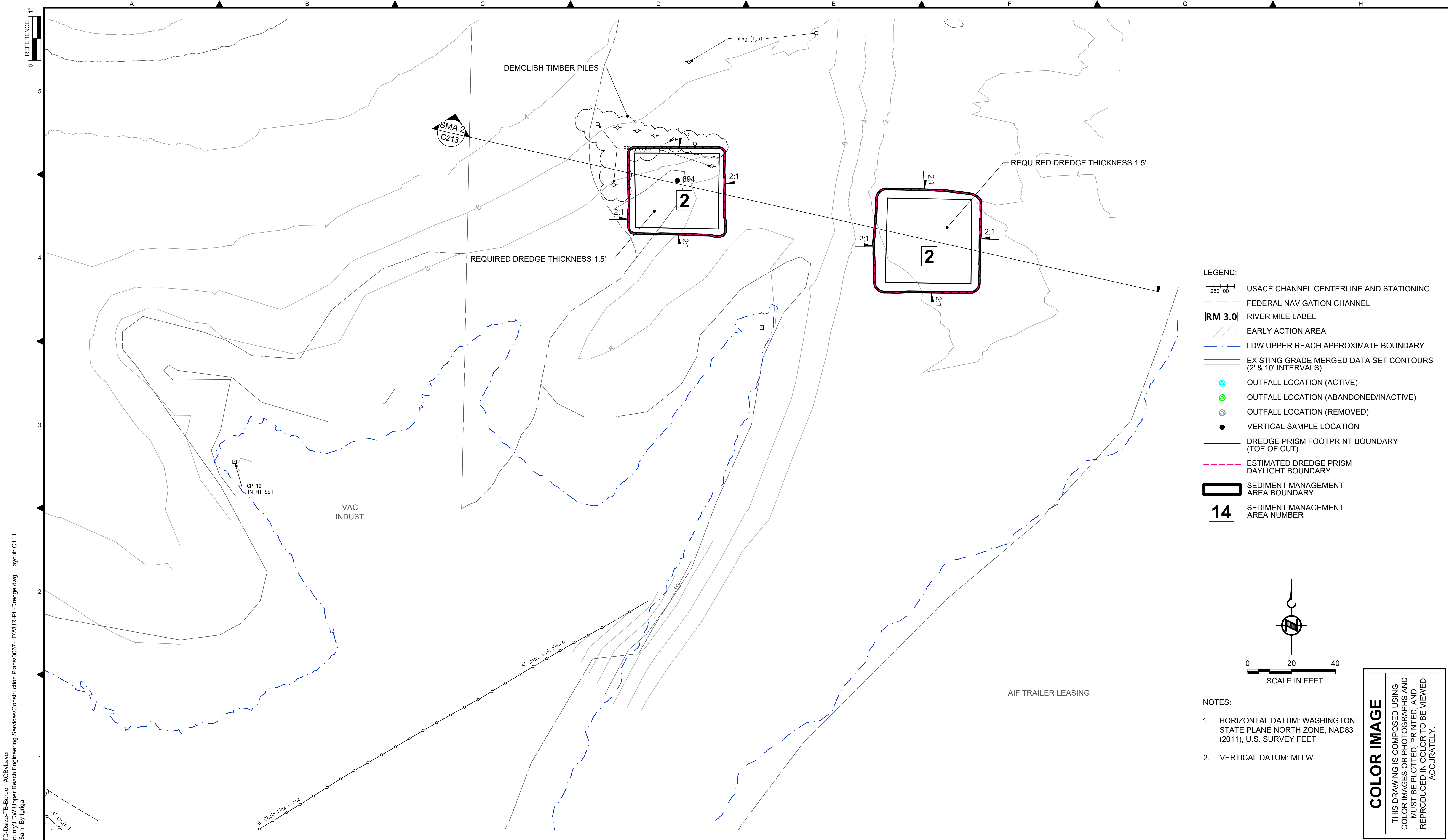
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**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX

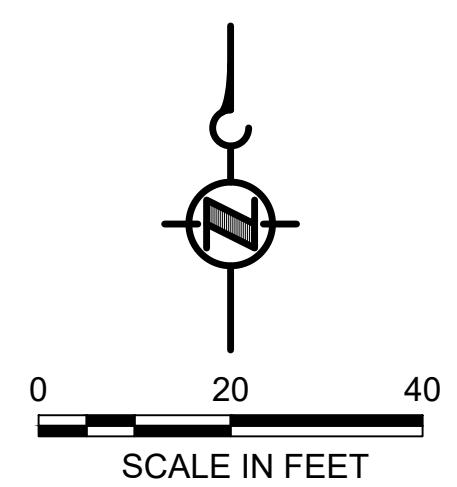
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**DREDGE PLAN (RM 4.57 TO 4.66)**

DATE: FEBRUARY 2023
DRAWING NO: <b>C110</b>
SHT NO / TOTAL 26 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - 14** SEDIMENT MANAGEMENT AREA NUMBER



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW

**COLOR IMAGE**  
THIS DRAWING IS COMPOSED USING COLOR IMAGES OR PHOTOGRAPHS AND MUST BE PLOTTED, PRINTED, AND REPRODUCED IN COLOR TO BE VIEWED ACCURATELY.

BORDER FILE EDITION: \\KOVTD\size-TB-Border\_AQB\layer\gial\CAD\Projects\0067-King County\LDW Upper Reach Engineering Services\Construction Plans\0067-LDWUR-PL-Dredge.dwg | Layout: C111  
PLOTTED: Feb 20, 2023 12:52:38am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
Port of Seattle / City of Seattle / King County / The Boeing Company

**INTERMEDIATE ISSUE DRAWING**  
INFORMATION ONLY  
**60% REVIEW**  
FEBRUARY 2023

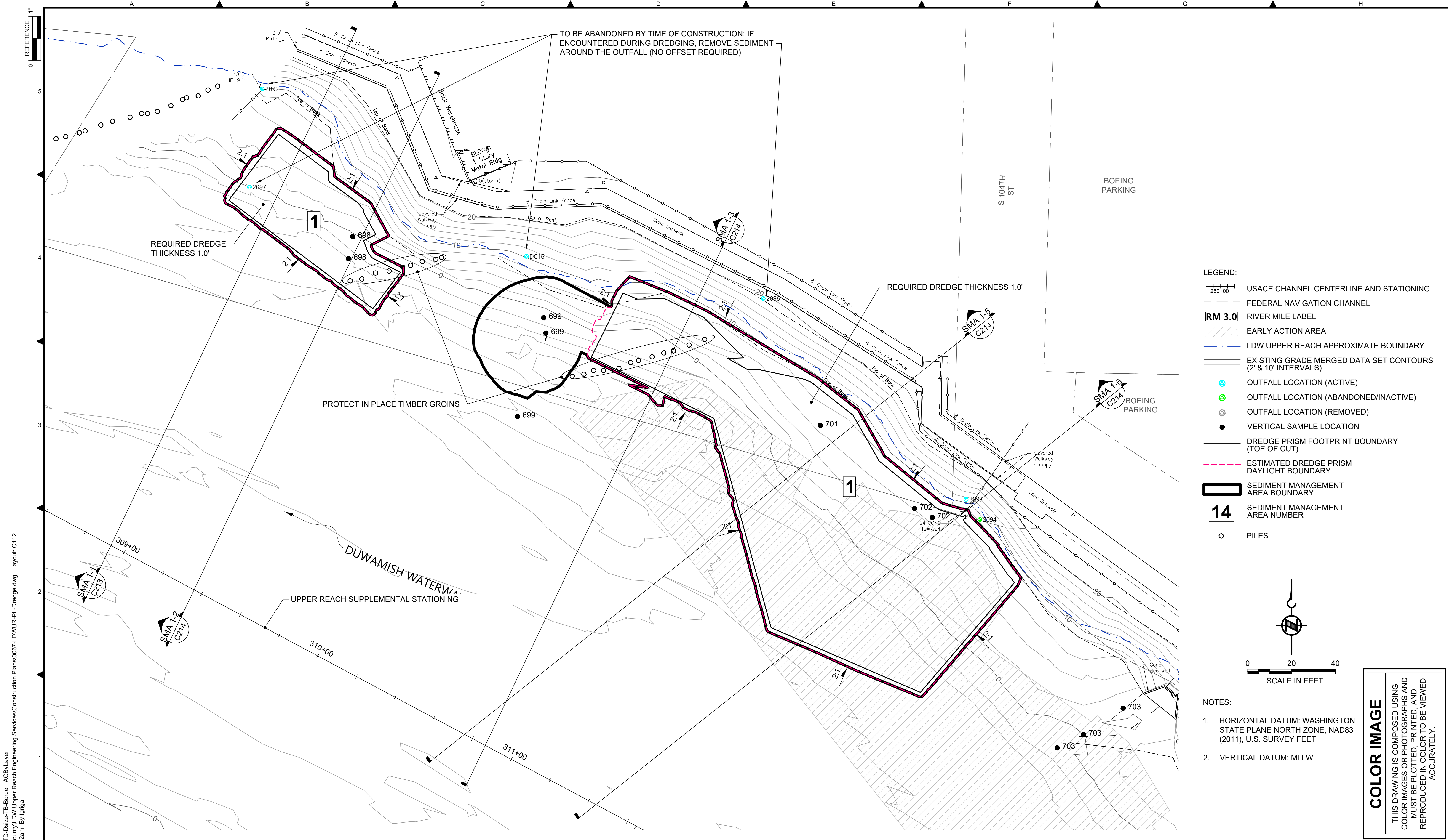
DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX

DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

**DREDGE PLAN (RM 4.64 TO 4.76)**

DATE: FEBRUARY 2023
DRAWING NO: <b>C111</b>
SHT NO / TOTAL 27 / 73
REV NO: <b>0</b>





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 PLOTTED: Feb 20, 2023-12:53:22am By tgriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

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**INTERMEDIATE ISSUE DRAWING**  
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FEBRUARY 2023

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PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

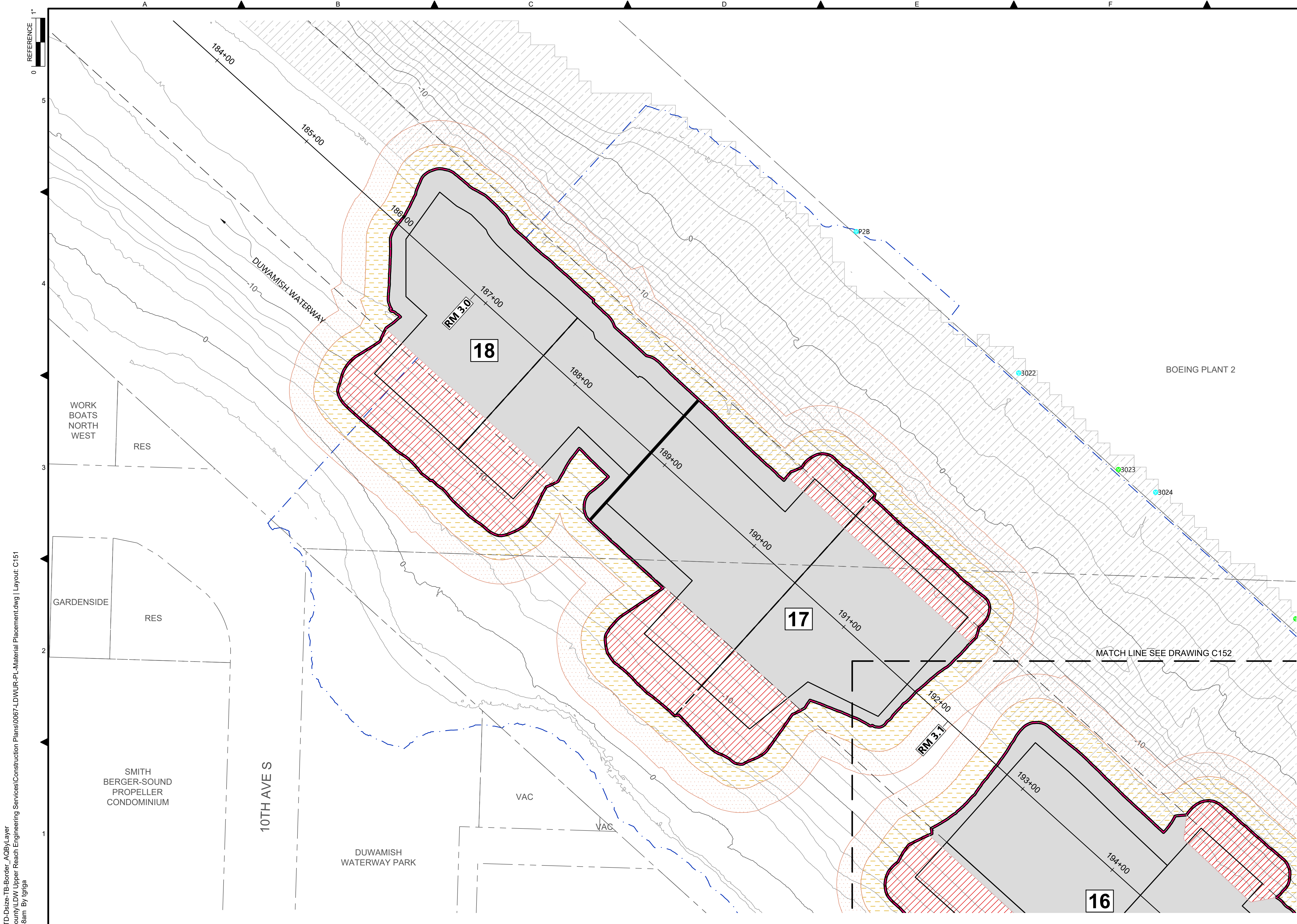
**DREDGE PLAN (RM 4.84 TO 4.95)**

**COLOR IMAGE**

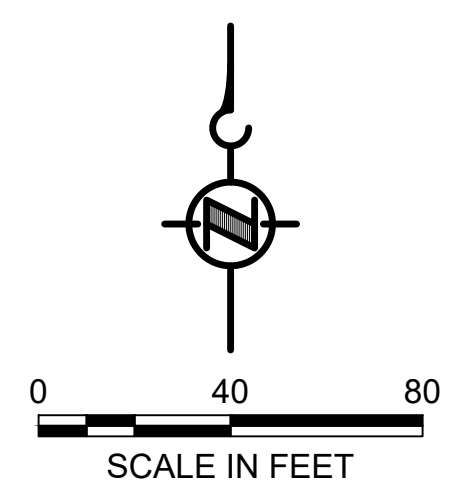
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DATE: FEBRUARY 2023  
 DRAWING NO: **C112**  
 SHT NO / TOTAL: 28 / 73  
 REV NO: **0**





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - ESTIMATED DREDGE PRISM
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - 14** SEDIMENT MANAGEMENT AREA NUMBER
  - BACKFILL DREDGE FOOTPRINT
  - RMC DREDGE FOOTPRINT
  - INNER DREDGE PERIMETER (AUTOMATIC RMC PLACEMENT)
  - OUTER DREDGE PERIMETER (POTENTIAL RMC PLACEMENT)



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. MATERIAL PLACEMENT EXTENTS ARE APPROXIMATE AND WILL BE ADJUSTED BASED ON ACTUAL EXTENTS OF DREDGING.

**COLOR IMAGE**

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 PLOTTED: Feb 20, 2023 - 12:54:58am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

Port of Seattle / City of Seattle / King County / The Boeing Company

**INTERMEDIATE ISSUE DRAWING**  
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 FEBRUARY 2023

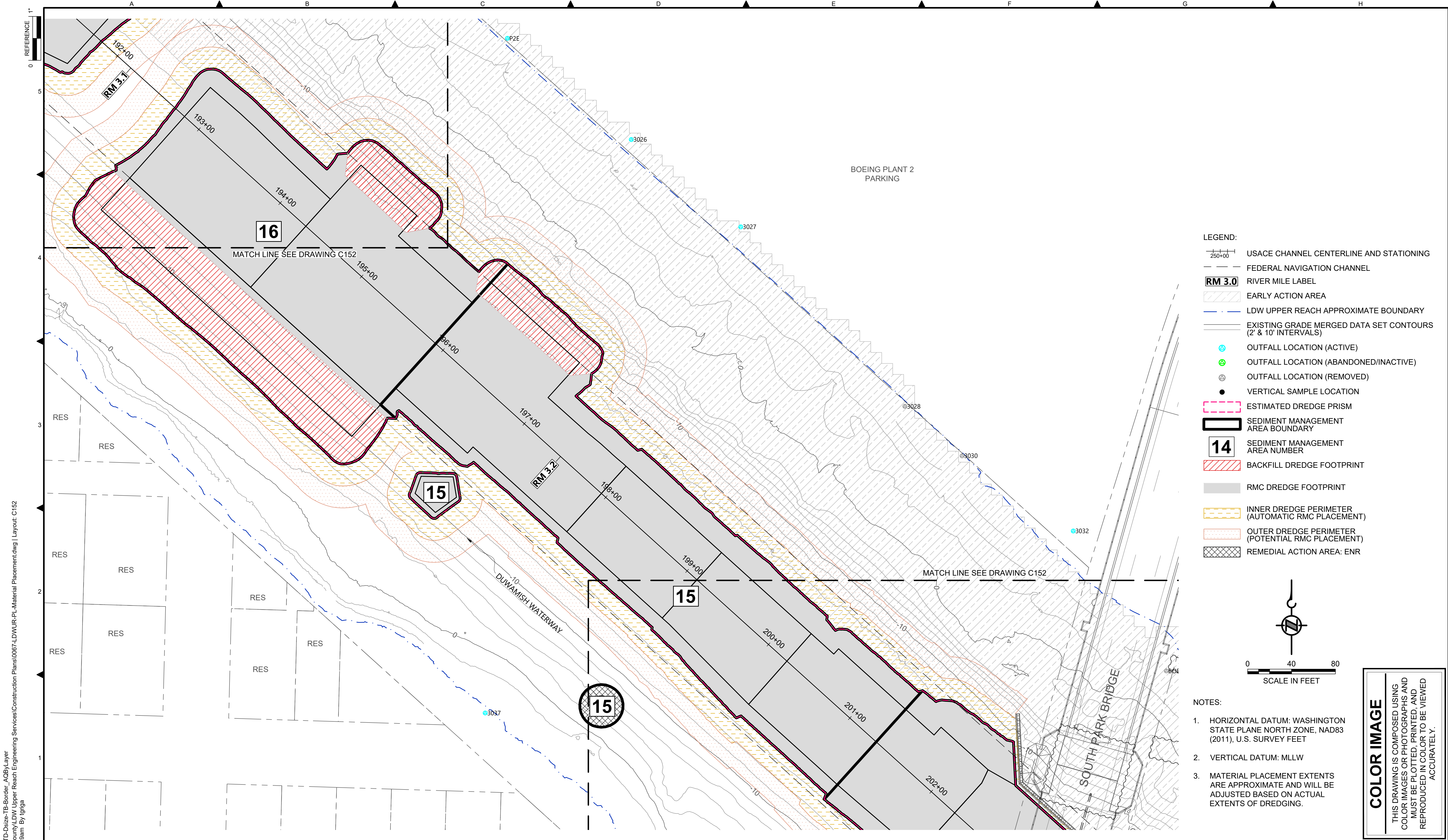
DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX

DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

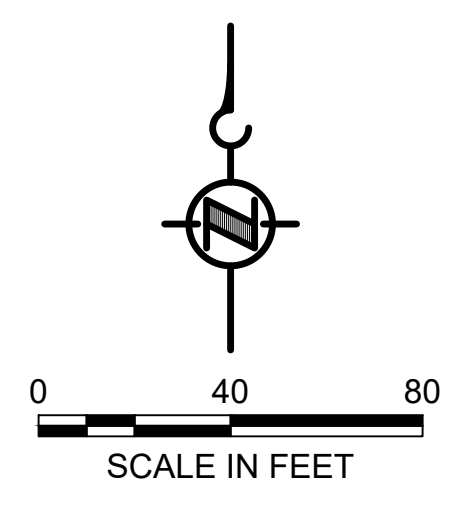
**MATERIAL PLACEMENT PLAN**  
**(RM 2.93 TO 3.15)**

DATE: FEBRUARY 2023
DRAWING NO: <b>C151</b>
SHT NO / TOTAL 29 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - ESTIMATED DREDGE PRISM
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - 14** SEDIMENT MANAGEMENT AREA NUMBER
  - BACKFILL DREDGE FOOTPRINT
  - RMC DREDGE FOOTPRINT
  - INNER DREDGE PERIMETER (AUTOMATIC RMC PLACEMENT)
  - OUTER DREDGE PERIMETER (POTENTIAL RMC PLACEMENT)
  - REMEDIAL ACTION AREA: ENR



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. MATERIAL PLACEMENT EXTENTS ARE APPROXIMATE AND WILL BE ADJUSTED BASED ON ACTUAL EXTENTS OF DREDGING.

**COLOR IMAGE**  
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 PLOTTED: Feb 20, 2023 - 12:55:39am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
 Port of Seattle / City of Seattle / King County / The Boeing Company

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 FEBRUARY 2023

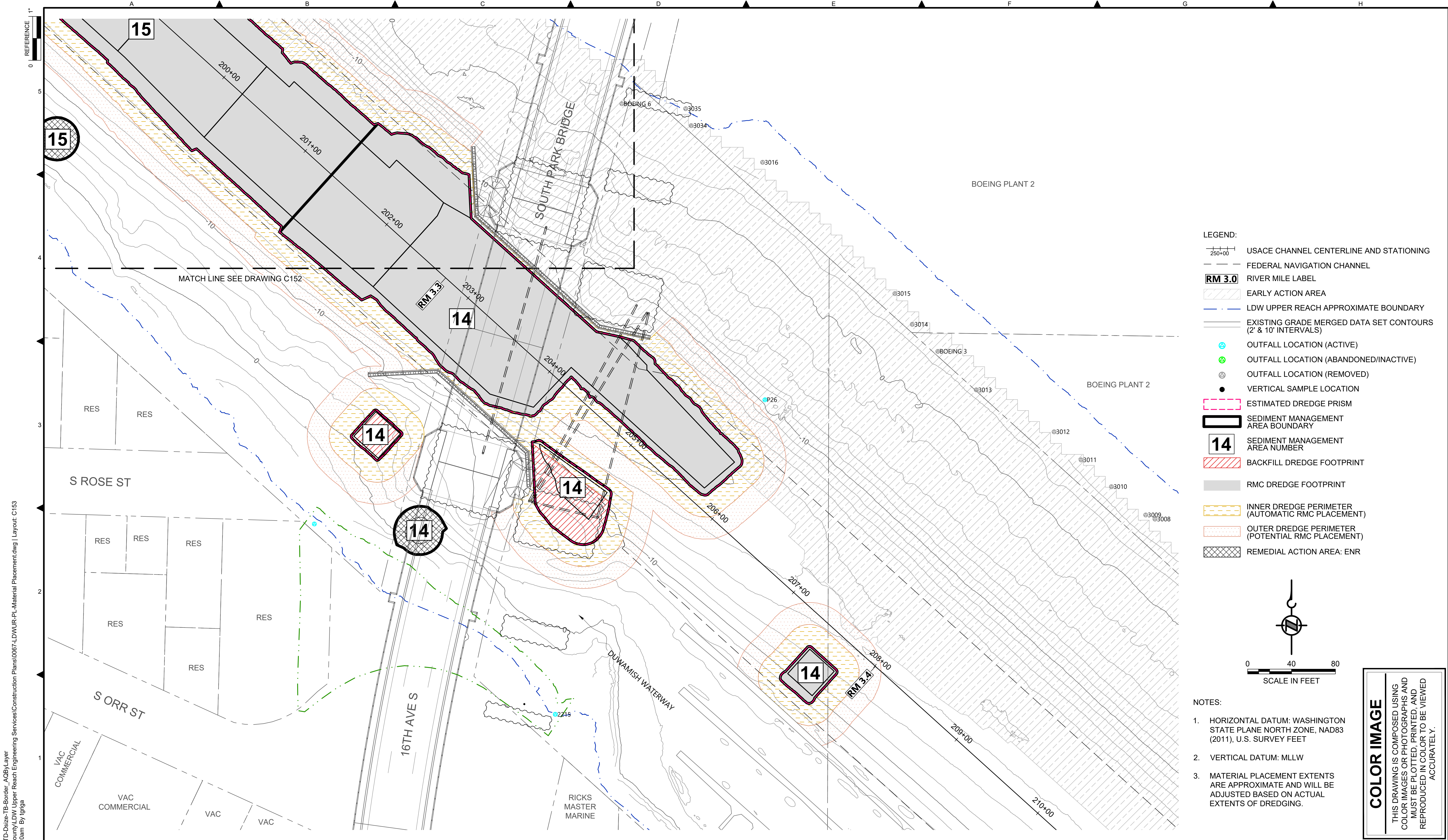
DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

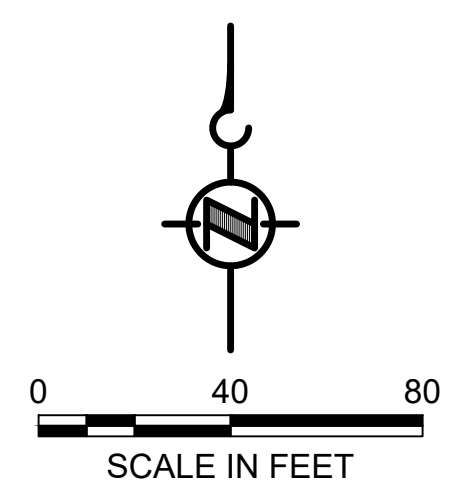
**MATERIAL PLACEMENT PLAN**  
 (RM 3.09 TO 3.29)

DATE: FEBRUARY 2023
DRAWING NO: <b>C152</b>
SHT NO / TOTAL 30 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - ESTIMATED DREDGE PRISM
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - SEDIMENT MANAGEMENT AREA NUMBER
  - BACKFILL DREDGE FOOTPRINT
  - RMC DREDGE FOOTPRINT
  - INNER DREDGE PERIMETER (AUTOMATIC RMC PLACEMENT)
  - OUTER DREDGE PERIMETER (POTENTIAL RMC PLACEMENT)
  - REMEDIAL ACTION AREA: ENR

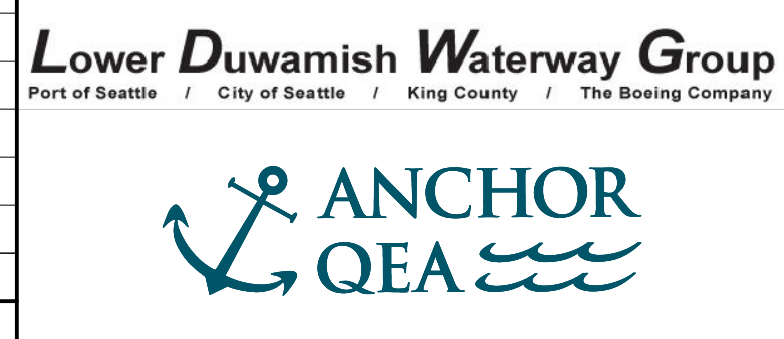


- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. MATERIAL PLACEMENT EXTENTS ARE APPROXIMATE AND WILL BE ADJUSTED BASED ON ACTUAL EXTENTS OF DREDGING.

**COLOR IMAGE**  
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 PLOTTED: Feb 20, 2023 - 12:56:20am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE



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 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
 PROJECT ENGINEER: J. LAPLANTE  
 DESIGN APPROVAL: T. WANG  
 PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
 SCALE: AS NOTED  
 PROJECT FILE NO: E00559E18  
 CONTRACT NO: C0XXXXCX

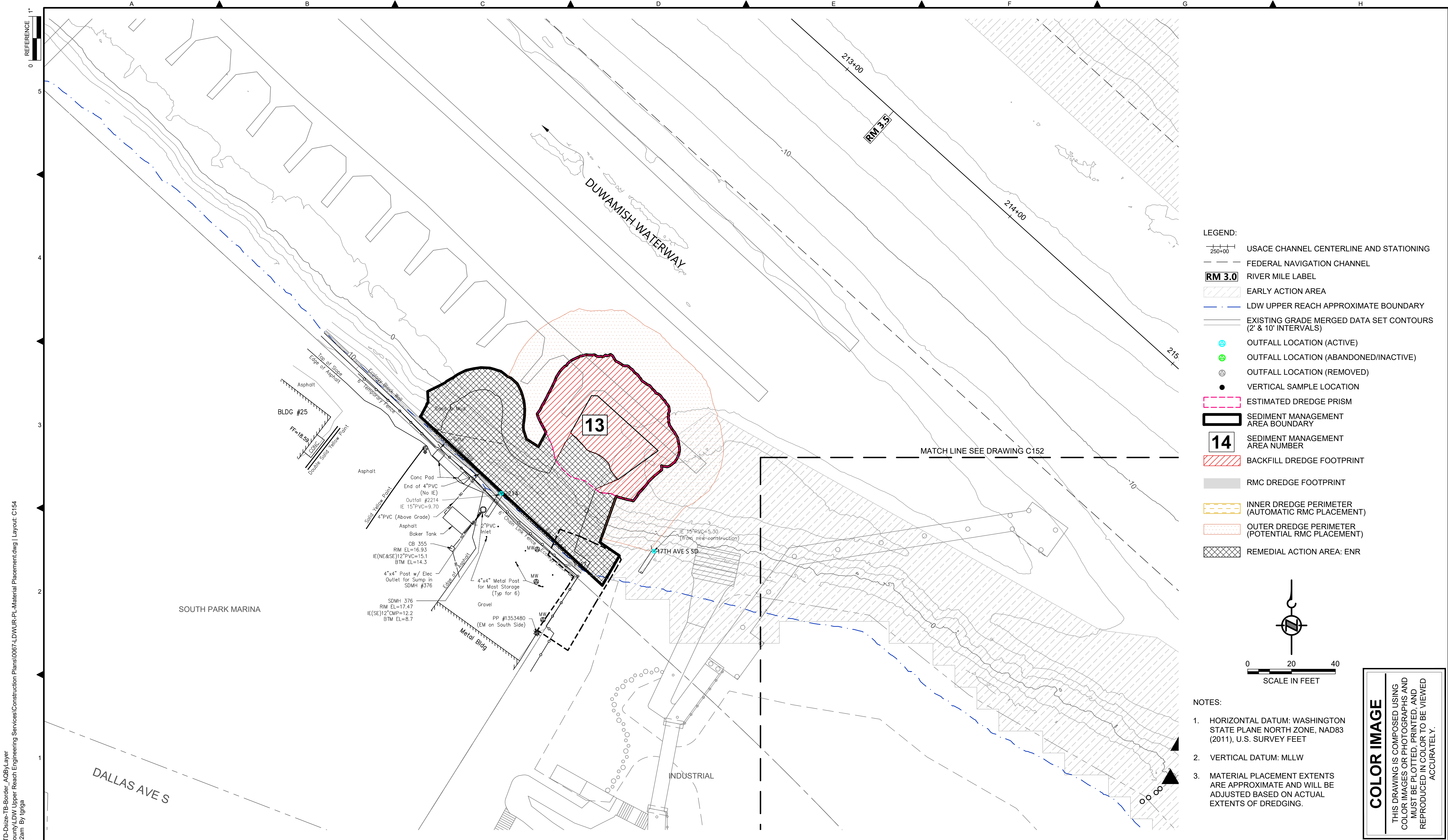


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

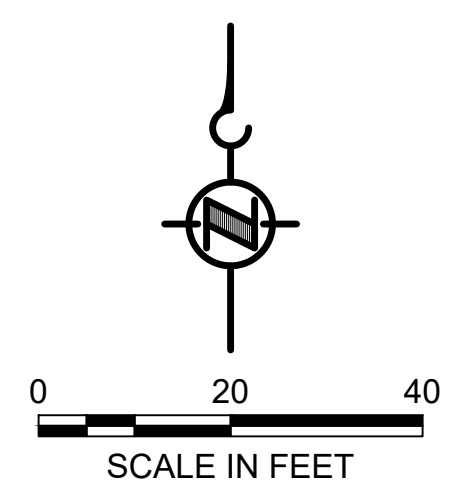
**MATERIAL PLACEMENT PLAN**  
 (RM 3.23 TO 3.44)

DATE: FEBRUARY 2023  
 DRAWING NO: **C153**  
 SHT NO / TOTAL: 31 / 73  
 REV NO: **0**





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - ESTIMATED DREDGE PRISM
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - SEDIMENT MANAGEMENT AREA NUMBER
  - BACKFILL DREDGE FOOTPRINT
  - RMC DREDGE FOOTPRINT
  - INNER DREDGE PERIMETER (AUTOMATIC RMC PLACEMENT)
  - OUTER DREDGE PERIMETER (POTENTIAL RMC PLACEMENT)
  - REMEDIAL ACTION AREA: ENR



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. MATERIAL PLACEMENT EXTENTS ARE APPROXIMATE AND WILL BE ADJUSTED BASED ON ACTUAL EXTENTS OF DREDGING.

**COLOR IMAGE**  
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BORDER FILE EDITION: x:\KOVTD\size-TB-Border\_ACBM\layer  
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 PLOTTED: Feb 20, 2023-12:57:02am By tgriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
 Port of Seattle / City of Seattle / King County / The Boeing Company

**INTERMEDIATE ISSUE DRAWING**  
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 FEBRUARY 2023

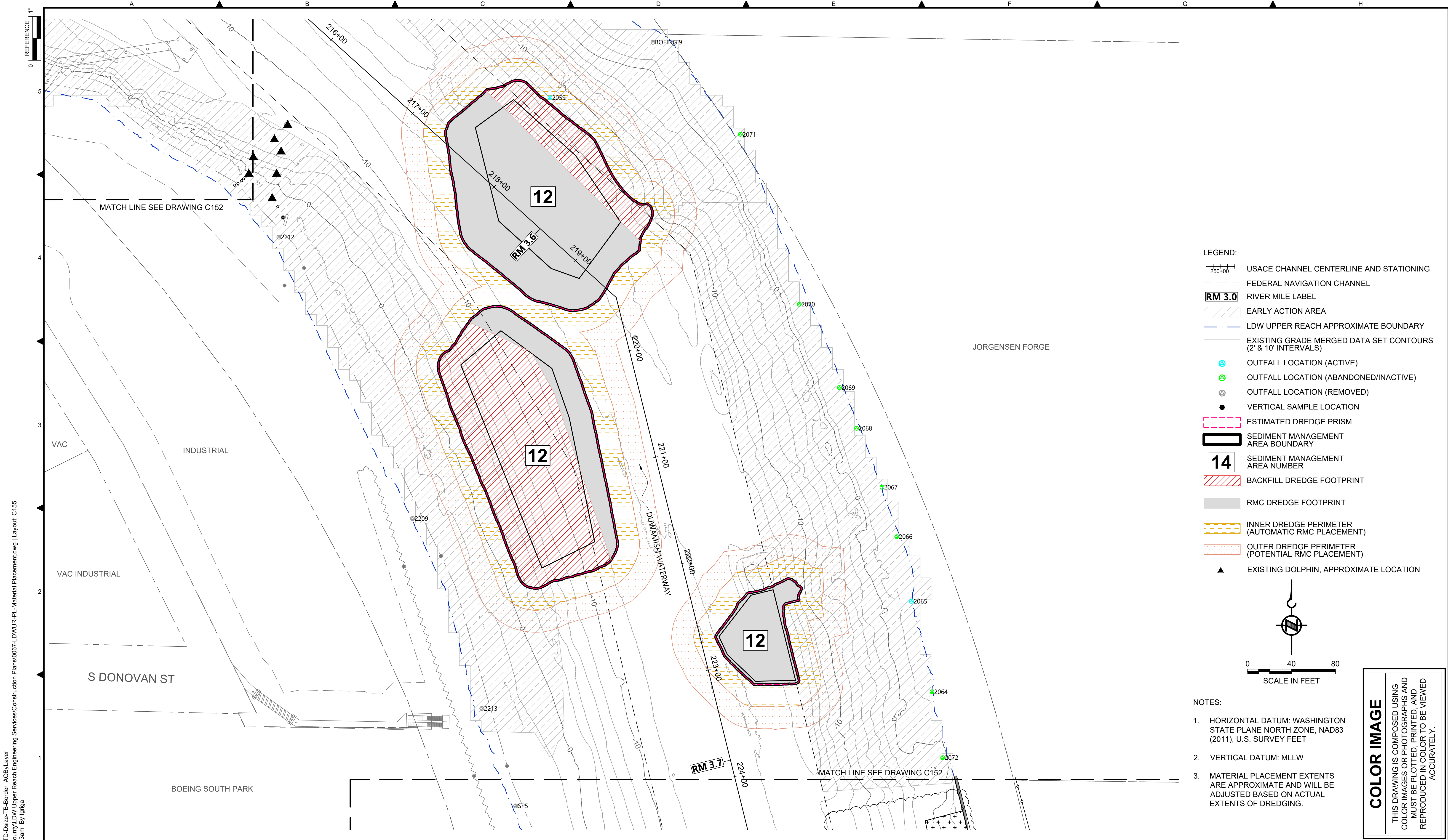
DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

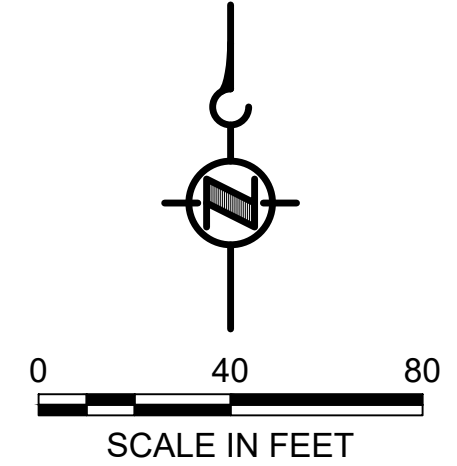
**MATERIAL PLACEMENT PLAN**  
 (RM 3.49 TO 3.56)

DATE: FEBRUARY 2023
DRAWING NO: <b>C154</b>
SHT NO / TOTAL 32 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - ESTIMATED DREDGE PRISM
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - 14** SEDIMENT MANAGEMENT AREA NUMBER
  - BACKFILL DREDGE FOOTPRINT
  - RMC DREDGE FOOTPRINT
  - INNER DREDGE PERIMETER (AUTOMATIC RMC PLACEMENT)
  - OUTER DREDGE PERIMETER (POTENTIAL RMC PLACEMENT)
  - ▲ EXISTING DOLPHIN, APPROXIMATE LOCATION



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. MATERIAL PLACEMENT EXTENTS ARE APPROXIMATE AND WILL BE ADJUSTED BASED ON ACTUAL EXTENTS OF DREDGING.

**COLOR IMAGE**  
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PLOTTED: Feb 20, 2023-12:57:43am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

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**INTERMEDIATE ISSUE DRAWING**  
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FEBRUARY 2023

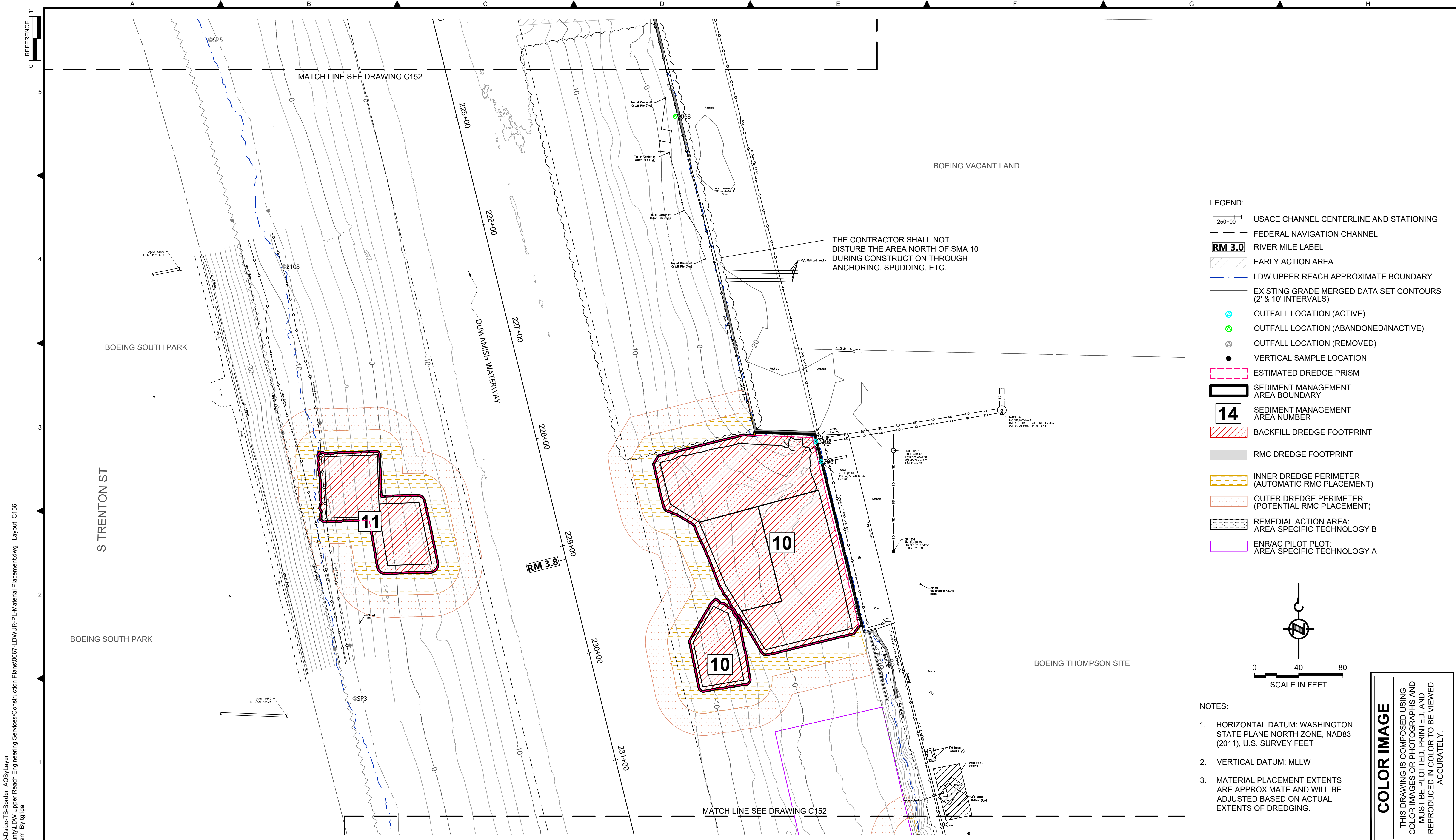
DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

**MATERIAL PLACEMENT PLAN**  
**(RM 3.54 TO 3.71)**

DATE: FEBRUARY 2023
DRAWING NO: <b>C155</b>
SHT NO / TOTAL 33 / 73
REV NO: <b>0</b>





BORDER FILE EDITION: x:\KOVTD\size-TB-Border\_AQB\layer  
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 PLOTTED: Feb 20, 2023 - 12:58:24am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

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**ANCHOR QEA**

**INTERMEDIATE ISSUE DRAWING**  
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**60% REVIEW**

FEBRUARY 2023

MATCH LINE SEE DRAWING C152

DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

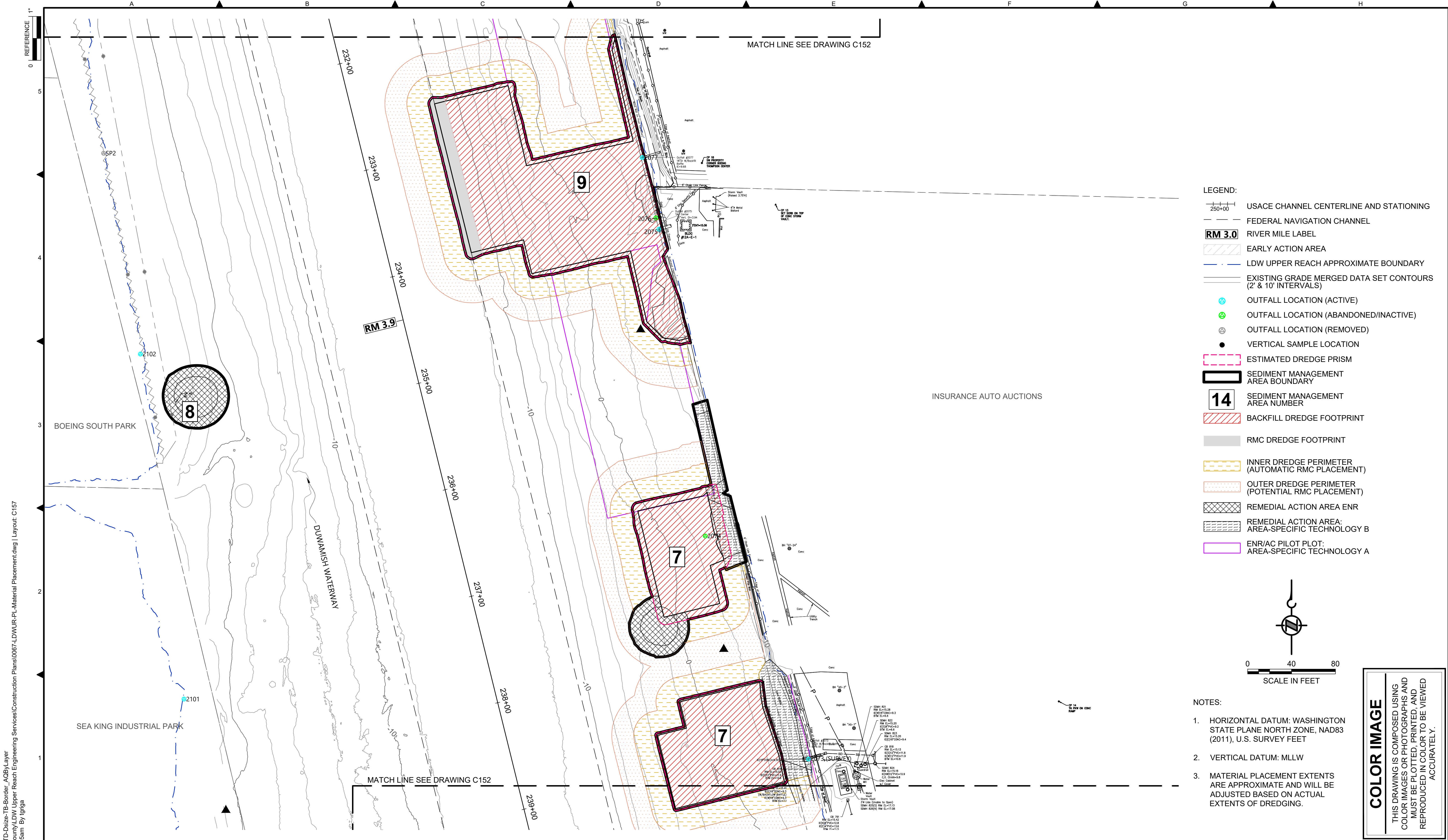


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

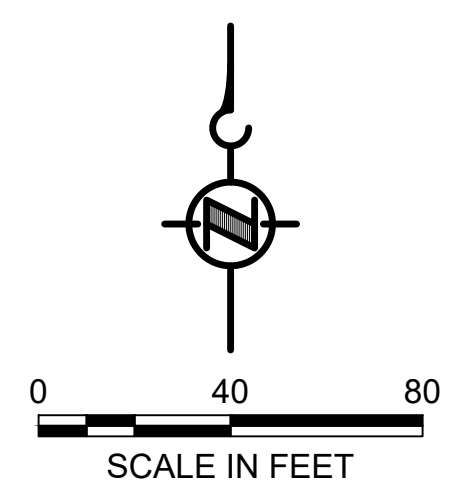
**MATERIAL PLACEMENT PLAN**  
 (RM 3.73 TO 3.84)

DATE: FEBRUARY 2023
DRAWING NO: <b>C156</b>
SHT NO / TOTAL 34 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - ESTIMATED DREDGE PRISM
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - SEDIMENT MANAGEMENT AREA NUMBER
  - BACKFILL DREDGE FOOTPRINT
  - RMC DREDGE FOOTPRINT
  - INNER DREDGE PERIMETER (AUTOMATIC RMC PLACEMENT)
  - OUTER DREDGE PERIMETER (POTENTIAL RMC PLACEMENT)
  - REMEDIAL ACTION AREA ENR
  - REMEDIAL ACTION AREA: AREA-SPECIFIC TECHNOLOGY B
  - ENR/AC PILOT PLOT: AREA-SPECIFIC TECHNOLOGY A



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. MATERIAL PLACEMENT EXTENTS ARE APPROXIMATE AND WILL BE ADJUSTED BASED ON ACTUAL EXTENTS OF DREDGING.

**COLOR IMAGE**  
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 PLOTTED: Feb 20, 2023 - 12:59:05am By Igriga

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**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

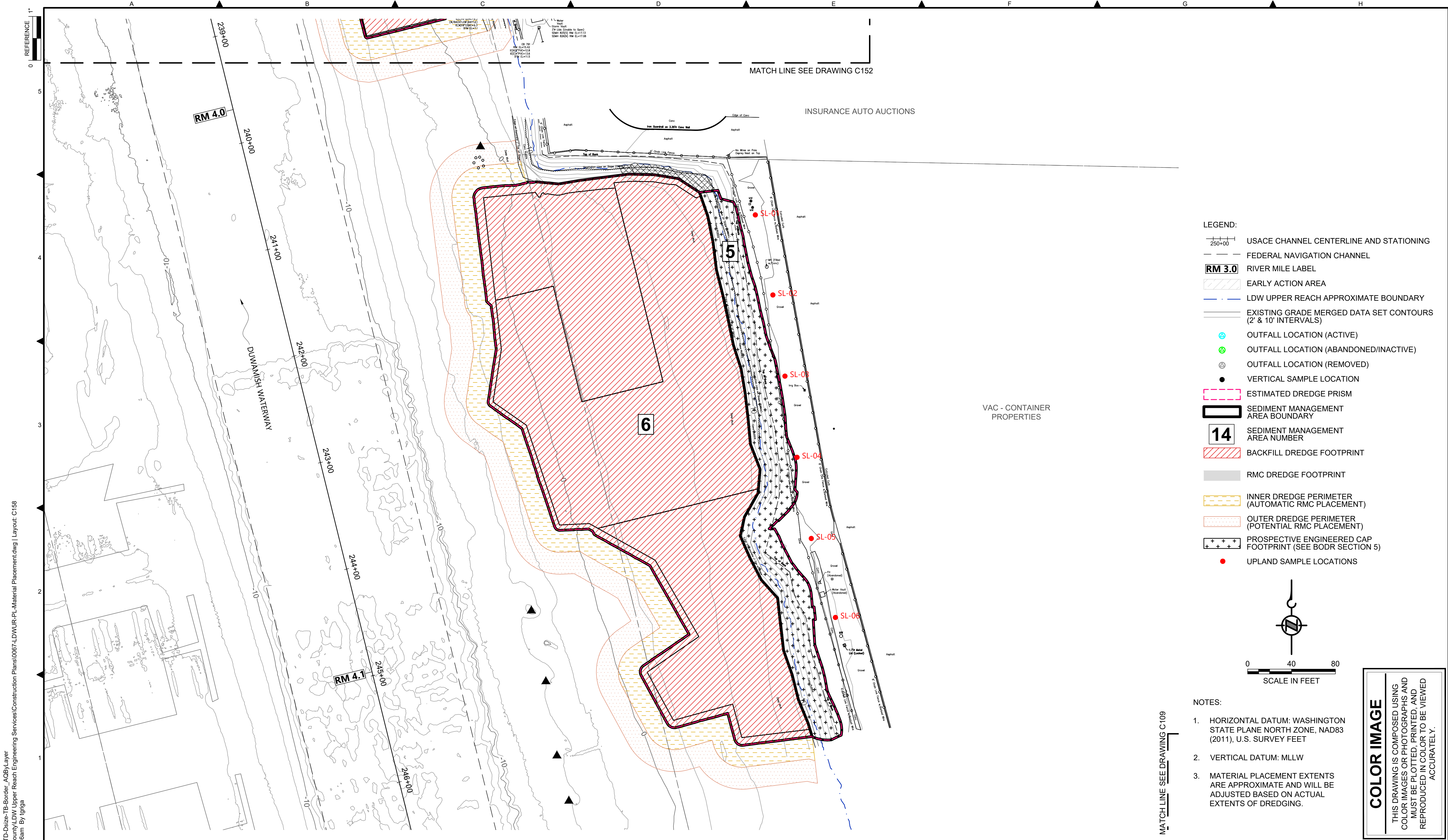


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**MATERIAL PLACEMENT PLAN**  
 (RM 3.85 TO 3.99)

DATE: FEBRUARY 2023
DRAWING NO: <b>C157</b>
SHT NO / TOTAL 35 / 73
REV NO: <b>0</b>



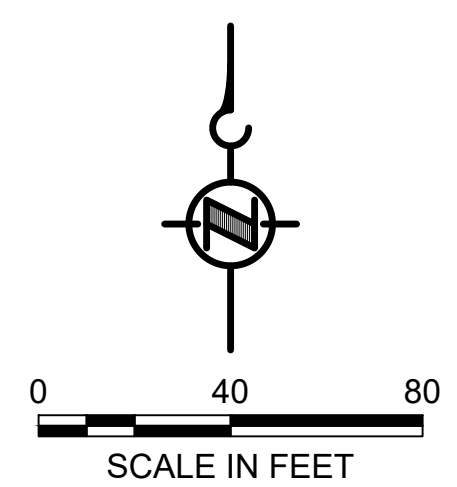


MATCH LINE SEE DRAWING C152

INSURANCE AUTO AUCTIONS

VAC - CONTAINER PROPERTIES

- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - ESTIMATED DREDGE PRISM
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - SEDIMENT MANAGEMENT AREA NUMBER
  - BACKFILL DREDGE FOOTPRINT
  - RMC DREDGE FOOTPRINT
  - INNER DREDGE PERIMETER (AUTOMATIC RMC PLACEMENT)
  - OUTER DREDGE PERIMETER (POTENTIAL RMC PLACEMENT)
  - PROSPECTIVE ENGINEERED CAP FOOTPRINT (SEE BODR SECTION 5)
  - UPLAND SAMPLE LOCATIONS



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. MATERIAL PLACEMENT EXTENTS ARE APPROXIMATE AND WILL BE ADJUSTED BASED ON ACTUAL EXTENTS OF DREDGING.

**COLOR IMAGE**  
 THIS DRAWING IS COMPOSED USING COLOR IMAGES OR PHOTOGRAPHS AND MUST BE PLOTTED, PRINTED, AND REPRODUCED IN COLOR TO BE VIEWED ACCURATELY.

BORDER FILE EDITION: x:\KOVTD\Size-TB-Border\_ACBY\Layer  
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 PLOTTED: Feb 20, 2023 - 12:59:46am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

Port of Seattle / City of Seattle / King County / The Boeing Company

**INTERMEDIATE ISSUE DRAWING**  
 INFORMATION ONLY  
**60% REVIEW**  
 FEBRUARY 2023

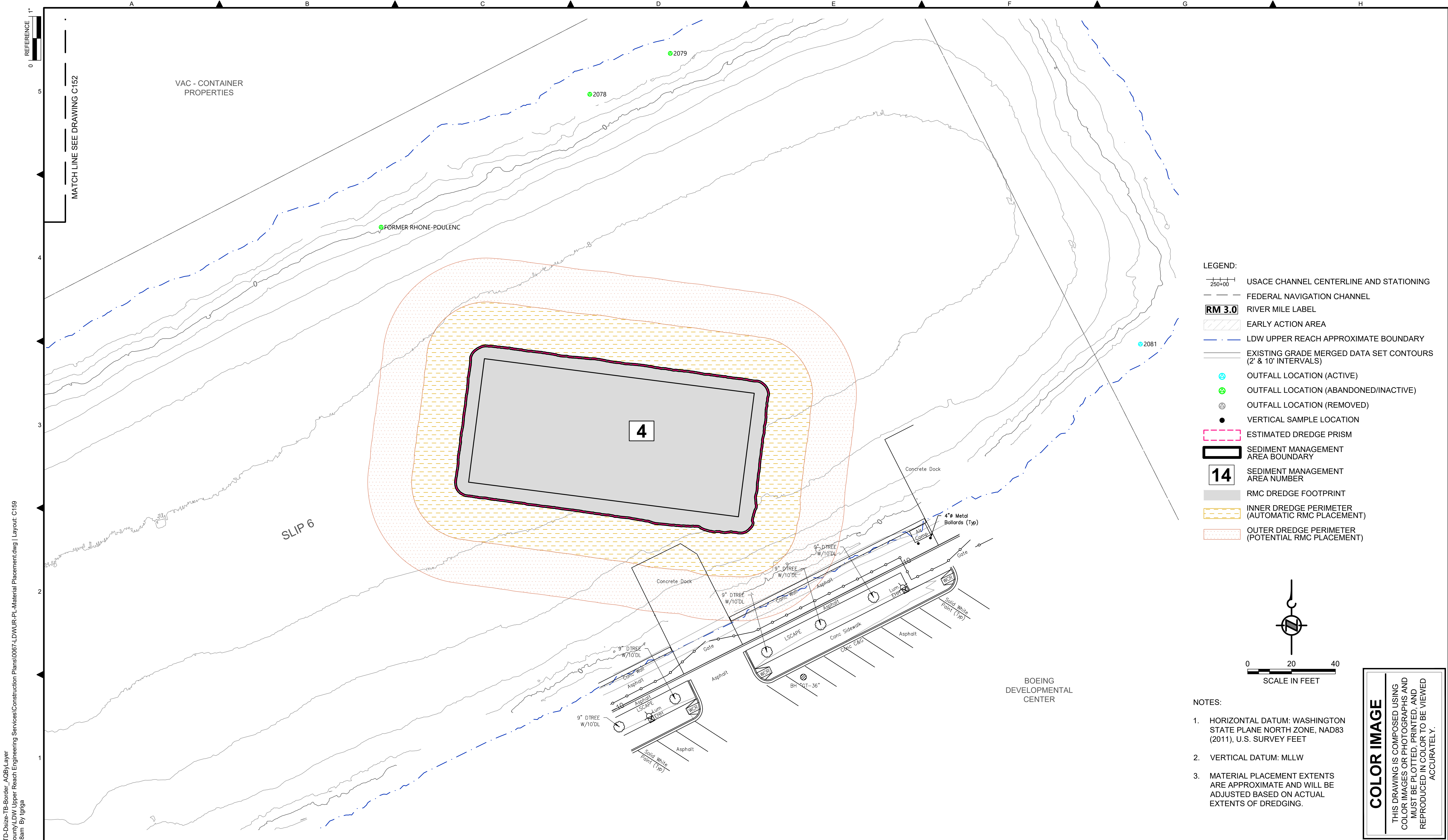
DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**MATERIAL PLACEMENT PLAN**  
 (RM 3.98 TO 4.13)

DATE: FEBRUARY 2023
DRAWING NO: <b>C158</b>
SHT NO / TOTAL 36 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - ESTIMATED DREDGE PRISM
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - 14** SEDIMENT MANAGEMENT AREA NUMBER
  - RMC DREDGE FOOTPRINT
  - INNER DREDGE PERIMETER (AUTOMATIC RMC PLACEMENT)
  - OUTER DREDGE PERIMETER (POTENTIAL RMC PLACEMENT)

- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. MATERIAL PLACEMENT EXTENTS ARE APPROXIMATE AND WILL BE ADJUSTED BASED ON ACTUAL EXTENTS OF DREDGING.

**COLOR IMAGE**  
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BORDER FILE EDITION: x:\KOV\TD-Size-TB-Border\_AQB\Layer\_Vgial\CAD\Projects\0067-King County\LDW Upper Reach Engineering Services\Construction Plans\0067-LDWUR-PL-Material Placement.dwg | Layout: C159  
 PLOTTED: Feb 20, 2023 01:00:28am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
 Port of Seattle / City of Seattle / King County / The Boeing Company

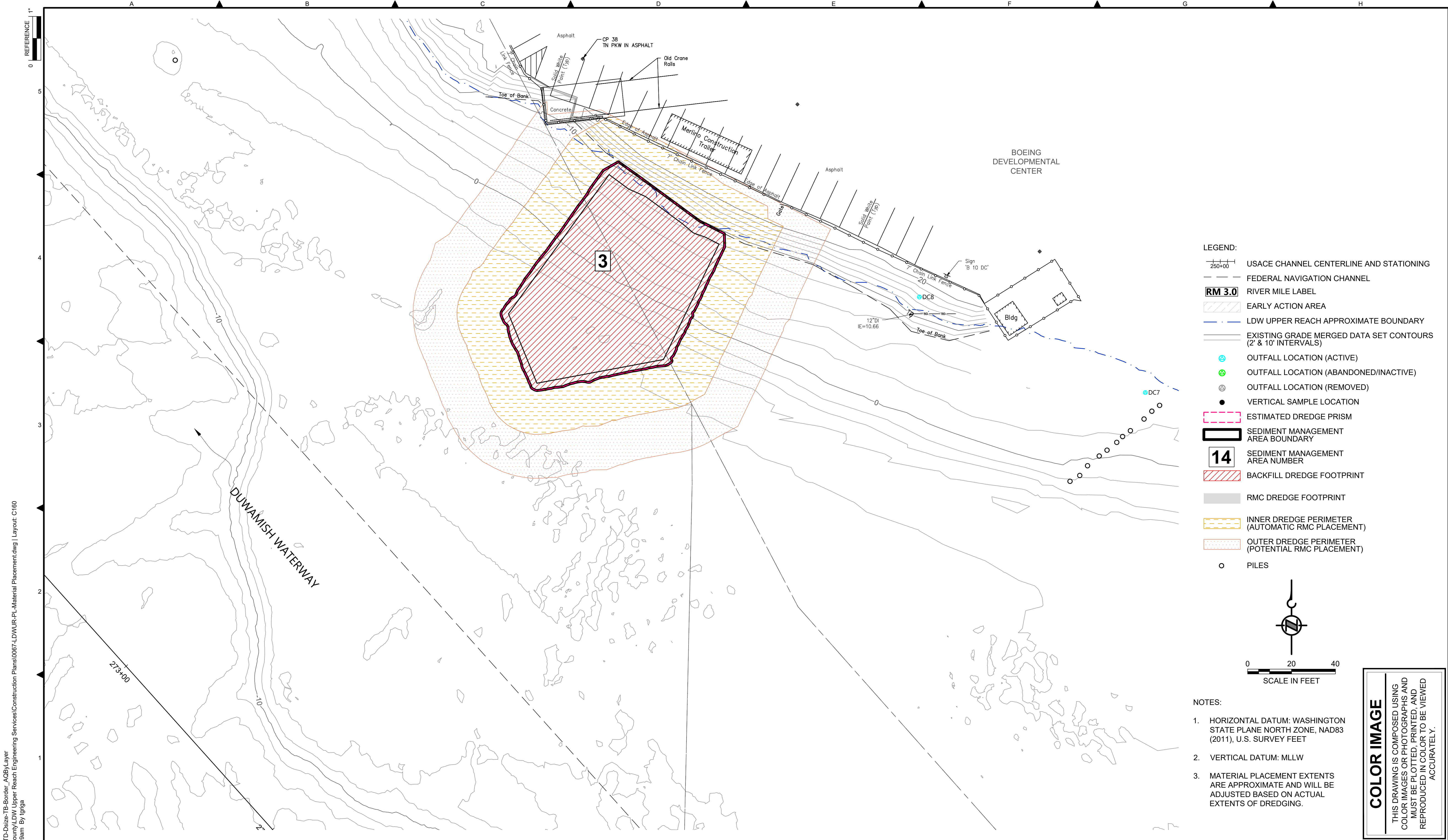
**INTERMEDIATE ISSUE DRAWING**  
 INFORMATION ONLY  
**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

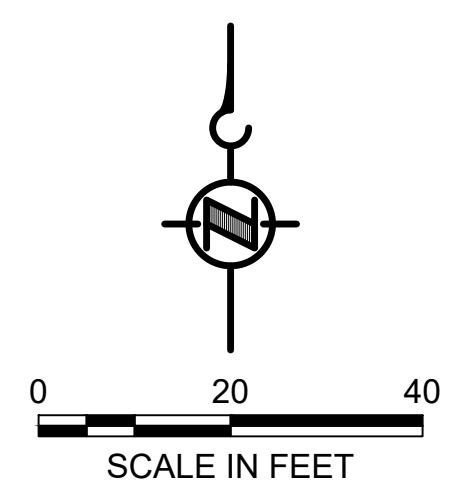
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**MATERIAL PLACEMENT PLAN**  
**(RM 4.14 TO 4.23)**

DATE: FEBRUARY 2023
DRAWING NO: <b>C159</b>
SHT NO / TOTAL 37 / 73
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - ESTIMATED DREDGE PRISM
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - 14** SEDIMENT MANAGEMENT AREA NUMBER
  - BACKFILL DREDGE FOOTPRINT
  - RMC DREDGE FOOTPRINT
  - INNER DREDGE PERIMETER (AUTOMATIC RMC PLACEMENT)
  - OUTER DREDGE PERIMETER (POTENTIAL RMC PLACEMENT)
  - PILES

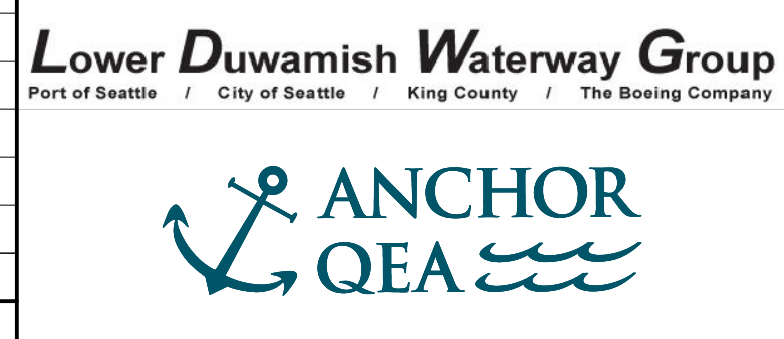


- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. MATERIAL PLACEMENT EXTENTS ARE APPROXIMATE AND WILL BE ADJUSTED BASED ON ACTUAL EXTENTS OF DREDGING.

**COLOR IMAGE**  
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 PLOTTED: Feb 20, 2023 01:01:09am By tgriga

NO	REVISION DESCRIPTION	BY	APVD	DATE



**INTERMEDIATE ISSUE DRAWING**  
 INFORMATION ONLY  
**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
 PROJECT ENGINEER: J. LAPLANTE  
 DESIGN APPROVAL: T. WANG  
 PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
 SCALE: AS NOTED  
 PROJECT FILE NO: E00559E18  
 CONTRACT NO: C0XXXXCX

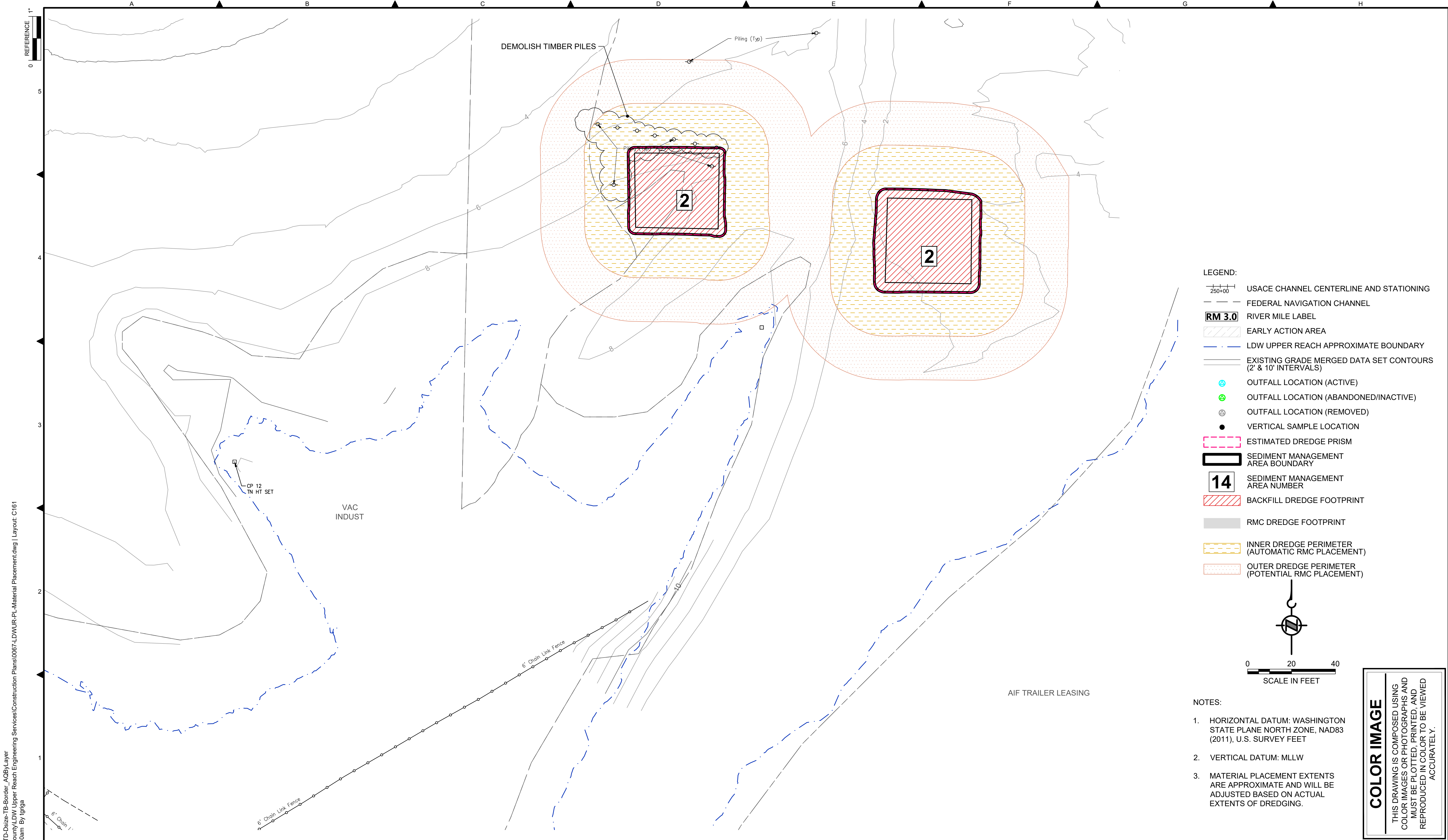


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

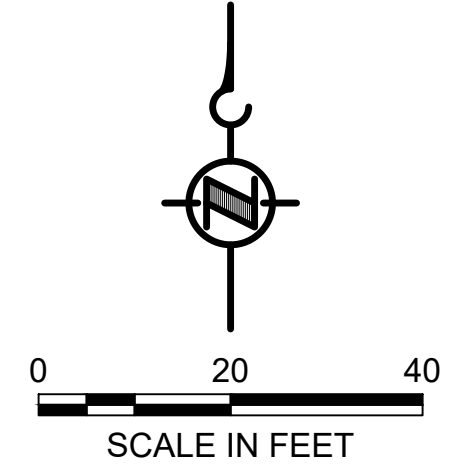
**MATERIAL PLACEMENT PLAN**  
 (RM 4.57 TO 4.66)

DATE: FEBRUARY 2023  
 DRAWING NO: **C160**  
 SHT NO / TOTAL: 38 / 73  
 REV NO: **0**





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - ESTIMATED DREDGE PRISM
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - 14** SEDIMENT MANAGEMENT AREA NUMBER
  - BACKFILL DREDGE FOOTPRINT
  - RMC DREDGE FOOTPRINT
  - INNER DREDGE PERIMETER (AUTOMATIC RMC PLACEMENT)
  - OUTER DREDGE PERIMETER (POTENTIAL RMC PLACEMENT)

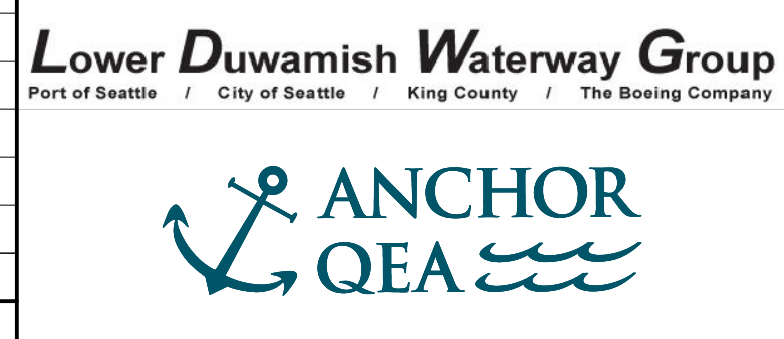


- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. MATERIAL PLACEMENT EXTENTS ARE APPROXIMATE AND WILL BE ADJUSTED BASED ON ACTUAL EXTENTS OF DREDGING.

**COLOR IMAGE**  
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 PLOTTED: Feb 20, 2023 01:01:50am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE



**INTERMEDIATE ISSUE DRAWING**  
 INFORMATION ONLY  
**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
 PROJECT ENGINEER: J. LAPLANTE  
 DESIGN APPROVAL: T. WANG  
 PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
 SCALE: AS NOTED  
 PROJECT FILE NO: E00559E18  
 CONTRACT NO: C0XXXXCX

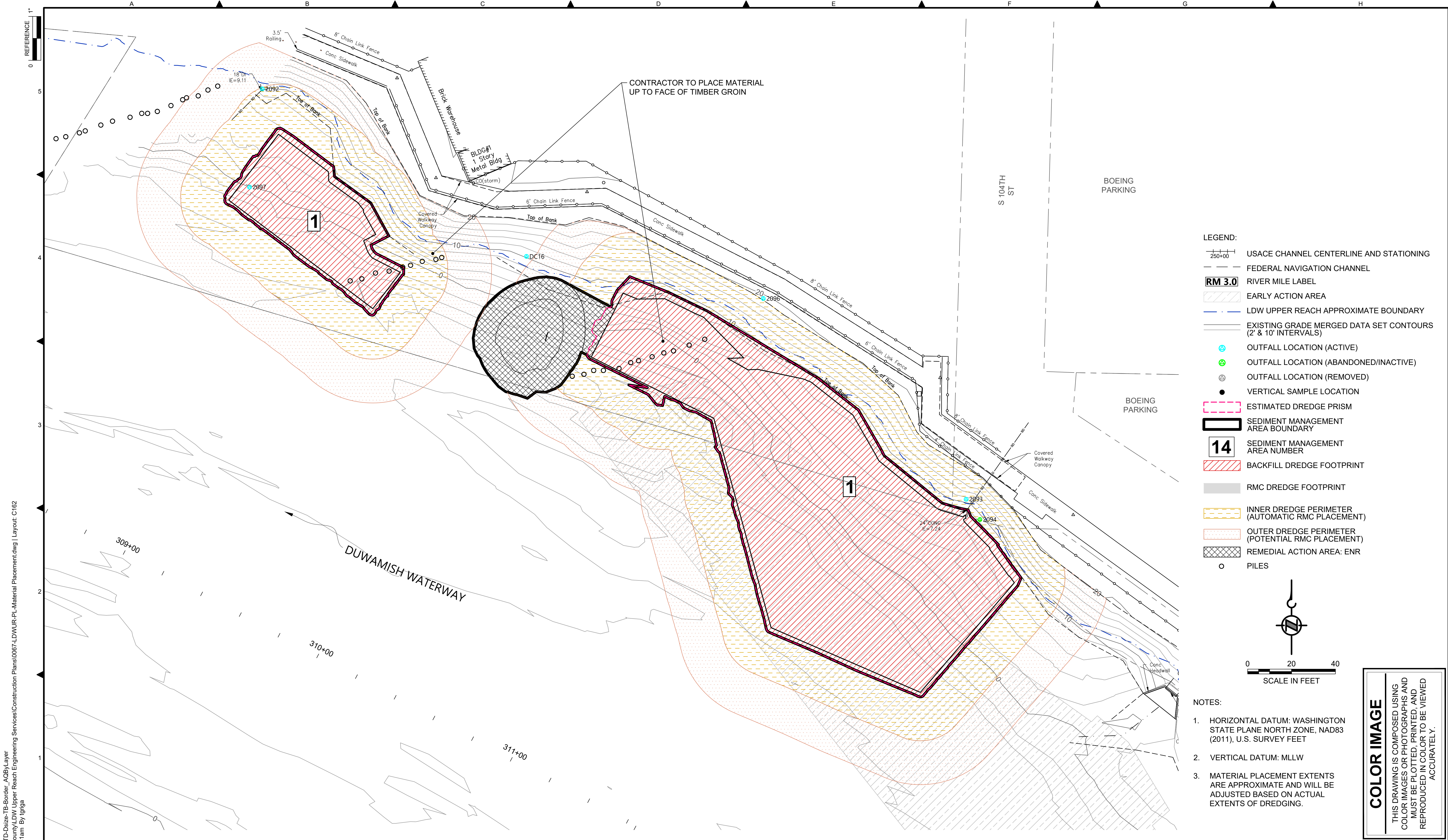


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

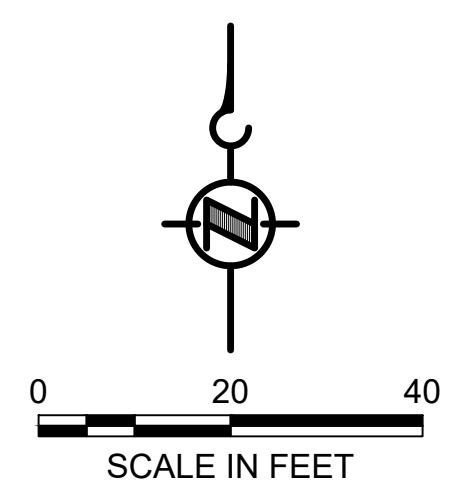
**MATERIAL PLACEMENT PLAN**  
 (RM 4.64 TO 4.76)

DATE: FEBRUARY 2023  
 DRAWING NO: **C161**  
 SHT NO / TOTAL: 39 / 73  
 REV NO: **0**





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
  - OUTFALL LOCATION (ACTIVE)
  - OUTFALL LOCATION (ABANDONED/INACTIVE)
  - OUTFALL LOCATION (REMOVED)
  - VERTICAL SAMPLE LOCATION
  - ESTIMATED DREDGE PRISM
  - SEDIMENT MANAGEMENT AREA BOUNDARY
  - 14** SEDIMENT MANAGEMENT AREA NUMBER
  - BACKFILL DREDGE FOOTPRINT
  - RMC DREDGE FOOTPRINT
  - INNER DREDGE PERIMETER (AUTOMATIC RMC PLACEMENT)
  - OUTER DREDGE PERIMETER (POTENTIAL RMC PLACEMENT)
  - REMEDIAL ACTION AREA: ENR
  - PILES



- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW
  3. MATERIAL PLACEMENT EXTENTS ARE APPROXIMATE AND WILL BE ADJUSTED BASED ON ACTUAL EXTENTS OF DREDGING.

**COLOR IMAGE**

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 PLOTTED: Feb 20, 2023 01:02:31 am By Igriga

NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
 Port of Seattle / City of Seattle / King County / The Boeing Company

**INTERMEDIATE ISSUE DRAWING**  
 INFORMATION ONLY  
**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX

DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**MATERIAL PLACEMENT PLAN**  
**(RM 4.84 TO 4.95)**

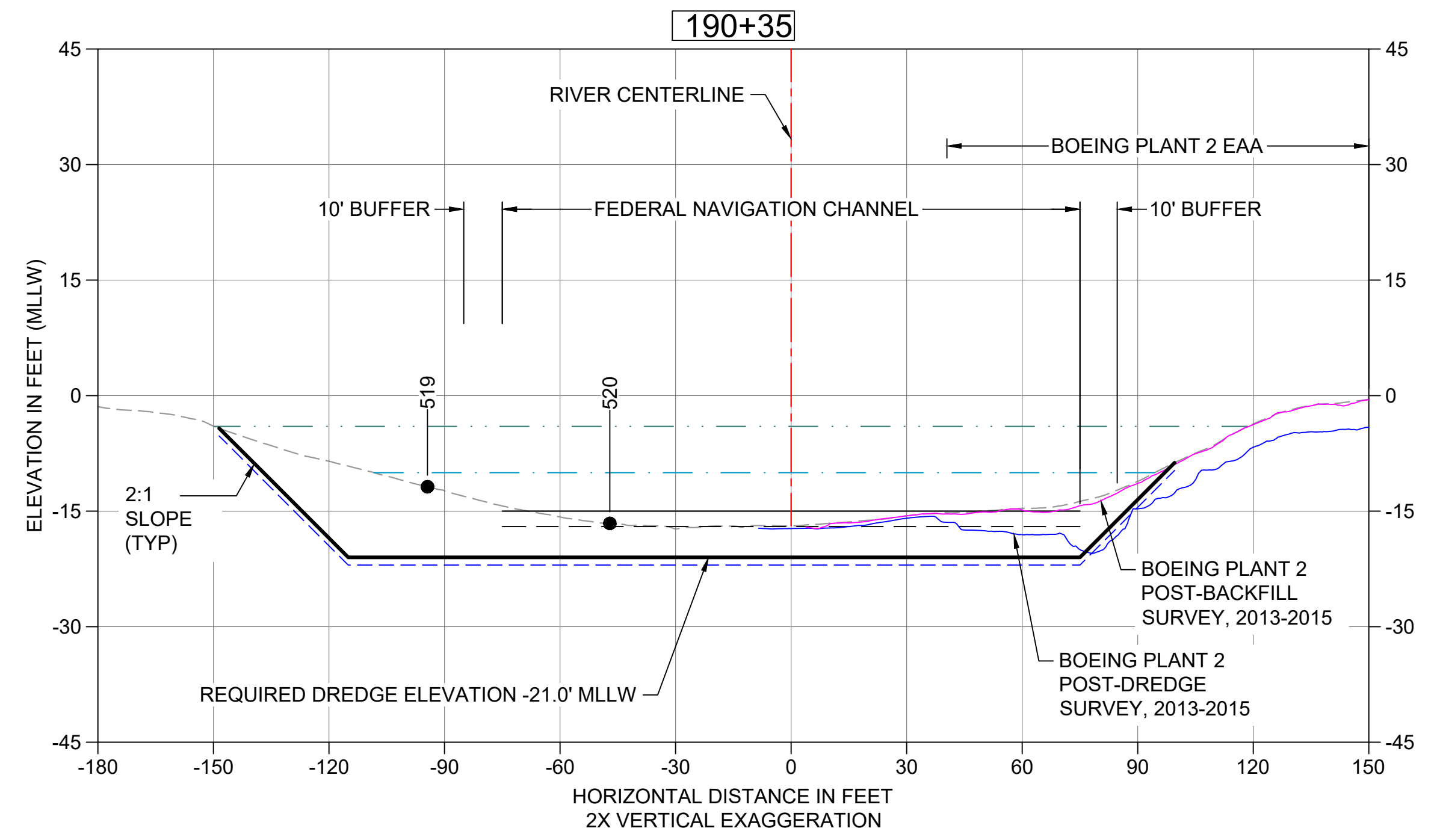
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DRAWING NO: <b>C162</b>
SHT NO / TOTAL 40 / 73
REV NO: <b>0</b>



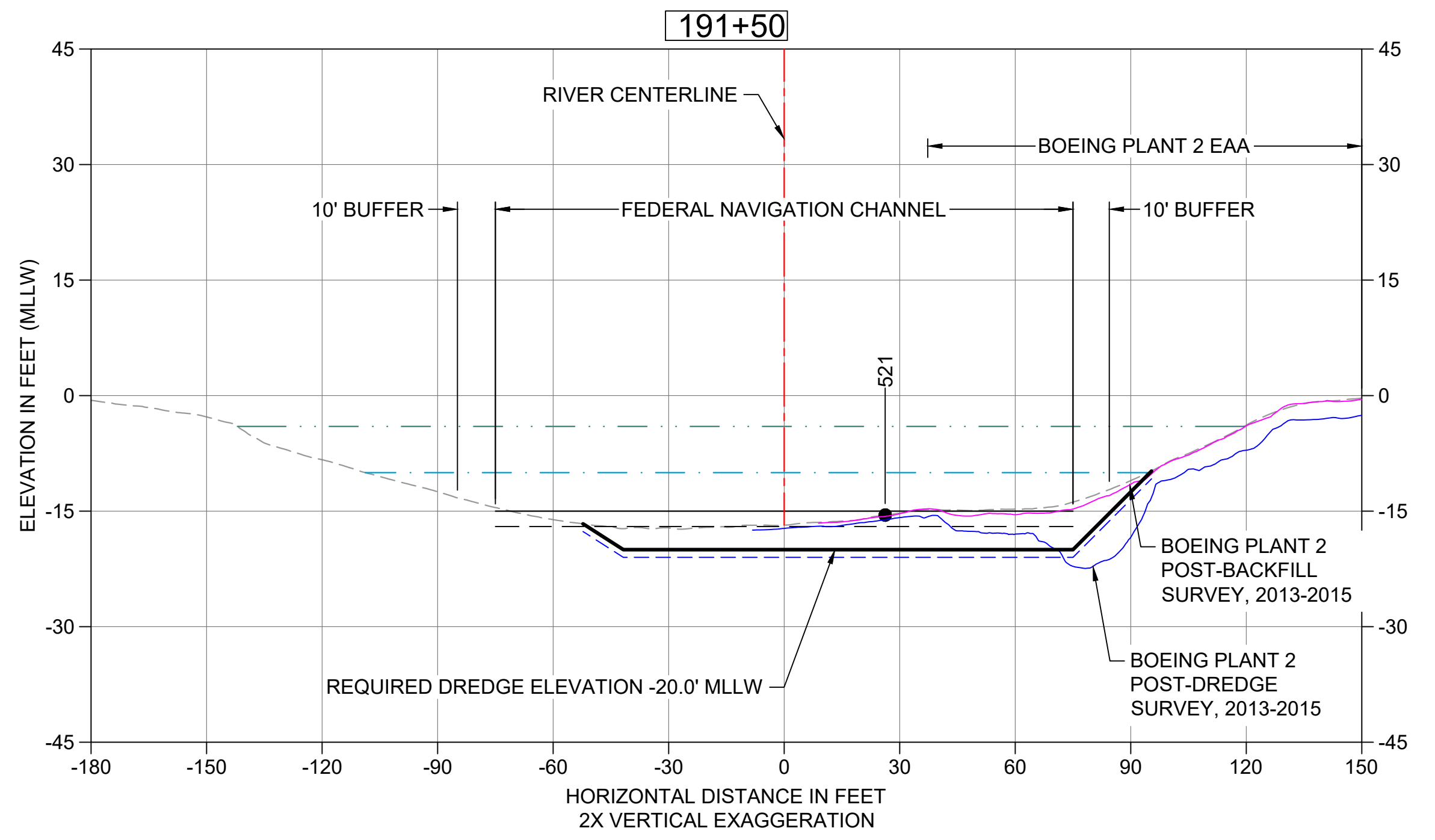




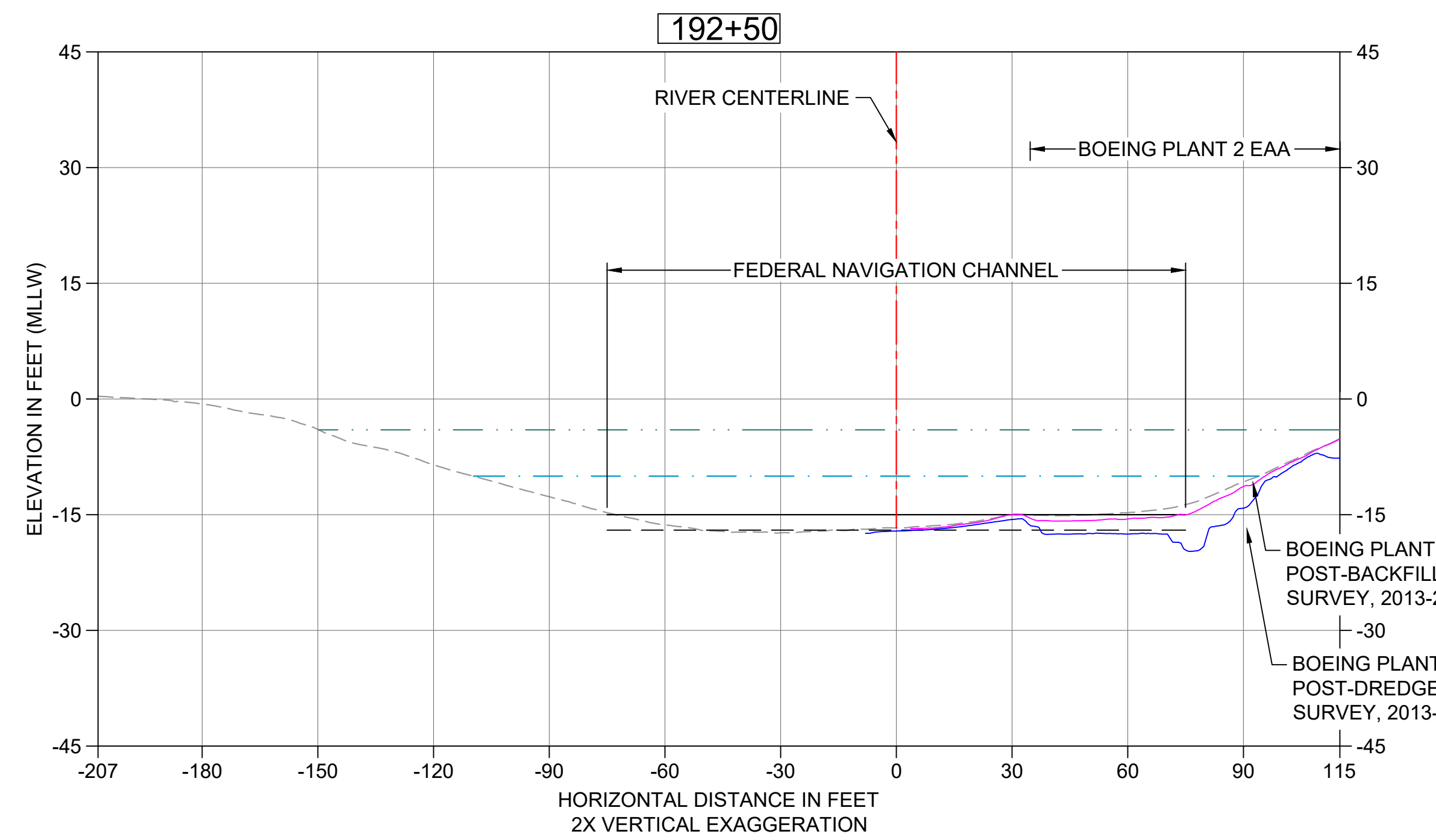
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 PLOTTED: Feb 20, 2023 01:04:14am By tgriga



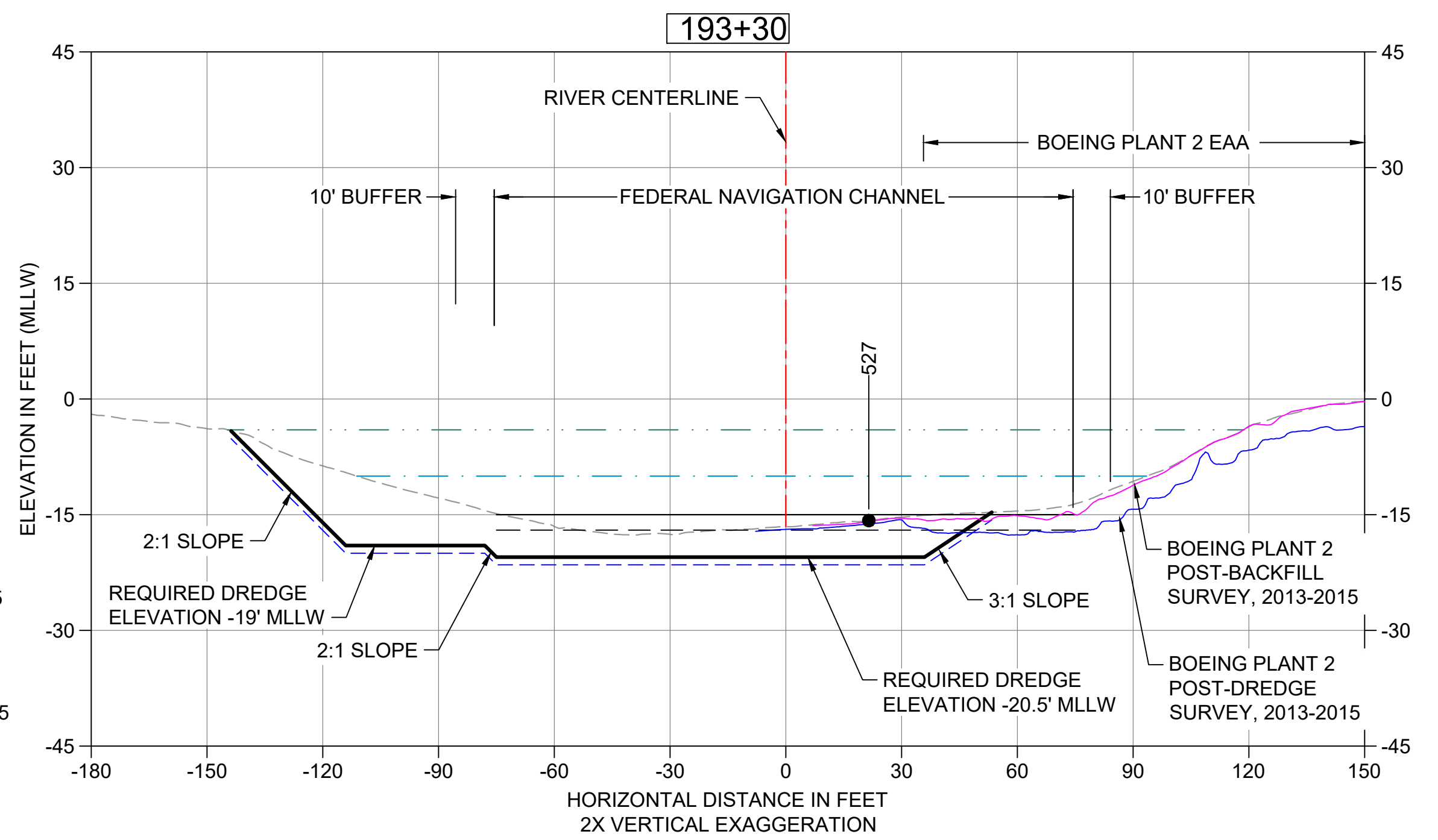
**5 DREDGE SECTION STA 190+35**  
 C101 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'



**6 DREDGE SECTION STA 191+50**  
 C101 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'

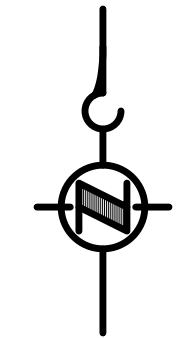


**7 DREDGE SECTION STA 192+50**  
 C101 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'



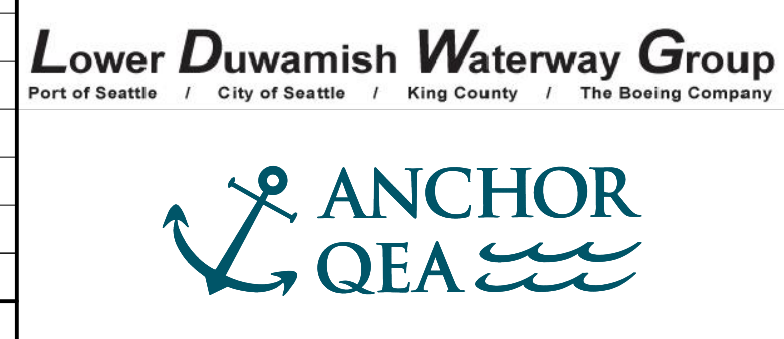
**7 DREDGE SECTION STA 193+30**  
 C102 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'

- LEGEND:**
- EXISTING GRADE MERGED DATA
  - USACE AUTHORIZED CHANNEL ELEVATION (-15' MLLW)
  - - - USACE MAINTENANCE ELEVATION (-17' MLLW)
  - · - · - INTERTIDAL/SUBTIDAL TRANSITION (-4' MLLW)
  - · - · - LOWEST HABITAT AREA ELEVATION (-10' MLLW)
  - DREDGE DESIGN SURFACE
  - - - 1' ALLOWABLE OVERDREDGE
  - VERTICAL SAMPLE LOCATION
- NOTE:**  
 VERTICAL DATUM: MLLW



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NO	REVISION DESCRIPTION	BY	APVD	DATE



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 INFORMATION ONLY  
**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
 PROJECT ENGINEER: J. LAPLANTE  
 DESIGN APPROVAL: T. WANG  
 PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
 SCALE: AS NOTED  
 PROJECT FILE NO: E00559E18  
 CONTRACT NO: C0XXXXCX



DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**DREDGING CROSS SECTIONS**

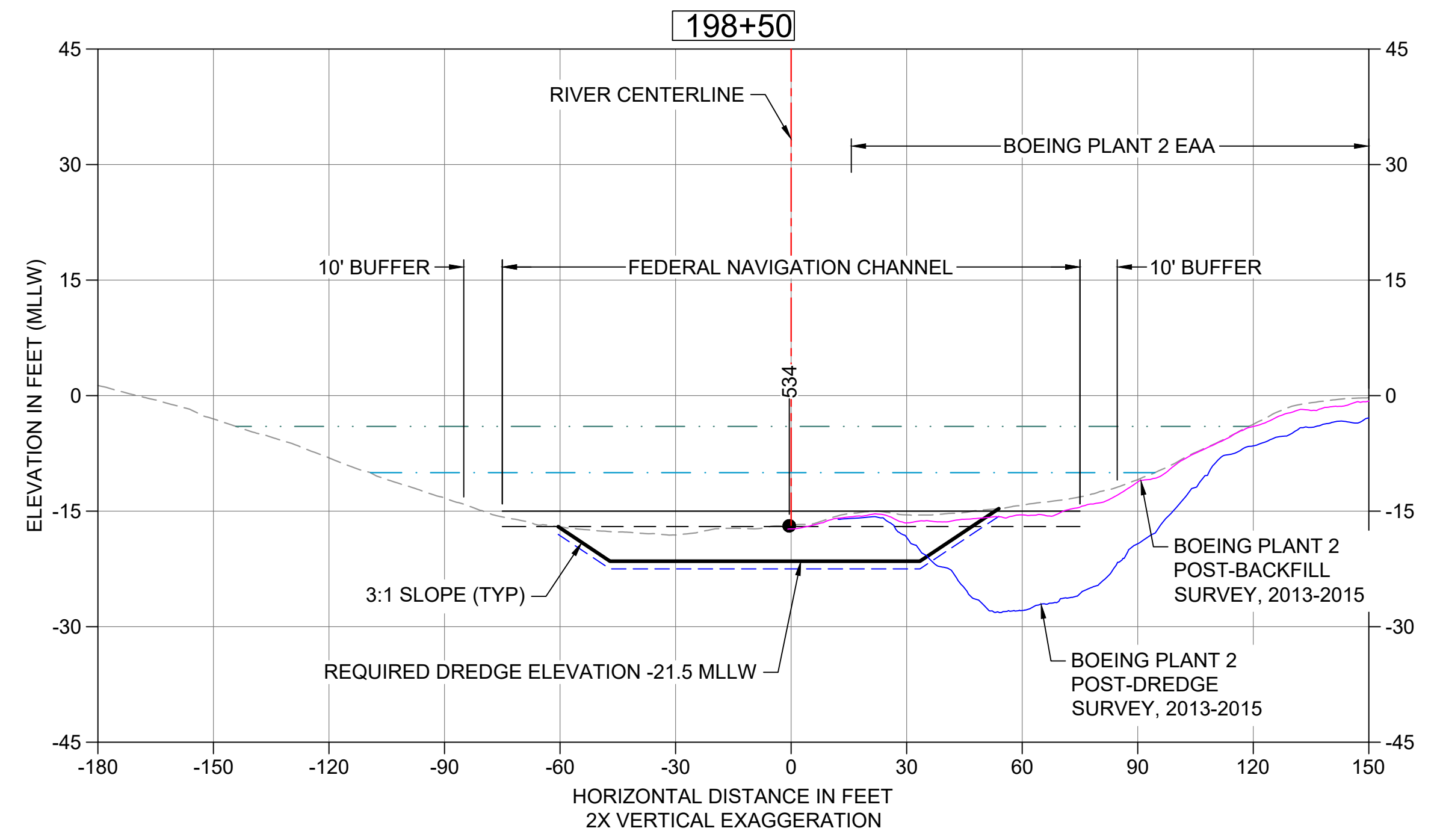
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 DRAWING NO: **C202**  
 SHT NO / TOTAL: 42 / 73  
 REV NO: **0**



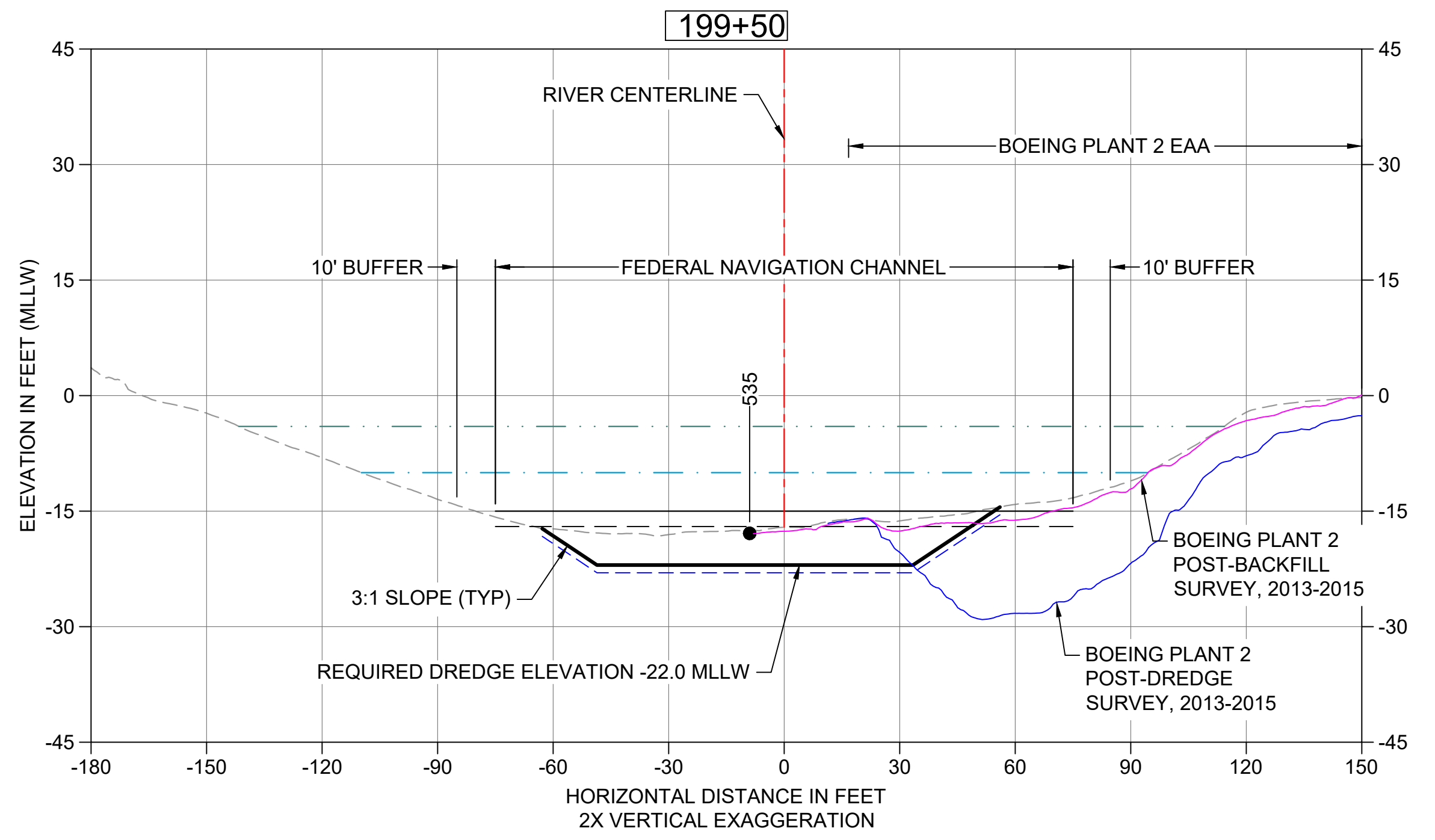




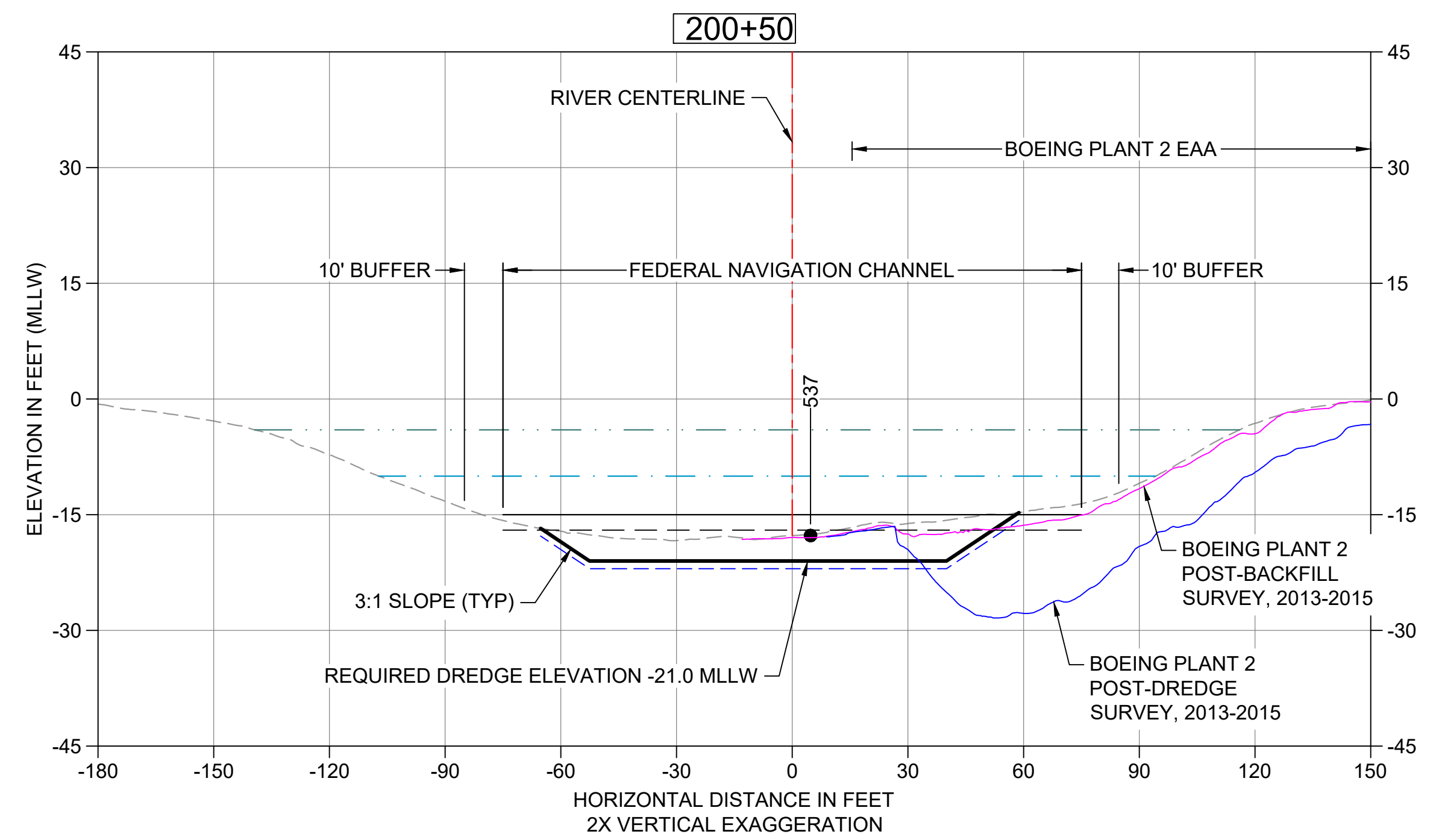
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 PLOTTED: Feb 20, 2023 01:05:09am By tgriga



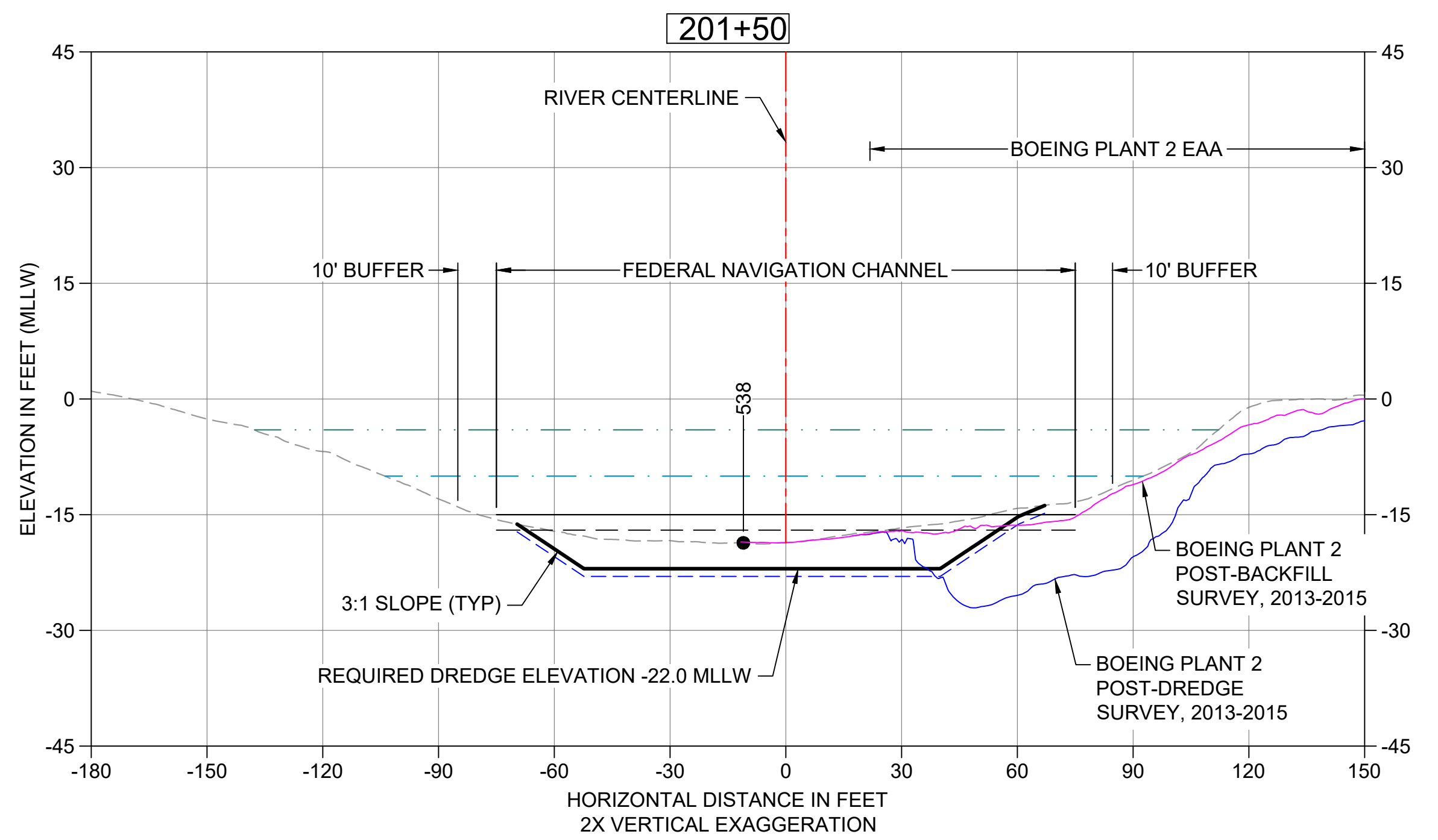
**12 DREDGE SECTION STA 198+50**  
 C102 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'



**13 DREDGE SECTION STA 199+50**  
 C102 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'

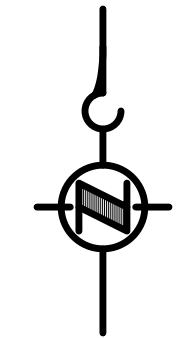


**14 DREDGE SECTION STA 200+50**  
 C103 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'



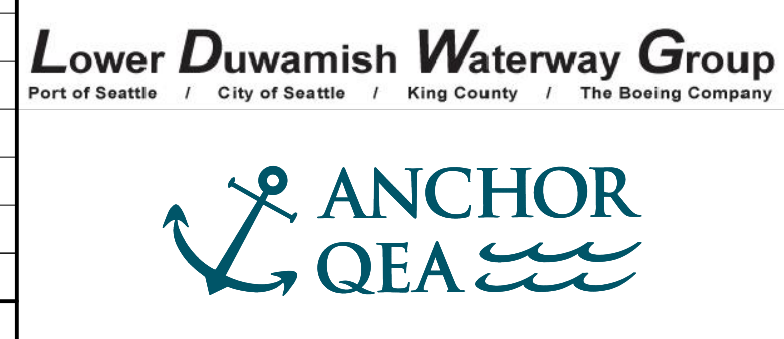
**15 DREDGE SECTION STA 201+50**  
 C103 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'

- LEGEND:**
- EXISTING GRADE MERGED DATA
  - USACE AUTHORIZED CHANNEL ELEVATION (-15' MLLW)
  - - - USACE MAINTENANCE ELEVATION (-17' MLLW)
  - · - · - INTERTIDAL/SUBTIDAL TRANSITION (-4' MLLW)
  - · - · - LOWEST HABITAT AREA ELEVATION (-10' MLLW)
  - DREDGE DESIGN SURFACE
  - · - · - 1' ALLOWABLE OVERDREDGE
  - VERTICAL SAMPLE LOCATION
- NOTE:**  
VERTICAL DATUM: MLLW



**COLOR IMAGE**  
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 COLOR IMAGES OR PHOTOGRAPHS AND  
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 ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE



**INTERMEDIATE ISSUE DRAWING**  
 INFORMATION ONLY  
**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
 PROJECT ENGINEER: J. LAPLANTE  
 DESIGN APPROVAL: T. WANG  
 PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
 SCALE: AS NOTED  
 PROJECT FILE NO: E00559E18  
 CONTRACT NO: C0XXXXCX



DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**DREDGING CROSS SECTIONS**

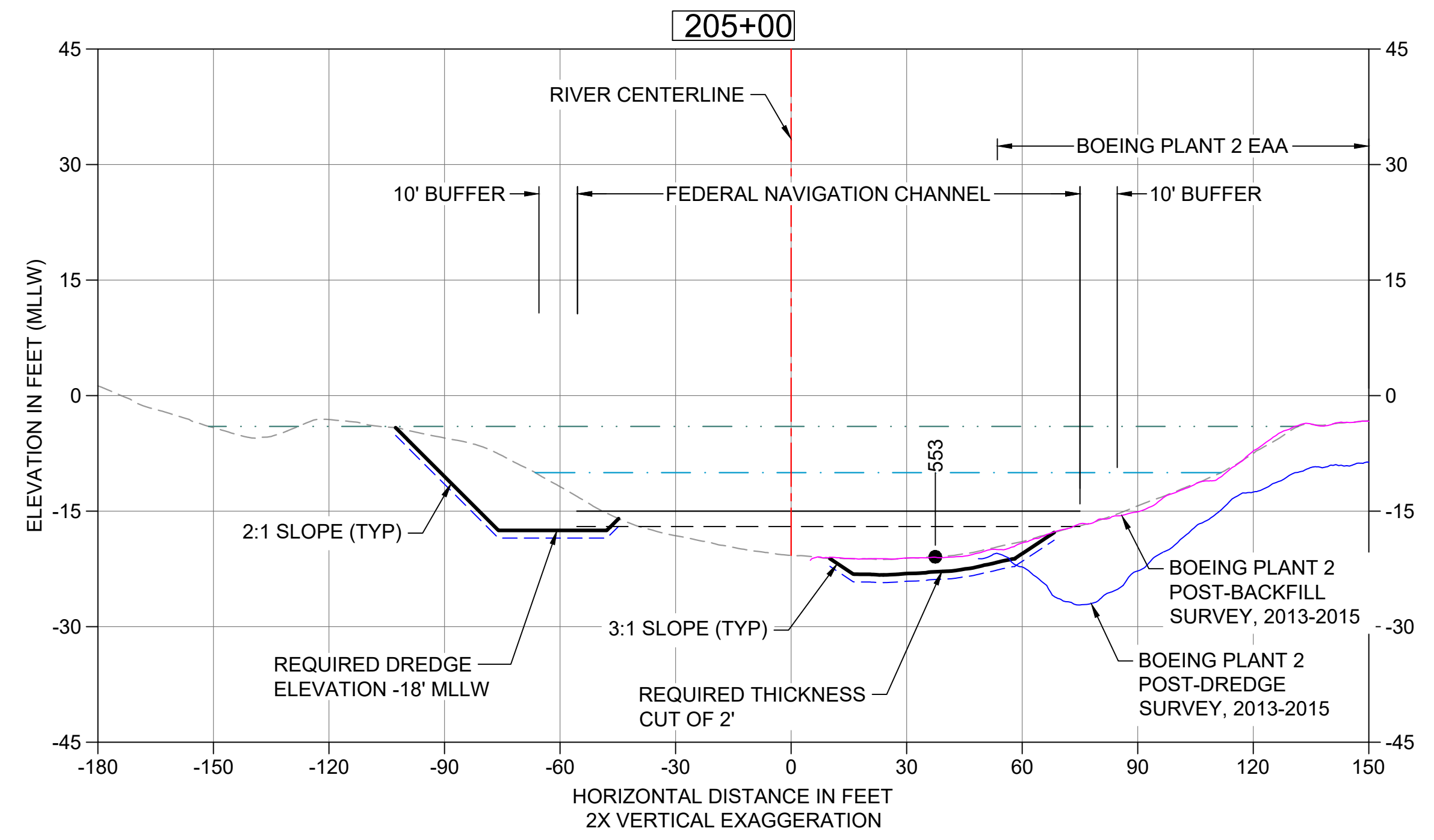
DATE: FEBRUARY 2023  
 DRAWING NO: **C204**  
 SHT NO / TOTAL: 44 / 73  
 REV NO: **0**



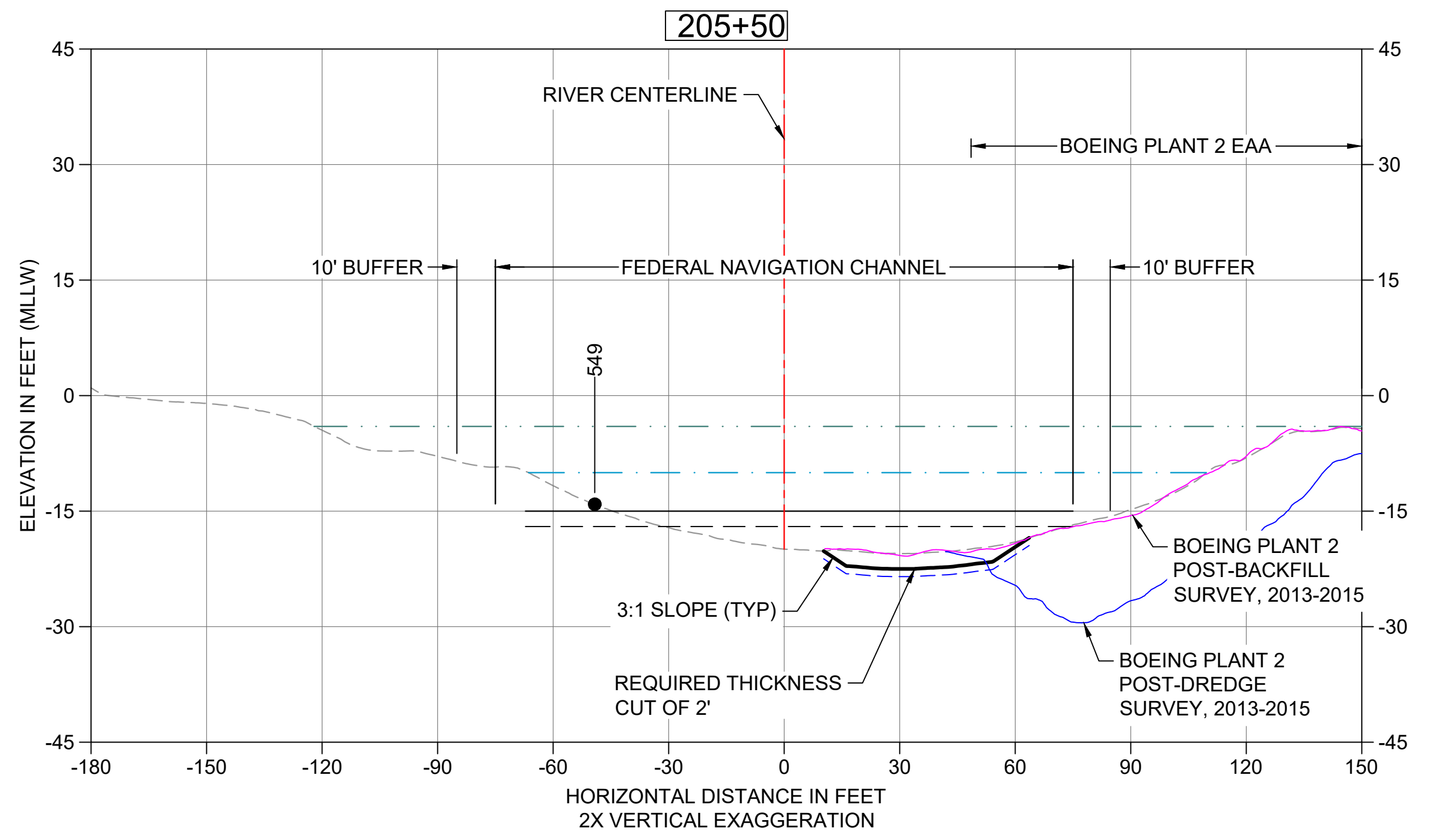




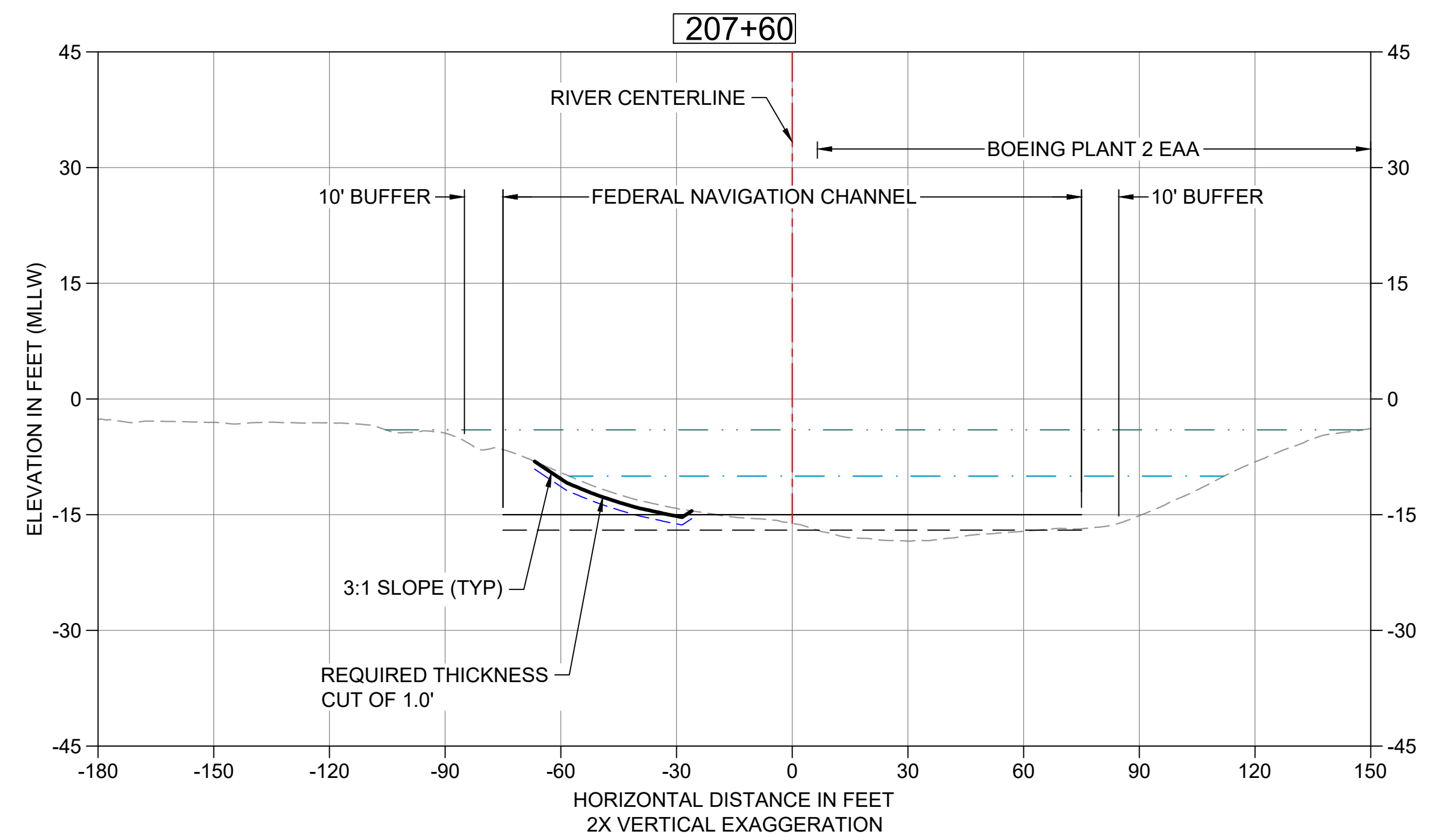
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 PLOTTED: Feb 20, 2023 01:06:03am By tgriga



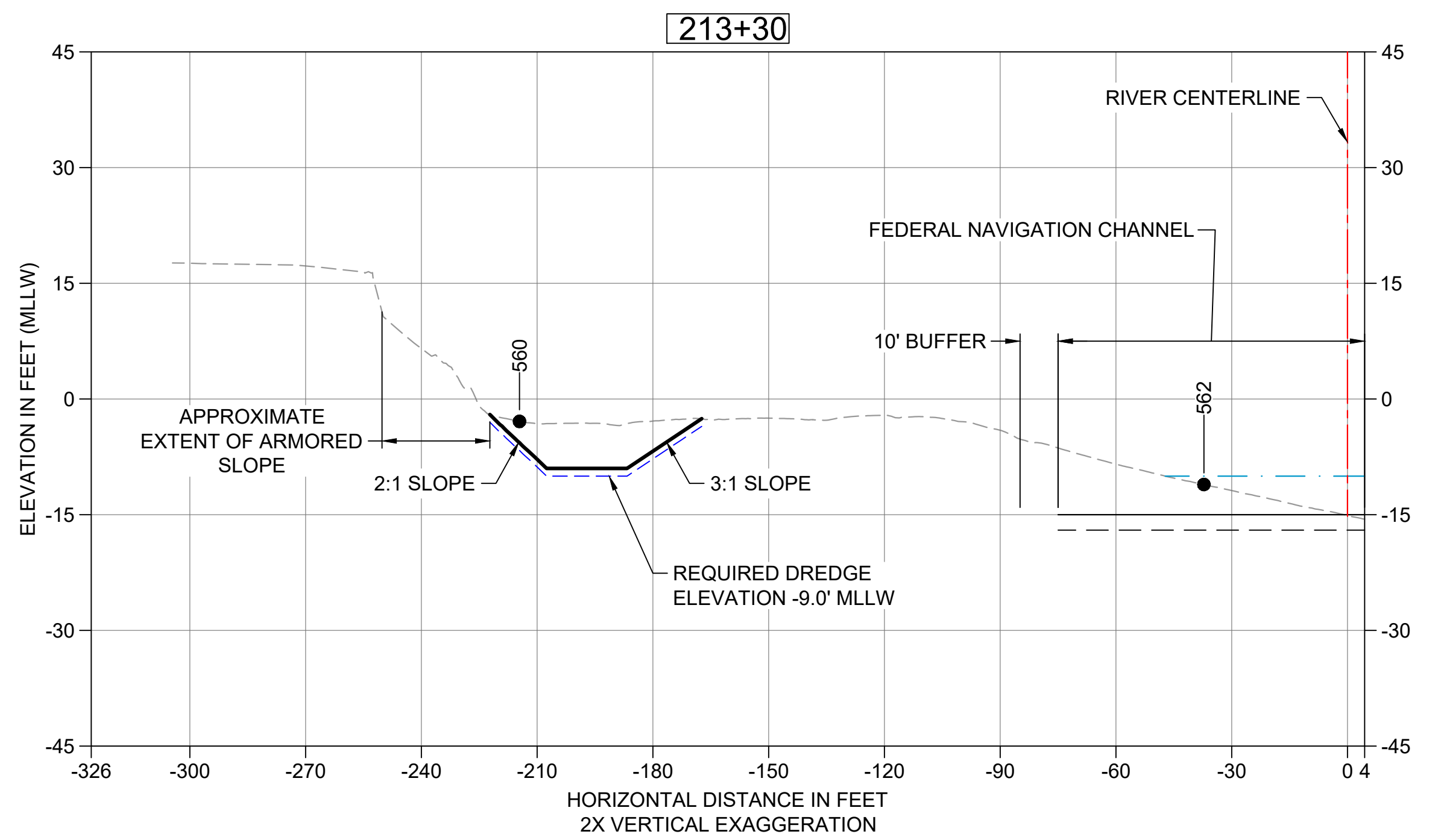
**20 DREDGE SECTION STA 205+00**  
 C103 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'



**21 DREDGE SECTION STA 205+50**  
 C103 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'



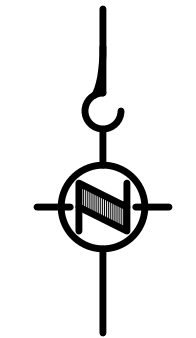
**22 DREDGE SECTION STA 207+60**  
 C103 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'



**23 DREDGE SECTION STA 213+30**  
 C104 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'

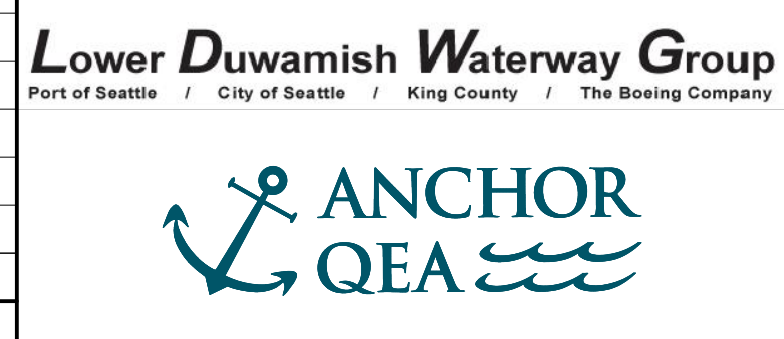
- LEGEND:**
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  - USACE AUTHORIZED CHANNEL ELEVATION (-15' MLLW)
  - - - USACE MAINTENANCE ELEVATION (-17' MLLW)
  - · - · - INTERTIDAL/SUBTIDAL TRANSITION (-4' MLLW)
  - · - · - LOWEST HABITAT AREA ELEVATION (-10' MLLW)
  - DREDGE DESIGN SURFACE
  - - - 1' ALLOWABLE OVERDREDGE
  - VERTICAL SAMPLE LOCATION

**NOTE:**  
VERTICAL DATUM: MLLW



**COLOR IMAGE**  
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**INTERMEDIATE ISSUE DRAWING**  
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**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX

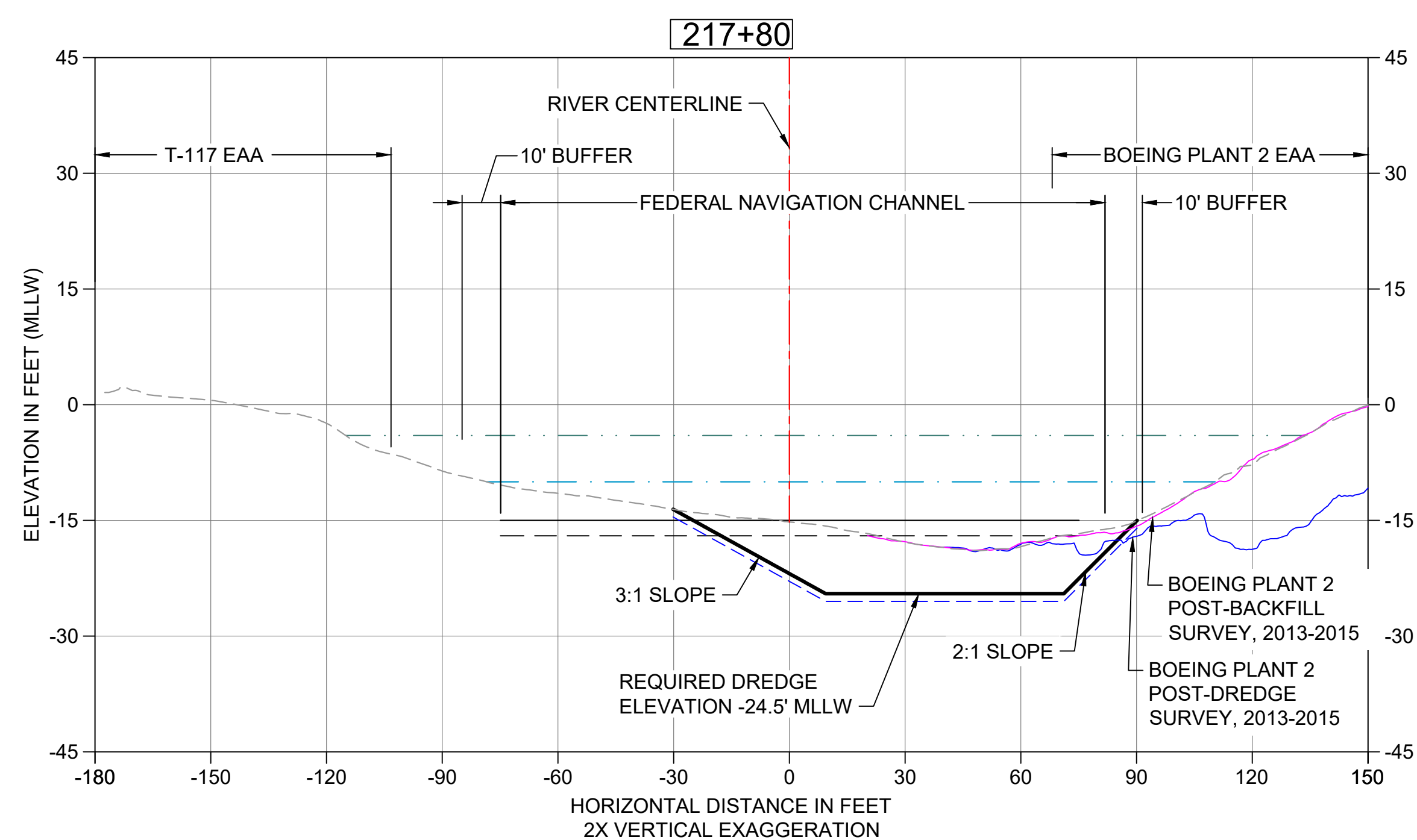


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**DREDGING CROSS SECTIONS**

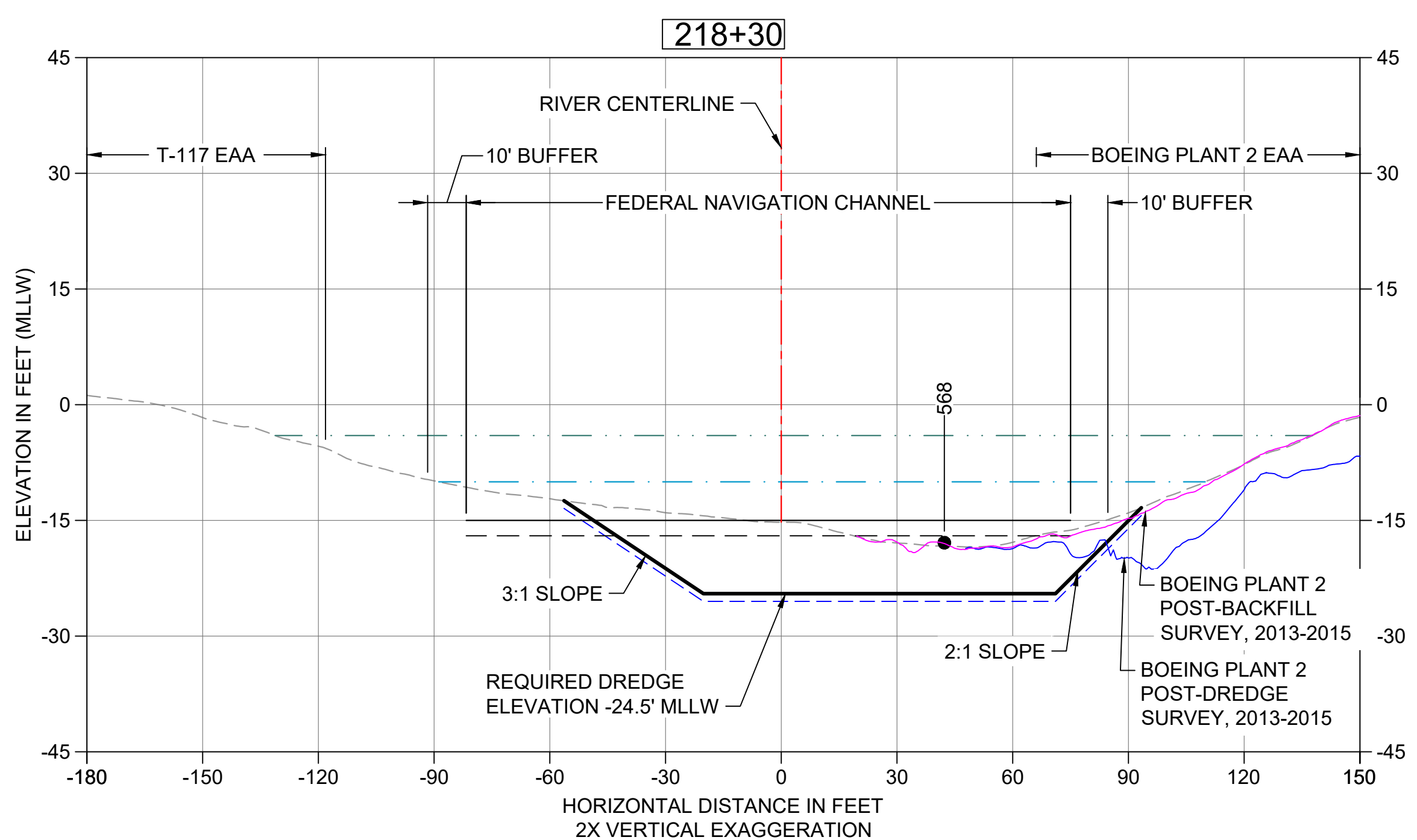
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DRAWING NO: <b>C206</b>
SHT NO / TOTAL 46 / 73
REV NO: <b>0</b>



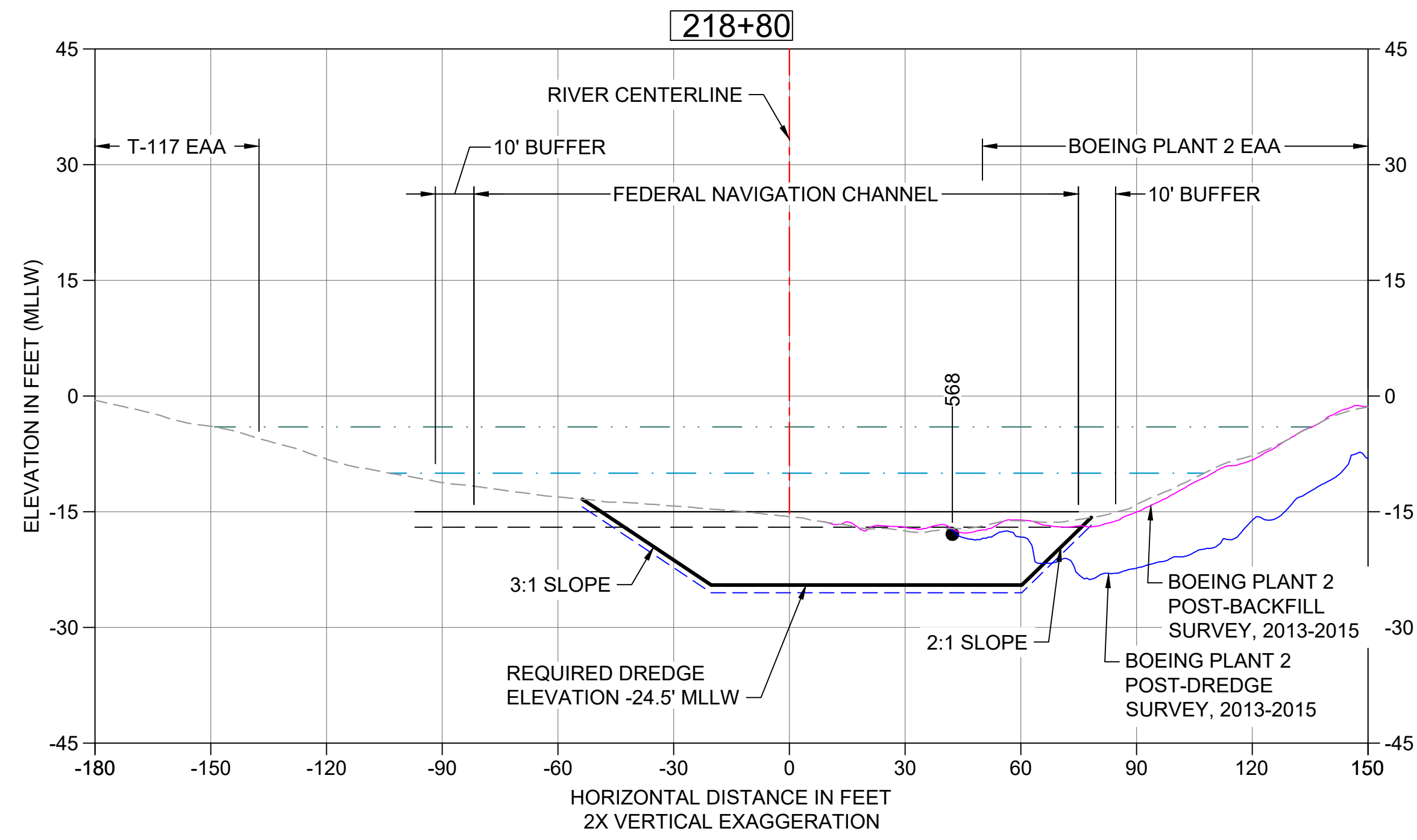
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 \gial\CAD\Projects\0067-King County\LDW\Upper Reach Engineering Services\Construction Plans\0067-LDWUR-PL-Dredge-Sections.dwg | Layout: C207  
 PLOTTED: Feb 20, 2023 01:06:30am By tgriga



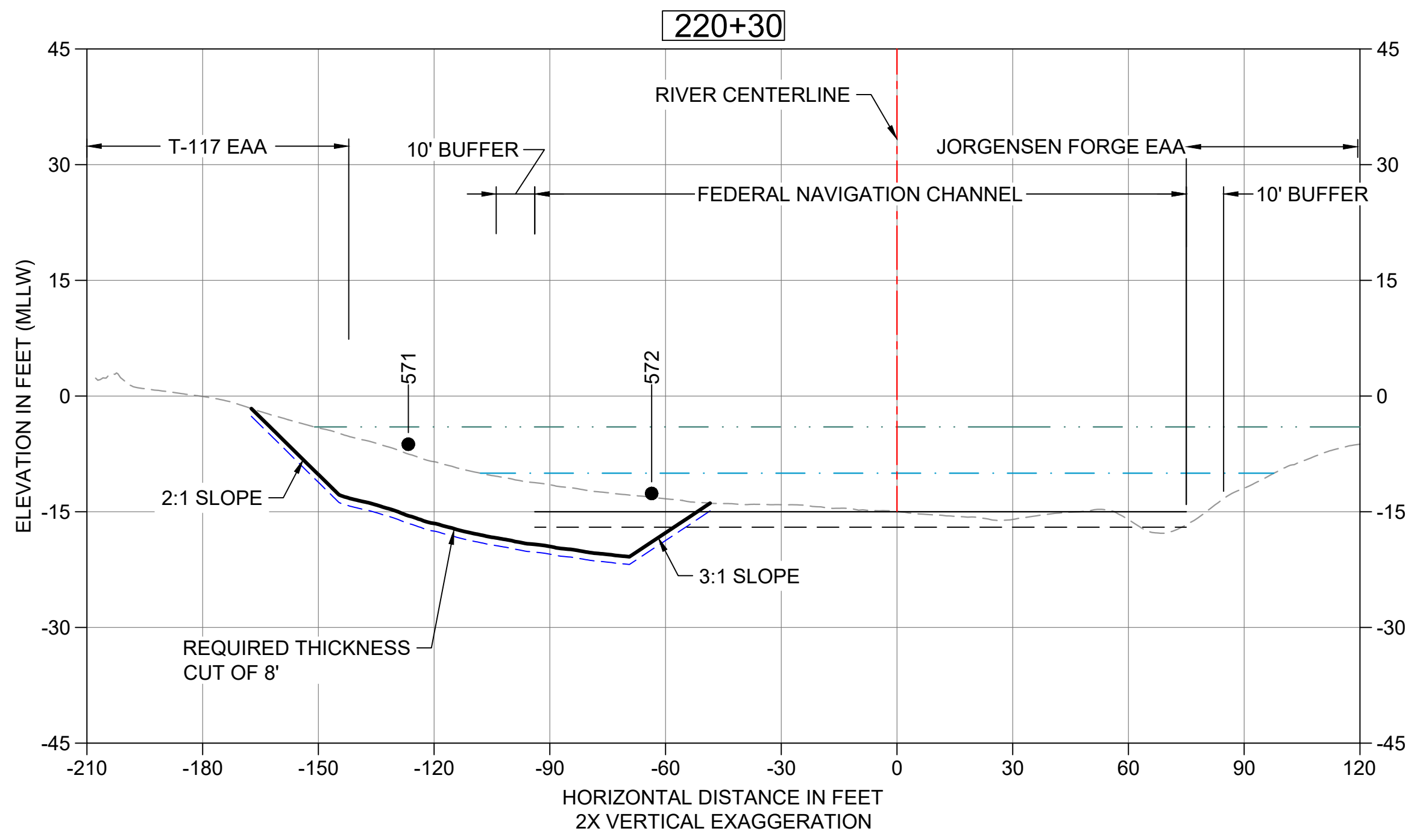
**24 DREDGE SECTION STA 217+80**  
 C105 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**25 DREDGE SECTION STA 218+30**  
 C105 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 10'

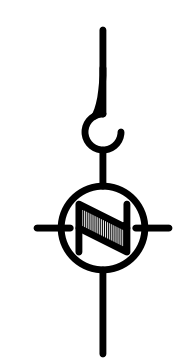


**26 DREDGE SECTION STA 218+80**  
 C105 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 10'



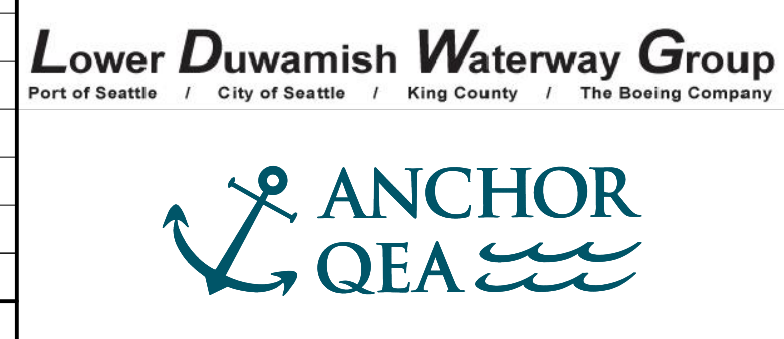
**27 DREDGE SECTION STA 220+30**  
 C105 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 10'

- LEGEND:**
- EXISTING GRADE MERGED DATA
  - USACE AUTHORIZED CHANNEL ELEVATION (-15' MLLW)
  - - - USACE MAINTENANCE ELEVATION (-17' MLLW)
  - · - · - INTERTIDAL/SUBTIDAL TRANSITION (-4' MLLW)
  - · - · - LOWEST HABITAT AREA ELEVATION (-10' MLLW)
  - DREDGE DESIGN SURFACE
  - · - · - 1' ALLOWABLE OVERDREDGE
  - VERTICAL SAMPLE LOCATION
- NOTE:**  
VERTICAL DATUM: MLLW



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 ACCURATELY.

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**INTERMEDIATE ISSUE DRAWING**  
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**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
 PROJECT ENGINEER: J. LAPLANTE  
 DESIGN APPROVAL: T. WANG  
 PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
 SCALE: AS NOTED  
 PROJECT FILE NO: E00559E18  
 CONTRACT NO: C0XXXXCX



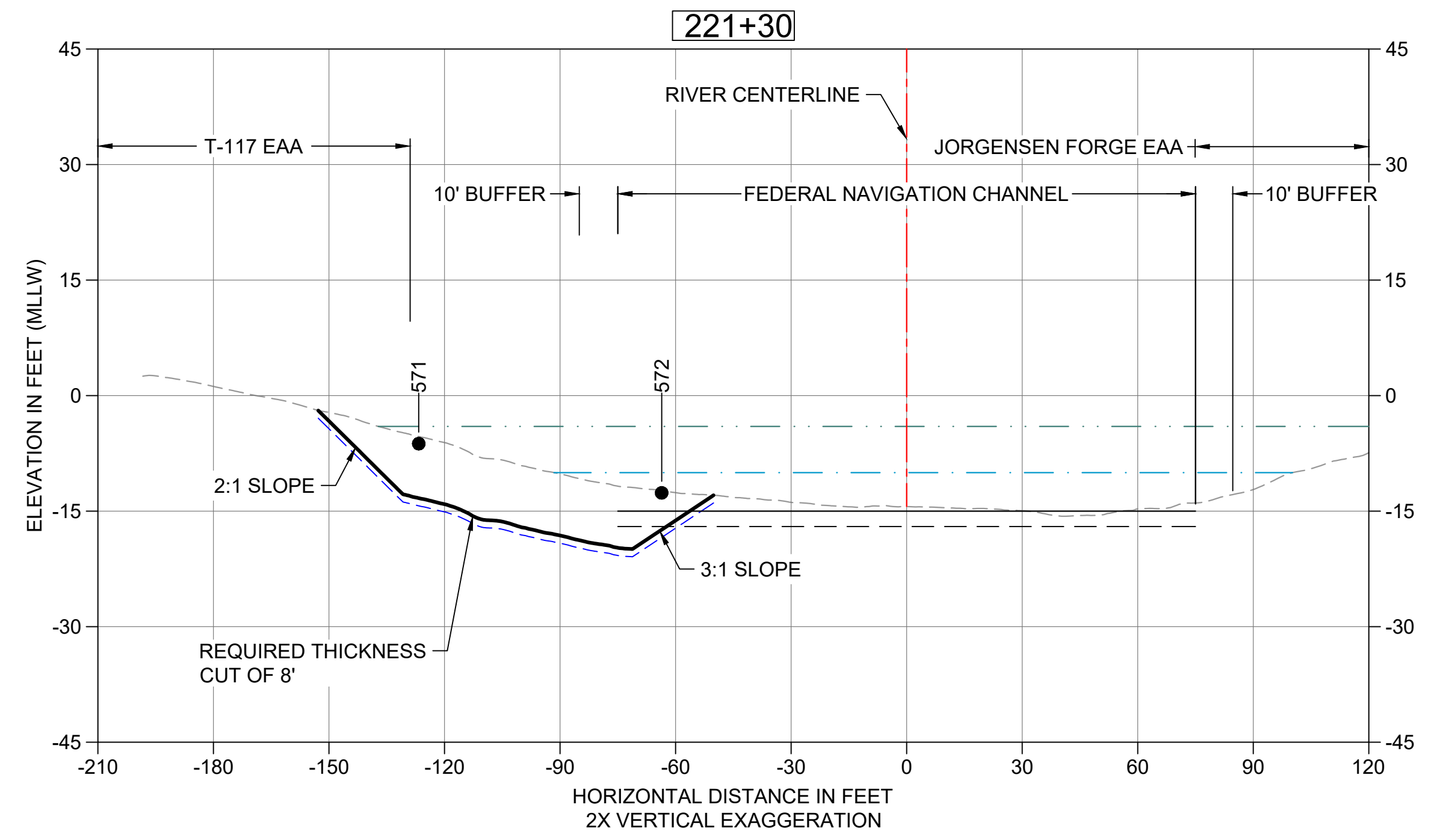
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**DREDGING CROSS SECTIONS**

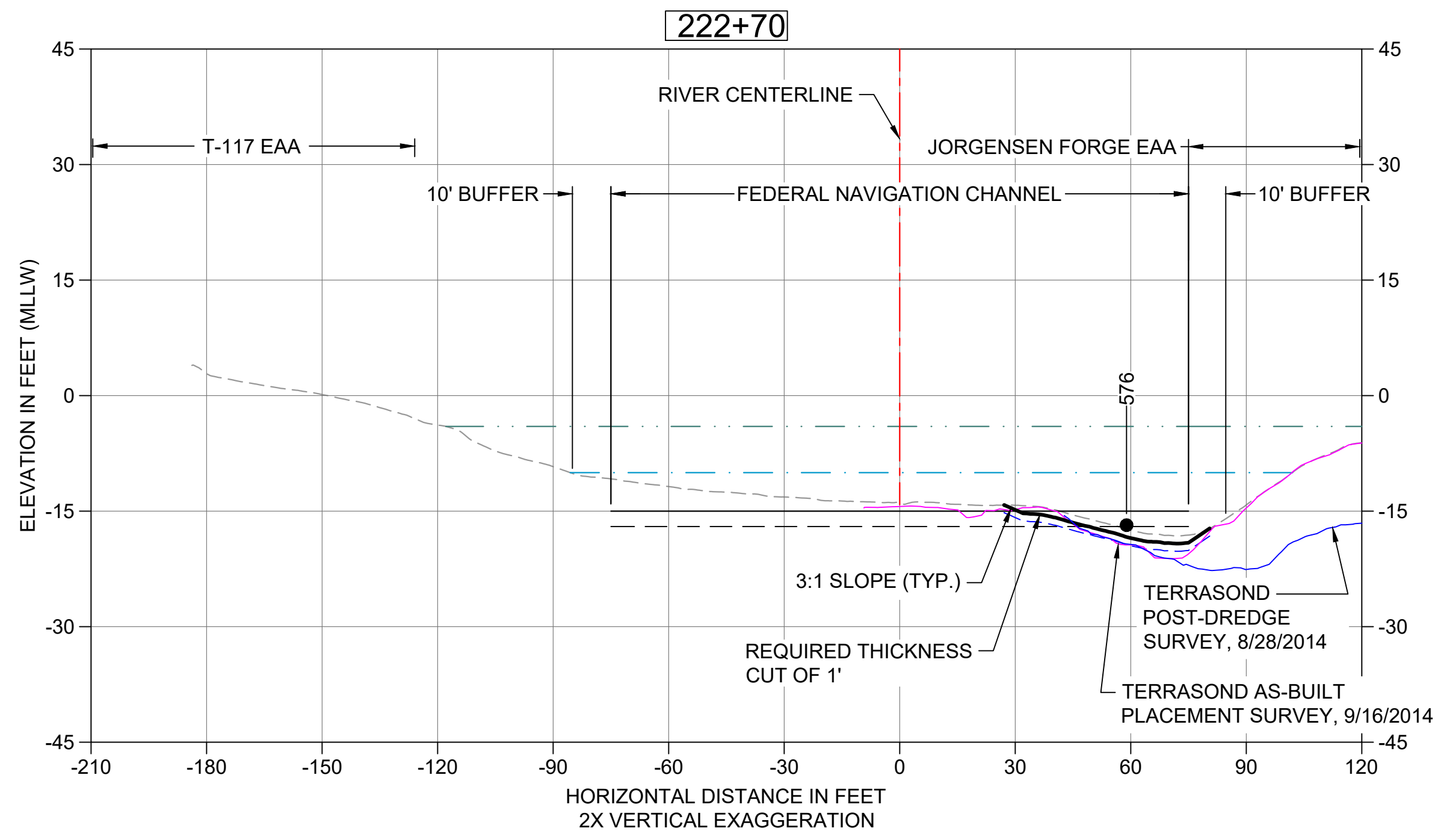
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 DRAWING NO: **C207**  
 SHT NO / TOTAL: 47 / 73  
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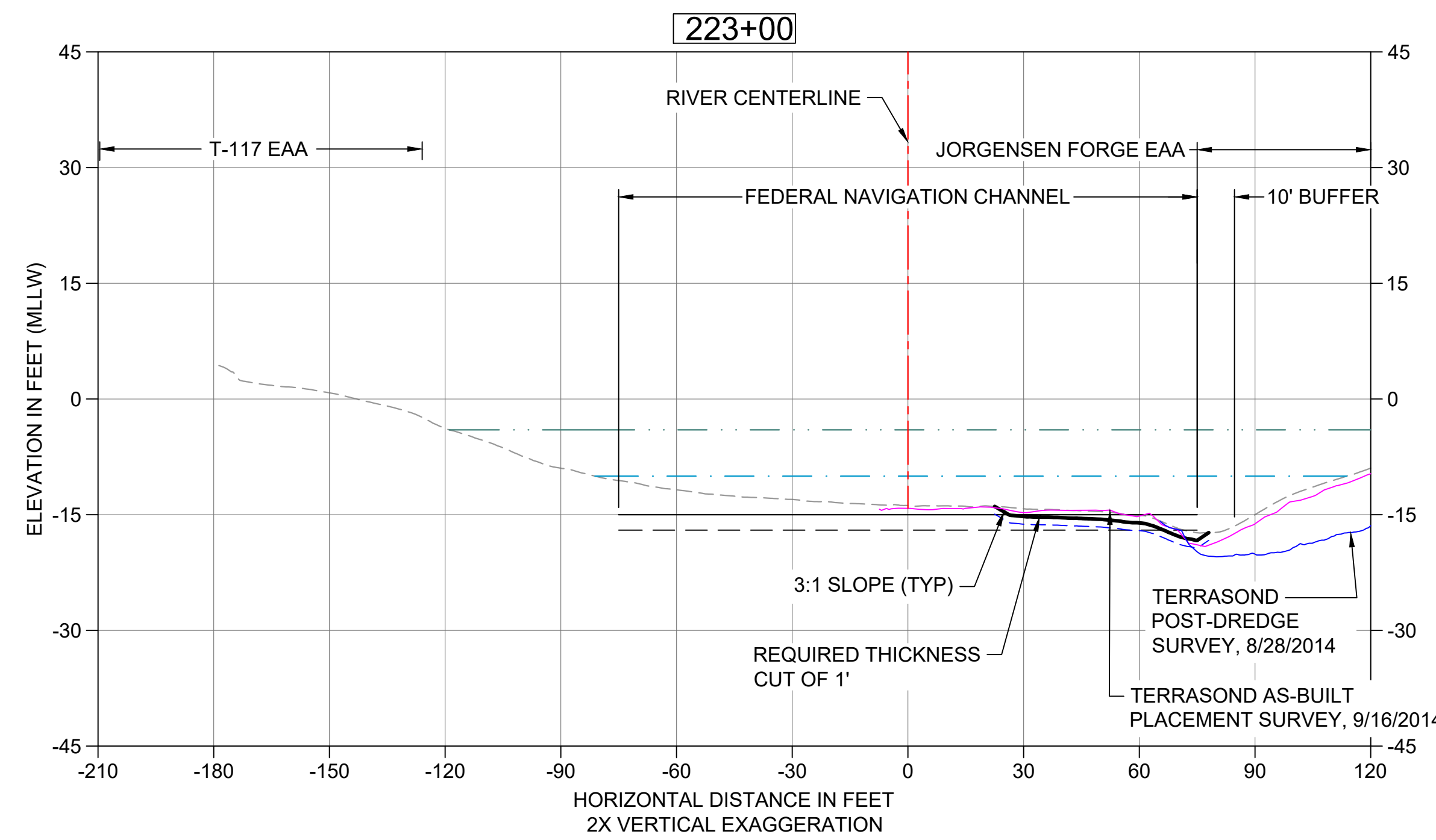
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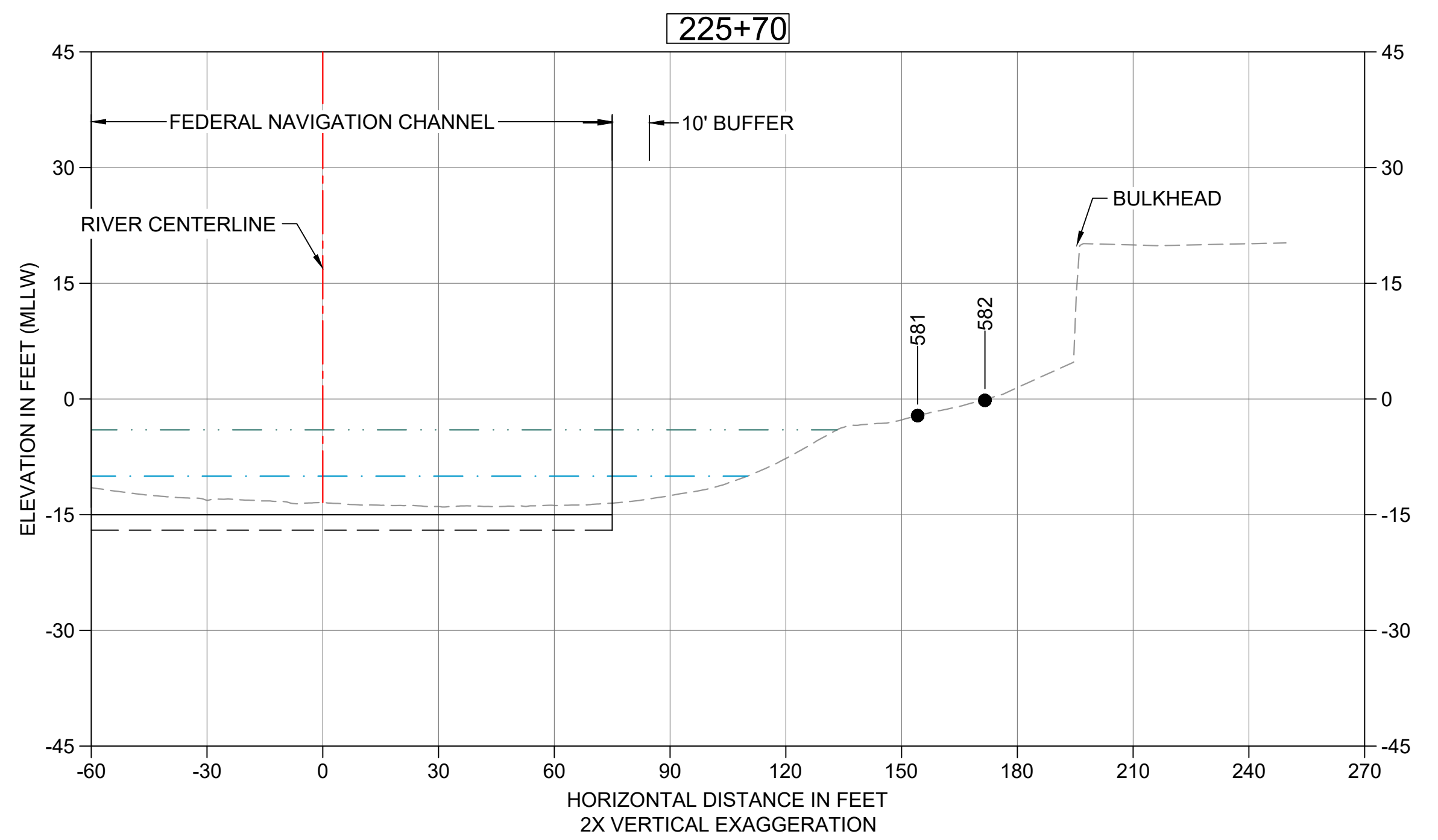
**28 DREDGE SECTION STA 221+30**  
 C105 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**29 DREDGE SECTION STA 222+70**  
 C105 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'

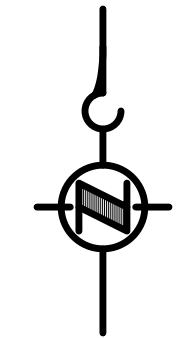


**30 DREDGE SECTION STA 223+00**  
 C105 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



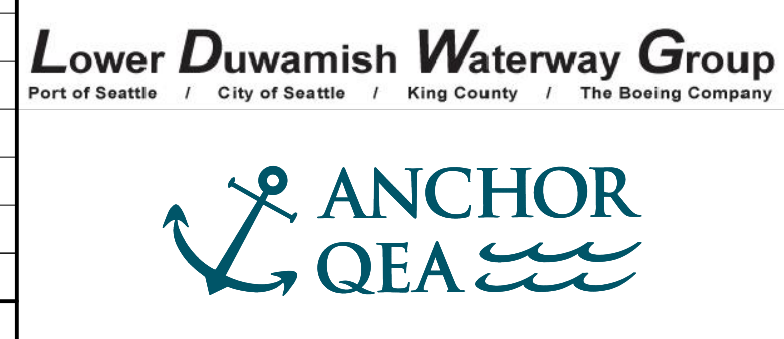
**31 DREDGE SECTION STA 225+70**  
 C106 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'

- LEGEND:**
- - - - - EXISTING GRADE MERGED DATA
  - USACE AUTHORIZED CHANNEL ELEVATION (-15' MLLW)
  - - - - - USACE MAINTENANCE ELEVATION (-17' MLLW)
  - · - · - INTERTIDAL/SUBTIDAL TRANSITION (-4' MLLW)
  - · - · - LOWEST HABITAT AREA ELEVATION (-10' MLLW)
  - DREDGE DESIGN SURFACE
  - - - - - 1' ALLOWABLE OVERDREDGE
  - VERTICAL SAMPLE LOCATION
- NOTE:**  
VERTICAL DATUM: MLLW



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DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

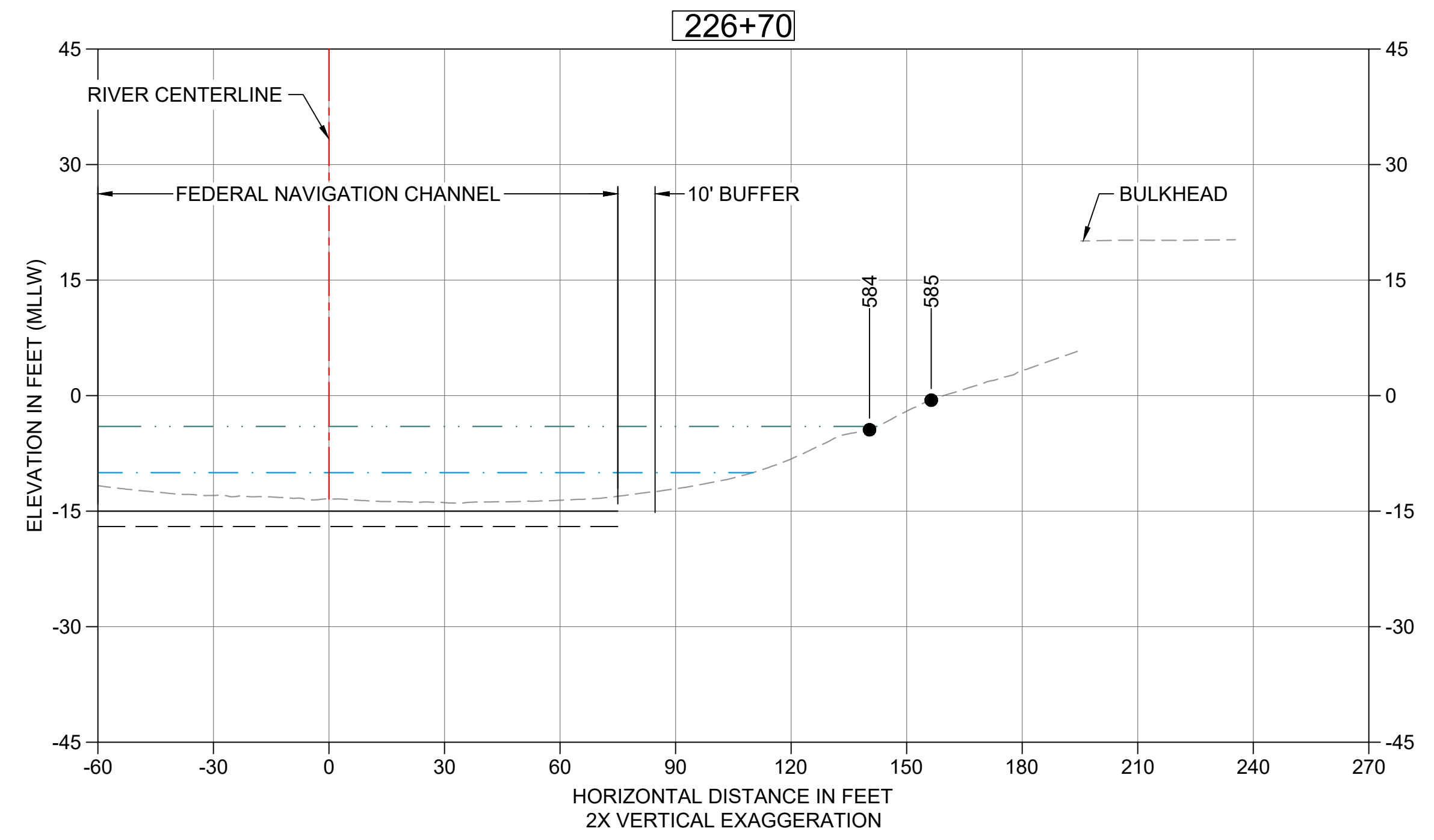


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**DREDGING CROSS SECTIONS**

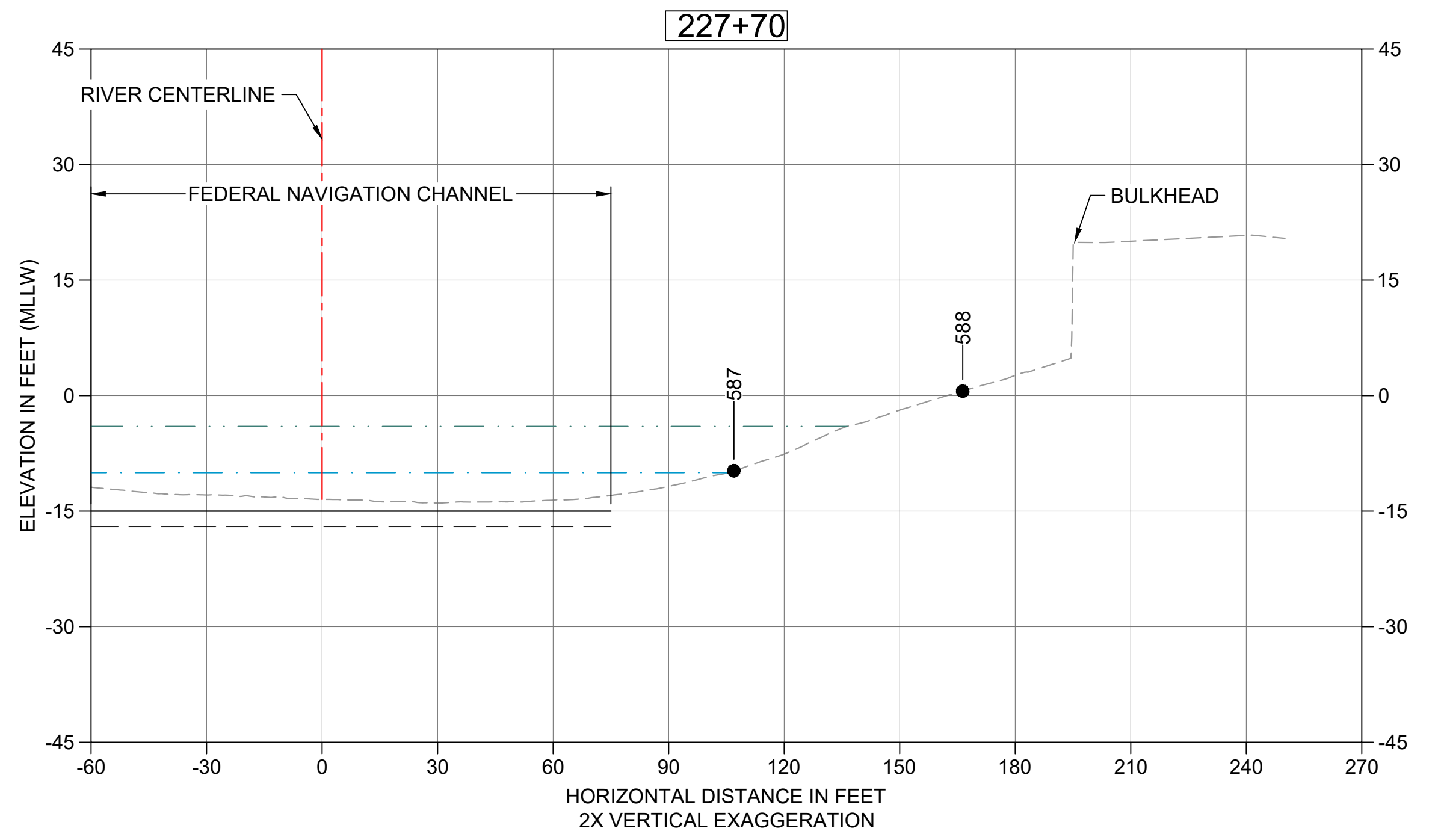
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 REV NO: **0**



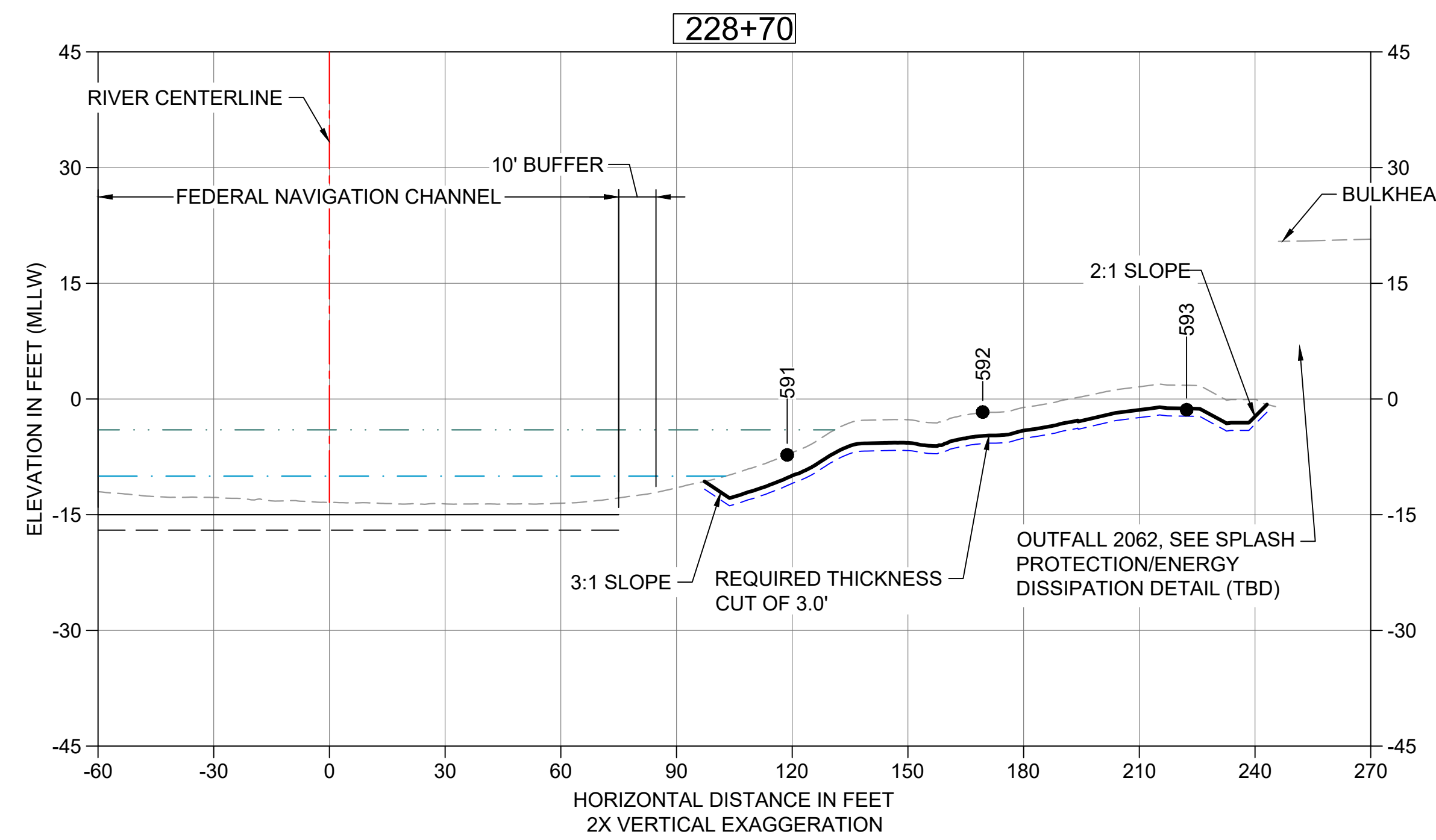
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 PLOTTED: Feb 20, 2023 01:07:21am By Igriga



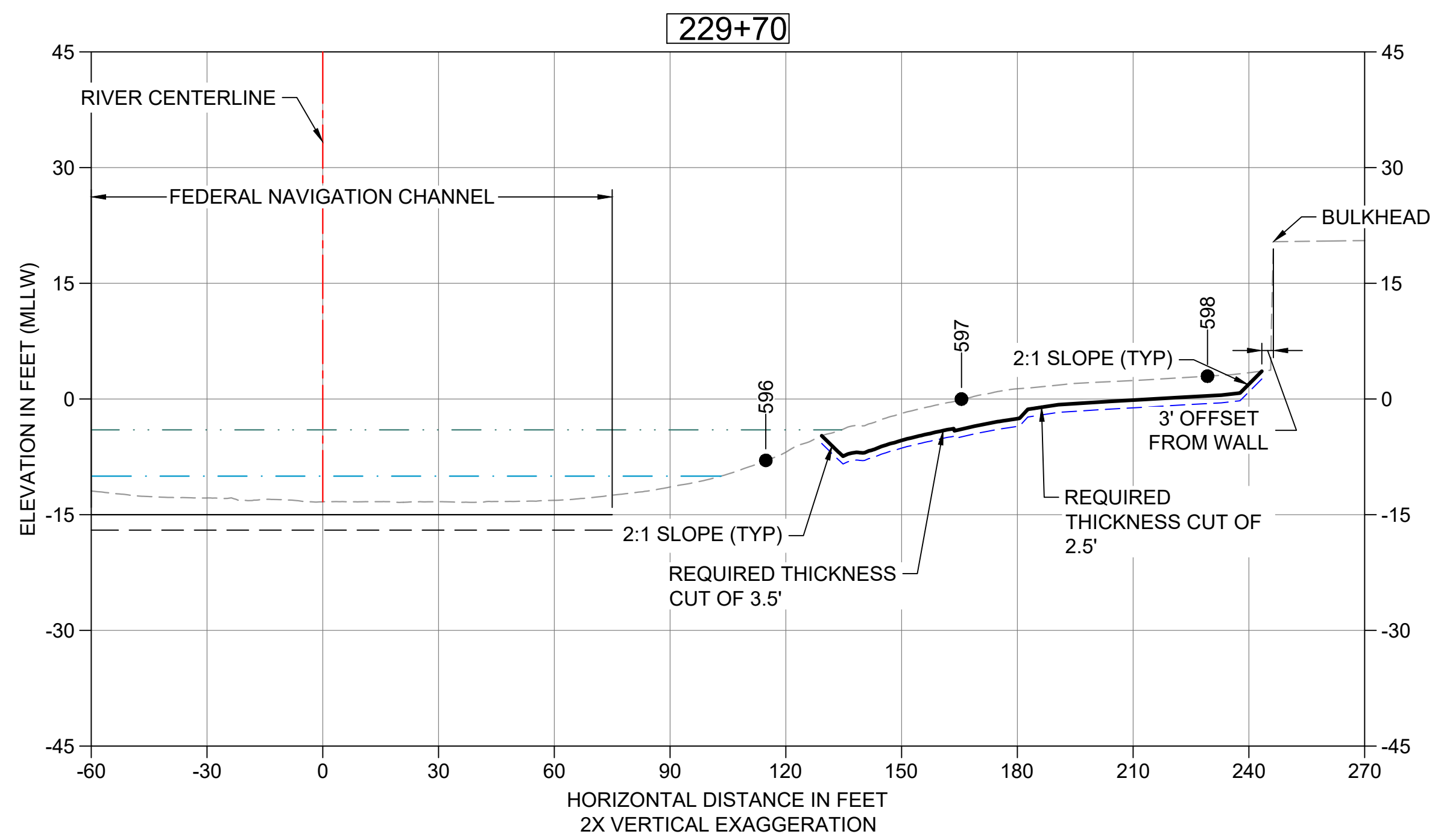
**32 DREDGE SECTION STA 226+70**  
 C106 HORIZONTAL SCALE: 30"  
 VERTICAL SCALE: 15"



**33 DREDGE SECTION STA 227+70**  
 C106 HORIZONTAL SCALE: 30"  
 VERTICAL SCALE: 15"

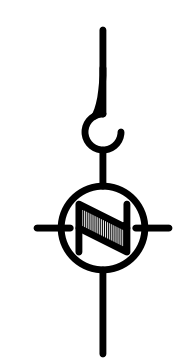


**34 DREDGE SECTION STA 228+70**  
 C106 HORIZONTAL SCALE: 30"  
 VERTICAL SCALE: 15"



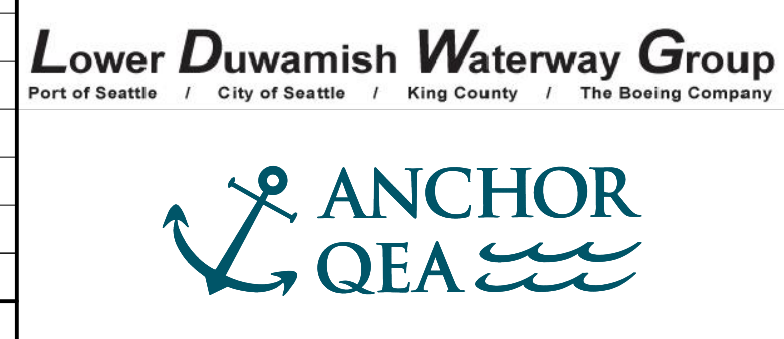
**35 DREDGE SECTION STA 229+70**  
 C106 HORIZONTAL SCALE: 30"  
 VERTICAL SCALE: 15"

- LEGEND:**
- EXISTING GRADE MERGED DATA
  - USACE AUTHORIZED CHANNEL ELEVATION (-15' MLLW)
  - - - USACE MAINTENANCE ELEVATION (-17' MLLW)
  - · - · - INTERTIDAL/SUBTIDAL TRANSITION (-4' MLLW)
  - · - · - LOWEST HABITAT AREA ELEVATION (-10' MLLW)
  - DREDGE DESIGN SURFACE
  - - - 1' ALLOWABLE OVERDREDGE
  - VERTICAL SAMPLE LOCATION
- NOTE:**  
VERTICAL DATUM: MLLW



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**INTERMEDIATE ISSUE DRAWING**  
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DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX

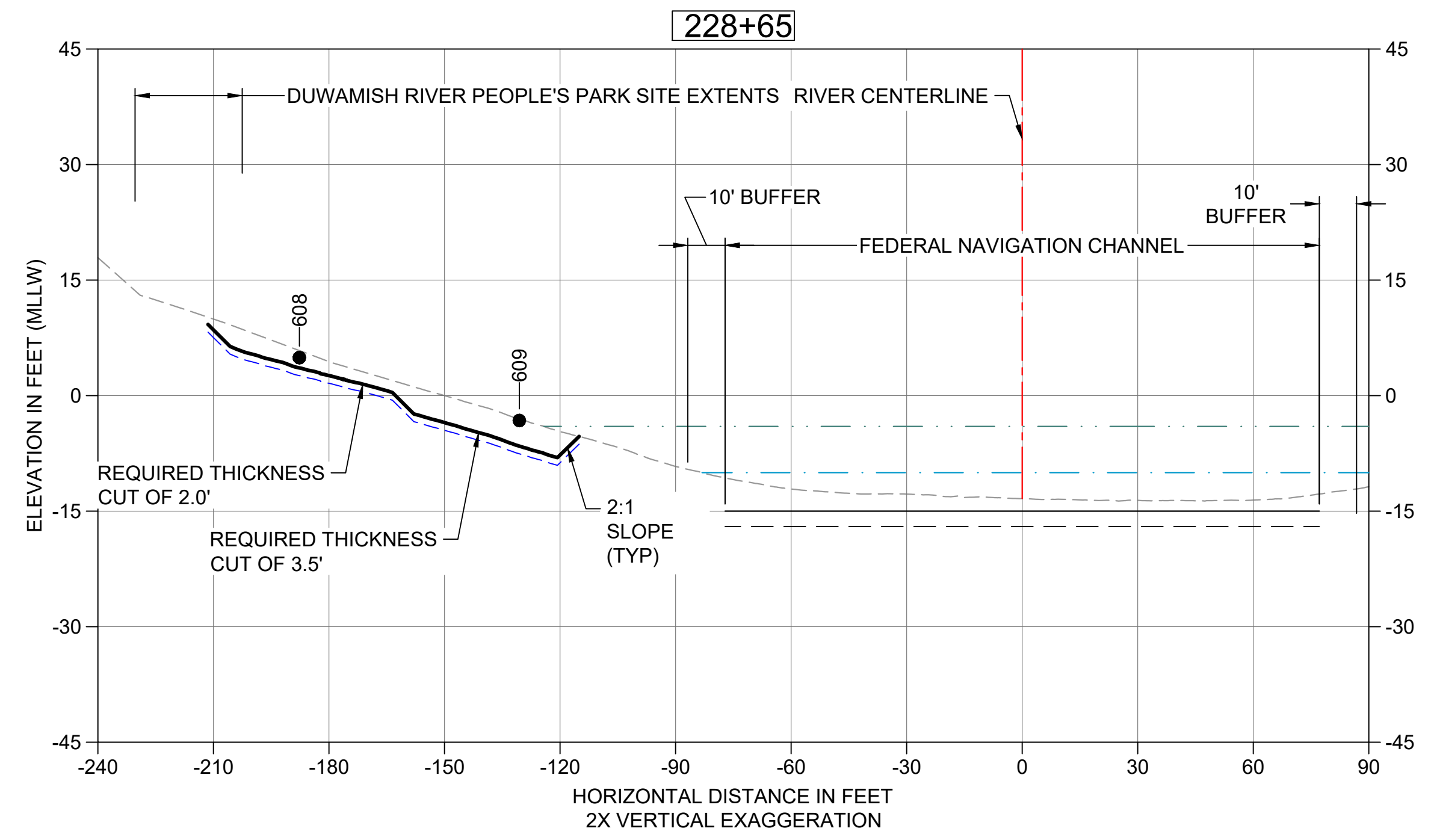


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**DREDGING CROSS SECTIONS**

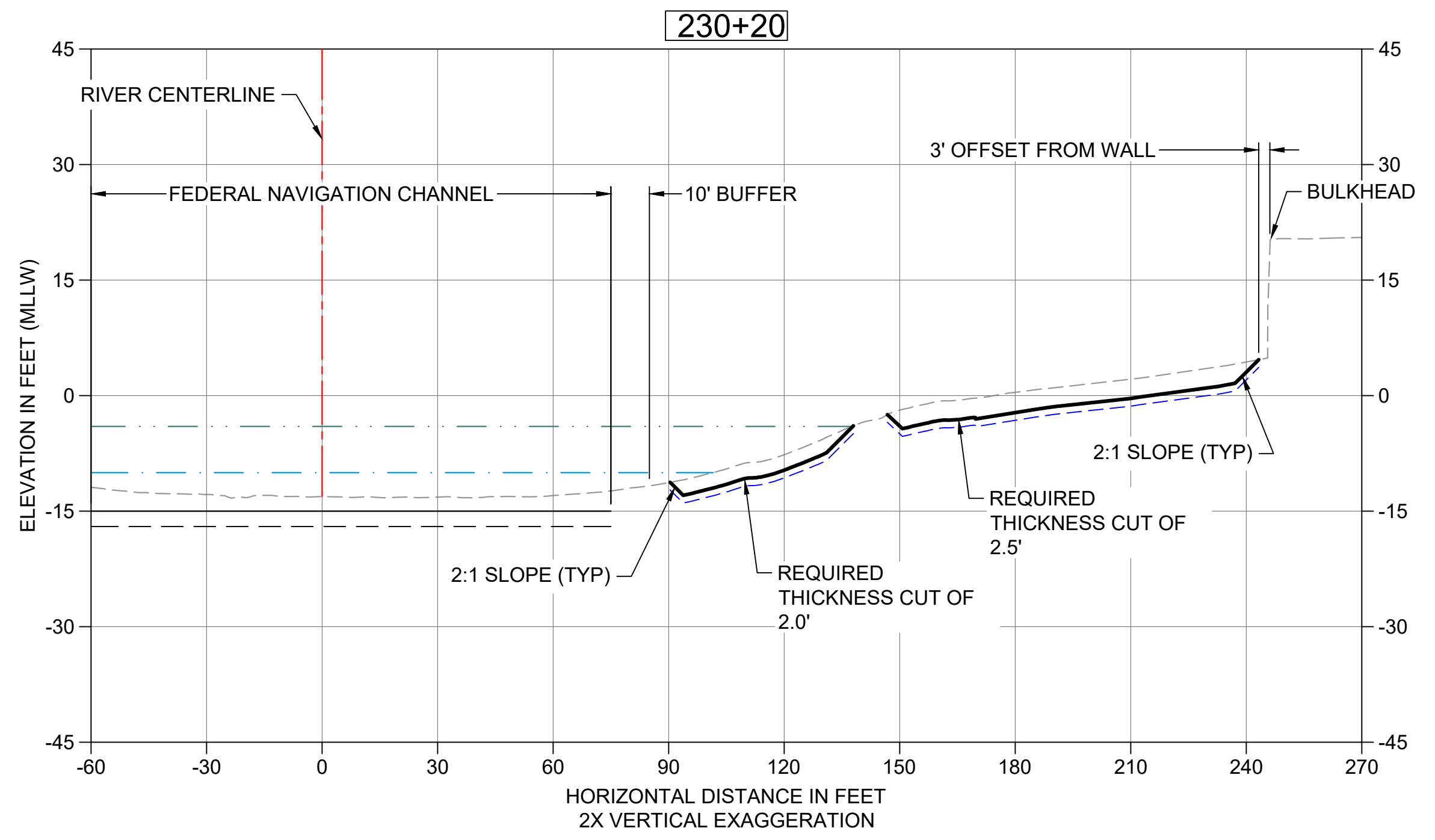
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 DRAWING NO: **C209**  
 SHT NO / TOTAL: 49 / 73  
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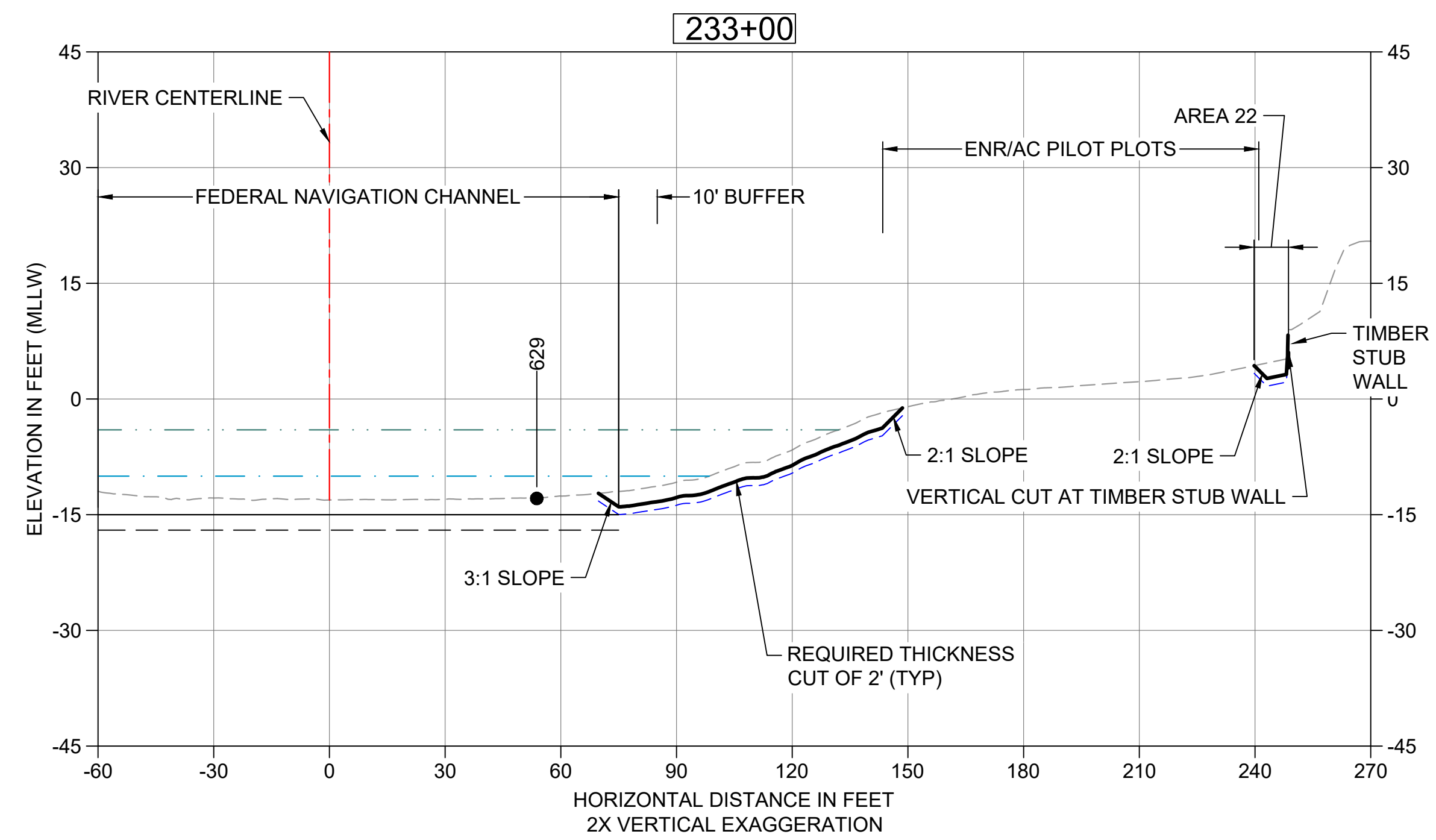
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 PLOTTED: Feb 20, 2023 10:07:50am By tgriga



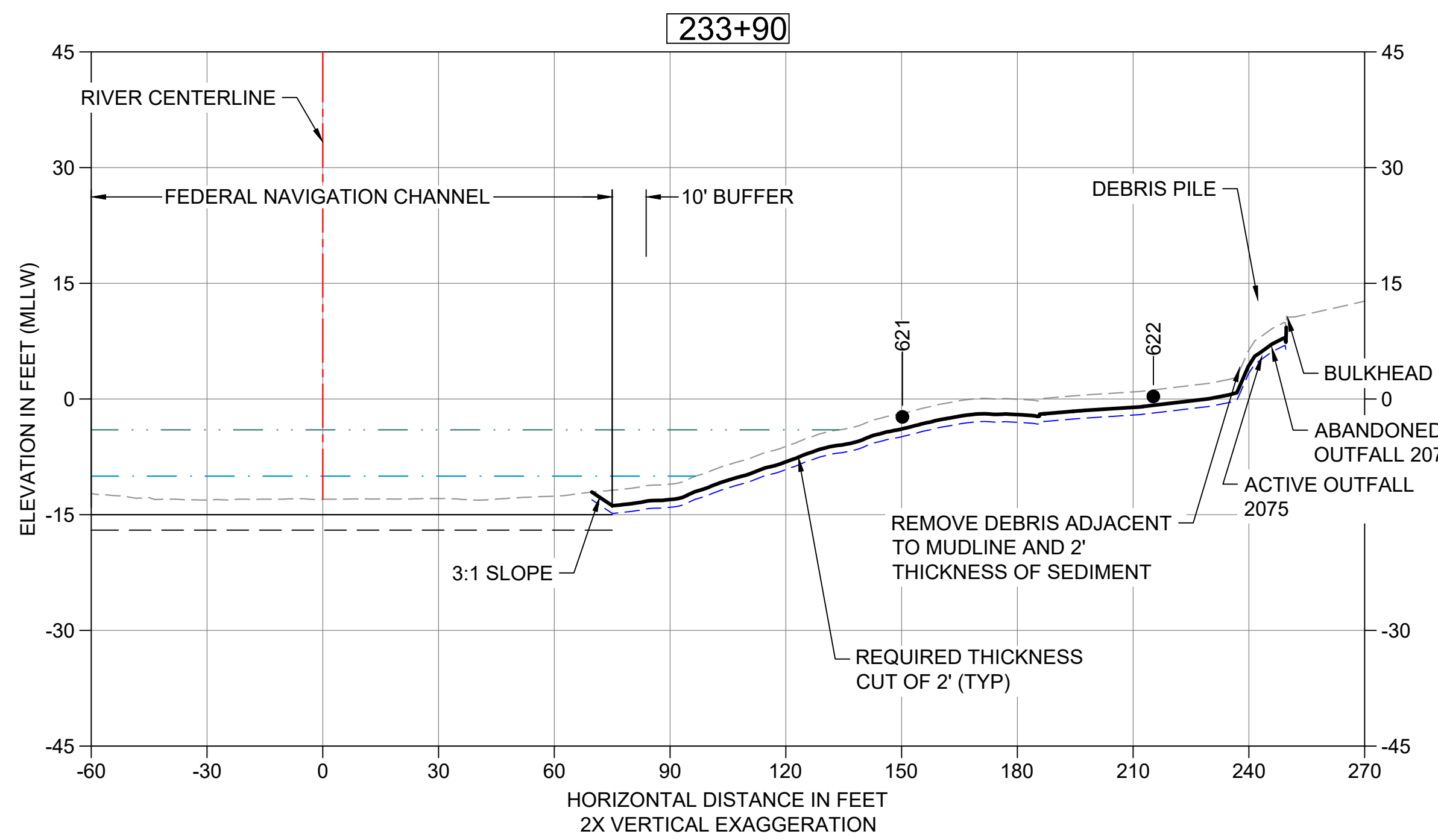
**36 DREDGE SECTION STA 228+65**  
 C106 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'



**37 DREDGE SECTION & STA 230+20**  
 C106 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'



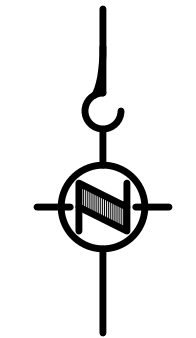
**38 DREDGE SECTION STA 233+00**  
 C107 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'



**39 DREDGE SECTION STA 233+90**  
 C107 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'

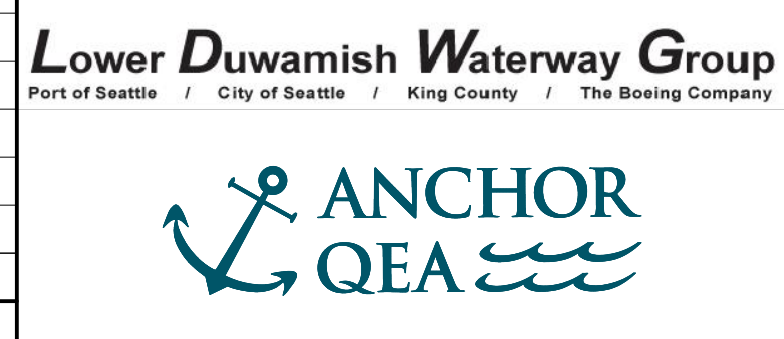
- LEGEND:**
- EXISTING GRADE MERGED DATA
  - USACE AUTHORIZED CHANNEL ELEVATION (-15' MLLW)
  - - - USACE MAINTENANCE ELEVATION (-17' MLLW)
  - · - · - INTERTIDAL/SUBTIDAL TRANSITION (-4' MLLW)
  - · - · - LOWEST HABITAT AREA ELEVATION (-10' MLLW)
  - DREDGE DESIGN SURFACE
  - - - 1' ALLOWABLE OVERDREDGE
  - VERTICAL SAMPLE LOCATION

**NOTE:**  
 VERTICAL DATUM: MLLW



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**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

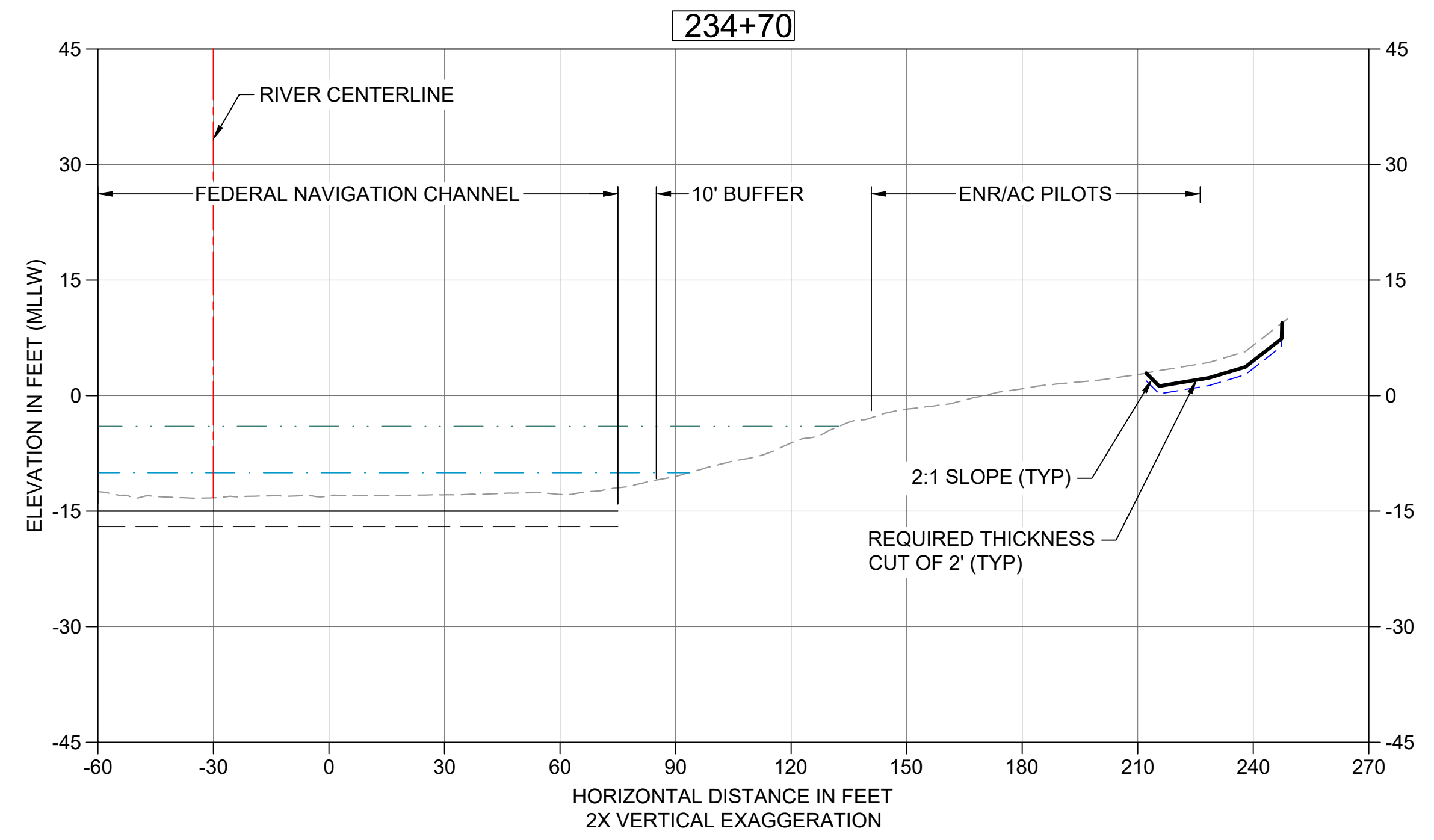


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**DREDGING CROSS SECTIONS**

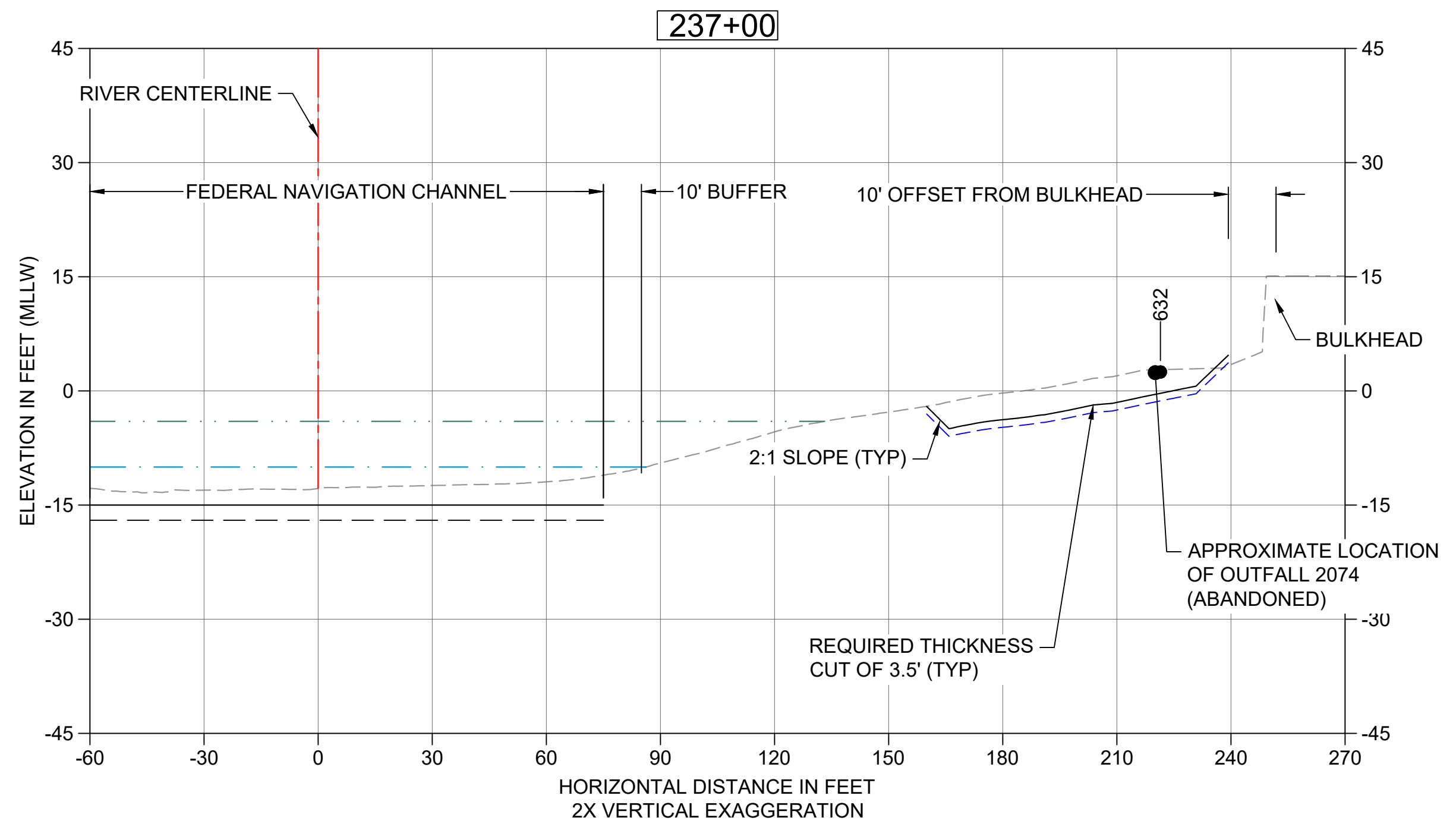
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 SHT NO / TOTAL: 50 / 73  
 REV NO: **0**



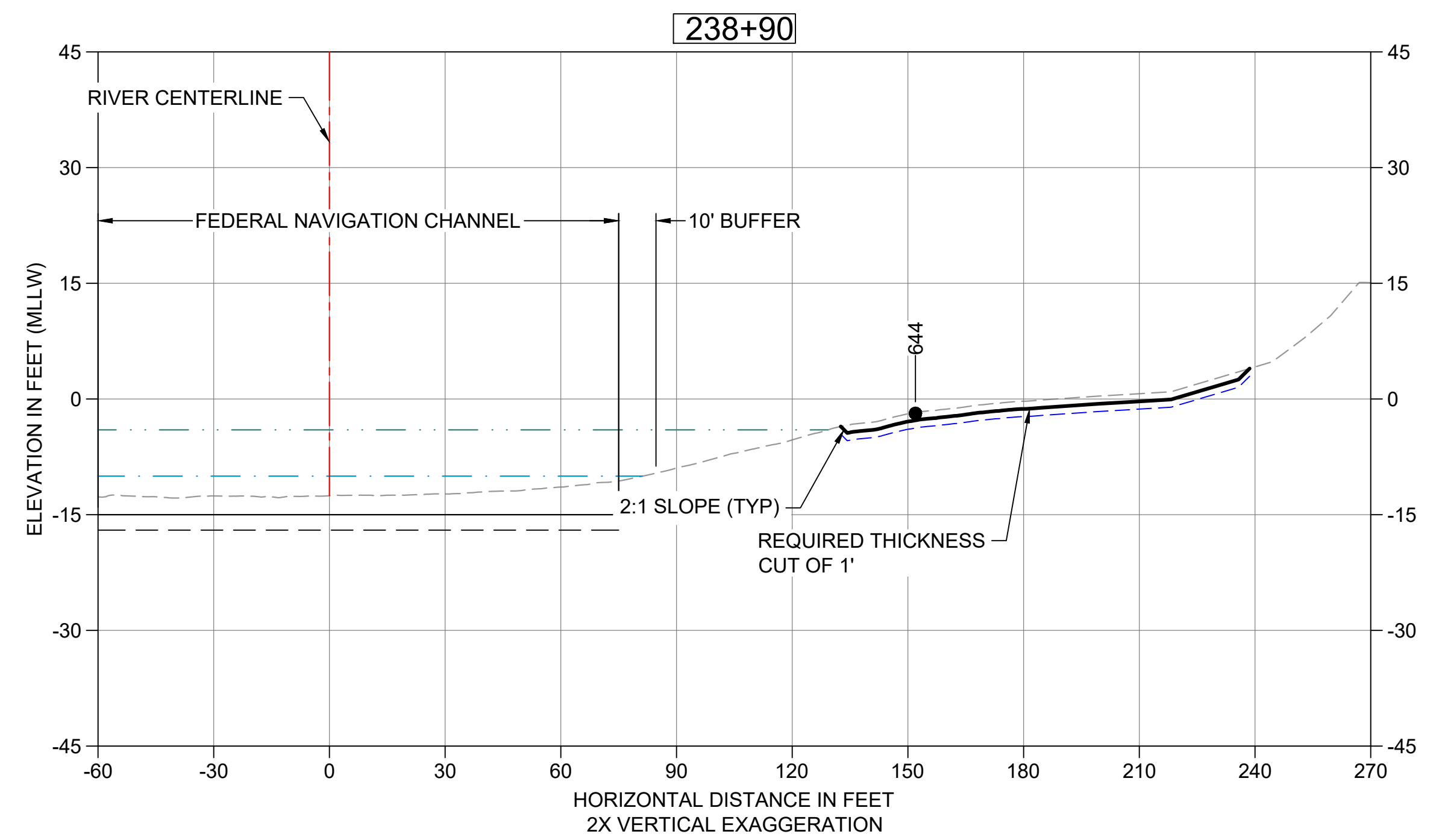
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 PLOTTED: Feb 20, 2023 01:08:15am By tgriga



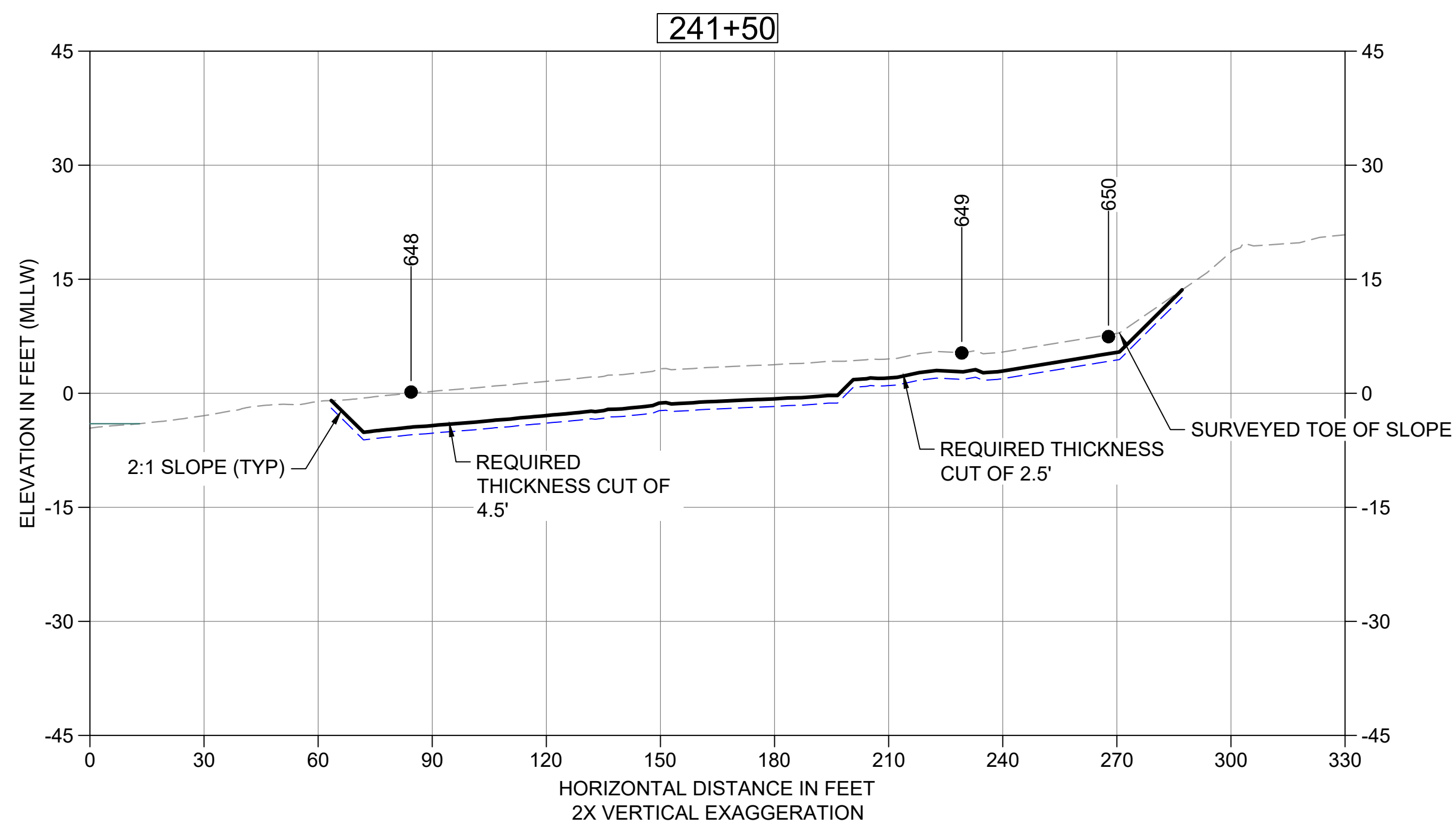
**40 DREDGE SECTION STA 234+70**  
 C107 HORIZONTAL SCALE<sup>1</sup> = 30'  
 VERTICAL SCALE<sup>2</sup> = 15'



**41 DREDGE SECTION STA 237+00**  
 C107 HORIZONTAL SCALE<sup>1</sup> = 30'  
 VERTICAL SCALE<sup>2</sup> = 15'

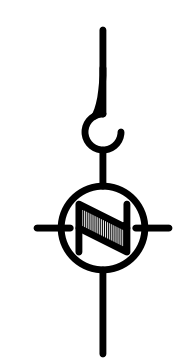


**42 DREDGE SECTION STA 238+90**  
 C107 HORIZONTAL SCALE<sup>1</sup> = 30'  
 VERTICAL SCALE<sup>2</sup> = 15'



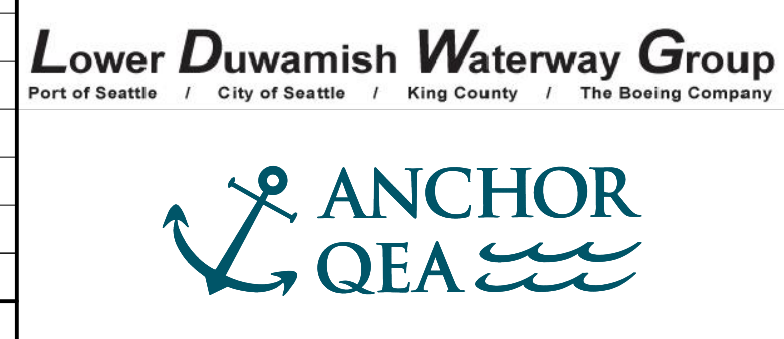
**43 DREDGE SECTION STA 241+50**  
 C108 HORIZONTAL SCALE<sup>1</sup> = 30'  
 VERTICAL SCALE<sup>2</sup> = 15'

- LEGEND:**
- EXISTING GRADE MERGED DATA
  - USACE AUTHORIZED CHANNEL ELEVATION (-15' MLLW)
  - - - USACE MAINTENANCE ELEVATION (-17' MLLW)
  - · - · - INTERTIDAL/SUBTIDAL TRANSITION (-4' MLLW)
  - · - · - LOWEST HABITAT AREA ELEVATION (-10' MLLW)
  - DREDGE DESIGN SURFACE
  - - - 1' ALLOWABLE OVERDREDGE
  - VERTICAL SAMPLE LOCATION
- NOTE:**  
VERTICAL DATUM: MLLW



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 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
 PROJECT ENGINEER: J. LAPLANTE  
 DESIGN APPROVAL: T. WANG  
 PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
 SCALE: AS NOTED  
 PROJECT FILE NO: E00559E18  
 CONTRACT NO: C0XXXXCX



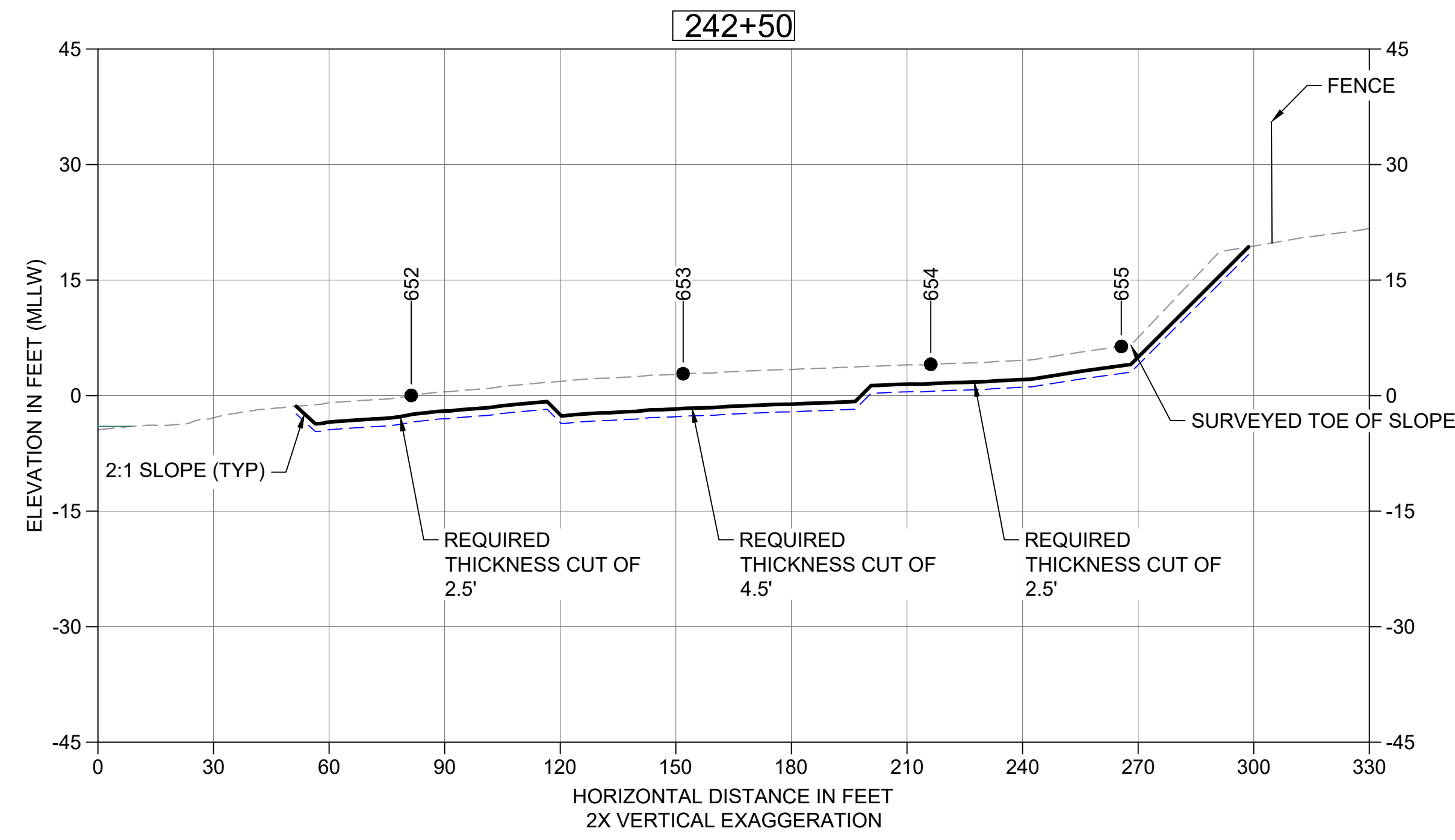
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**DREDGING CROSS SECTIONS**

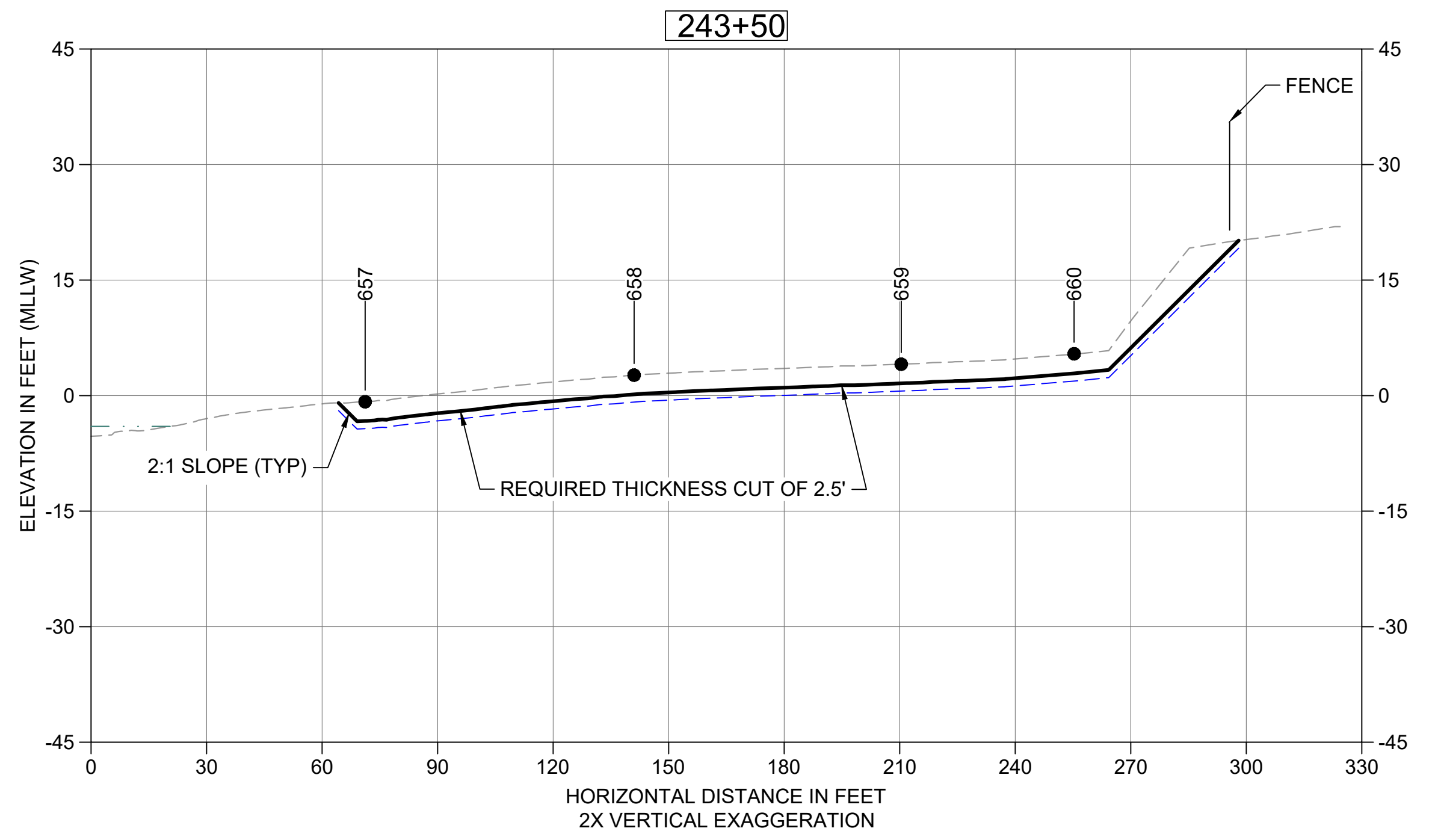
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 SHT NO / TOTAL: 51 / 73  
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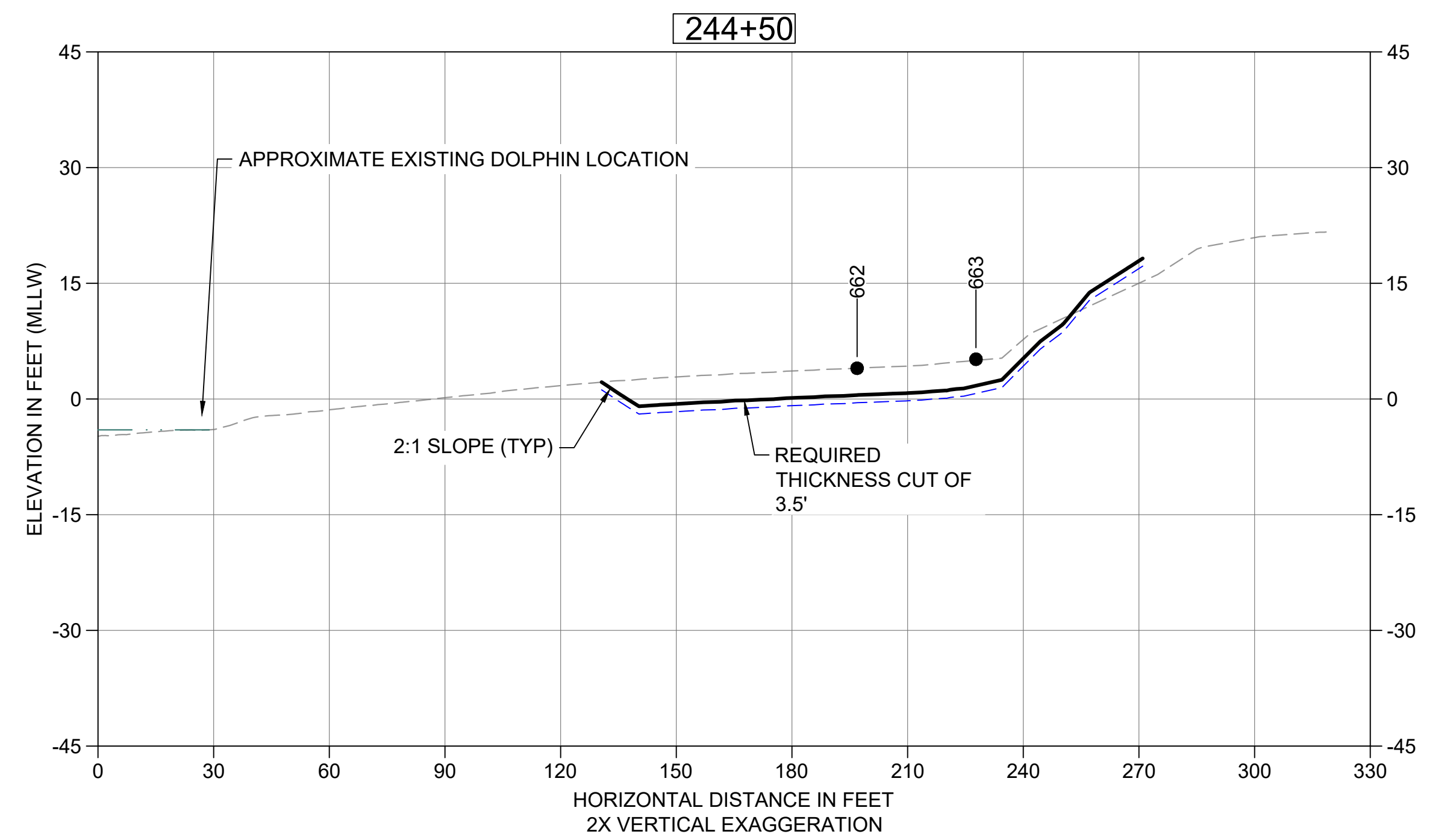
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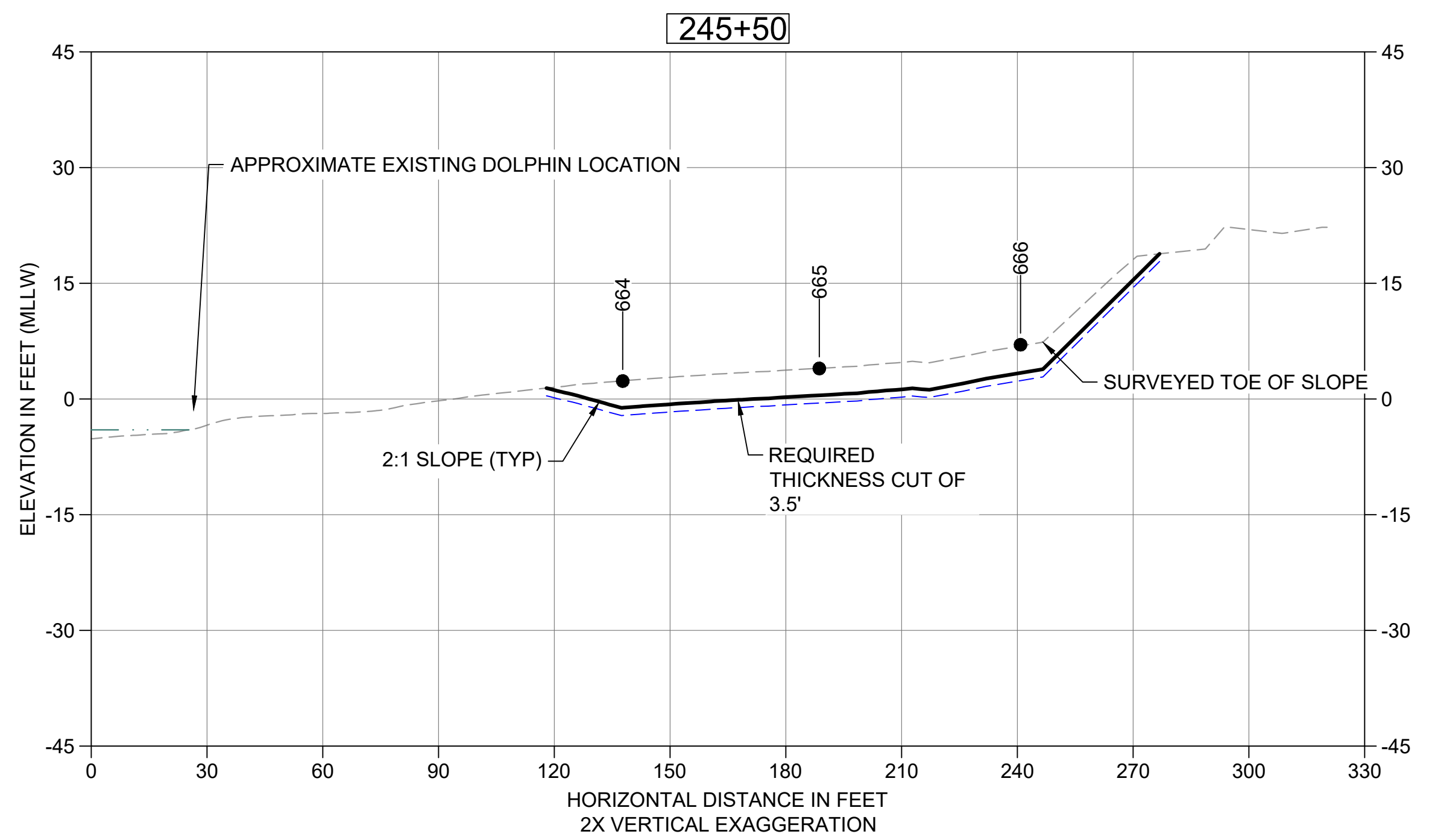
**44 DREDGE SECTION STA 242+50**  
 C108 HORIZONTAL SCALE<sup>H</sup> = 30'  
 VERTICAL SCALE<sup>V</sup> = 15'



**45 DREDGE SECTION STA 243+50**  
 C108 HORIZONTAL SCALE<sup>H</sup> = 30'  
 VERTICAL SCALE<sup>V</sup> = 15'



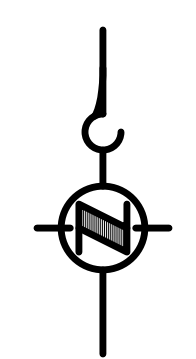
**46 DREDGE SECTION STA 244+50**  
 C108 HORIZONTAL SCALE<sup>H</sup> = 30'  
 VERTICAL SCALE<sup>V</sup> = 15'



**47 DREDGE SECTION STA 245+50**  
 C108 HORIZONTAL SCALE<sup>H</sup> = 30'  
 VERTICAL SCALE<sup>V</sup> = 15'

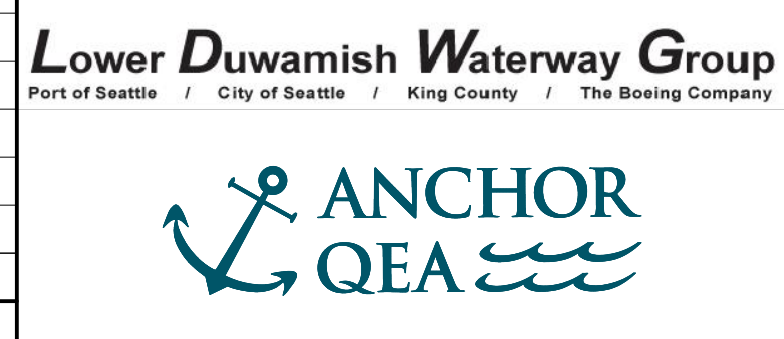
- LEGEND:**
- EXISTING GRADE MERGED DATA
  - USACE AUTHORIZED CHANNEL ELEVATION (-15' MLLW)
  - - - USACE MAINTENANCE ELEVATION (-17' MLLW)
  - · - · - INTERTIDAL/SUBTIDAL TRANSITION (-4' MLLW)
  - · - · - LOWEST HABITAT AREA ELEVATION (-10' MLLW)
  - DREDGE DESIGN SURFACE
  - - - 1' ALLOWABLE OVERDREDGE
  - VERTICAL SAMPLE LOCATION

**NOTE:**  
 VERTICAL DATUM: MLLW



**COLOR IMAGE**  
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**INTERMEDIATE ISSUE DRAWING**  
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 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

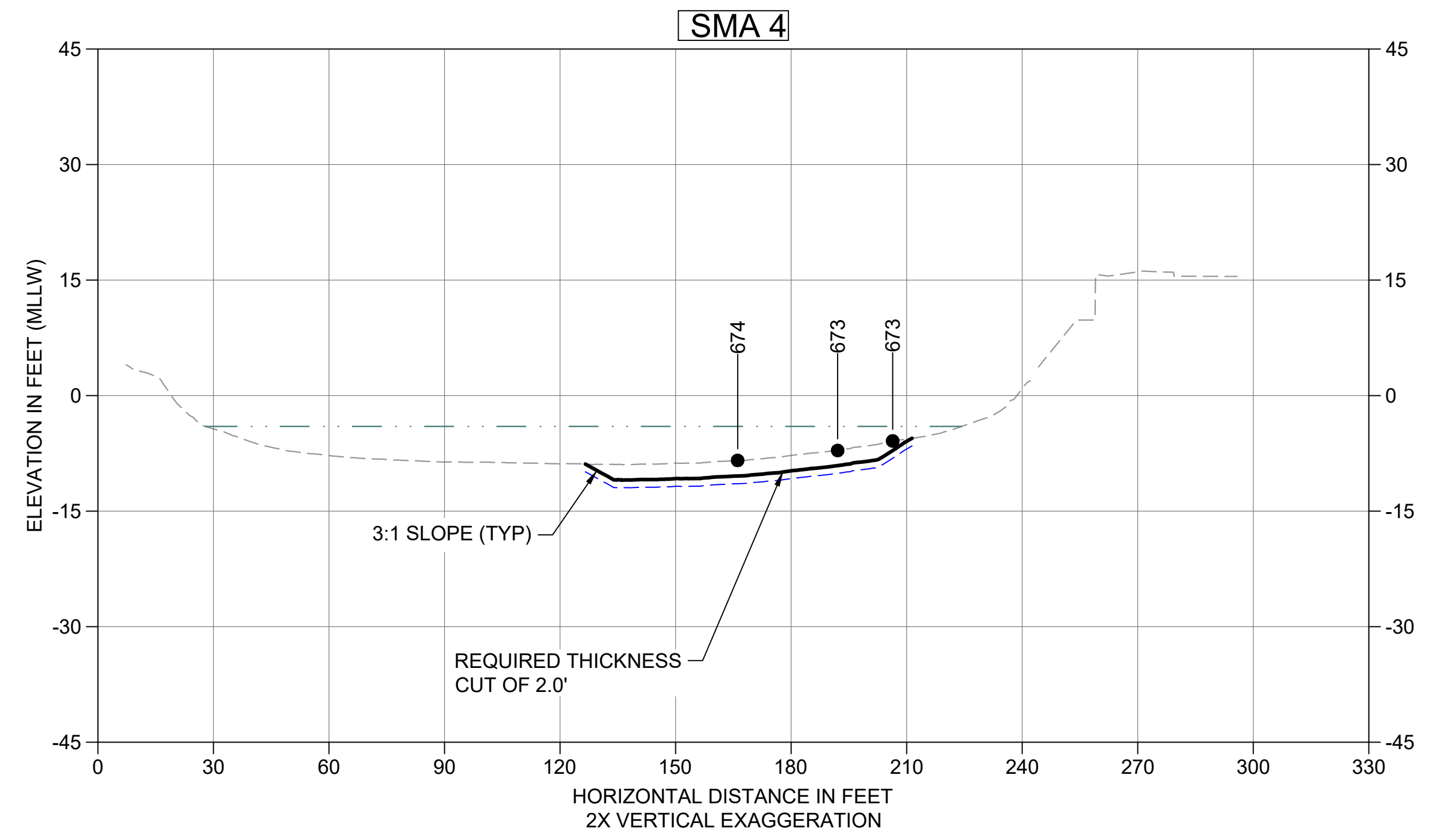


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**DREDGING CROSS SECTIONS**

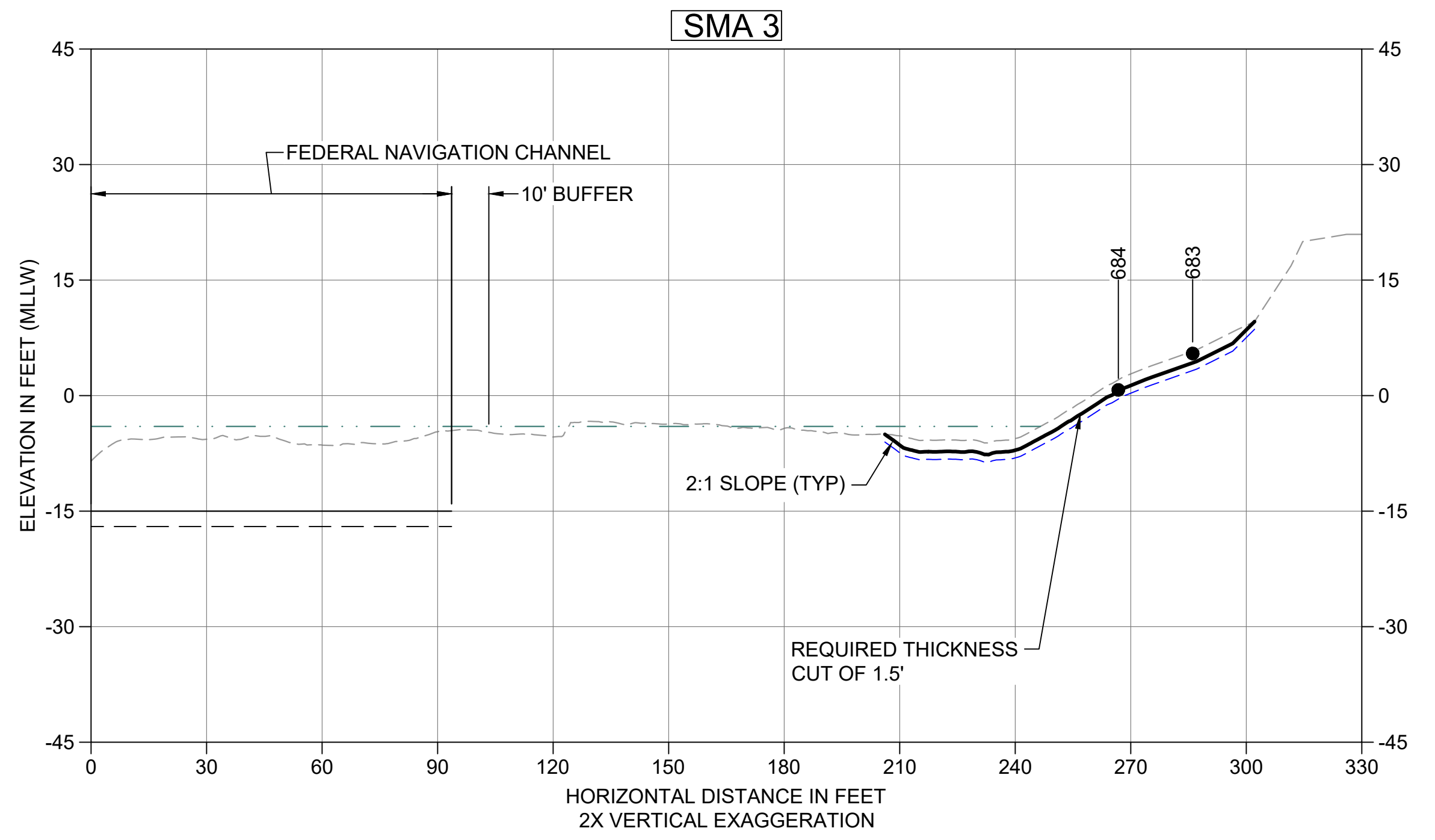
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 DRAWING NO: **C212**  
 SHT NO / TOTAL: 52 / 73  
 REV NO: **0**



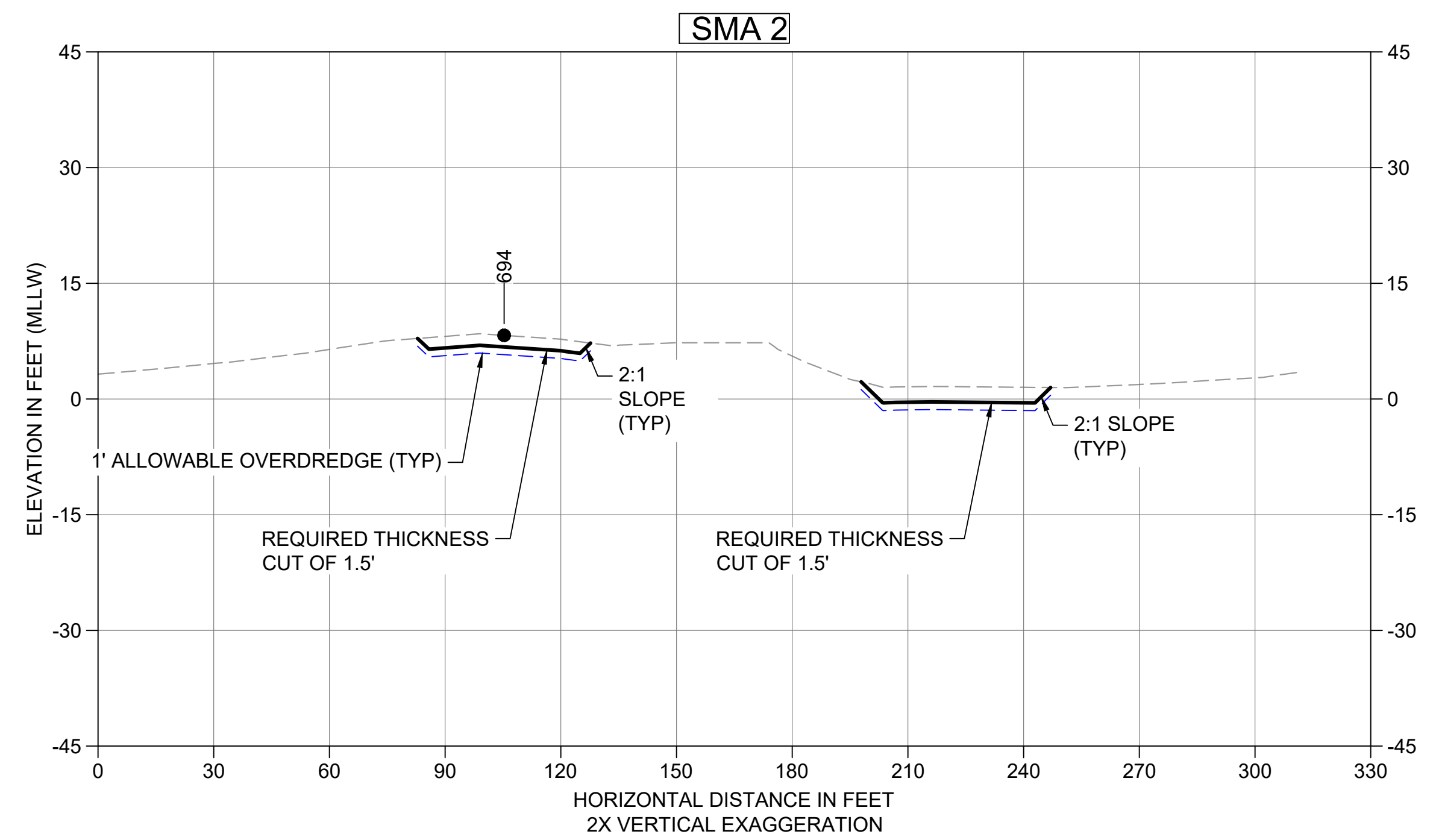
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 PLOTTED: Feb 20, 2023 01:09:03am By tgriga



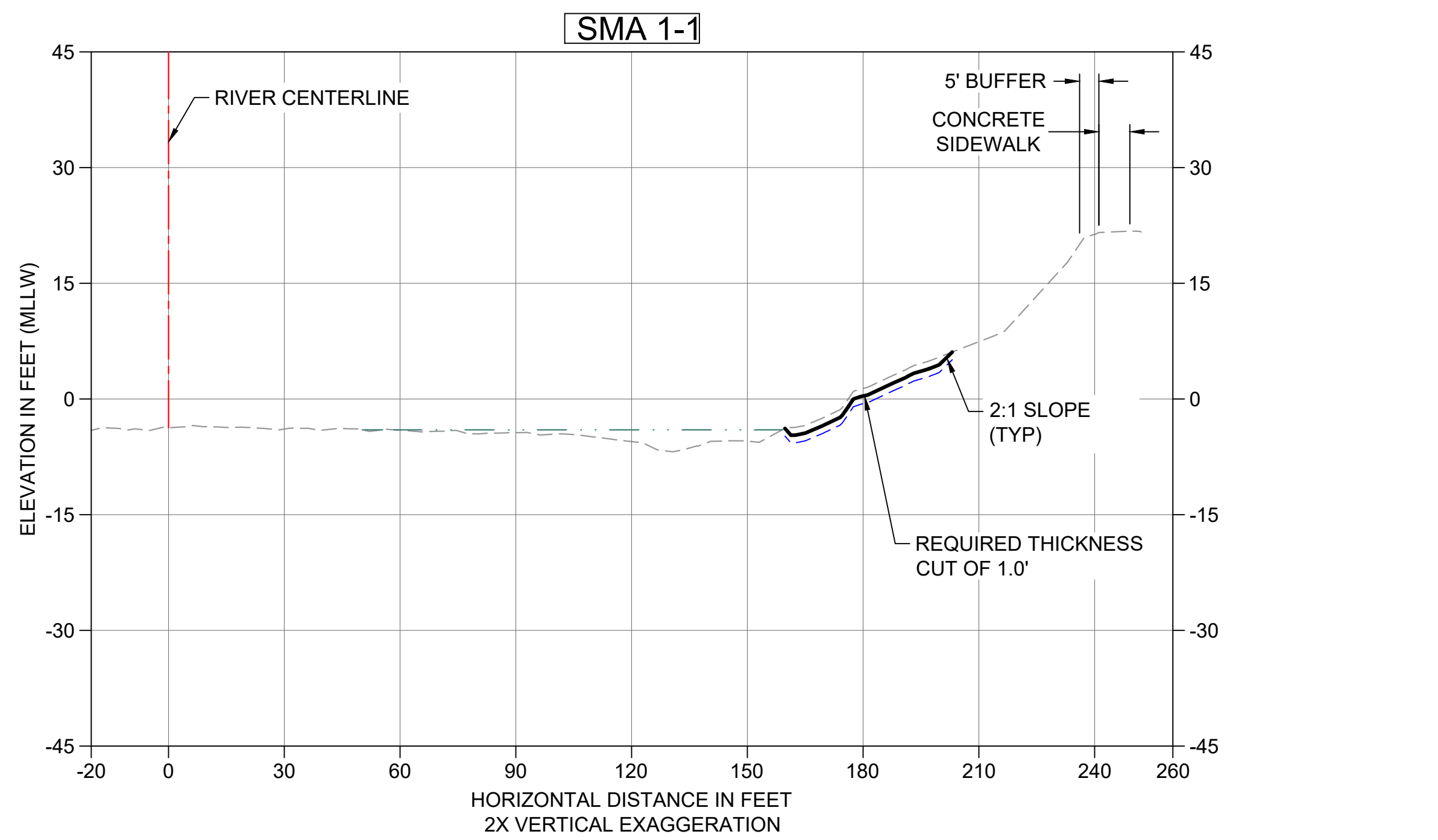
48 DREDGE SECTION SMA-4  
 C109 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'



49 DREDGE SECTION SMA-3  
 C110 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 10'

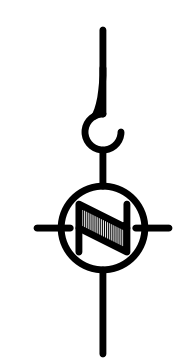


50 DREDGE SECTION SMA-2  
 C111 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 10'



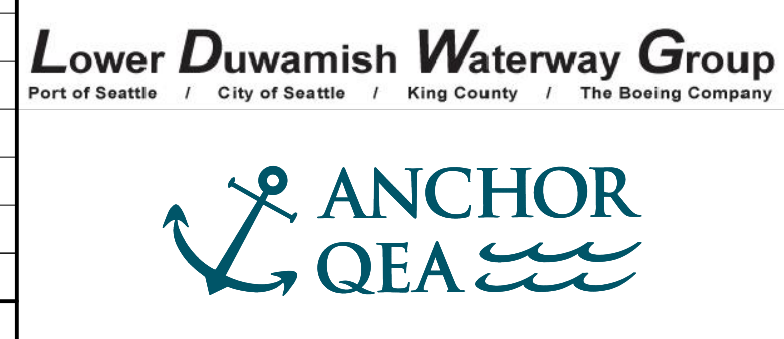
51 DREDGE SECTION SMA-1  
 C112 HORIZONTAL SCALE: 30'  
 VERTICAL SCALE: 15'

- LEGEND:
- - - - - EXISTING GRADE MERGED DATA
  - USACE AUTHORIZED CHANNEL ELEVATION (-15' MLLW)
  - - - - - USACE MAINTENANCE ELEVATION (-17' MLLW)
  - · - · - INTERTIDAL/SUBTIDAL TRANSITION (-4' MLLW)
  - · - · - LOWEST HABITAT AREA ELEVATION (-10' MLLW)
  - DREDGE DESIGN SURFACE
  - - - - - 1' ALLOWABLE OVERDREDGE
  - VERTICAL SAMPLE LOCATION
- NOTE:  
 VERTICAL DATUM: MLLW



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**60% REVIEW**  
 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS  
 PROJECT ENGINEER: J. LAPLANTE  
 DESIGN APPROVAL: T. WANG  
 PROJECT ACCEPTANCE: PRJCT MNGR

CHECKED: BIGSBY/GRIGA  
 SCALE: AS NOTED  
 PROJECT FILE NO: E00559E18  
 CONTRACT NO: C0XXXXCX



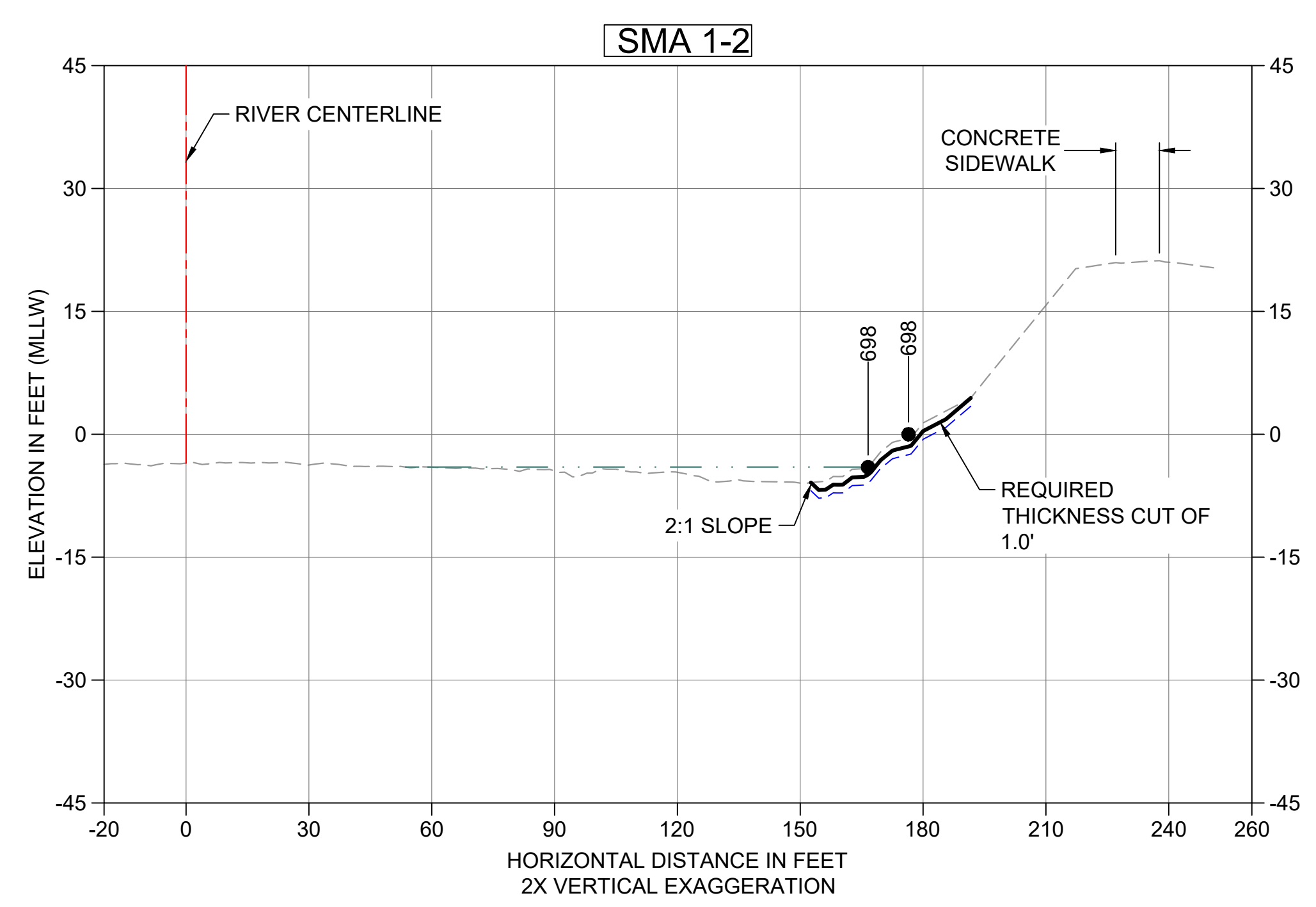
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**DREDGING CROSS SECTIONS**

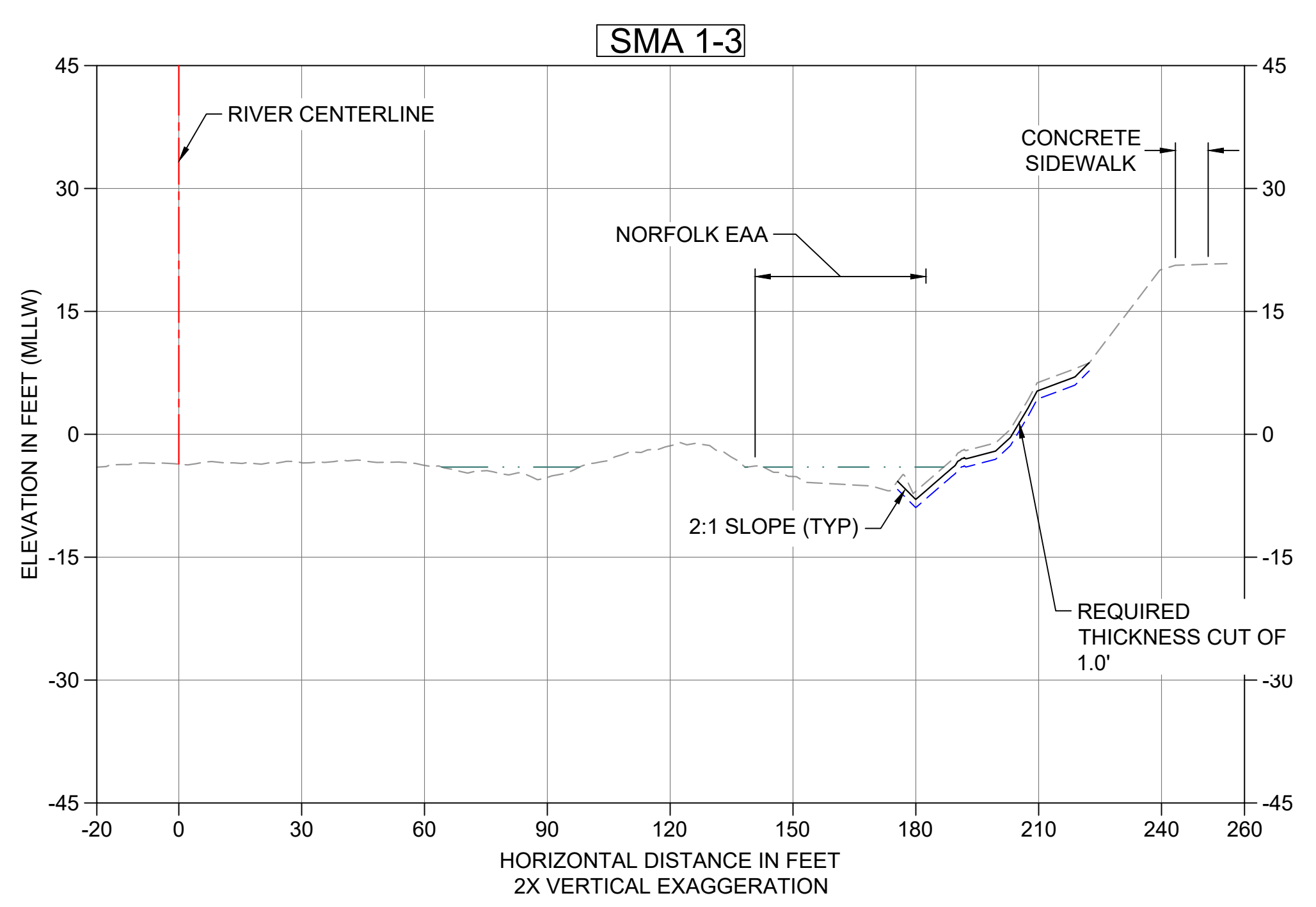
DATE: FEBRUARY 2023  
 DRAWING NO: **C213**  
 SHT NO / TOTAL: 53 / 73  
 REV NO: **0**



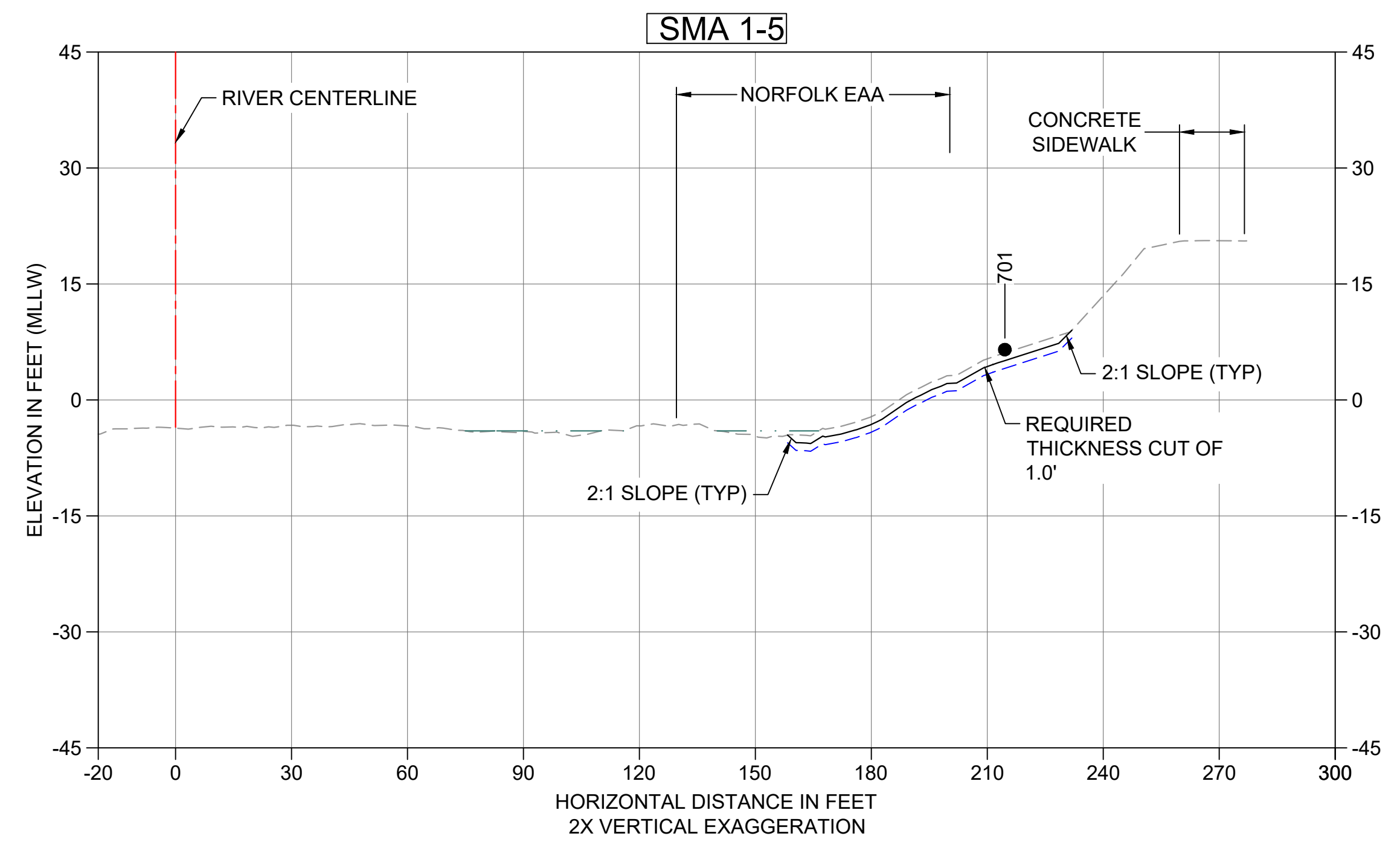
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 PLOTTED: Feb 20, 2023 01:09:27am By tgriga



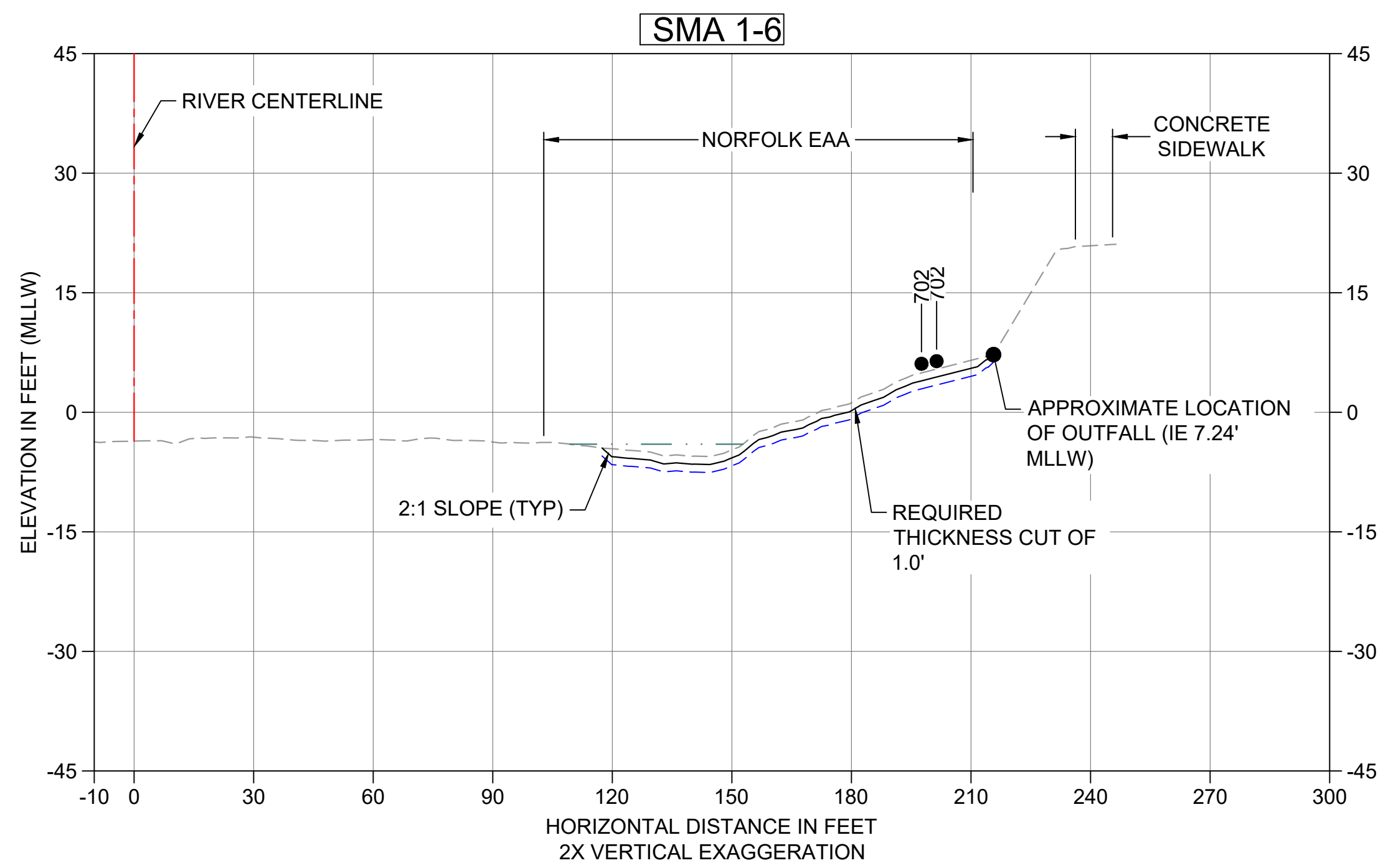
**52 DREDGE SECTION SMA-1**  
 C112 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**53 DREDGE SECTION SMA-1**  
 C112 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



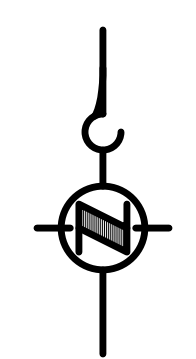
**54 DREDGE SECTION SMA-1**  
 C112 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**55 DREDGE SECTION SMA-1**  
 C112 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'

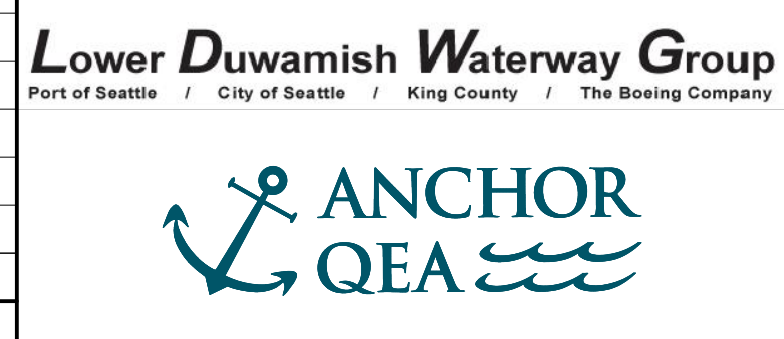
- LEGEND:**
- EXISTING GRADE MERGED DATA
  - USACE AUTHORIZED CHANNEL ELEVATION (-15' MLLW)
  - - - USACE MAINTENANCE ELEVATION (-17' MLLW)
  - · - · - INTERTIDAL/SUBTIDAL TRANSITION (-4' MLLW)
  - · - · - LOWEST HABITAT AREA ELEVATION (-10' MLLW)
  - DREDGE DESIGN SURFACE
  - · - · - 1' ALLOWABLE OVERDREDGE
  - VERTICAL SAMPLE LOCATION

NOTE:  
VERTICAL DATUM: MLLW



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DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX



DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
**LOWER DUWAMISH WATERWAY UPPER REACH**  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**DREDGING CROSS SECTIONS**

DATE: FEBRUARY 2023
DRAWING NO: <b>C214</b>
SHT NO / TOTAL 54 / 73
REV NO: <b>0</b>



BORDER FILE EDITION: x:\KOV\TD-Size-TB-Border\_ACB\Layer  
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 PLOTTED: Feb 20, 2023 01:09:31am By tgriga

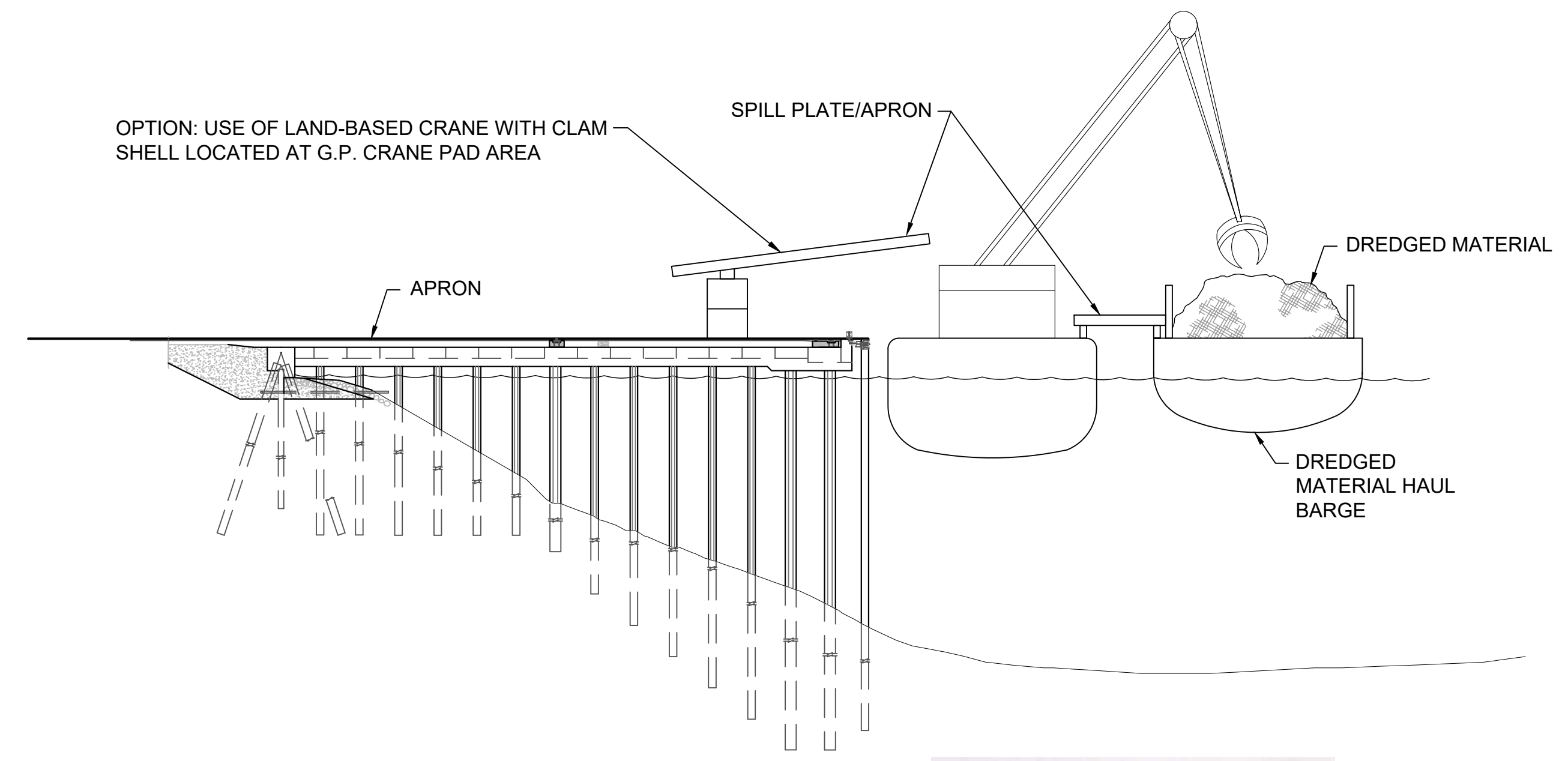
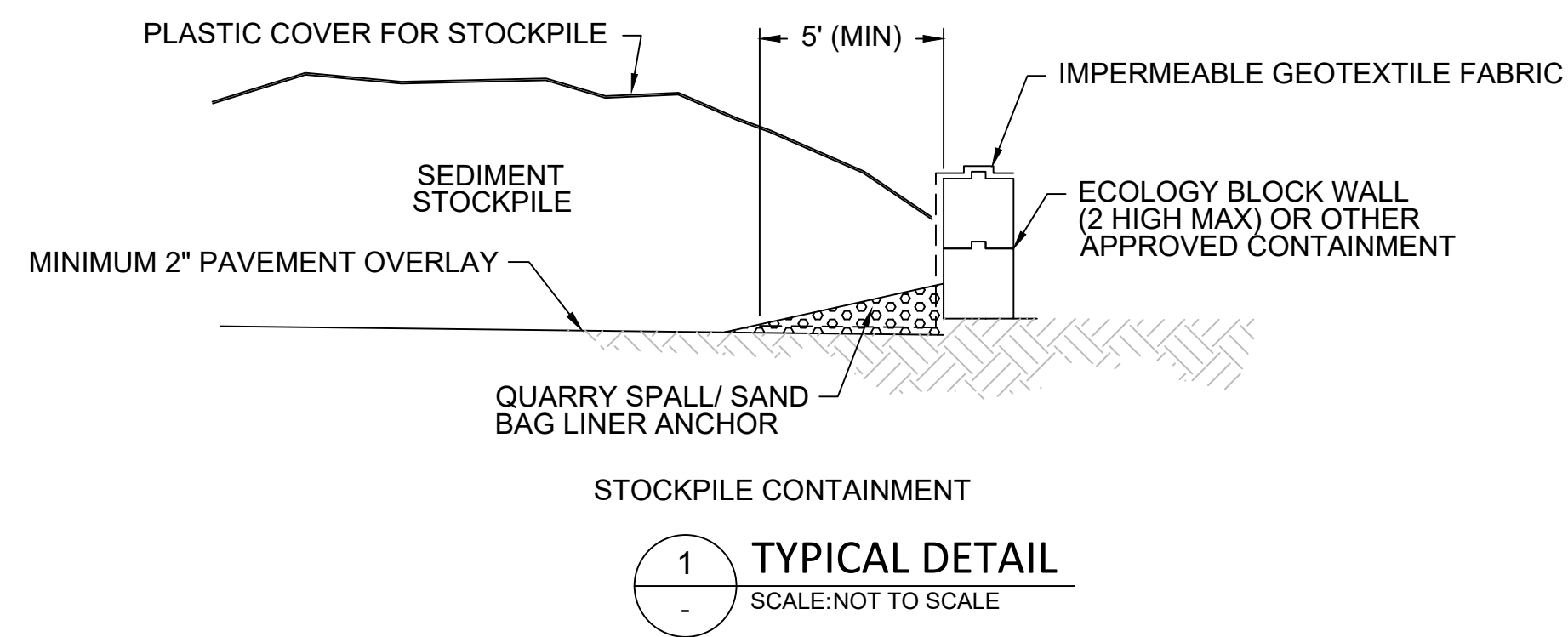


PHOTO 1: EXAMPLE OF OFFLOADING OPERATIONAL CONTROLS

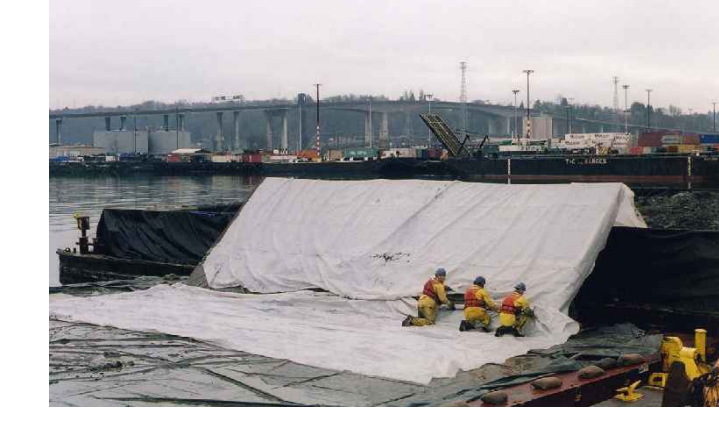


PHOTO 2: EXAMPLE OF OFFLOADING OPERATIONAL CONTROLS

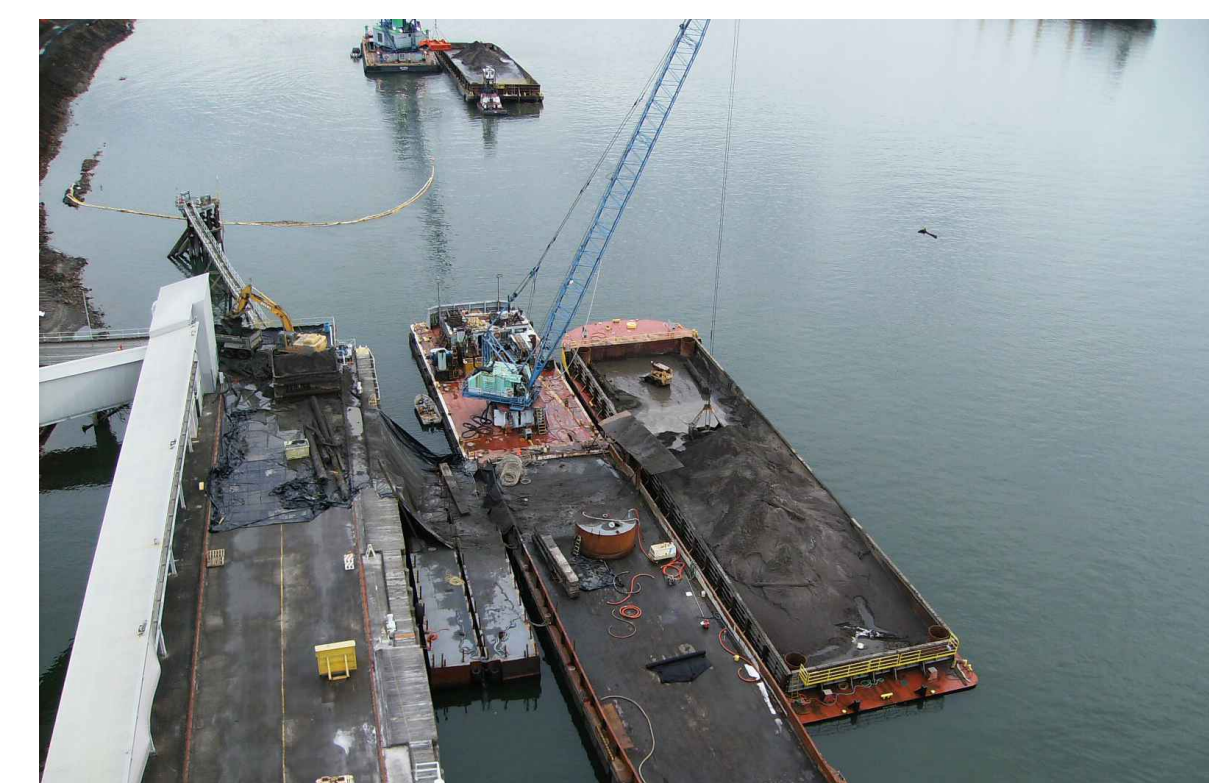
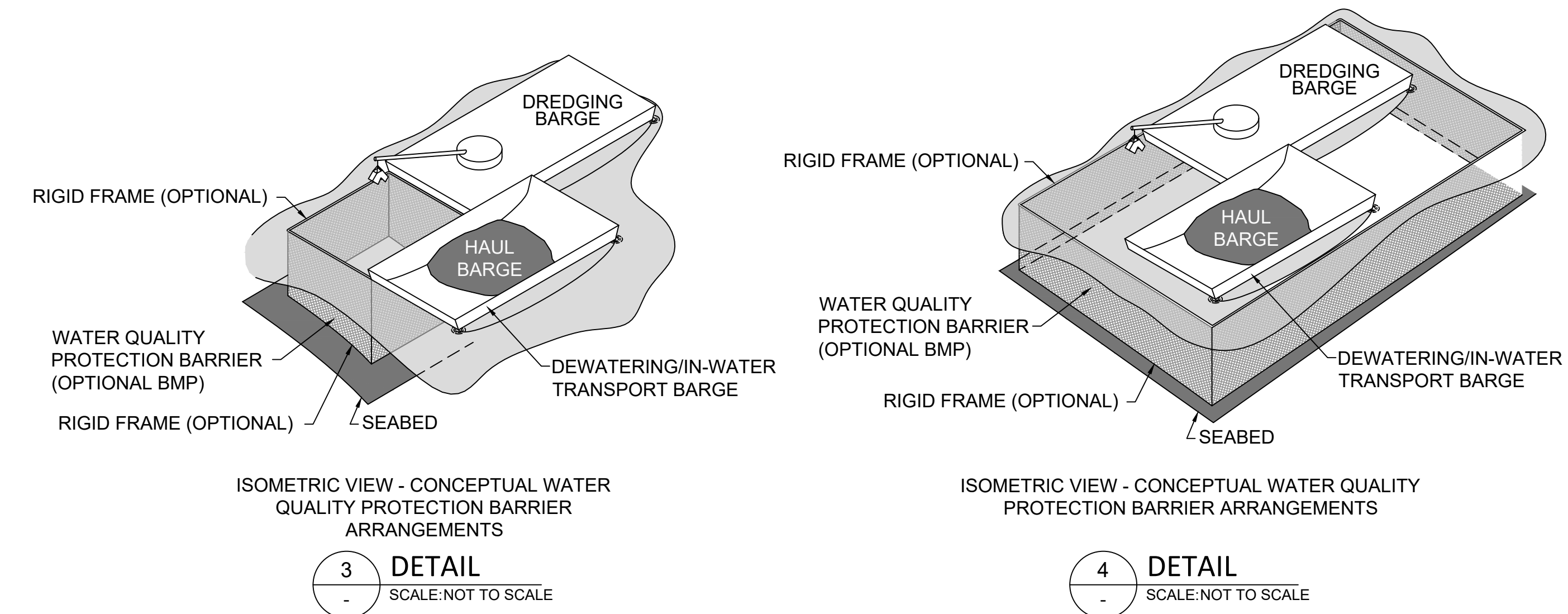


PHOTO 3: EXAMPLE OF OFFLOADING TO TRUCKS OPERATIONAL CONTROLS

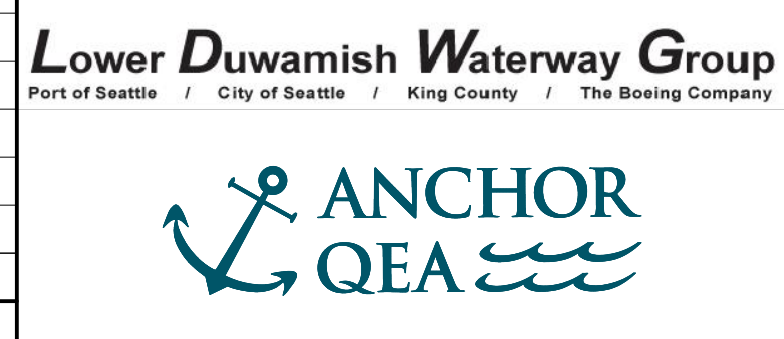


OFFLOAD FROM HAUL BARGE



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**60% REVIEW**  
 FEBRUARY 2023

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PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX

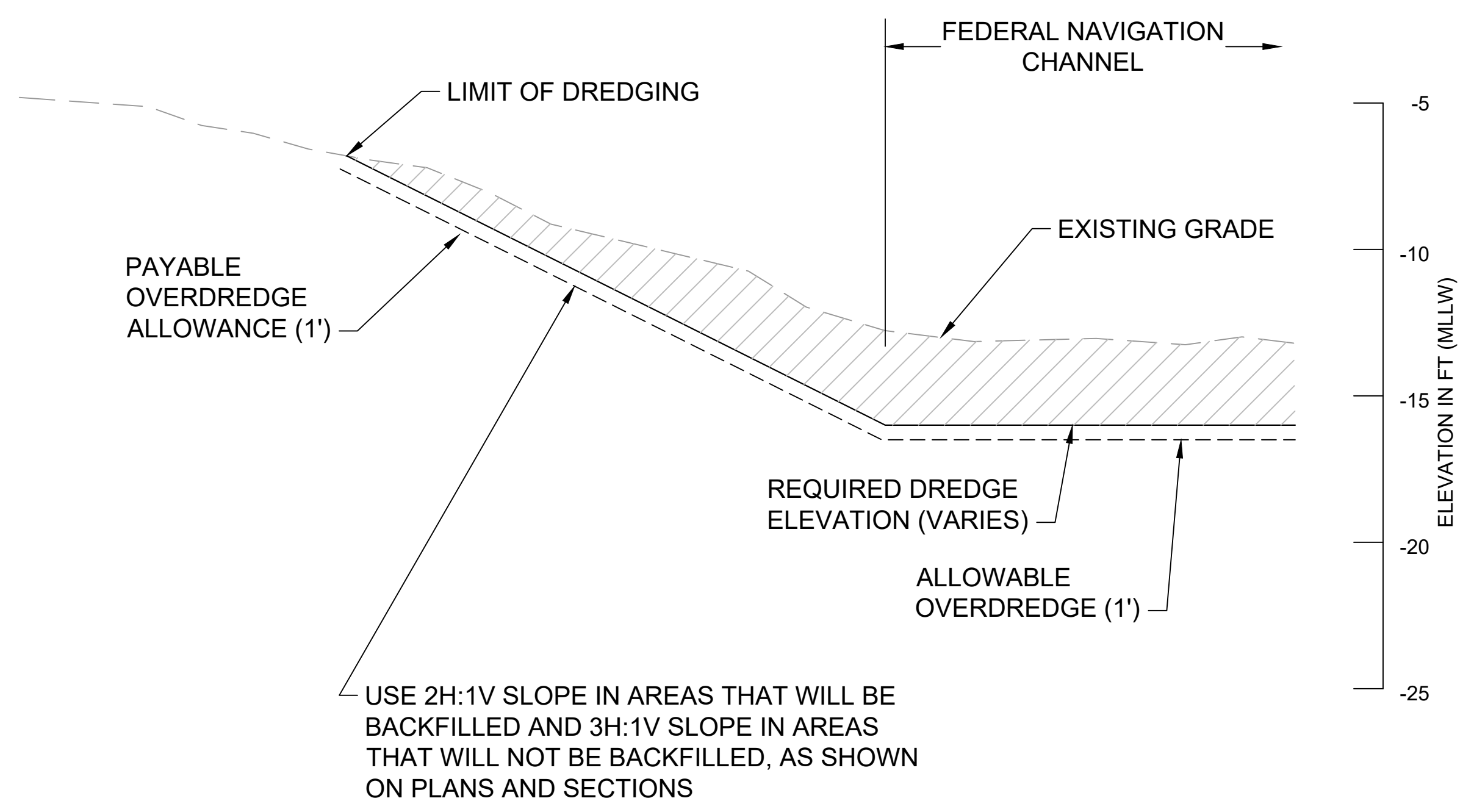


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**OFFLOADING, STOCKPILING,  
 AND BMPs**

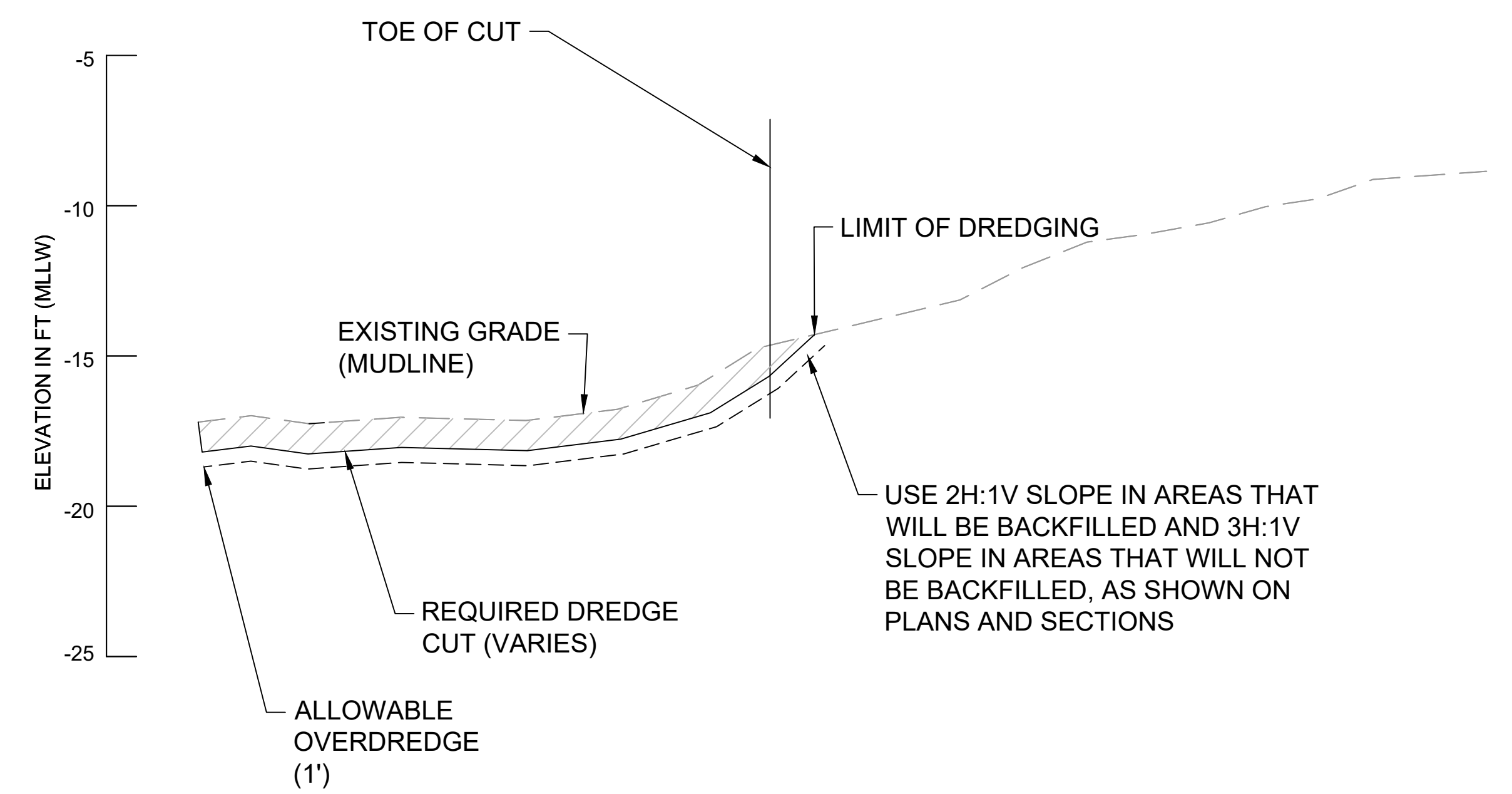
DATE: FEBRUARY 2023
DRAWING NO: <b>C301</b>
SHT NO / TOTAL 55 / 73
REV NO: <b>0</b>



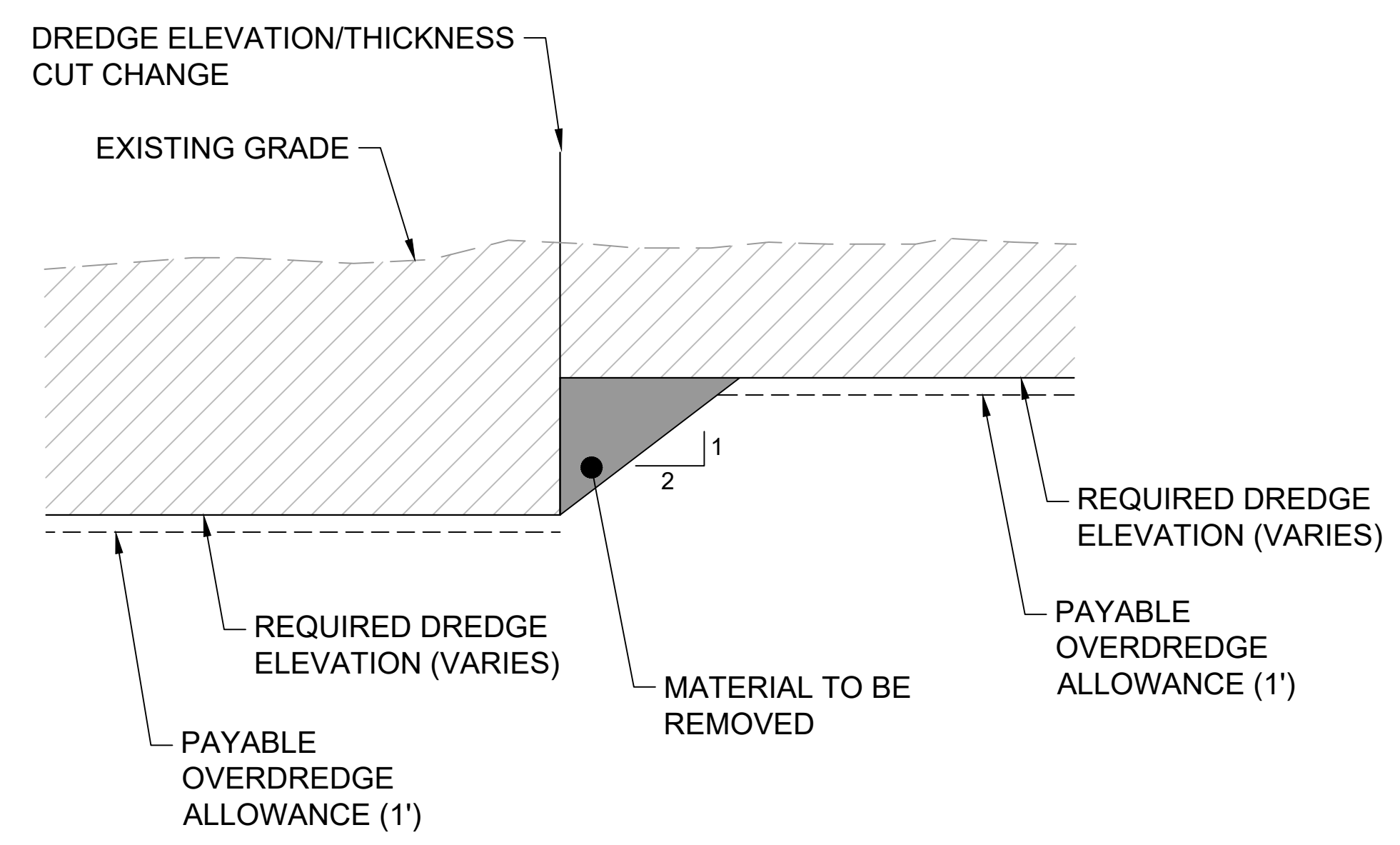
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 PLOTTED: Feb 20, 2023 01:09:33am By tgriga



**1 DREDGING DETAIL FOR ELEVATION CUT**  
 C302 SCALE: NTS



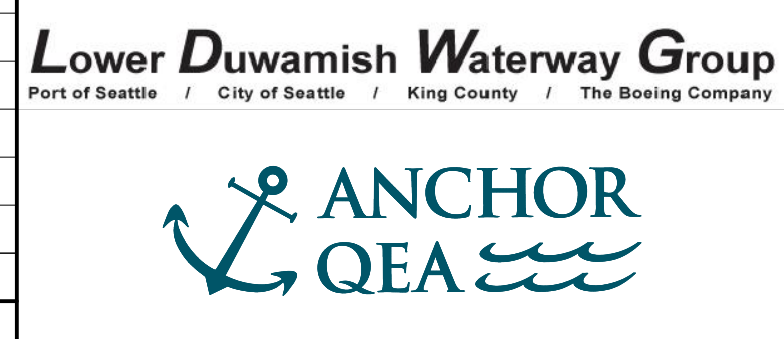
**2 DREDGING DETAIL FOR THICKNESS CUT**  
 C302 SCALE: NTS



**3 DREDGE ELEVATION CHANGE**  
 C302 SCALE: NTS

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DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX



DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**DREDGING DETAILS**

DATE: FEBRUARY 2023
DRAWING NO: <b>C302</b>
SHT NO / TOTAL 56 / 73
REV NO: <b>0</b>

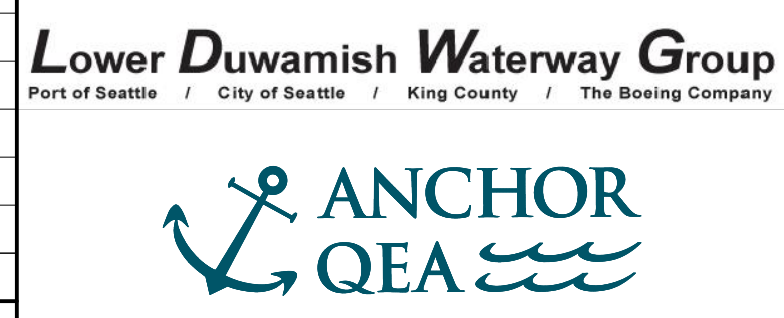


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 PLOTTED: Feb 20, 2023 01:09:35am By tgriga

TO BE ADDED IN 90%



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 FEBRUARY 2023

DESIGNED/DRAWN: K. GROSS	CHECKED: BIGSBY/GRIGA
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX



DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**MATERIAL PLACEMENT DETAILS**

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DATE: FEBRUARY 2023
DRAWING NO: <b>C303</b>
SHT NO / TOTAL 57 / 73
REV NO: <b>0</b>



# ABBREVIATIONS

#	NUMBER, POUNDS	MAX	MAXIMUM
&	AND	MHHW	MEAN HIGH HIGH WATER
@	AT	MIN	MINIMUM
AB	ANCHOR BOLT	MISC	MISCELLANEOUS
AP	ANGLE POINT	MLLW	MEAN LOW LOW WATER
APPROX	APPROXIMATE	MLW	MEAN LOW WATER
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MSL	MEAN SEA LEVEL
		N	NEUTRAL, NORTH, NORTHING
BLDG	BUILDING	N/A	NOT APPLICABLE
BOT	BOTTOM	NF	NEAR FACE
BTWN	BETWEEN	NO	NUMBER
		NTS	NOT TO SCALE
CDF	CONTROLLED DENSITY FILL	OC	ON CENTER, CENTERS
CIP	CAST-IN-PLACE	OD	OUTSIDE DIAMETER
CJ	CONSTRUCTION JOINT	OF	OUTSIDE FACE
CL	CENTER LINE	OH	OVERHEAD
CLR	CLEAR	OPNG	OPENING
CONC	CONCRETE	OPP	OPPOSITE
CONN	CONNECTION		
CONT	CONTINUOUS	PL	PROPERTY LINE OR PLATE
COORD	COORDINATE	PSE	PUGET SOUND ENERGY
COS	CITY OF SEATTLE	PSF	POUNDS PER SQUARE FOOT
		PSI	POUNDS PER SQUARE INCH
DI	DUCTILE IRON	PT	POINT, POINT OF TANGENCY, PRESSURE TREATED
DIA	DIAMETER	PVC	POLYVINYL CHLORIDE
DICA	DRILLED IN CONCRETE ANCHOR		
DIM	DIMENSION	R, RAD	RADIUS, RISER
DIP	DUCTILE IRON PIPE	RCP	REINFORCED CONCRETE PIPE
DP	DEPTH, DEEP	REBAR	REINFORCEMENT BAR
DWG	DRAWING	REF	REFER TO / REFERENCE
		REINF	REINFORCEMENT OR REINFORCING
E	EAST, EASTING	REQD	REQUIRED
EA	EACH	ROW, R/W	RIGHT-OF-WAY
EF	EACH FACE		
EJ	EXPANSION JOINT	SCH	SCHEDULE
EL	ELEVATION	SCL	SEATTLE CITY LIGHT
EMBD	EMBEDDED	SECT	SECTION
EQ	EQUAL	SF	SQUARE FOOT
ES	EACH SIDE	SHT	SHEET
EW	EACH WAY	SIM	SIMILAR
EXIST	EXISTING	SPCG	SPACING
EXP	EXPANSION	SPEC(S)	SPECIFICATION(S)
		SPU	SEATTLE PUBLIC UTILITIES
FDN	FOUNDATION	SS	STAINLESS STEEL
FF	FAR FACE OR FINISHED FLOOR	STA	STATION
FIN	FINISHED	STD	STANDARD
FT	FEET OR FOOT	STL	STEEL
FTG	FOOTING	STRUC	STRUCTURAL
		SUPT	SUPPORT
GA	GAUGE, GAGE	SYM	SYMMETRICAL
GALV	GALVANIZED		
HDPE	HIGH-DENSITY POLYETHYLENE	TEMP	TEMPORARY
HORIZ	HORIZONTAL	T&B	TOP AND BOTTOM
HP	HIGH POINT	TOC	TOP OF CONCRETE
		TOF	TOP OF FOOTING
IBC	INTERNATIONAL BUILDING CODE	TOS	TOP OF STEEL
ID	INSIDE DIAMETER	TOW	TOP OF WALL
IE	INVERT ELEVATION	TRANS	TRANSVERSE
IF	INSIDE FACE	TYP	TYPICAL
IN	INCH		
INFO	INFORMATION	UNO	UNLESS NOTED OTHERWISE
		VERT	VERTICAL
JT	JOINT		
		w/	WITH
K	KIPS (1,000 POUNDS)	w/o	WITHOUT
KC	KING COUNTY	WP	WORK POINT
KCDNR	KING COUNTY DEPARTMENT OF NATURAL RESOURCES		
KIP(S)	THOUSAND POUNDS		
KSF	KIPS PER SQUARE FOOT		
KSI	KIPS PER SQUARE INCH		
L	LENGTH OR ANGLE		
LB	POUND		
LOC	LOCATION		
LONGIT	LONGITUDINAL		
LP	LOW POINT		
LVL	LEVEL		

# LEGEND

**ELEVATION LETTERS IDENTIFIER**

**DESCRIPTIVE SUBTITLE**  
ELEVATION  
SCALE: 1/4"=1'-0"

**DESCRIPTIVE SUBTITLE**  
SECTION  
SCALE: 1/4"=1'-0"

**DESCRIPTIVE SUBTITLE**  
DETAIL  
SCALE: 1"=1'-0"

**DESCRIPTIVE SUBTITLE**  
SITE PLAN  
SCALE: 1/8"=1'-0"

**PHOTOGRAPH NUMBER IDENTIFIER**

**DESCRIPTIVE SUBTITLE**  
PHOTO  
SCALE: NONE

**DETAIL BUBBLE SYMBOL**

**DRAWING ON WHICH PHOTO APPEARS, OR: "-" IF SHOWN ON SAME SHEET**

**NORTH ARROW**

**ENGINEERING GRAPHIC SCALE (FOR 20 SCALE)**

**KEY NOTE INDICATOR**

	CONCRETE
	EARTH
	BACKFILL
	EXISTING STRUCTURE TO BE REMOVED
	EXISTING STRUCTURE ABANDON IN PLACE
	STEEL

BORDER FILE EDITION: x:\KOVTD-Dsize-TB-Border\_ACBM\_Layer T:\262 Series -Anchor\QEA\252.01 Eng Svcs for Sediment Cleanup of Upper Reach of Lower Duwamish Waterway E00559E18\Drawings\Structural\SCAD-LDWUR\_S-001.dwg | Layout: S001 PLOTTED: Feb 17, 2023 11:46:49am By slor

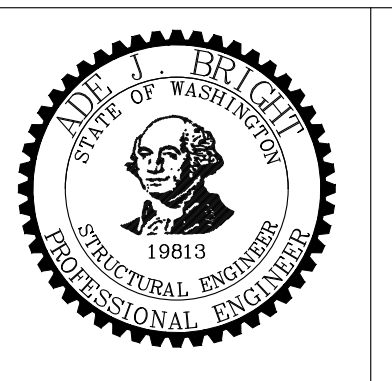
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NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
Port of Seattle / City of Seattle / King County / The Boeing Company

**6** BRIGHT ENGINEERING, INC.  
STRUCTURAL & CIVIL ENGINEERING  
1809 7th AVENUE SUITE 1100  
SEATTLE, WA 98101  
P: (206) 625-3777  
F: (206) 625-1851

**INTERMEDIATE ISSUE DRAWING**  
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**60% REVIEW**  
FEBRUARY 2023



DESIGNED/DRAWN: S. LOR	CHECKED: I. IKEDA
PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX



DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

**STRUCTURAL ABBREVIATIONS AND SYMBOLS**

DATE: FEBRUARY 2023
DRAWING NO: <b>S001</b>
WP701-G-00001
SHT NO / TOTAL 58 / 73
REV NO: <b>0</b>



# STRUCTURAL GENERAL NOTES

## DESIGN CRITERIA

APPLICABLE BUILDING NOTES AND CODES  
INTERNATIONAL BUILDING CODE, IBC 2018 EDITION, EXCEPT WHERE OTHER CODES ARE MORE RESTRICTIVE.

## OUTFALLS AND STRUCTURE PROTECTION

ALL OUTFALLS OR STRUCTURES NEAR DREDGING OR EXCAVATION SHALL BE PROTECTED PRIOR TO START OF WORK.

## FOUNDATION PILING

CONSULT SOILS REPORT BY ANCHOR QEA ENGINEERS, DATED { } FOR FOUNDATION DREDGING AND BACKFILL INFORMATION

## STRUCTURAL STEEL PILES

STEEL PIPE PILES - 14" DIA WITH 1/2" MINIMUM WALL THICKNESS PER ASTM A252, GRADE 3 (MOD), fy= 50 ksi.

## SHEET PILES

INTERLOCKING STEEL SHEET PILES SHALL BE NEW, CONFORMING TO ASTM A572, GRADE 60.

MINIMUM WEB OR FLANGE THICKNESS = 0.40 INCHES

MINIMUM ELASTIC SECTION MODULUS = 35 IN<sup>3</sup>/FT

SHEET PILES SHALL BE SUPPLIED IN DOUBLE SECTIONS WHEREVER POSSIBLE.

## TIEBACK ANCHOR

LOW RELAXATION SEVEN-WIRE STRAND ASTM A416, GRADE 270 WITH DOUBLE CORROSION PROTECTION.  
ANCHOR OR GROUT - fc = 4000 psi.

## STEEL

### MATERIAL

ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS UNLESS NOTED OTHERWISE ON THE DRAWINGS:

WIDE FLANGE SHAPES

ASTM A992 OR ASTM A572, GRADE 50

TEES, CHANNELS, ANGLES, PLATES AND BARS

ASTM A36, UNLESS OTHERWISE NOTED

### WELDING

ALL WELDING SHALL CONFORM TO AWS D1.1 WELDING CODE. MINIMUM SIZE WELDS 3/16" CONTINUOUS FILLET. WELDING ELECTRODES SHALL BE 70XX SERIES CONFORMING TO ANSI/AWS D1.1 TABLE 3.1 AND ELECTRODE SPECIFICATION AWS A5. WELDING SHALL BE CONDUCTED BY WABO CERTIFIED WELDER.

### PAINTING

STRUCTURAL STEEL SHALL BE COATED IN CONFORMANCE WITH SPECIFICATIONS.

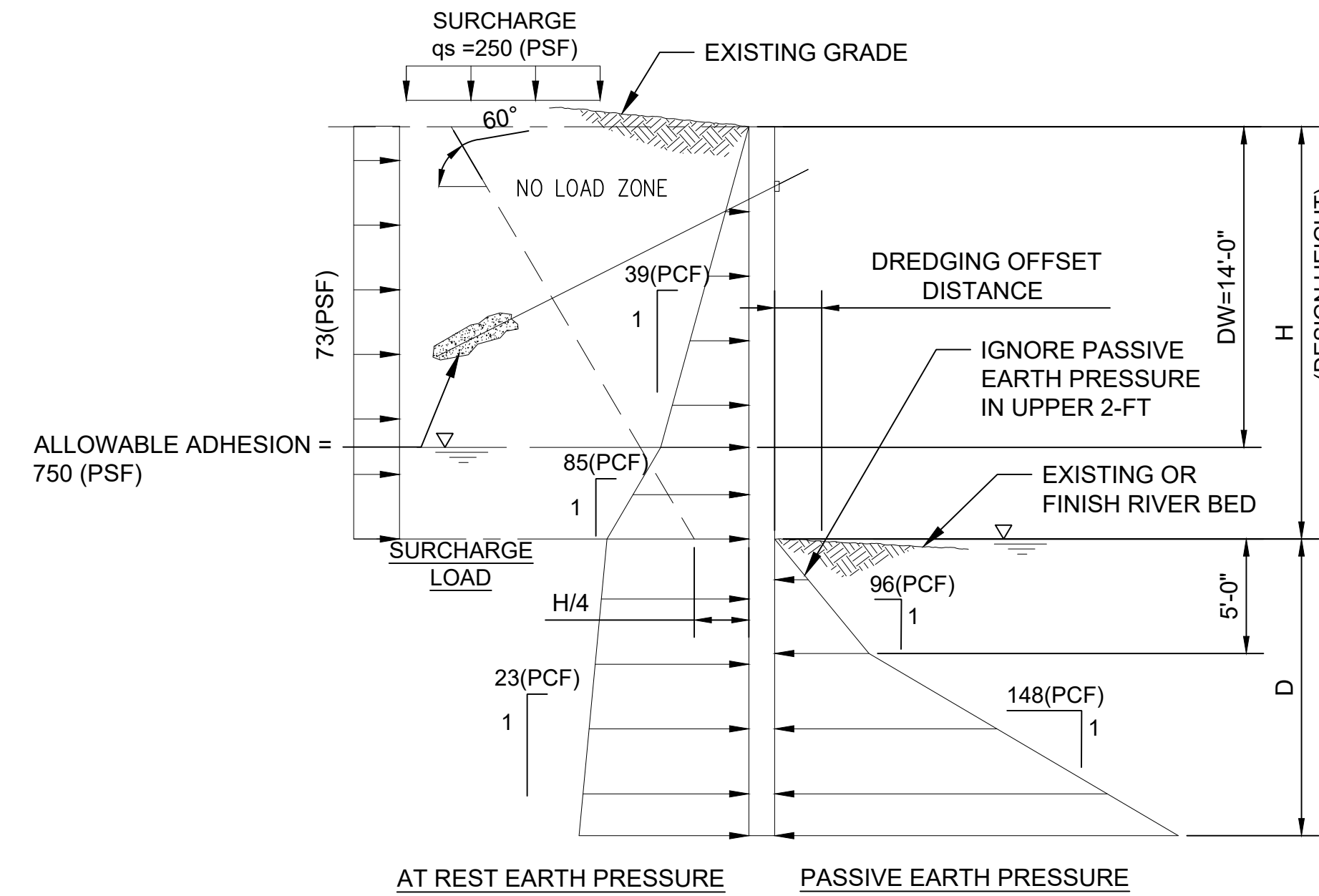
## MISCELLANEOUS

SUBMIT ALL REQUIRED SHOP DRAWINGS AND RECEIVE THEIR SATISFACTORY REVIEW FROM THE PROJECT REPRESENTATIVE PRIOR TO FABRICATION.

COORDINATE AND VERIFY ALL DIMENSIONS WITH GENERAL AND CIVIL DRAWINGS AND CONDITIONS AT THE PROJECT SITE PRIOR TO STARTING WORK AND NOTIFY THE PROJECT REPRESENTATIVE IMMEDIATELY OF ANY DISCREPANCIES.

PROVIDE TEMPORARY ERECTION BRACING AND SHORING AS REQUIRED FOR STABILITY OF THE STRUCTURE AND ADJACENT STRUCTURES, DURING ALL PHASES OF CONSTRUCTION. REFER TO PROJECT SPECIFICATIONS FOR INFORMATION NOT CONTAINED IN THESE GENERAL NOTES.

# SOIL PRESSURE DIAGRAM



PASSIVE EARTH PRESSURE REDUCTION FACTORS			
OFFSET DISTANCE	REDUCTION FACTOR		
	2H:1V	1.5H:1V	1H:1V
0	0.75	0.56	0.38
2	0.85	0.66	0.48
4	0.95	0.76	0.58

L-PILE MODELING PARAMETERS						
LAYERS	EFFECTIVE UNIT WEIGHT γ(PCF)	FRICTION ANGLE Φ (DEG)	UNDRAINED SHEAR STRENGTH Cu (KSF)	P.Y CURVE MODEL	SPRING CONSTANT:K (Es=Kx) K (PCI)	STRAIN FACTOR; @50% MAX E ε50
RECENT SEDIMENT	36	27	0.08	SOFT CLAY (MATLOCK)	-	0.020
ALLUVIUM	61	32	-	SAND (REESE)	20	-

### NOTES:

1. DIAGRAM APPLIES TO DRILLED SOLDIER PILE WALLS WITH TIMBER LAGGING AND SHEET PILE WALLS DESIGNED AS A CANTILEVERED WALL OR WITH A SINGLE ROW OF TIEBACK.
2. ALL PRESSURES EXPRESSED AS AN EQUIVALENT FLUID UNIT WEIGHT.
3. ACTIVE EARTH AND SURCHARGE PRESSURES ACT OVER THE PILE SPACING WITHIN RETAINED WALL HEIGHT AND OVER PILE WIDTH OR SHAFT DIAMETER BELOW BOTTOM OF EXCAVATION, WHICHEVER IS LESSER.
4. PASSIVE EARTH PRESSURE ACTS OVER 3 TIMES SHAFT DIAMETER OR PILE WIDTH; OR PILE SPACING, WHICHEVER IS LESSER.
5. 50% OF ACTIVE AND SURCHARGE PRESSURES ACT ON ALL LAGGING BETWEEN SOLDIER PILES.
6. PASSIVE RESISTANCE ARE ULTIMATE VALUES. DIVIDE WITH A SAFETY FACTOR OF 1.5 FOR ALLOWABLE VALUE.

## CANTILEVER SOLDIER PILE OR SHEET PILE

### PRESSURE DIAGRAM

SCALE: NTS

**COLOR IMAGE**

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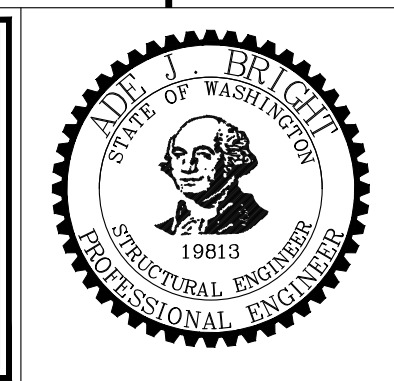
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PLOTTED: Feb 17, 2023 11:47:40am By slor

NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
Port of Seattle / City of Seattle / King County / The Boeing Company

**BRIGHT ENGINEERING, INC.**  
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**INTERMEDIATE ISSUE DRAWING**  
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FEBRUARY 2023



DESIGNED/DRAWN: S. LOR	CHECKED: I. IKEDA
PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX



DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

**STRUCTURAL GENERAL NOTES**  
**AND SOIL PRESSURE DIAGRAM**

DATE: FEBRUARY 2023
DRAWING NO: <b>S002</b>
WP701-G-00001
SHT NO / TOTAL 59 / 73
REV NO: <b>0</b>



# STATEMENT OF SPECIAL INSPECTIONS AND TESTING

**TABLE 1  
REQUIRED SPECIAL INSPECTIONS - STRUCTURAL SYSTEMS**

SYSTEM OR MATERIAL	REQUIRED INSPECTION	FREQUENCY OF INSPECTION		REMARKS
		CONTINUOUS	PERIODIC	
SOILS				
CONCRETE				
STRUCTURAL STEEL	FABRICATION OF STRUCTURAL ELEMENTS		X	FABRICATOR SHALL BE APPROVED IN ACCORDANCE WITH IBC, CHAPTER 17 TO PERFORM WORK WITHOUT SPECIAL INSPECTION
	VERIFY MATERIAL FOR STRUCTURAL STEEL SHAPES, PLATES, BARS, ETC.		X	CONTRACTOR TO SUBMIT CERTIFIED MILL TEST REPORTS
	VERIFY MATERIALS FOR WELD FILLER MATERIALS		X	
	VERIFY WELDER QUALIFICATIONS		X	CONTRACTOR TO SUBMIT WELDERS CERTIFICATES
	VERIFY USE OF PROPER WELDING PROCEDURES		X	
	INSPECT COMPLETE AND PARTIAL-PENETRATION GROOVE WELDS, MULTI-PASS FILLET WELDS, AND SINGLE-PASS FILLET WELDS GREATER THAN 5/16"	X		

**TABLE 2  
REQUIRED TESTING FOR SPECIAL INSPECTIONS**

SYSTEM OF MATERIAL	TESTING		REMARKS
	CODE OF STANDARD REFERENCE	FREQUENCY	
<b>GEOTECHNICAL</b>			
<b>CONCRETE</b>			
CONCRETE SLUMP	ASTM C143	WHENEVER CYLINDERS ARE CAST	
CEMENTITIOUS AND EPOXY GROUT COMPRESSIVE STRENGTH	ASTM C942 (CEMENTITIOUS) ASTM C579 (EPOXY)		TEST 2" CUBES FOR EACH GROUT SHIPMENT TO THE FIELD
<b>STEEL</b>			

## QUALITY ASSURANCE NOTES

1. THE QUALITY OF WORKMANSHIP AND THE QUALITY OF THE MATERIALS OF CONSTRUCTION ARE GOVERNED BY THE SEATTLE BUILDING CODE, 2018 EDITION (SBC).
2. TO ASSURE THE QUALITY OF THE CONSTRUCTION OF THIS PROJECT, STRUCTURAL TESTS, SPECIAL INSPECTION AND STRUCTURAL OBSERVATION WILL BE PERFORMED IN ACCORDANCE WITH SBC, CHAPTER 17.
3. WHERE FREQUENCY OF INSPECTION IS SPECIFIED TO BE CONTINUOUS, THE SPECIAL INSPECTOR IS EXPECTED TO BE PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED AND PROVIDING FULL-TIME OBSERVATION OF THE WORK REQUIRING SPECIAL INSPECTION.
4. WHERE FREQUENCY OF INSPECTION IS SPECIFIED TO BE PERIODIC, THE SPECIAL INSPECTOR IS EXPECTED TO BE PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK(PRIOR TO THE NEXT CONSTRUCTION TASK).
5. SPECIAL INSPECTIONS ARE IN ADDITION TO INSPECTIONS BY THE BUILDING OFFICIALS. CONSTRUCTION IS SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL. COORDINATE WITH BUILDING DEPARTMENT TO DETERMINE REQUIRED INSPECTIONS.
6. CONTRACTOR SHALL PROVIDE ACCESS TO THE WORK FOR REQUIRED INSPECTIONS. CONTRACTOR SHALL PROVIDE NOTIFICATION IN ADVANCE OF REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS.

**COLOR IMAGE**

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FEBRUARY 2023



DESIGNED/DRAWN: S. LOR	CHECKED: I. IKEDA
PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX



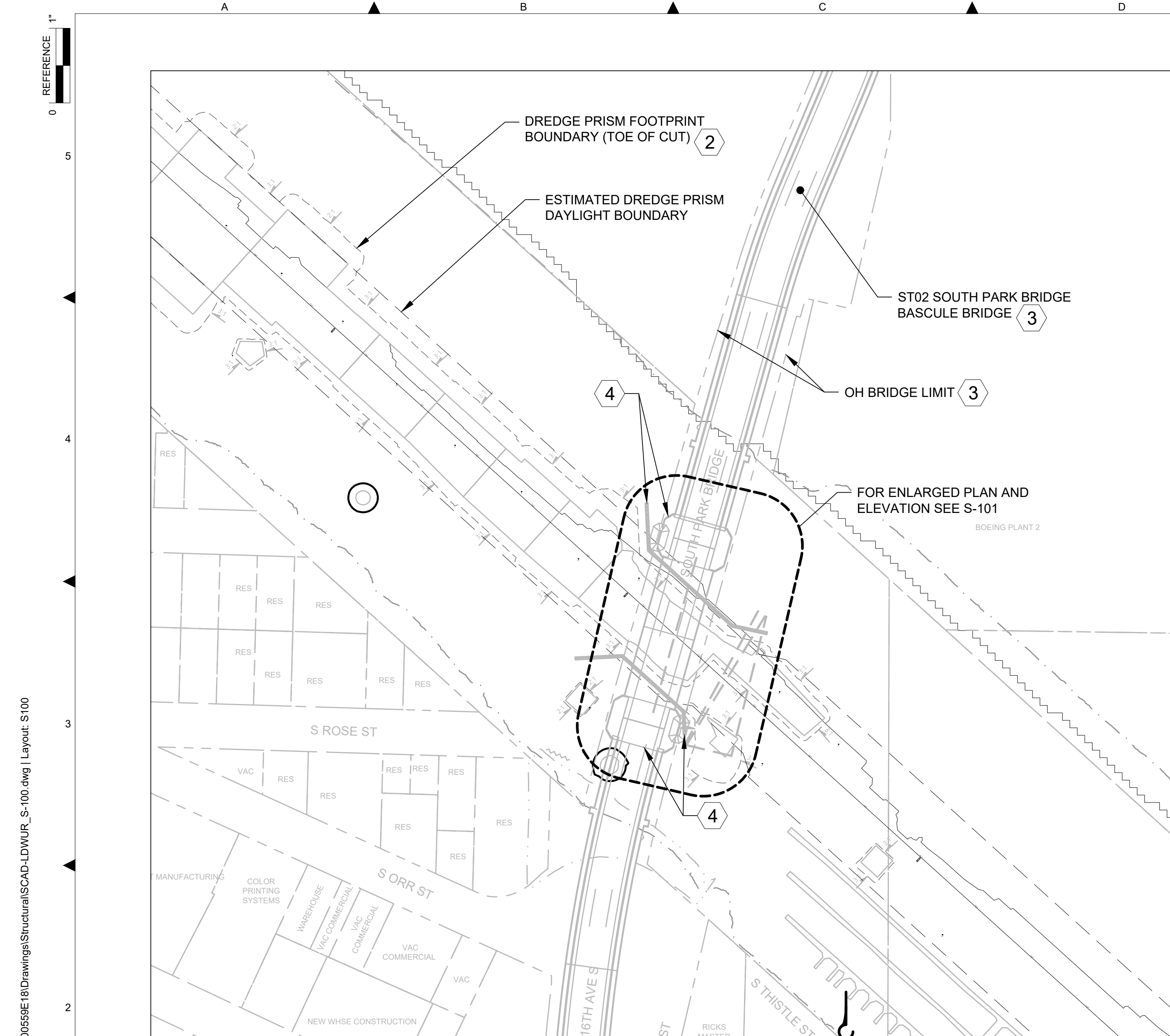
DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION

**LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP**

STATEMENT OF SPECIAL  
INSPECTIONS AND TESTING

DATE: FEBRUARY 2023
DRAWING NO: <b>S-003</b>
WP701-G-00001
SHT NO / TOTAL    REV NO: 60 / 73            0





**PARTIAL SITE PLAN**  
SCALE: 1 : 100



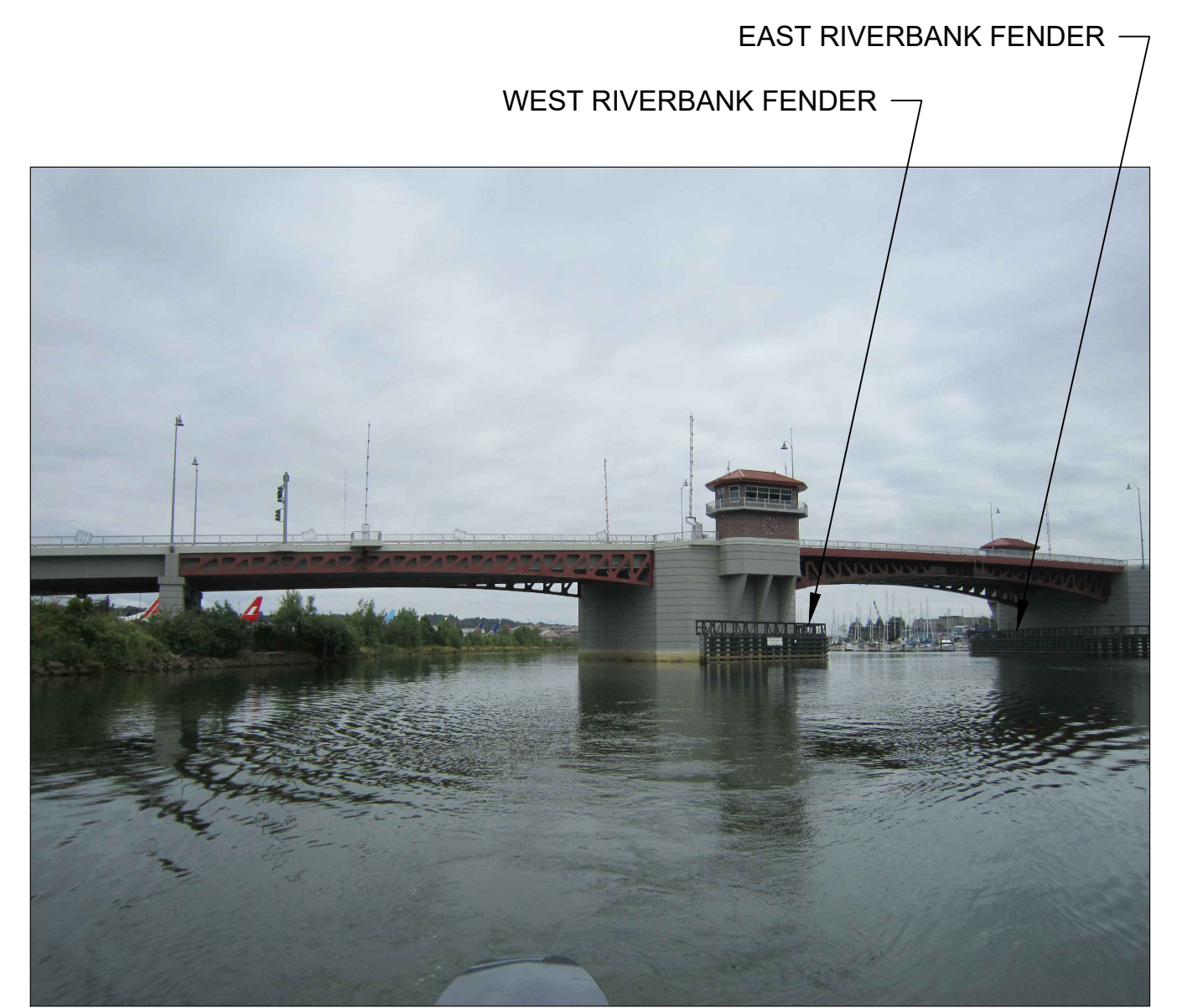
**GENERAL NOTES**

- 1 EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW GRADES FOR THIS CONTRACT, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED EXCEPT WHERE NOTED OTHERWISE ON THE DRAWING.
- 2 FOR DREDGING LIMITS, CUT SLOPE AND RESTORATION, SEE CIVIL DRAWINGS.
- 3 DO NOT MOOR TO KING COUNTY STRUCTURES.
- 4 MAINTAIN THE MINIMUM OFFSETS FROM BRIDGE PIERS AND FENDERING PILE SYSTEM INDICATED ON THE PLANS. PROTECT-IN-PLACE BRIDGE FENDERING SYSTEM.



**BASCULE BRIDGE (LOOKING DOWNSTREAM)**

**PHOTO**  
SCALE: NONE

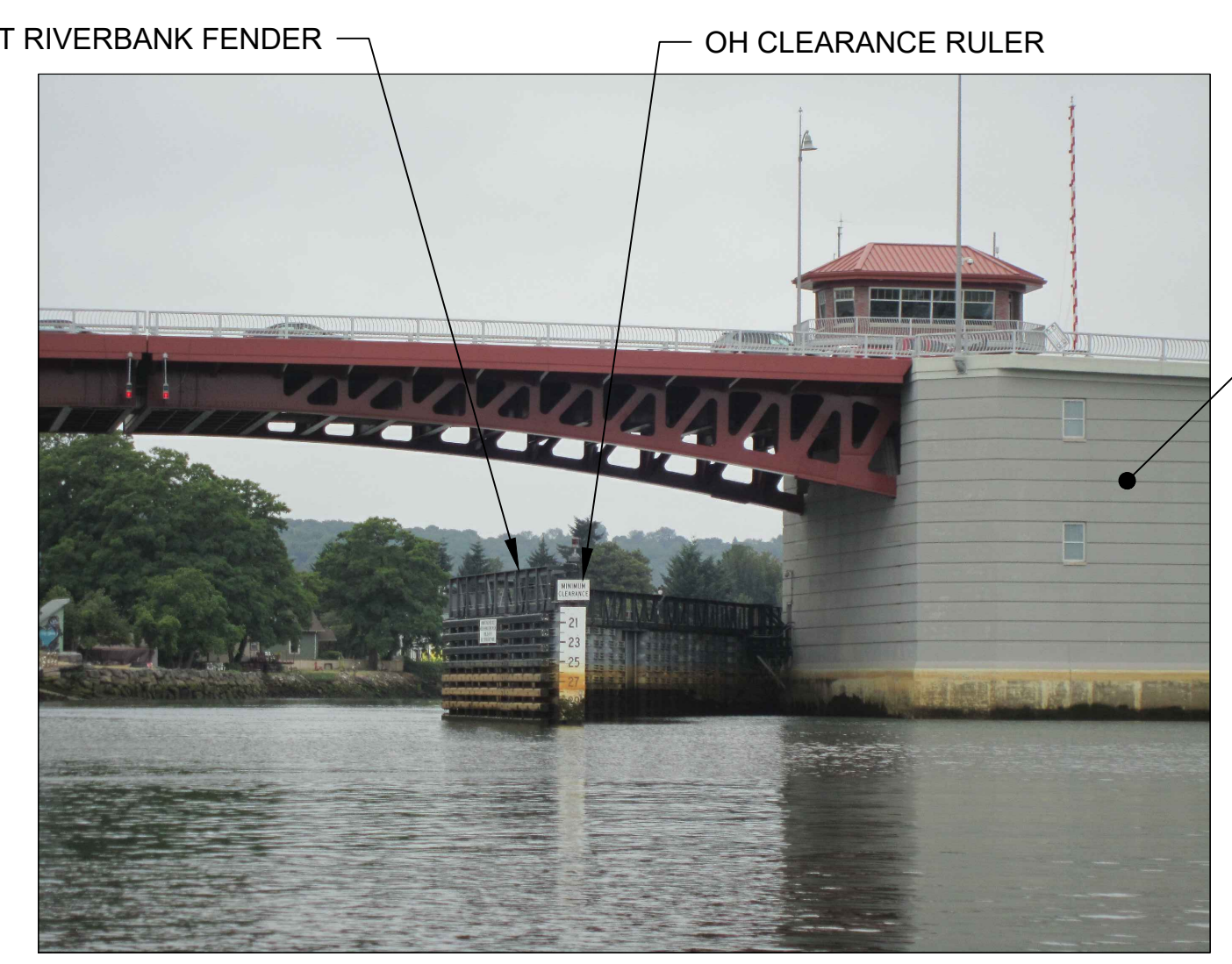


**FENDERS (LOOKING DOWNSTREAM)**

**PHOTO**  
SCALE: NONE



**GOOGLE MAP VIEW**  
SCALE: NONE



**FENDER (LOOKING DOWNSTREAM)**

**PHOTO**  
SCALE: NONE

**COLOR IMAGE**  
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PLOTTED: Feb 17, 2023 11:51:20am By slor

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PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX



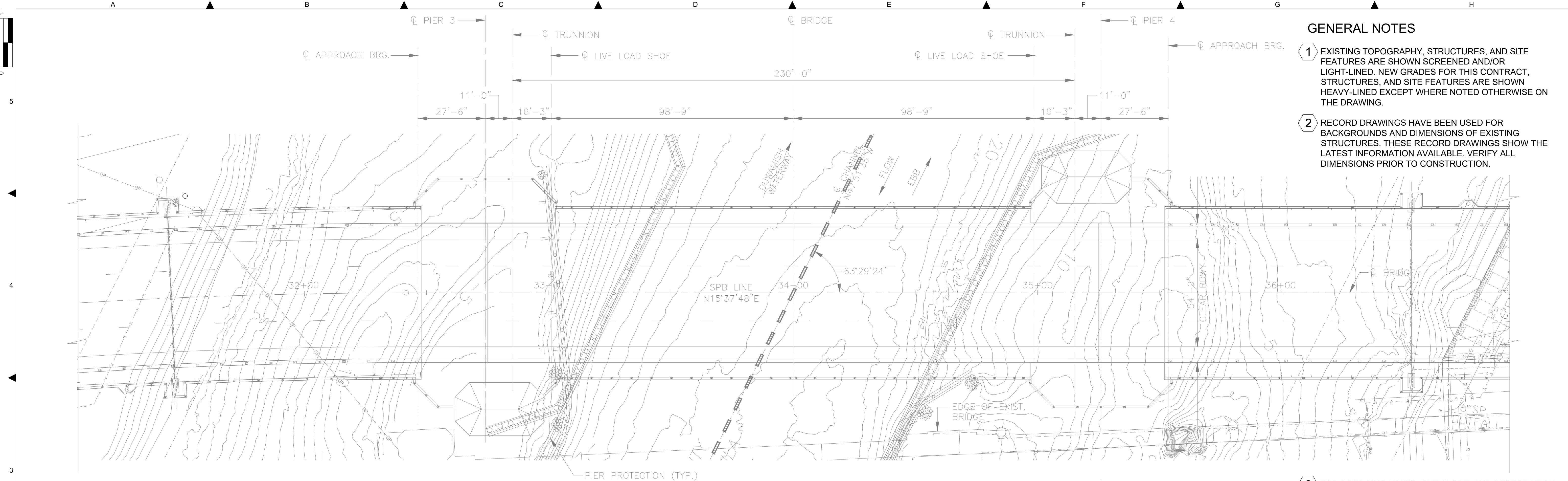
DEPARTMENT OF NATURAL RESOURCES & PARKS  
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LOWER DUWAMISH WATERWAY UPPER REACH  
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**ST02 SOUTH PARK BRIDGE  
PLAN AND PHOTOS**

DATE: FEBRUARY 2023
DRAWING NO: <b>S100</b>
WP701-G-00001
SHT NO / TOTAL 61 / 73
REV NO: <b>0</b>



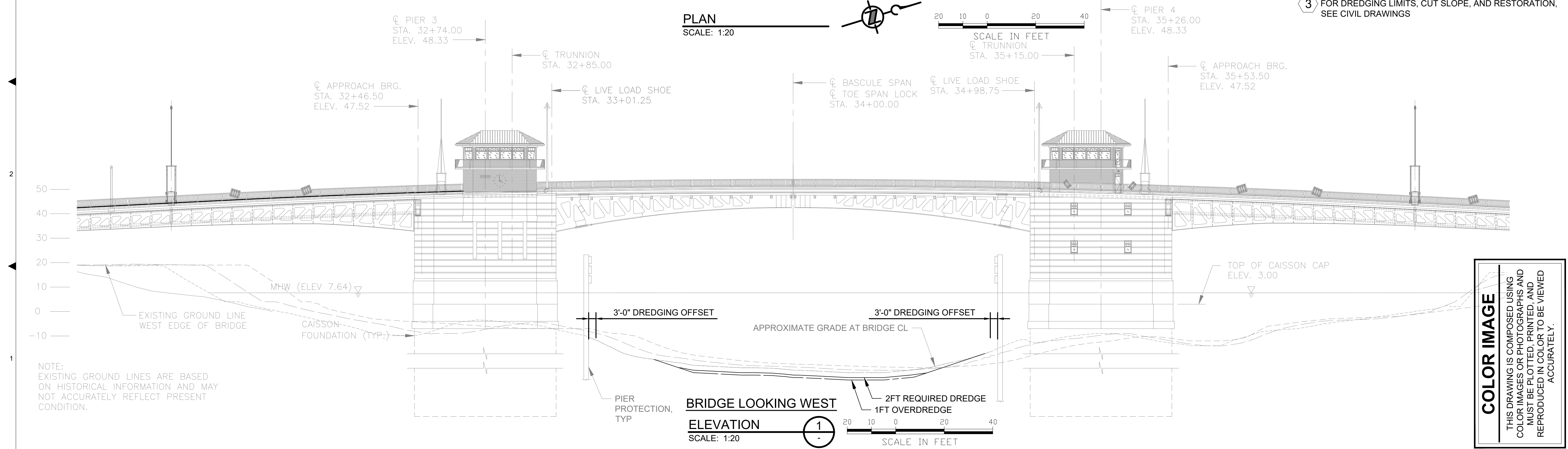
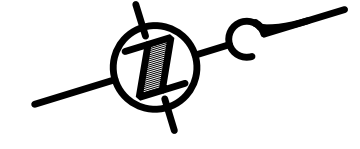
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- GENERAL NOTES**
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  - RECORD DRAWINGS HAVE BEEN USED FOR BACKGROUNDS AND DIMENSIONS OF EXISTING STRUCTURES. THESE RECORD DRAWINGS SHOW THE LATEST INFORMATION AVAILABLE. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

3 FOR DREDGING LIMITS, CUT SLOPE, AND RESTORATION, SEE CIVIL DRAWINGS

**PLAN**  
SCALE: 1:20



**BRIDGE LOOKING WEST**  
**ELEVATION**  
SCALE: 1:20



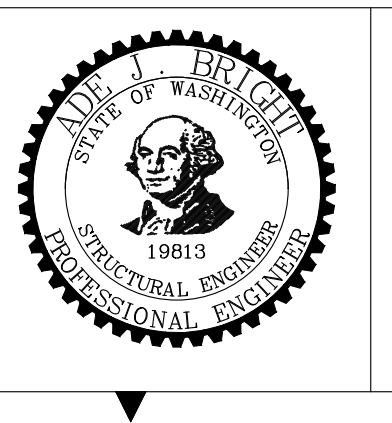
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PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
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PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX



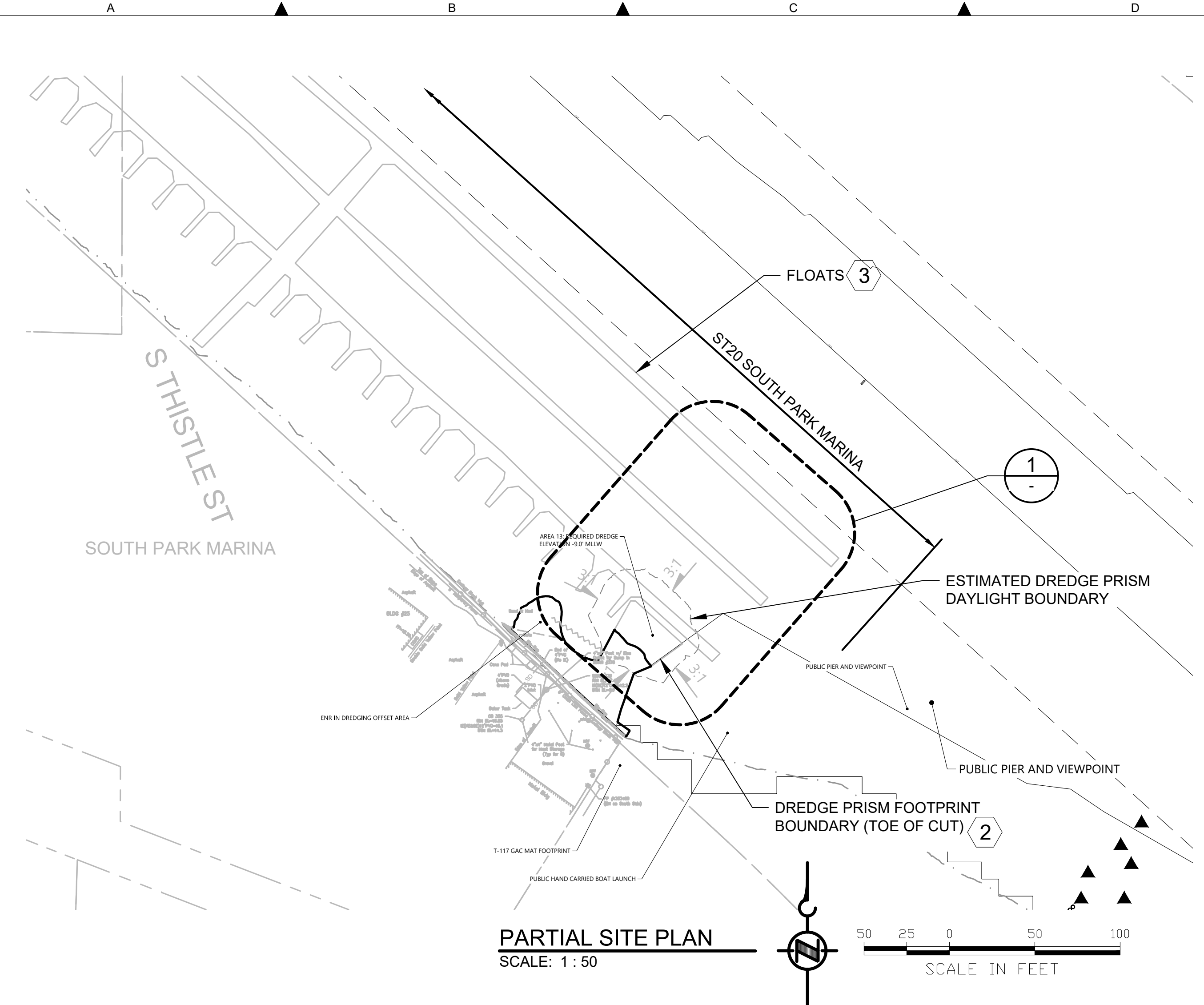
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WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

**ST-02 SOUTH PARK BRIDGE**  
**PLAN AND PROFILE**

DATE: FEBRUARY 2023
DRAWING NO: <b>S101</b>
WP701-G-00001
SHT NO / TOTAL 62 / 73
REV NO: 0

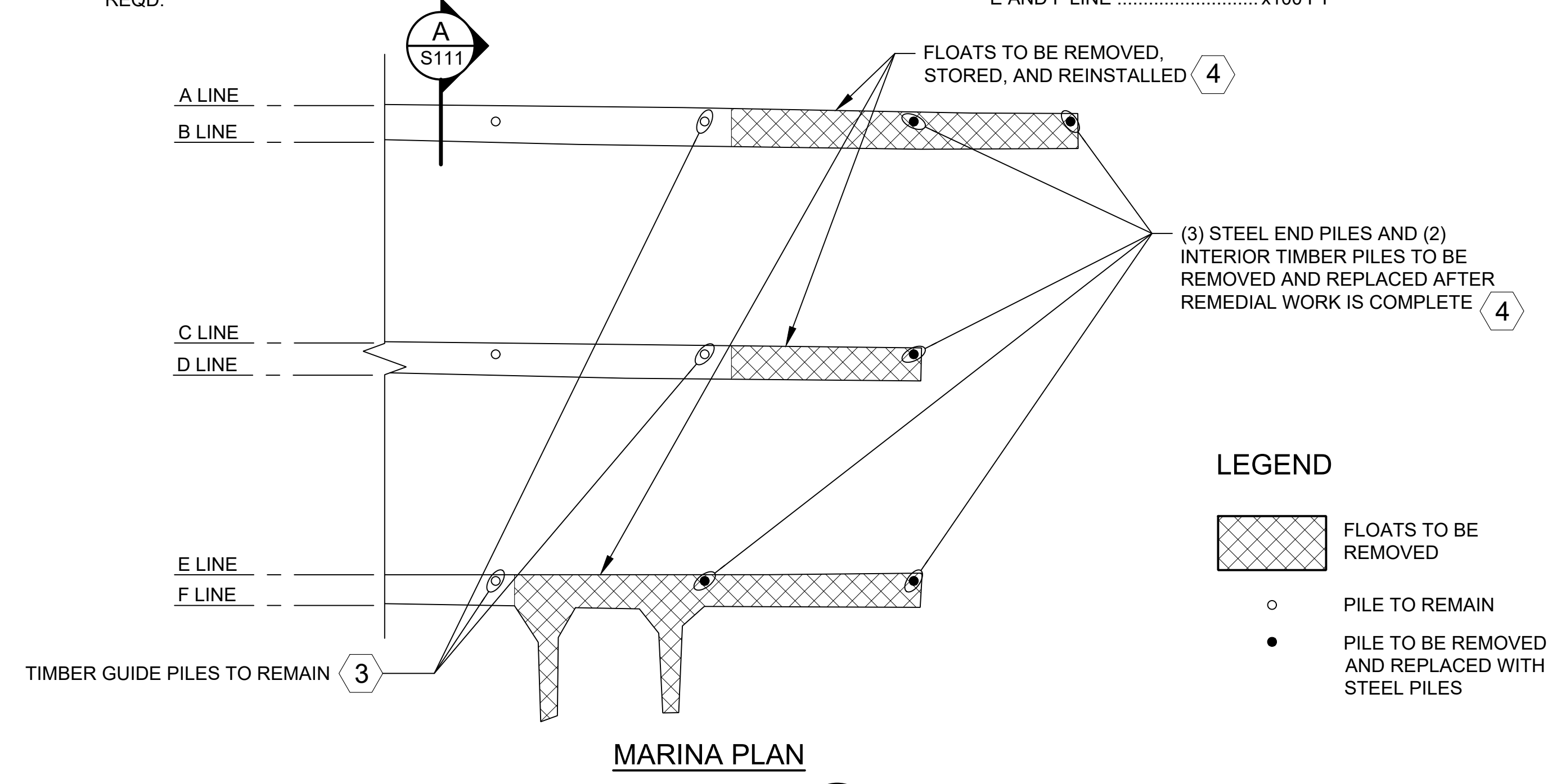


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- 2 FOR DREDGING LIMITS, CUT SLOPE AND RESTORATION, SEE CIVIL DRAWINGS.
- 3 COORDINATE WORK IN THE MARINA AND NAVIGABLE WATERWAY WITH MARINA OWNER PER CONTRACT SPECIFICATIONS
- 4 DISPOSITION OF STRUCTURES:
  - A. (3) FLOATS SHALL BE TEMPORARILY REMOVED, RELOCATED, AND REINSTALLED PER SPECIFICATIONS. CONTRACTOR SHALL SURVEY EACH EXISTING PILE PRIOR TO REMOVAL AND USE EXISTING OR NEW STEEL PILES TO SECURE THE END OF REMAINING FLOAT BAY AS REQD.
- B. CONTRACTOR IS RESPONSIBLE FOR PROTECTING AND PREVENTING ANY DAMAGE TO EXISTING FLOATS.
- C. REMOVE (2) STEEL PIPE GUIDE PILES. REMOVE AND DISPOSE IN CONFORMANCE TO THE SPECIFICATIONS AND PERMITS.
- D. REPLACE REMOVED GUIDE PILES WITH STEEL PIPE PILES AND INSTALL IN THE ORIGINAL LOCATION.
- E. CONTRACTOR SHALL COORDINATE WORK INCLUDING UTILITY DISCONNECTION/RECONNECTION, AND SCHEDULE WITH THE SOUTH PARK MARINA OWNER.
- F. APPROXIMATE FLOAT SIZES:
  - A AND B LINE .....x100 FT
  - C AND D LINE .....x50 FT
  - E AND F LINE .....x100 FT



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PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX



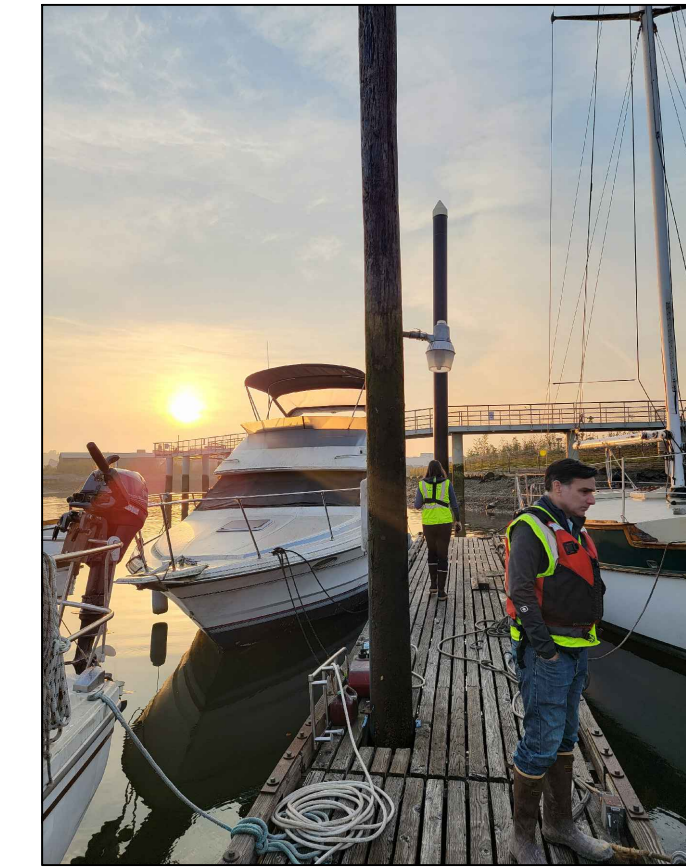
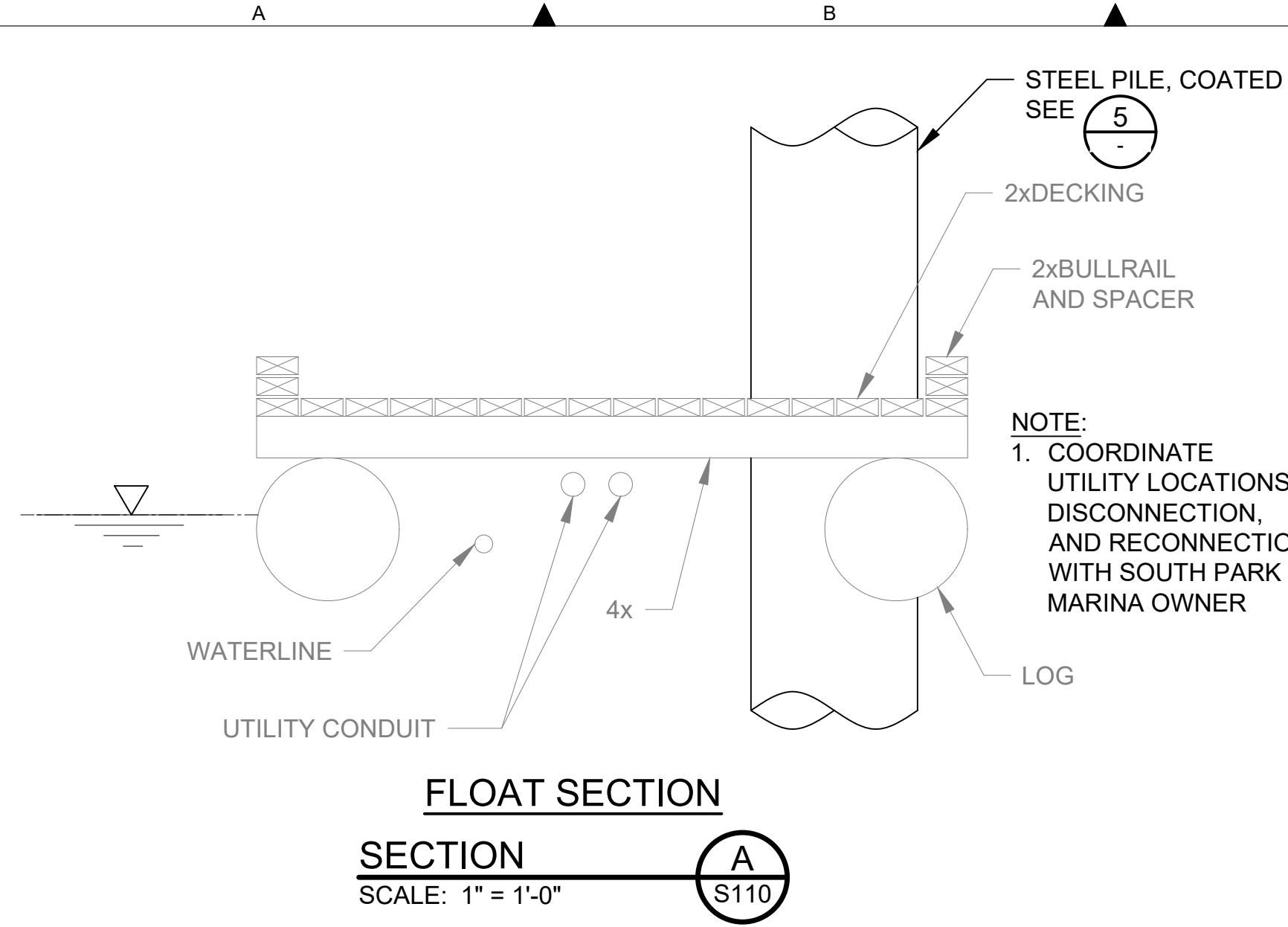
DEPARTMENT OF NATURAL RESOURCES & PARKS  
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 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**ST20 SOUTH PARK MARINA  
 PLAN AND PHOTOS**

DATE: FEBRUARY 2023
DRAWING NO: <b>S110</b>
WP701-G-00001
SHT NO / TOTAL 63 / 73
REV NO: <b>0</b>



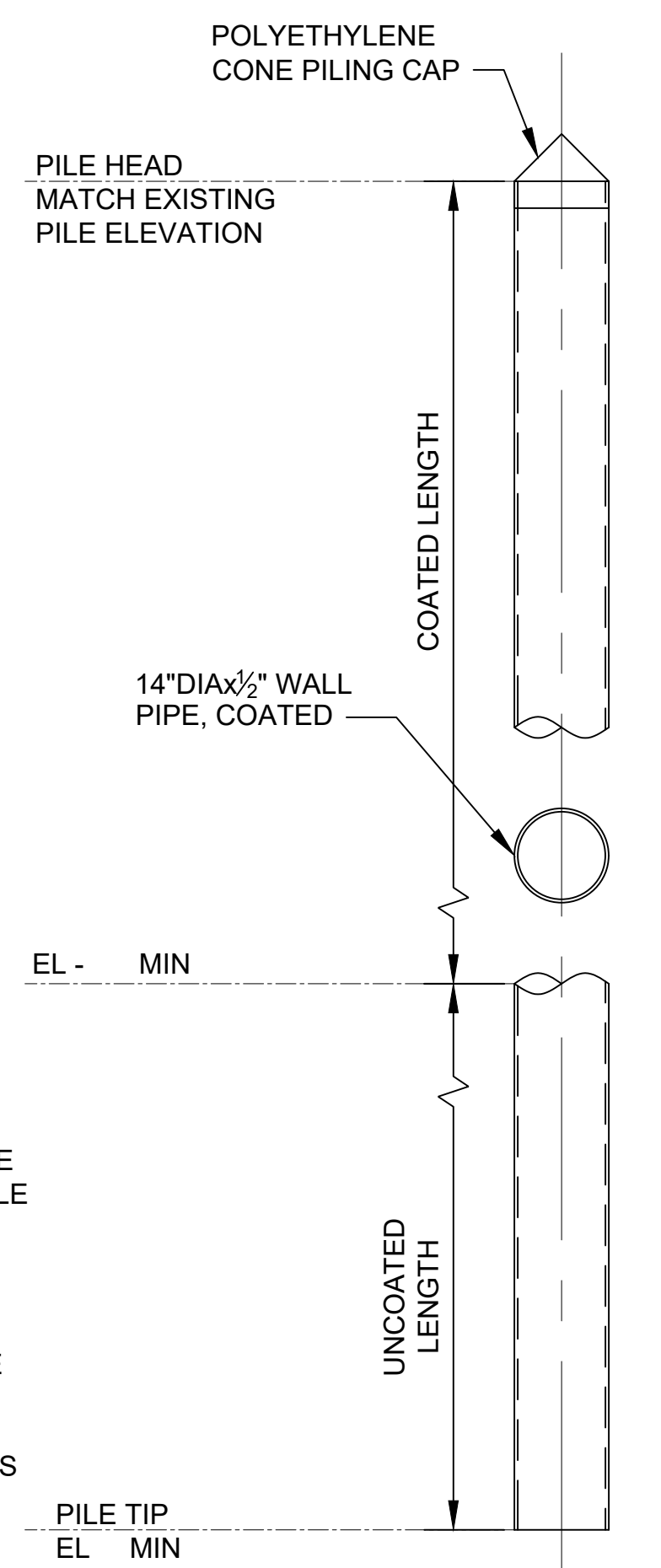
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**E AND F LINE LOOKING SOUTH**  
PHOTO 1  
SCALE: NONE

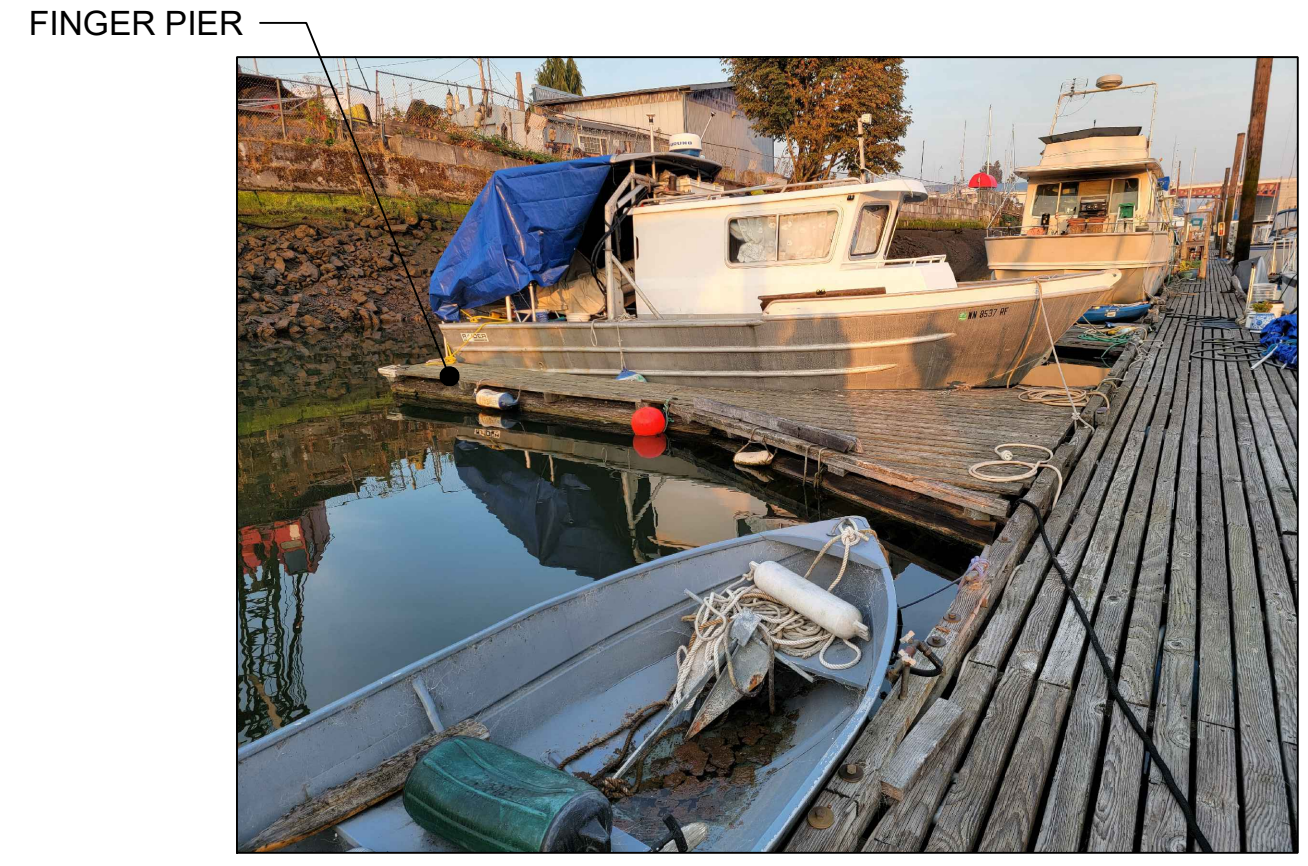


**SOUTH END OF E AND F LINE**  
PHOTO 2  
SCALE: NONE

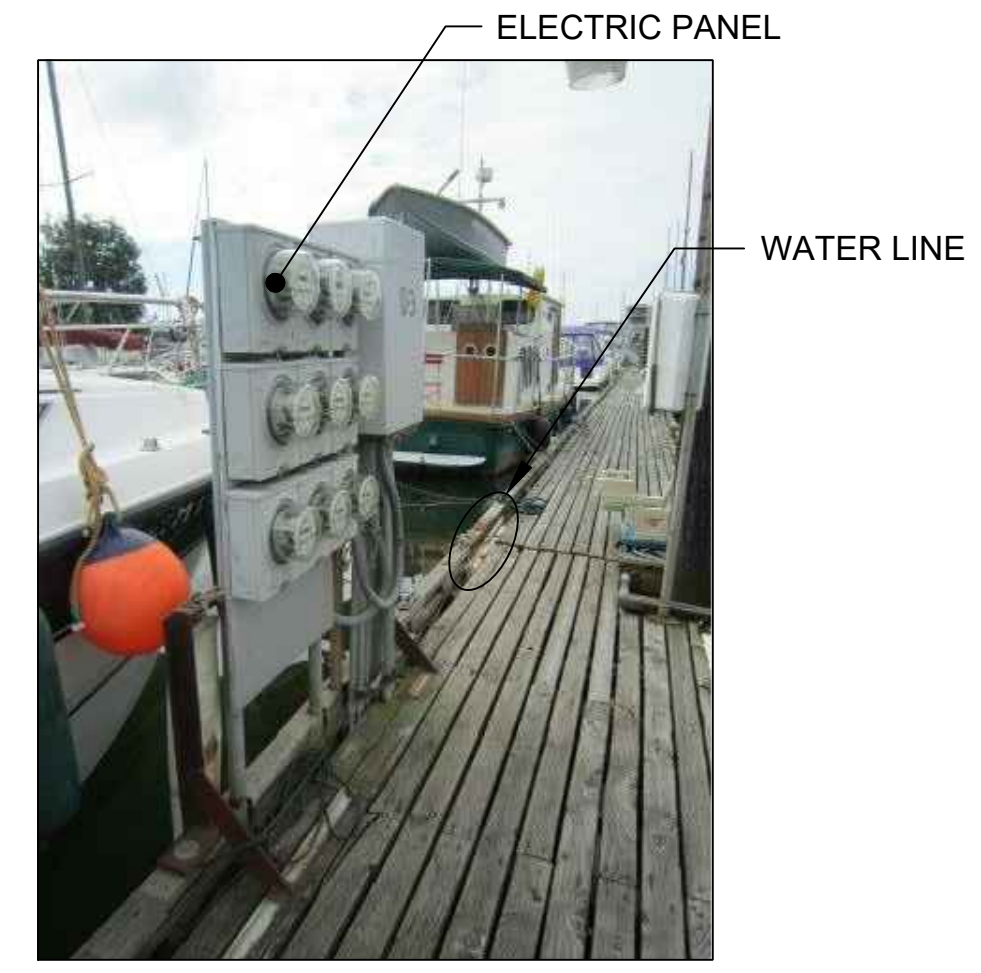


- NOTES:**
- PILE SPLICES SHALL BE CONFINED TO 30FT, PILE SPLICES SHALL BE COMPLETE PENETRATION BUTT WELDS WITHOUT BACKING PLATES. PILE SPLICES SHALL BE DONE IN FABRICATION SHOP. NO FIELD WELDS ARE PERMITTED.

**PILE SECTION**  
DETAIL 5  
SCALE: 1/4" = 1'-0"



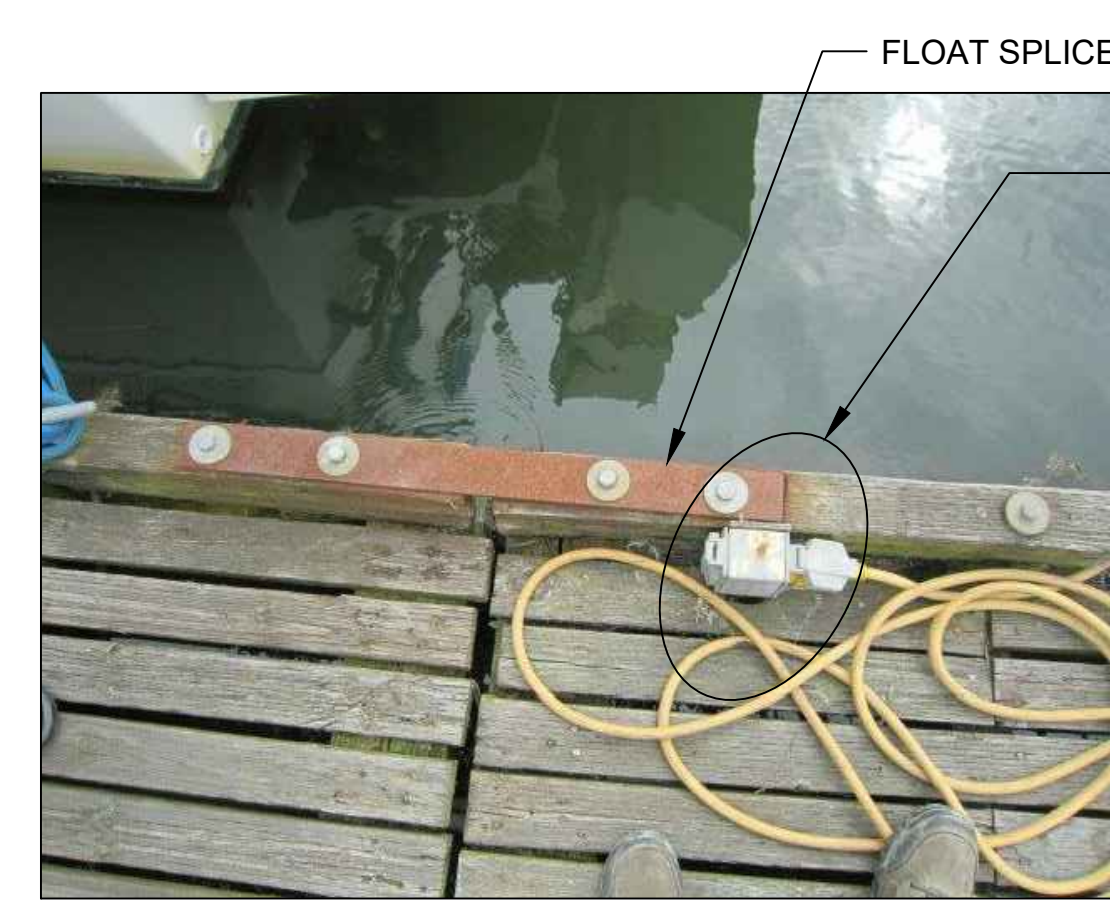
**E AND F LINE LOOKING NORTH**  
PHOTO 3  
SCALE: NONE



**A AND B LINE LOOKING NORTH**  
PHOTO 4  
SCALE: NONE



**A AND B LINE LOOKING NORTH**  
PHOTO 6  
SCALE: NONE



**A-LINE**  
PHOTO 7  
SCALE: NONE

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FEBRUARY 2023



DESIGNED/DRAWN: S. LOR	CHECKED: I. IKEDA
PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX

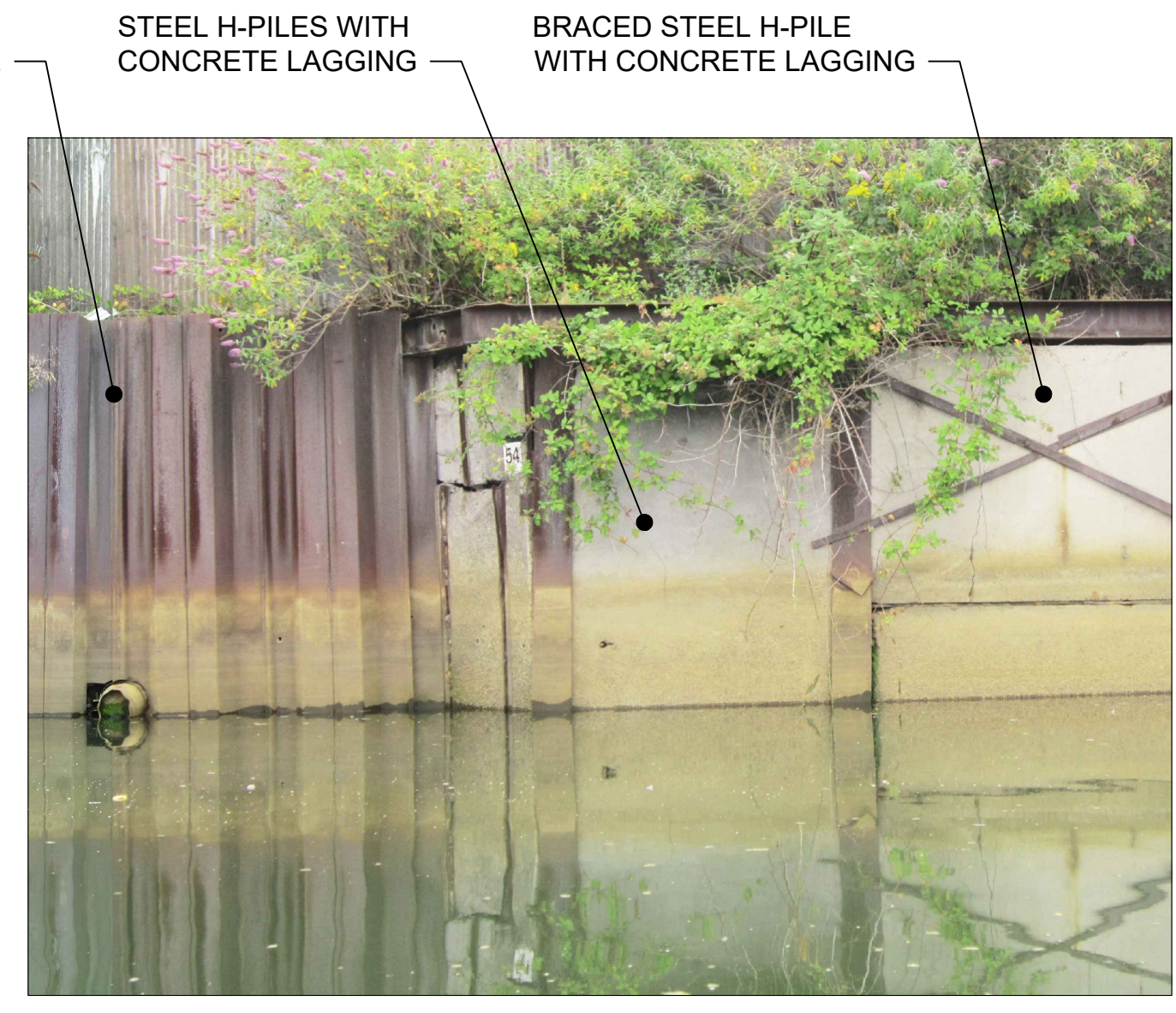
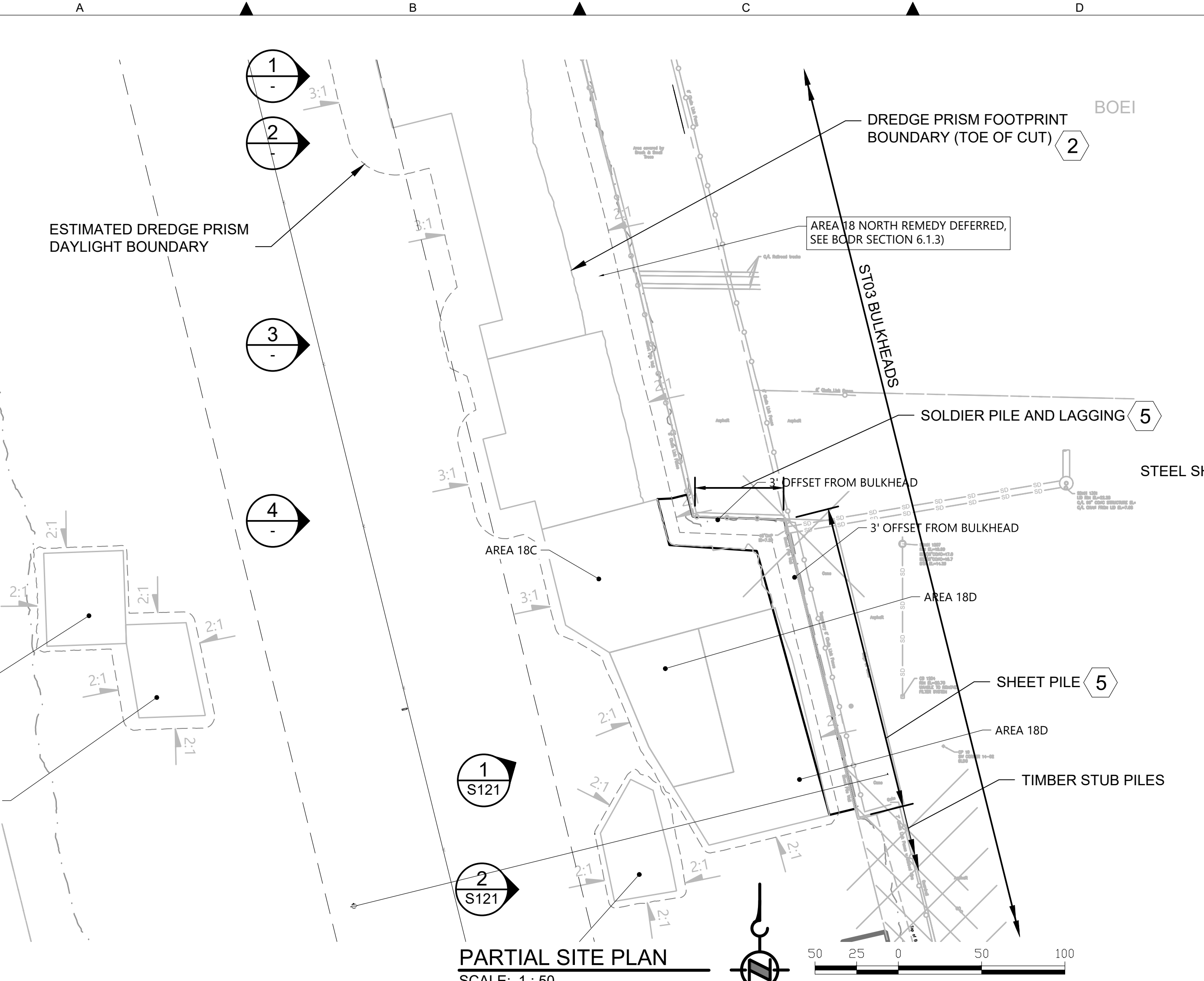


DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
**LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP**  
**ST-20 SOUTH PARK MARINA  
REPLACEMENT  
SECTIONS AND DETAILS**

DATE: FEBRUARY 2023
DRAWING NO: <b>S111</b>
WP701-G-00001
SHT NO / TOTAL 64 / 73
REV NO: <b>0</b>



BORDER FILE EDITION: x:\KOVTD\Size-TB-Border\_ACB\Layer T:\V22 Series -Anchor\QEA\252.01 Eng Svcs for Sediment Cleanup of Upper Reach of Lower Duwamish Waterway E00559E18\Drawings\Structural\SCAD-LDWUR\_S-120.dwg | Layout: S120 PLOTTED: Feb 17, 2023-12:23:56pm By slor



STEEL H-PILES WITH STEEL AND CONCRETE PANEL RUBBLE LAGGING

TIMBER AND STEEL H-PILES WITH CONCRETE PANEL RUBBLES

TIED-BACK STEEL SHEET PILE

STEEL H-PILES WITH CONCRETE PANEL RUBBLE

TIMBER LAGGING

**ST03 BULKHEADS SHEET 1  
PLAN AND PHOTOS**

**GENERAL NOTES**

- 1 EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW GRADES FOR THIS CONTRACT, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED EXCEPT WHERE NOTED OTHERWISE ON THE DRAWING.
- 2 FOR DREDGING LIMITS, CUT SLOPE, AND RESTORATION, SEE CIVIL DRAWINGS.
- 3 DO NOT MOOR ON THE BULKHEADS.
- 4 NO WALL DESIGN INFORMATION OR PILE EMBEDMENT DEPTH IS AVAILABLE THEREFORE MAINTAIN THE MINIMUM OFFSETS INDICATED ON THE PLANS.
- 5 LIMITS OF BULKHEAD WALL TO BE TEMPORARILY BRACED. NO LOAD SHALL BE PLACED ON TOP OF WALL WITHIN 10FT FROM FACE OF WALL. FOR TEMPORARY BRACING DETAILS SEE DRAWING S129.

**COLOR IMAGE**  
THIS DRAWING IS COMPOSED USING COLOR IMAGES OR PHOTOGRAPHS AND MUST BE PLOTTED, PRINTED, AND REPRODUCED IN COLOR TO BE VIEWED ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
Port of Seattle / City of Seattle / King County / The Boeing Company

**BRIGHT ENGINEERING, INC.**  
STRUCTURAL & CIVIL ENGINEERING  
1809 7TH AVENUE SUITE 1100 SEATTLE, WA 98101 P: (206) 625-3777 F: (206) 625-1851

**INTERMEDIATE ISSUE DRAWING**  
INFORMATION ONLY  
**60% REVIEW**  
FEBRUARY 2023



DESIGNED/DRAWN: S. LOR	CHECKED:
PROJECT ENGINEER: A. BRIGHT	SCALE:
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX



DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

DATE: FEBRUARY 2023
DRAWING NO: <b>S120</b>
WP701-G-00001
SHT NO / TOTAL 65 / 73
REV NO: 0



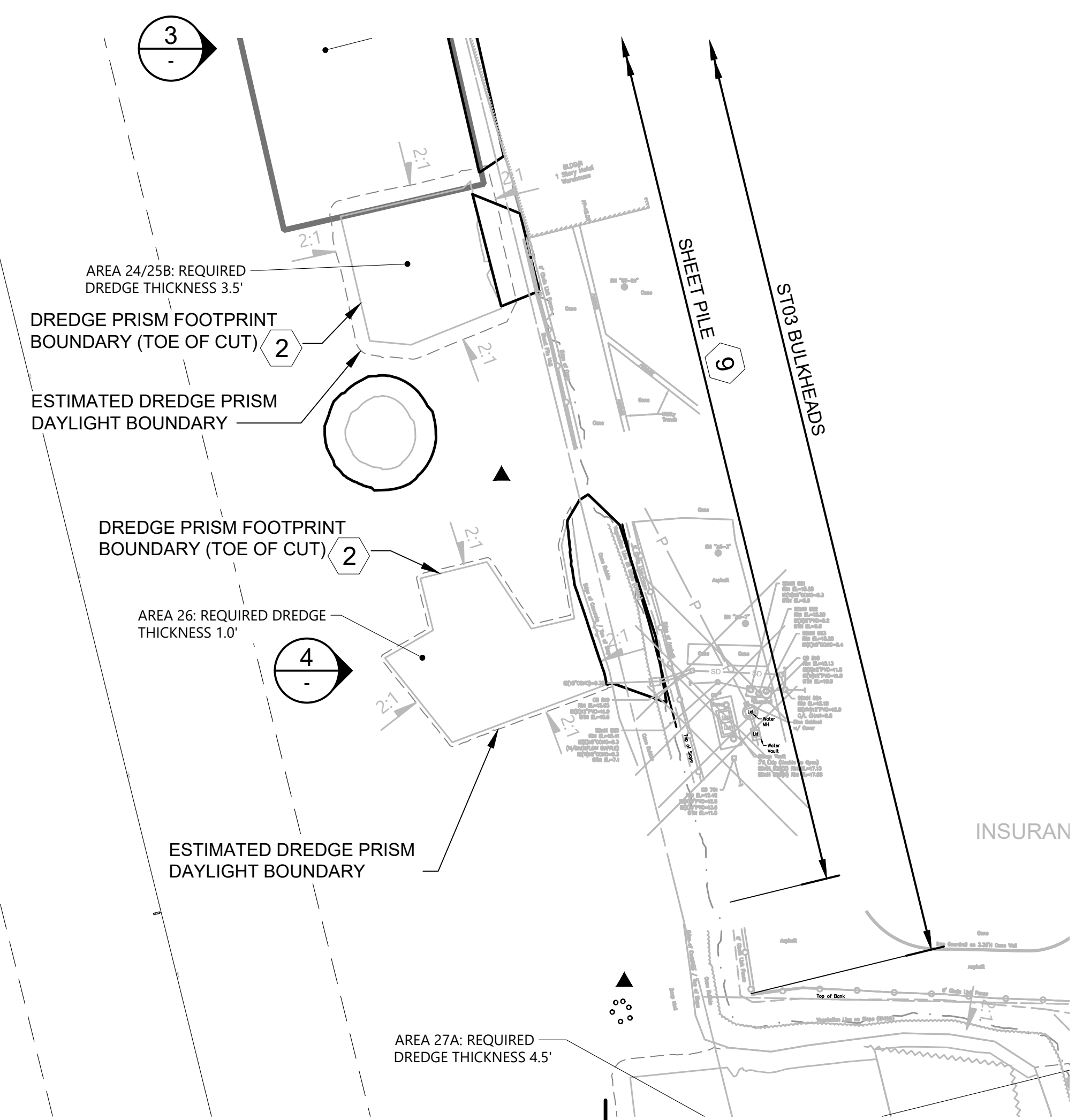
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 PLOTTED: Feb 17, 2023 12:24:57pm By slor

A B C D E F G H

0 5 4 3 2 1

**GENERAL NOTES**

- 1 EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW GRADES FOR THIS CONTRACT, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED EXCEPT WHERE NOTED OTHERWISE ON THE DRAWING.
- 2 FOR DREDGING LIMITS, CUT SLOPE, AND RESTORATION, SEE CIVIL DRAWINGS.
- 3 DO NOT MOOR ON THE BULKHEADS.
- 4 NO WALL DESIGN INFORMATION OR PILE EMBEDMENT DEPTH IS AVAILABLE THEREFORE MAINTAIN THE MINIMUM OFFSETS INDICATED ON THE PLANS.
- 5 PROTECT CMP OUTFALL IN PLACE. REMOVE TIMBER PIPE SADDLE AND TIMBER PILES. CONSTRUCT ENERGY DISSIPATION STRUCTURE CONSISTING OF GABION MATTRESS FOUNDATION AND RIPRAP. SEE DRAWING S203.
- 6 HANDLE AND DISPOSE CREOSOTE TIMBER PILES IN CONFORMANCE TO THE SPECIFICATIONS AND PERMITS.
- 7 PROTECT OUTFALL AND DUCKBILL VALVE FROM DAMAGE AS REQUIRED.
- 8 PRIOR TO DREDGING, NOTIFY PROJECT REPRESENTATIVE TO OBSERVE AND ASSESS THE CONDITION OF THE SHEET PILE AT MUDLINE FOR POSSIBLE REPAIRS.
- 9 LIMITS OF BULKHEAD WALL TO BE TEMPORARILY BRACED. NO LOAD SHALL BE PLACED ON TOP OF WALL WITHIN 10FT FROM FACE OF WALL. FOR TEMPORARY BRACING DETAILS SEE DRAWING S129.



**PARTIAL SITE PLAN**  
SCALE: 1 : 50



**PHOTO 1**  
SCALE: NONE  
S120



**PHOTO 2**  
SCALE: NONE  
S120



**GOOGLE MAP VIEW**  
SCALE: NONE



**PHOTO 3**  
SCALE: NONE



**PHOTO 4**  
SCALE: NONE

**COLOR IMAGE**  
THIS DRAWING IS COMPOSED USING COLOR IMAGES OR PHOTOGRAPHS AND MUST BE PLOTTED, PRINTED, AND REPRODUCED IN COLOR TO BE VIEWED ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
 Port of Seattle / City of Seattle / King County / The Boeing Company

**BRIGHT ENGINEERING, INC.**  
 STRUCTURAL & CIVIL ENGINEERING  
 1809 7th AVENUE SUITE 1100  
 SEATTLE, WA 98101  
 P: (206) 625-3777  
 F: (206) 625-1851

**INTERMEDIATE ISSUE DRAWING**  
 INFORMATION ONLY  
**60% REVIEW**  
 FEBRUARY 2023



DESIGNED/DRAWN: S. LOR	CHECKED:
PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX



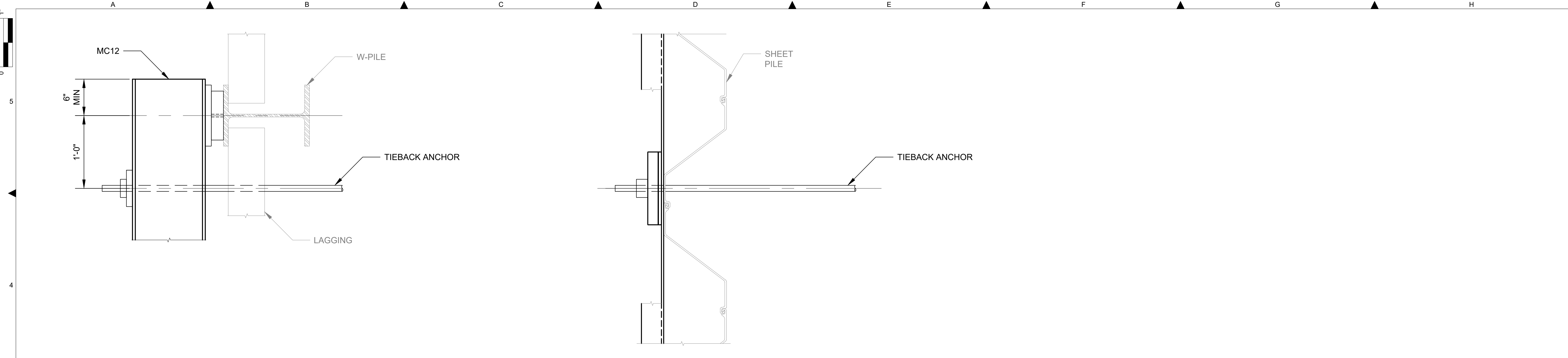
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES FOR SEDIMENT CLEANUP

**ST03 BULKHEADS SHEET 2**  
**PLAN AND PHOTOS**

DATE: FEBRUARY 2023
DRAWING NO: <b>S121</b>
WP701-G-00001
SHT NO / TOTAL REV NO: 66 / 73 0

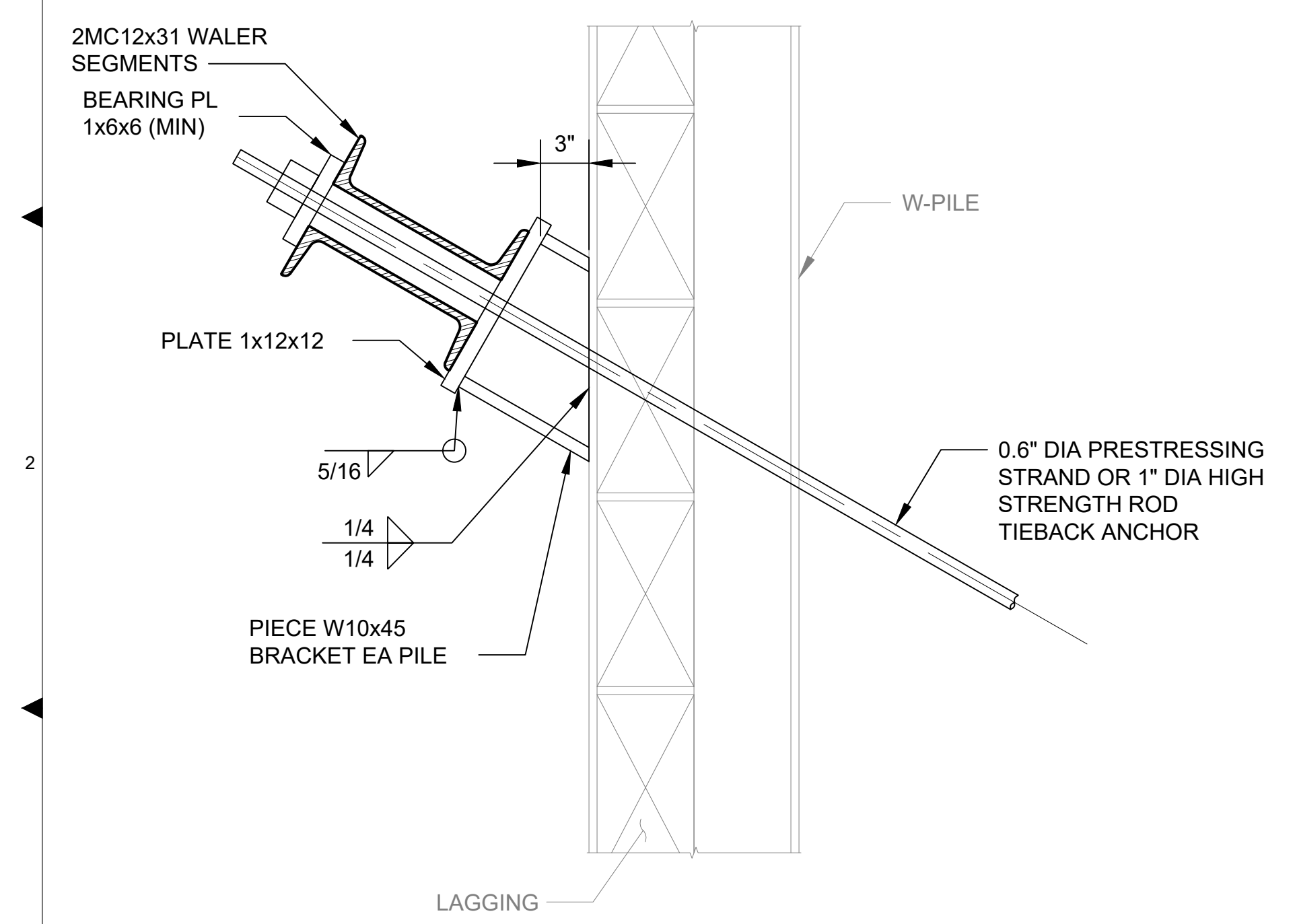


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 PLOTTED: Feb 17, 2023 12:15:01pm By slor

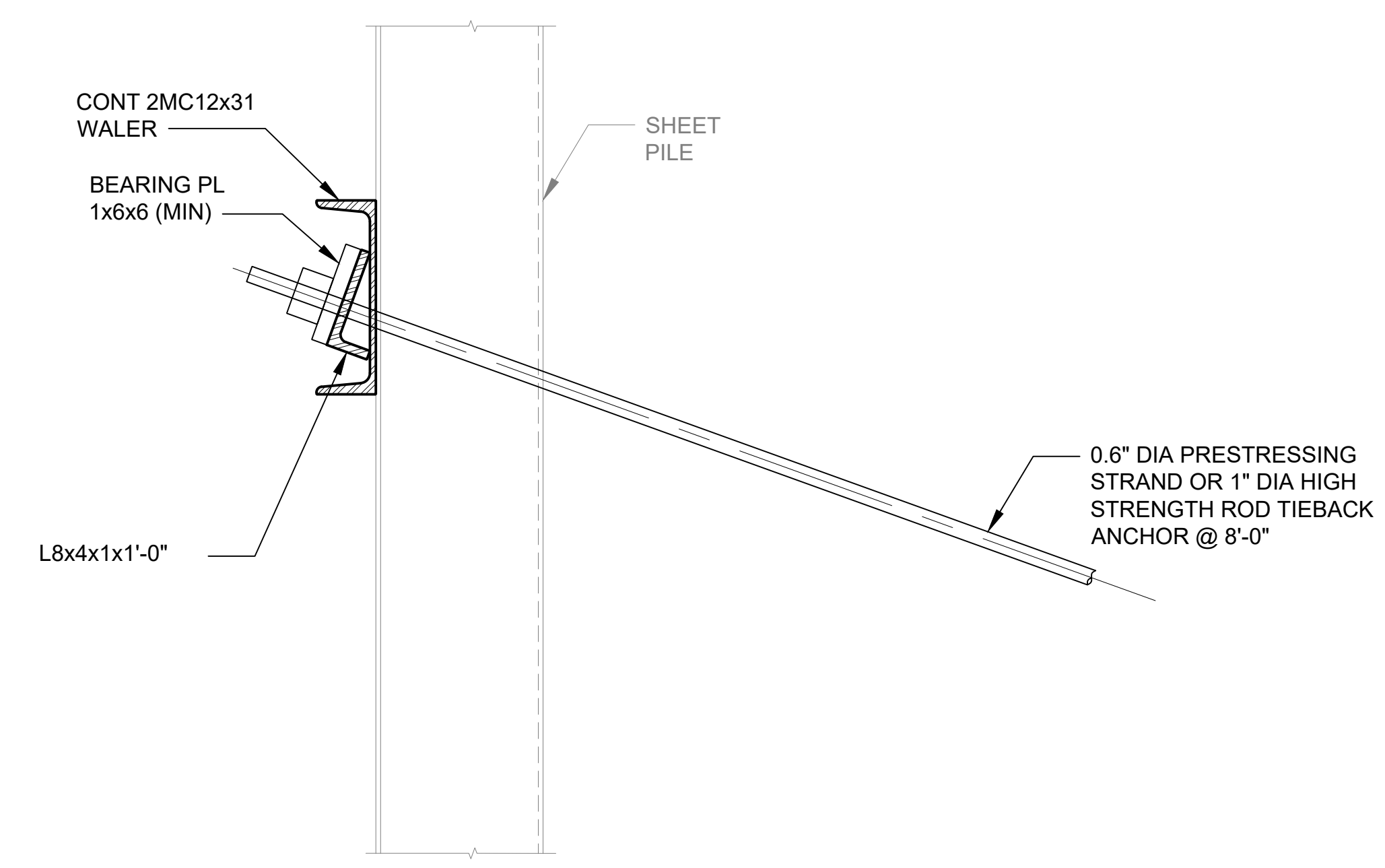


**W-PILE TOP VIEW**  
**DETAIL 1**  
 SCALE: 1 1/2" = 1'-0"  
 S121

**SHEET PILE TOP VIEW**  
**DETAIL 2**  
 SCALE: 1 1/2" = 1'-0"  
 S121



**W-PILE SECTION VIEW**  
**DETAIL 5**  
 SCALE: 1 1/2" = 1'-0"  
 S121



**SHEET PILE SECTION VIEW**  
**DETAIL 6**  
 SCALE: 1 1/2" = 1'-0"  
 S121

**COLOR IMAGE**  
 THIS DRAWING IS COMPOSED USING COLOR IMAGES OR PHOTOGRAPHS AND MUST BE PLOTTED, PRINTED, AND REPRODUCED IN COLOR TO BE VIEWED ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
 Port of Seattle / City of Seattle / King County / The Boeing Company  
  
**BRIGHT ENGINEERING, INC.**  
 STRUCTURAL & CIVIL ENGINEERING  
 1809 7th AVENUE SUITE 1100 SEATTLE, WA 98101 P: (206) 625-3777 F: (206) 625-1851

**INTERMEDIATE ISSUE DRAWING**  
 INFORMATION ONLY  
**60% REVIEW**  
 FEBRUARY 2023



DESIGNED/DRAWN: S. LOR	CHECKED: I. IKEDA
PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX

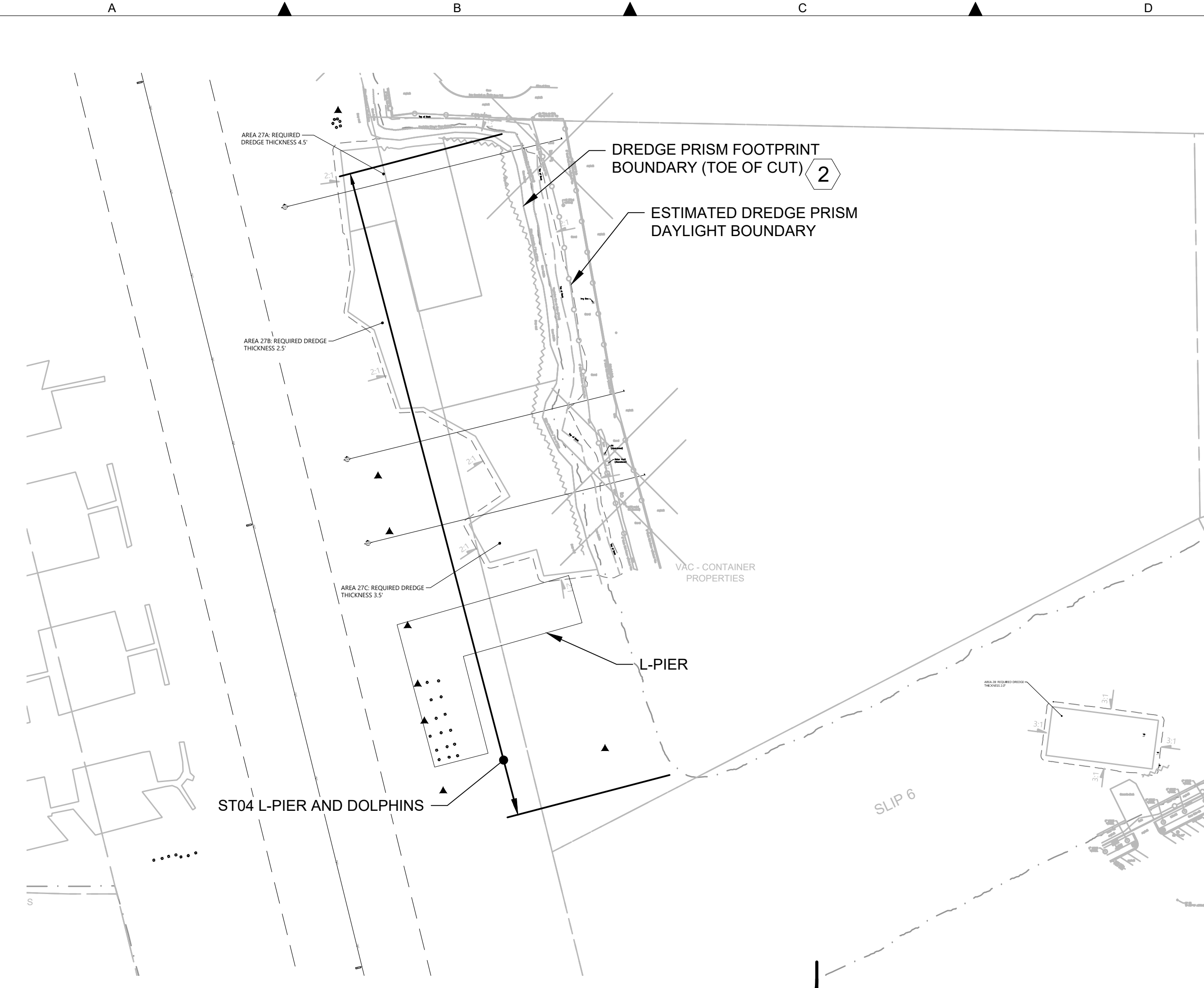


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
**LOWER DUWAMISH WATERWAY UPPER REACH**  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**BULKHEAD SECTIONS AND DETAILS**

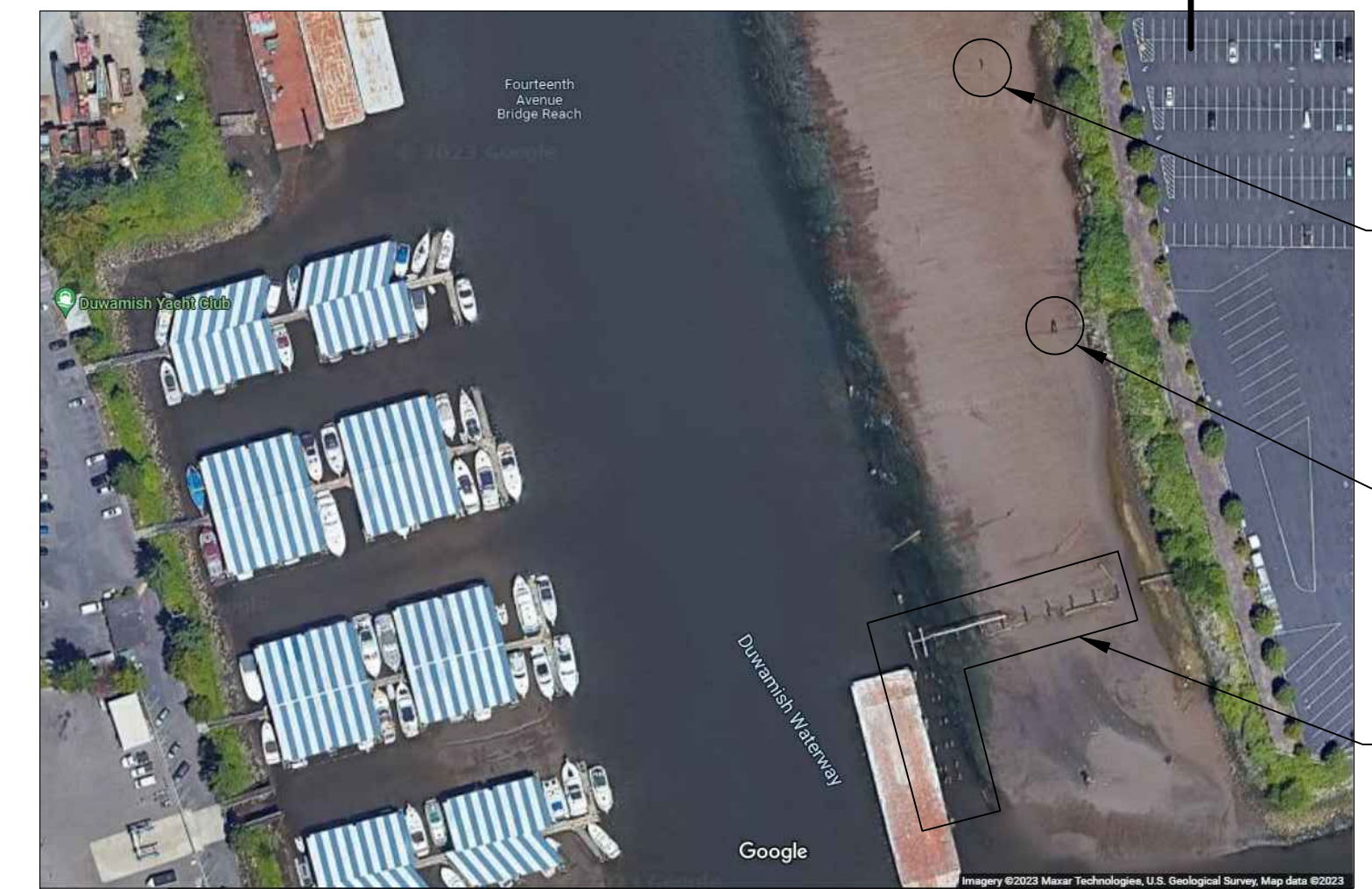
DATE: FEBRUARY 2023
DRAWING NO: <b>S129</b>
WP701-G-00001
SHT NO / TOTAL REV NO: 67 / 73 0



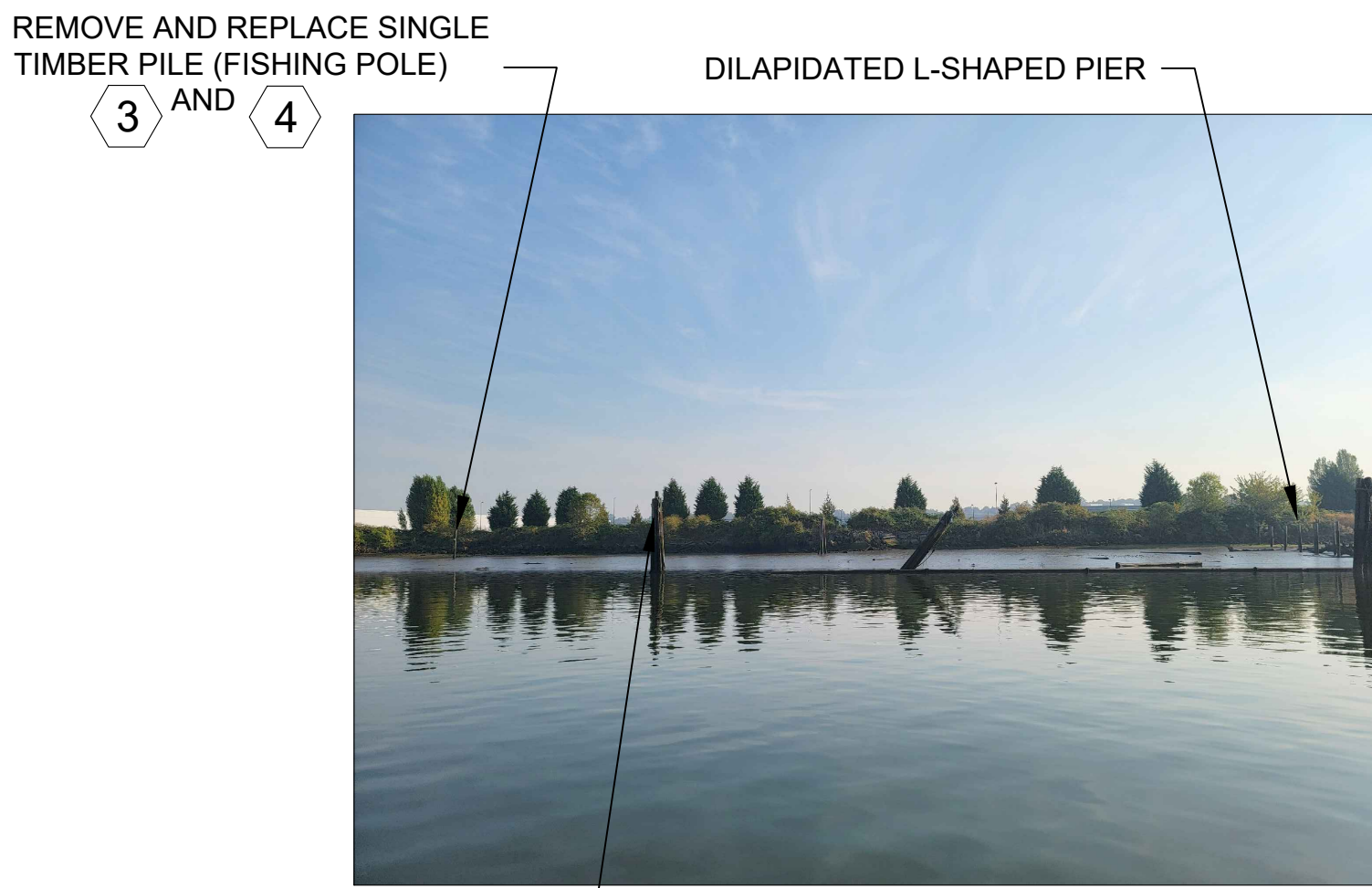
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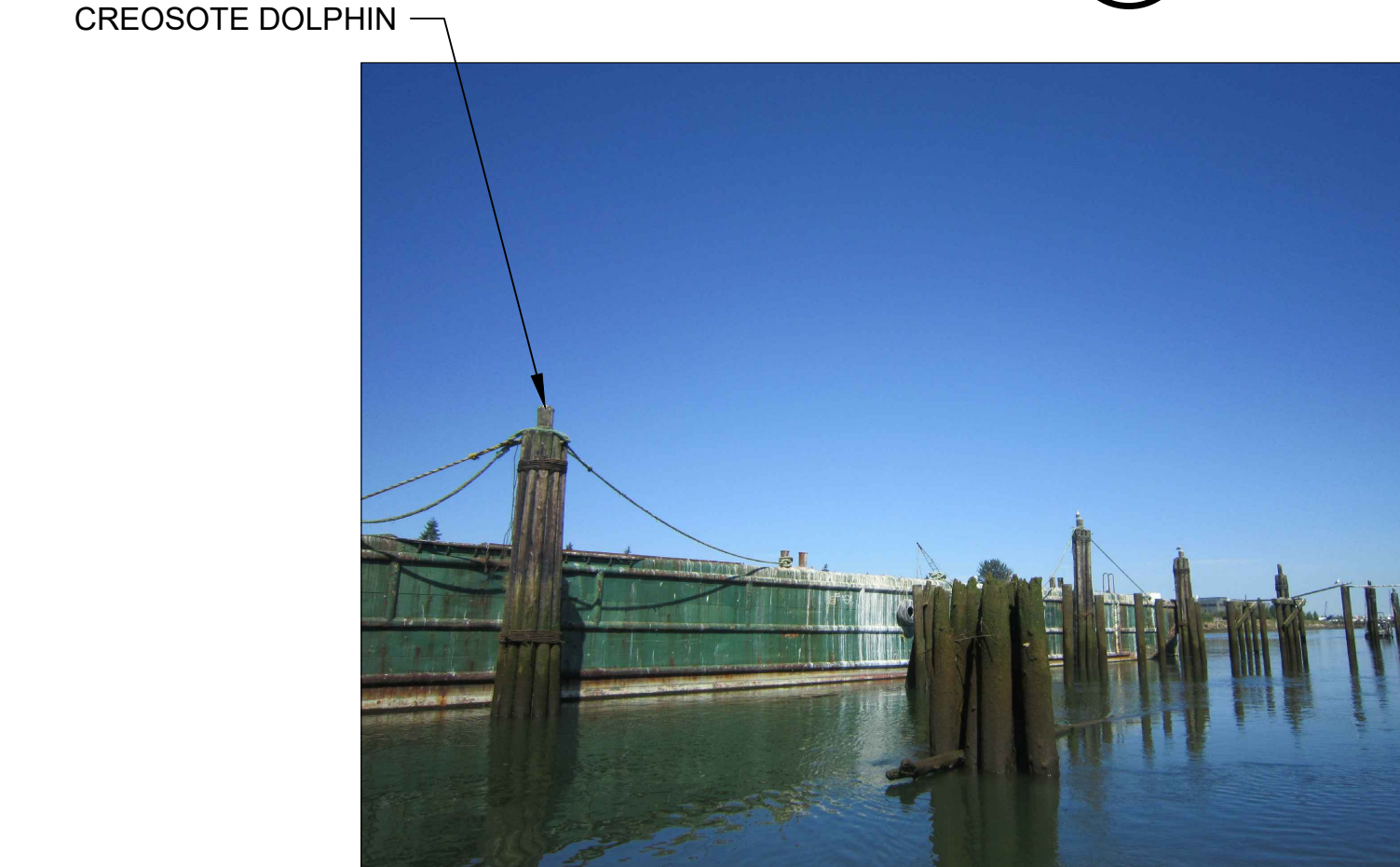
**PARTIAL SITE PLAN**  
SCALE: 1 : 100



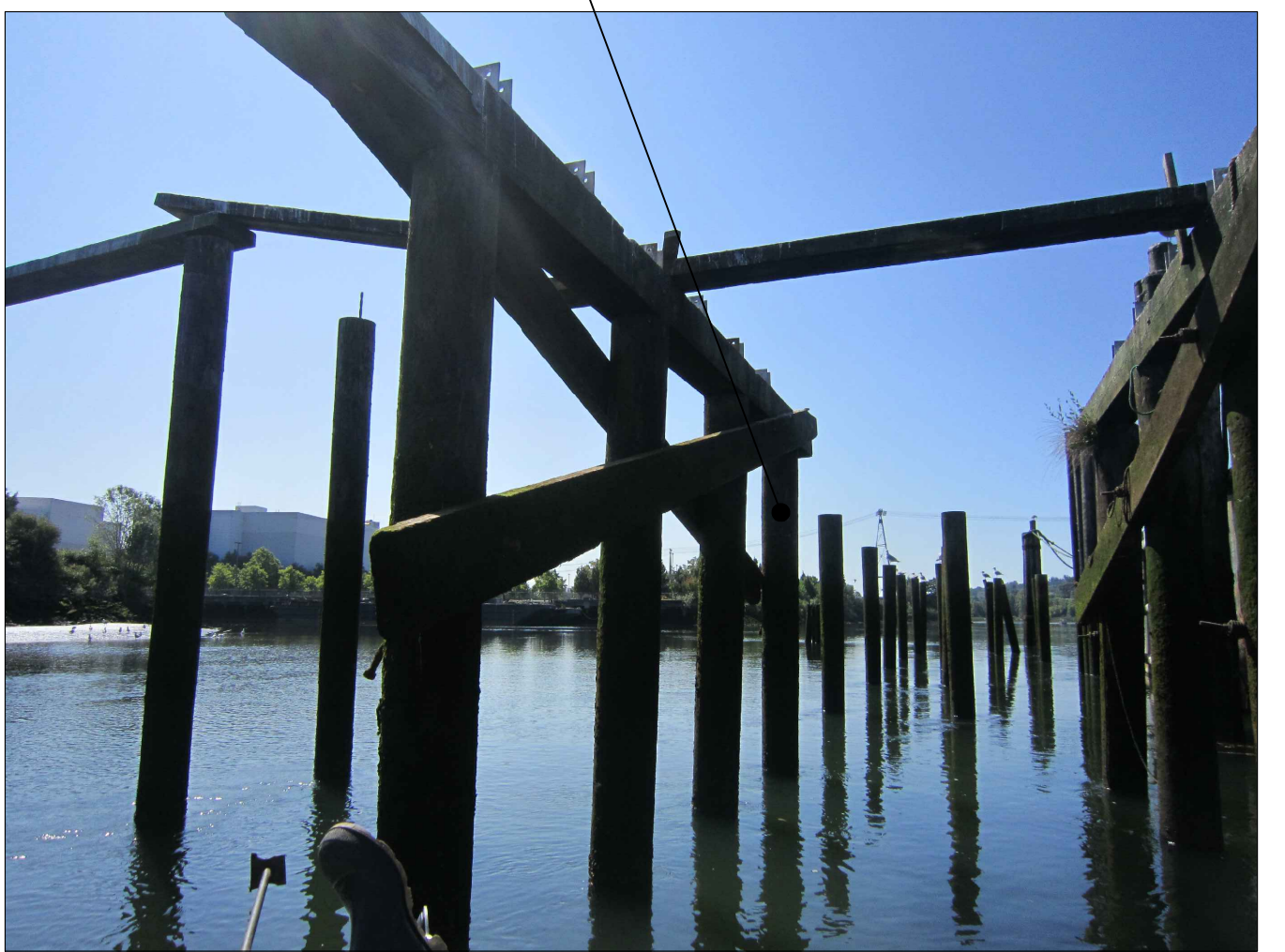
**AERIAL VIEW**  
SCALE: NONE



**TIMBER PILE**  
PHOTO  
SCALE: NONE

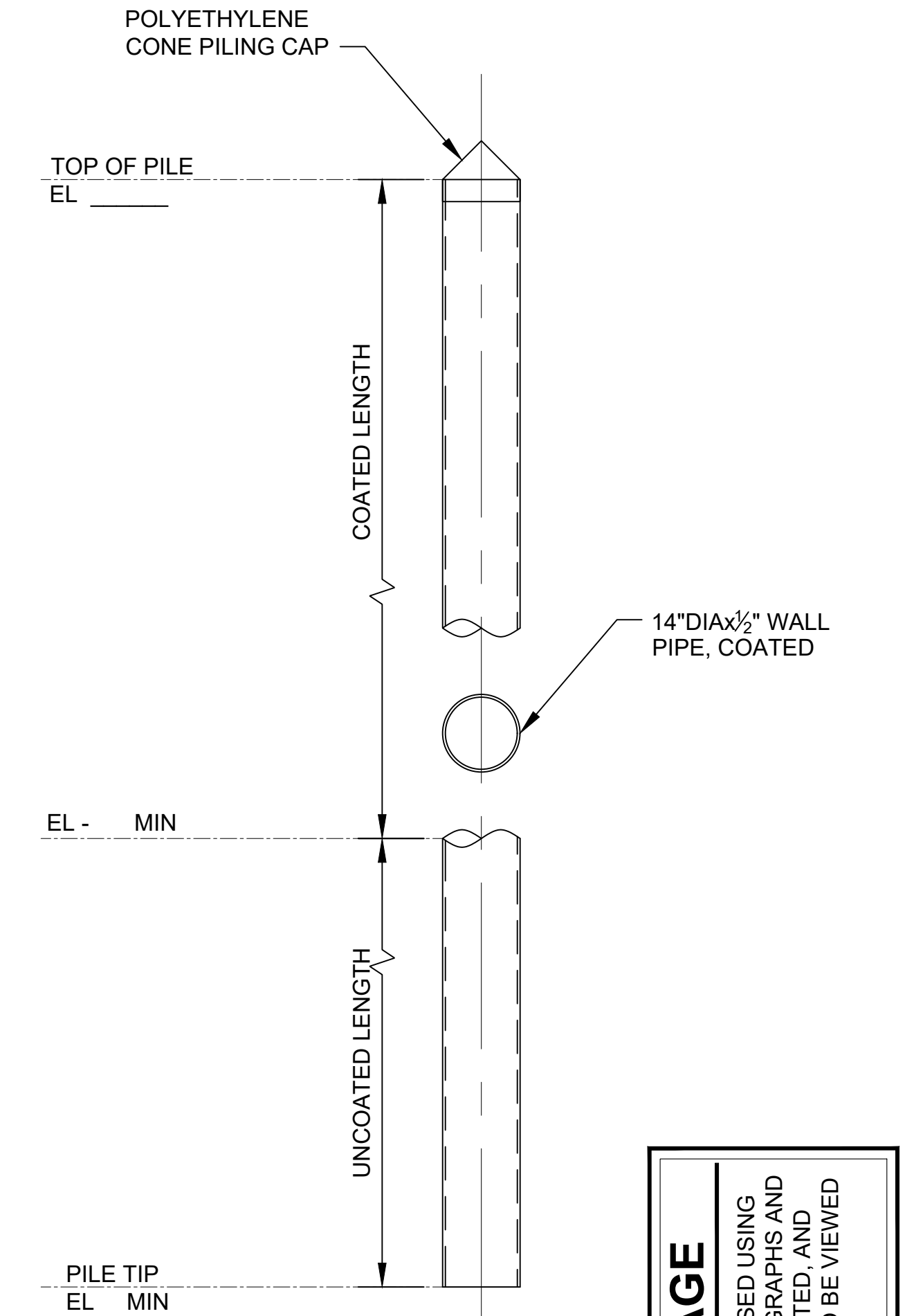


**DOLPHINS**  
PHOTO  
SCALE: NONE



**DILAPIDATED L-SHAPED PIER BENT**  
PHOTO  
SCALE: NONE

- GENERAL NOTES**
- EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW GRADES FOR THIS CONTRACT, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED EXCEPT WHERE NOTED OTHERWISE ON THE DRAWING.
  - FOR DREDGING LIMITS, CUT SLOPE AND RESTORATION, SEE CIVIL DRAWINGS.
  - REMOVE AND REPLACE (1) TIMBER PILE WITH COATED STEEL PIPE PILE.
  - HANDLE AND DISPOSE CREOSOTE TIMBER PILES IN CONFORMANCE TO THE SPECIFICATIONS AND PERMITS.



**PILE SECTION**  
DETAIL  
SCALE: 1/4" = 1'-0"

**COLOR IMAGE**  
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NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
Port of Seattle / City of Seattle / King County / The Boeing Company

**BRIGHT ENGINEERING, INC.**  
STRUCTURAL & CIVIL ENGINEERING  
1809 7th AVENUE SUITE 1100 SEATTLE, WA 98101 P: (206) 625-3777 F: (206) 625-1851

**INTERMEDIATE ISSUE DRAWING**  
INFORMATION ONLY  
**60% REVIEW**  
FEBRUARY 2023



DESIGNED/DRAWN: S. LOR	CHECKED:
PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

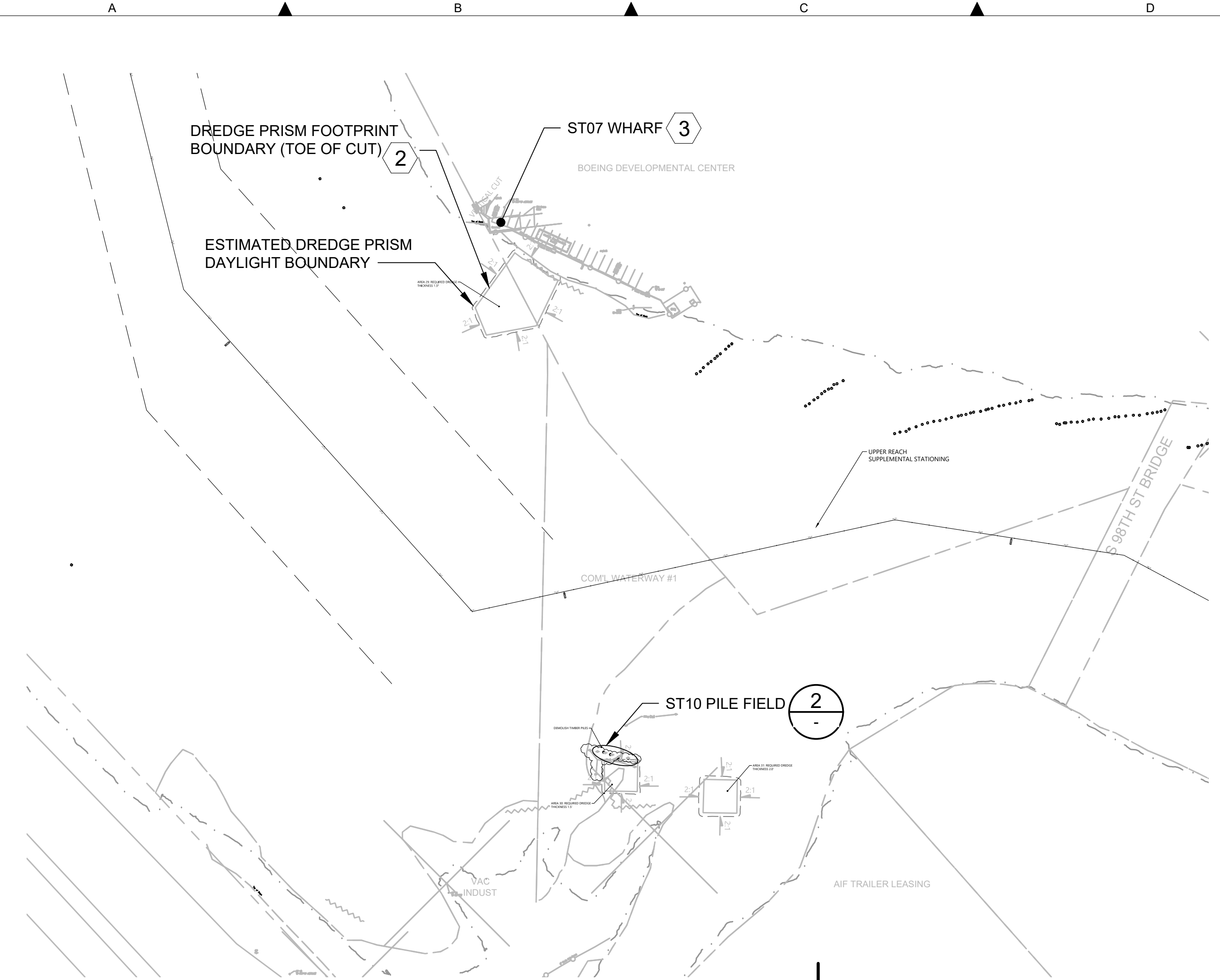


DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
**LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP**  
**ST04 L-SHAPE PIER & DOLPHINS**  
**PLAN, PHOTOS,  
AND PILE DETAILS**

DATE: FEBRUARY 2023
DRAWING NO: <b>S140</b>
WP701-G-00001
SHT NO / TOTAL REV NO: 68 / 73 0



BORDER FILE EDITION: x:\KOVTD\Size-TB-Border\_ACOB\Layer T:\V22 Series -Anchor\_QEA\252.01 Eng Svcs for Sediment Cleanup of Upper Reach of Lower Duwamish Waterway E00559E18\Drawings\Structural\SCAD-LDWUR\_S-150.dwg | Layout: S150 PLOTTED: Feb 17, 2023 12:31:39pm By slor



**PARTIAL SITE PLAN**  
SCALE: 1 : 100

SCALE IN FEET: 100 50 0 100 200



**AERIAL VIEW**  
SCALE: NONE

**GENERAL NOTES**

- 1 EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW GRADES FOR THIS CONTRACT, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED EXCEPT WHERE NOTED OTHERWISE ON THE DRAWING.
- 2 FOR DREDGING LIMITS, CUT SLOPE AND RESTORATION, SEE CIVIL DRAWINGS.
- 3 PROTECT AND DO NOT MOOR ON THE WHARF STRUCTURE.
- 4 NO PILE DESIGN INFORMATION OR PILE EMBEDMENT DEPTH IS AVAILABLE THEREFORE MAINTAIN THE MINIMUM OFFSETS INDICATED ON THE PLANS.



**ST07 WHARF**  
PHOTO  
SCALE: NONE



**ST10 PILE FIELD**  
PHOTO  
SCALE: NONE

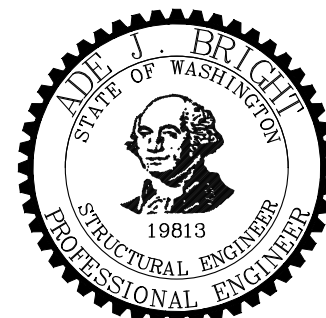
**COLOR IMAGE**  
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NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
Port of Seattle / City of Seattle / King County / The Boeing Company

**BRIGHT ENGINEERING, INC.**  
STRUCTURAL & CIVIL ENGINEERING  
1809 7th Avenue Suite 1100  
SEATTLE, WA 98101  
P: (206) 625-3777  
F: (206) 625-1851

**INTERMEDIATE ISSUE DRAWING**  
INFORMATION ONLY  
**60% REVIEW**  
FEBRUARY 2023



DESIGNED/DRAWN: S. LOR	CHECKED:
PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX



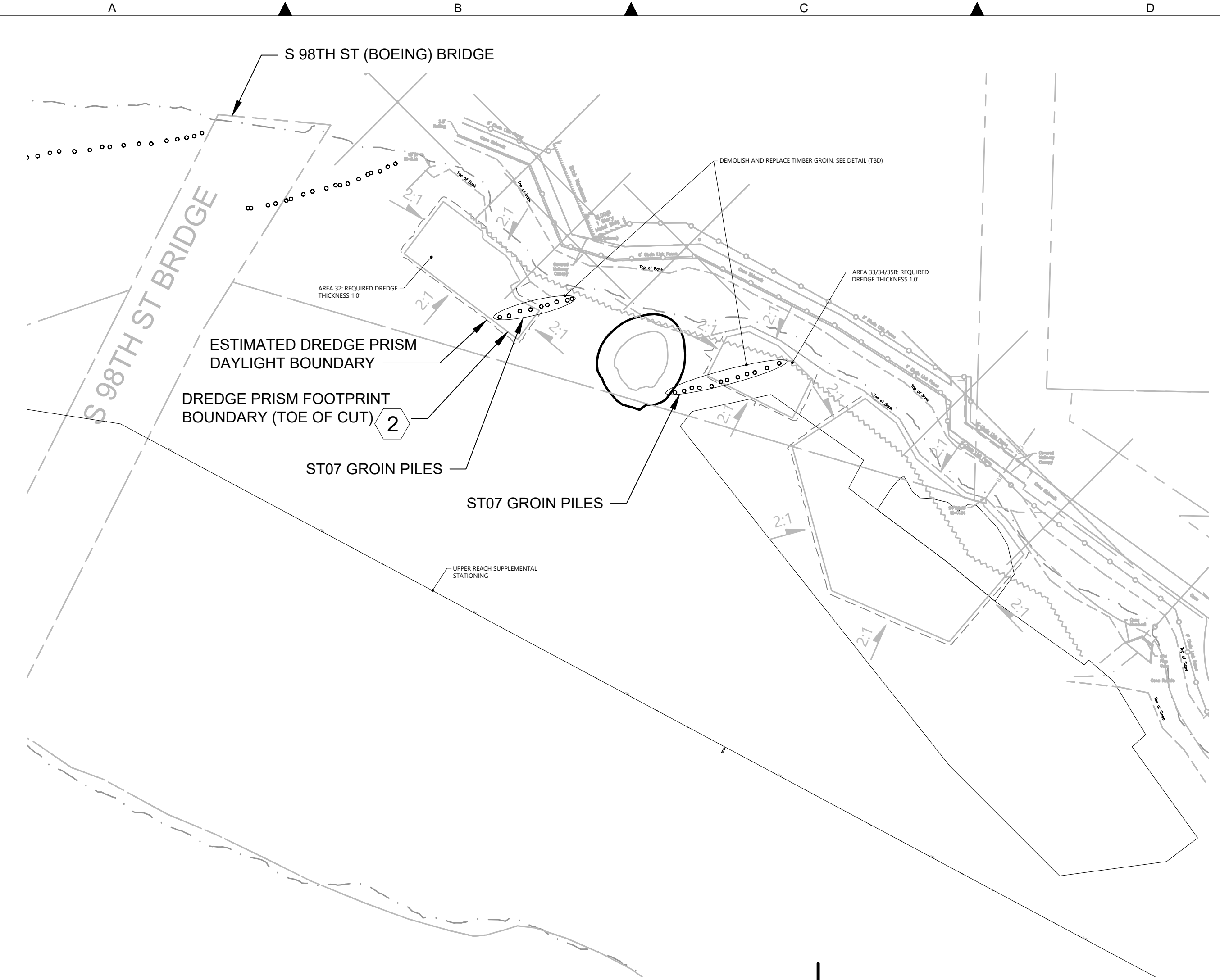
DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

**ST07 WHARF & ST10 PILE FIELD  
PLAN AND PHOTOS**

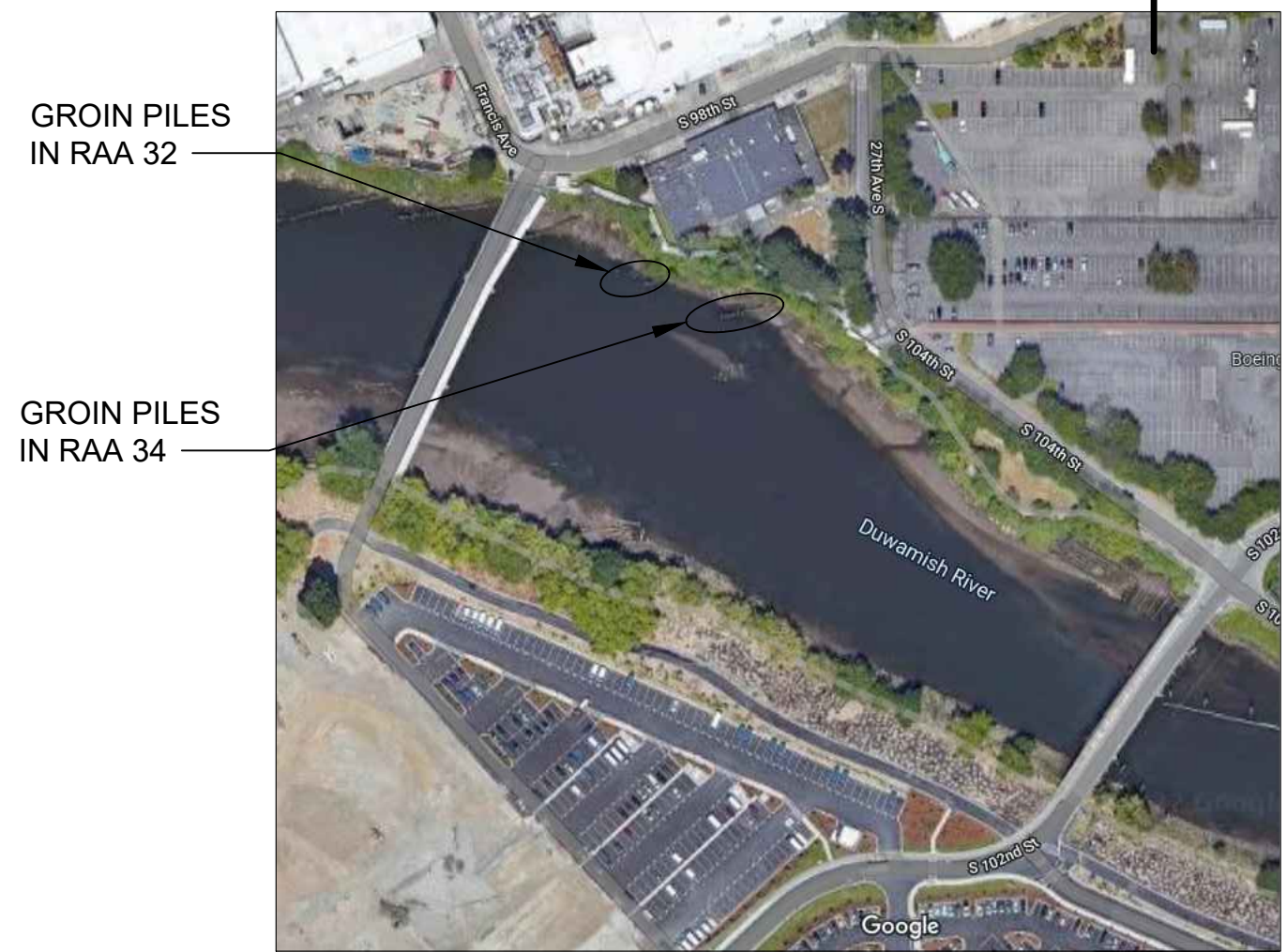
DATE: FEBRUARY 2023
DRAWING NO: <b>S150</b>
WP701-G-00001
SHT NO / TOTAL 69 / 73
REV NO: <b>0</b>



BORDER FILE EDITION: x:\KOVTD\Size-TB-Border\_ACB\Layer T:\V22 Series -Anchor\_QEA\252.01 Eng Svcs for Sediment Cleanup of Upper Reach of Lower Duwamish Waterway E00559E18\Drawings\Structural\SCAD-LDWUR\_S-151.dwg | Layout: S151 PLOTTED: Feb 17, 2023-12:34:20pm By slor



**PARTIAL SITE PLAN**  
SCALE: 1 : 50



**AERIAL VIEW**  
SCALE: NONE



**GROIN PILES (LOOKING EAST)**  
PHOTO  
SCALE: NONE



**GROIN PILES TO REMAIN**  
**GROIN PILES**  
PHOTO  
SCALE: NONE



**GROIN PILES TO REMAIN**  
**GROIN PILES**  
PHOTO  
SCALE: NONE

**GENERAL NOTES**

- 1 EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW GRADES FOR THIS CONTRACT, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED EXCEPT WHERE NOTED OTHERWISE ON THE DRAWING.
- 2 FOR DREDGING LIMITS, CUT SLOPE AND RESTORATION, SEE CIVIL DRAWINGS.
- 3 DO NOT MOOR ON THE PILE STRUCTURES.
- 4 NO PILE DESIGN INFORMATION OR PILE EMBEDMENT DEPTH IS AVAILABLE THEREFORE A MAXIMUM OF 1FT DIFFERENTIAL DREDGING DEPTH SHALL MAINTAIN BETWEEN BOTH (NORTH AND SOUTH) SIDES OF THE GROIN PILE ROW.
- 5 CONTRACTOR IS RESPONSIBLE FOR PROTECTING AND PREVENTING ANY DAMAGE TO EXISTING PILE STRUCTURES.

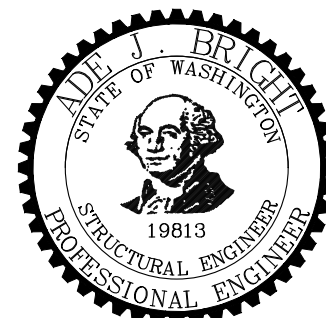
**COLOR IMAGE**  
THIS DRAWING IS COMPOSED USING COLOR IMAGES OR PHOTOGRAPHS AND MUST BE PLOTTED, PRINTED, AND REPRODUCED IN COLOR TO BE VIEWED ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
Port of Seattle / City of Seattle / King County / The Boeing Company

**6** BRIGHT ENGINEERING, INC.  
STRUCTURAL & CIVIL ENGINEERING  
1809 7th AVENUE SUITE 1100  
SEATTLE, WA 98101  
P: (206) 625-3777  
F: (206) 625-1851

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**60% REVIEW**  
FEBRUARY 2023



DESIGNED/DRAWN: S. LOR	CHECKED: I. IKEDA
PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX



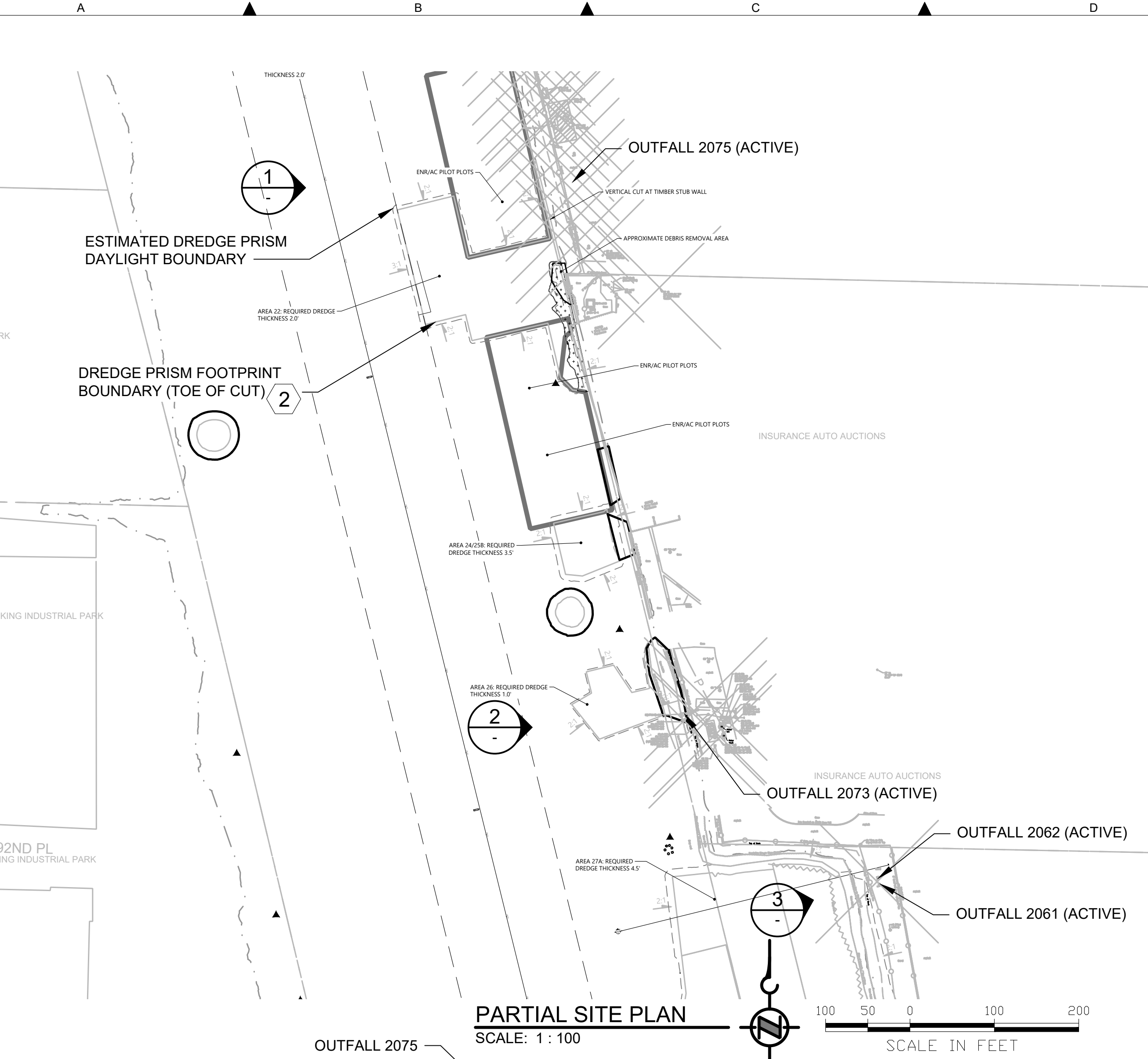
DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

**ST07 GROIN PILES  
PLAN AND PHOTOS**

DATE: FEBRUARY 2023
DRAWING NO: <b>S151</b>
WP701-G-00001
SHT NO / TOTAL 70 / 73
REV NO: <b>0</b>



BORDER FILE EDITION: xk0vtd-size-TB-Border\_ACBM1ayer  
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 PLOTTED: Feb 17, 2023-12:36:49pm By slor



**AERIAL VIEW**  
SCALE: NONE



**OUTFALL 2075**  
32" DIA STEEL RISER (3)  
**PHOTO**  
SCALE: NONE (1)



**OUTFALL 2073**  
18" DIA CONCRETE PIPE, IF OUTFALL IS WITHIN DREDGE PRISM, REMOVE EXISTING RIPRAP AS REQUIRED, AND SEE NOTE (6)  
**PHOTO**  
SCALE: NONE (2)



**OUTFALL 2061** (6)  
PIPE SADDLE TO BE REMOVED  
**PHOTO**  
SCALE: NONE (3)

**GENERAL NOTES**

- (1) EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW GRADES FOR THIS CONTRACT, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED EXCEPT WHERE NOTED OTHERWISE ON THE DRAWING.
- (2) FOR CUT SLOPE AND RESTORATION, SEE CIVIL DRAWINGS.
- (3) PROTECT STORMWATER RISER PIPE IN PLACE.
- (4) DO NOT MOOR ON THE BULKHEADS.
- (5) NO WALL DESIGN INFORMATION OR PILE EMBEDMENT DEPTH IS AVAILABLE, THEREFORE MAINTAIN THE MINIMUM OFFSETS INDICATED ON THE PLANS.
- (6) PROTECT OUTFALL PIPE IN PLACE.
- (7) CONSTRUCT ENERGY DISSIPATION STRUCTURE CONSISTING OF GABION MATTRESS FOUNDATION AND RIPRAP. SEE DRAWING S202.

**COLOR IMAGE**  
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NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
 Port of Seattle / City of Seattle / King County / The Boeing Company

**BRIGHT ENGINEERING, INC.**  
 STRUCTURAL & CIVIL ENGINEERING  
 1809 7th AVENUE SUITE 1100  
 SEATTLE, WA 98101  
 P: (206) 625-3777  
 F: (206) 625-1851

**INTERMEDIATE ISSUE DRAWING**  
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**60% REVIEW**  
 FEBRUARY 2023



DESIGNED/DRAWN: S. LOR	CHECKED:
PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX

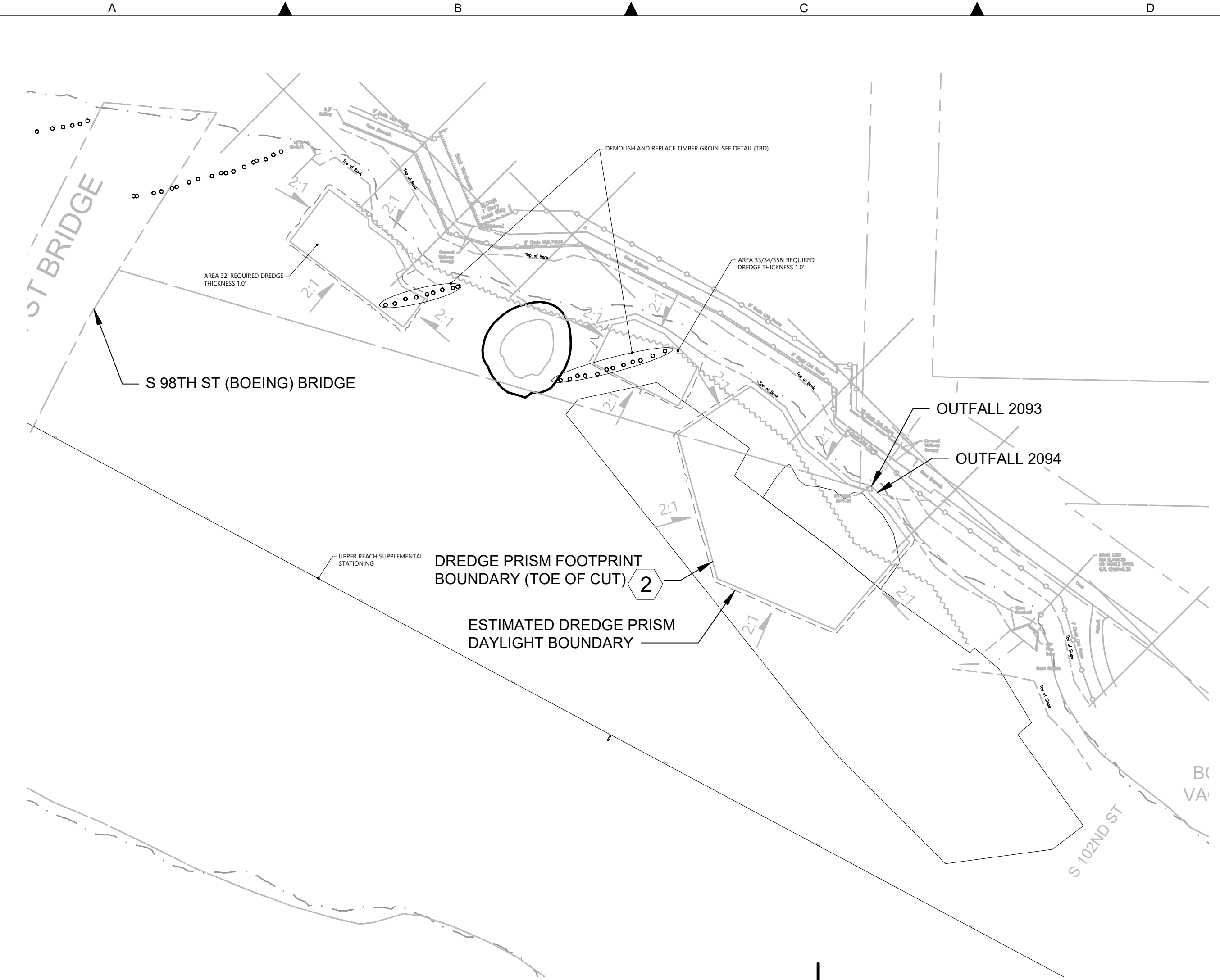


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
**LOWER DUWAMISH WATERWAY UPPER REACH**  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**OUTFALLS 2062, 2061, 2075 & 2073**  
**PLAN AND PHOTOS**

DATE: FEBRUARY 2023
DRAWING NO: <b>S200</b>
WP701-G-00001
SHT NO / TOTAL REV NO: 71 / 73 0



BORDER FILE EDITION: x:\KOVTD\Size-TB-Border\_ACOB\Layer  
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 PLOTTED: Feb 17, 2023 12:39:08pm By slor



**PARTIAL SITE PLAN**  
SCALE: 1 : 50



**GOOGLE MAP VIEW**  
SCALE: NONE



**OUTFALL 2094**  
PHOTO  
SCALE: NONE



**OUTFALLS**  
PHOTO  
SCALE: NONE



**OUTFALL 2093**  
PHOTO  
SCALE: NONE

- GENERAL NOTES**
- EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW GRADES FOR THIS CONTRACT, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED EXCEPT WHERE NOTED OTHERWISE ON THE DRAWING.
  - FOR DREDGING LIMITS, CUT SLOPE AND RESTORATION, SEE CIVIL DRAWINGS.
  - PROTECT OUTFALL PIPE IN PLACE. CONSTRUCT ENERGY DISSIPATION STRUCTURE CONSISTING OF GABION MATTRESS FOUNDATION AND RIPRAP. SEE DRAWING S202.

SPLASH PAD TO BE REMOVED AND REPLACED WITH ENERGY DISSIPATION STRUCTURE, SEE S203

**COLOR IMAGE**  
THIS DRAWING IS COMPOSED USING COLOR IMAGES OR PHOTOGRAPHS AND MUST BE PLOTTED, PRINTED, AND REPRODUCED IN COLOR TO BE VIEWED ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE

**Lower Duwamish Waterway Group**  
Port of Seattle / City of Seattle / King County / The Boeing Company

**6** BRIGHT ENGINEERING, INC.  
STRUCTURAL & CIVIL ENGINEERING  
1809 7TH AVENUE SUITE 1100  
SEATTLE, WA 98101  
P: (206) 625-3777  
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**INTERMEDIATE ISSUE DRAWING**  
INFORMATION ONLY  
**60% REVIEW**  
FEBRUARY 2023



DESIGNED/DRAWN: S. LOR	CHECKED:
PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX



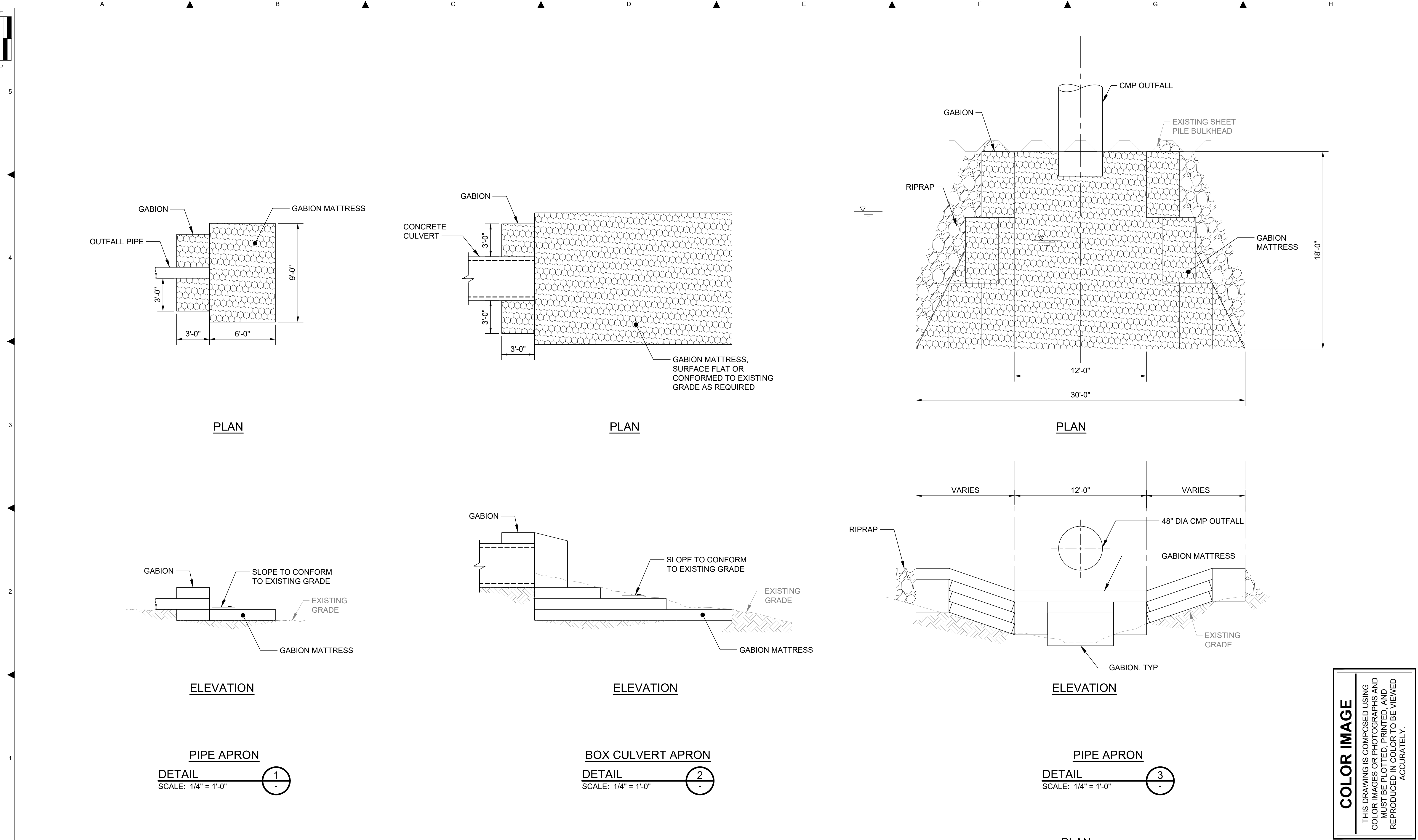
DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

**OUTFALLS 2094 & 2093  
PLAN AND PHOTOS**

DATE: FEBRUARY 2023
DRAWING NO: <b>S201</b>
WP701-G-00001
SHT NO / TOTAL 72 / 73
REV NO: <b>0</b>




BORDER FILE EDITION: x:\KOVTD\Drawings\Structural\SCAD-LDWUR\_S202.dwg | Layout: S202  
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 PLOTTED: Feb 17, 2023 12:59:05pm By slor

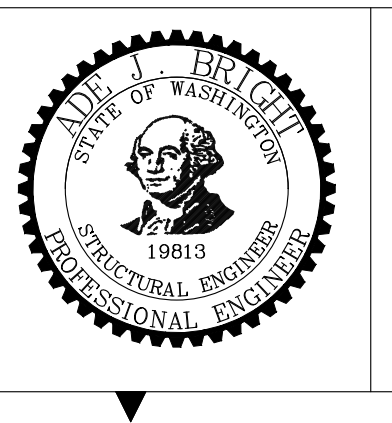


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**Lower Duwamish Waterway Group**  
 Port of Seattle / City of Seattle / King County / The Boeing Company  
  
**BRIGHT ENGINEERING, INC.**  
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 FEBRUARY 2023



DESIGNED/DRAWN: S. LOR	CHECKED: I. IKEDA
PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX



**PLAN**  
 DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
**LOWER DUWAMISH WATERWAY UPPER REACH**  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP  
**OUTFALL APRON**  
**DETAILS**

DATE: FEBRUARY 2023
DRAWING NO: <b>S202</b>
WP701-G-00001
SHT NO / TOTAL 73 / 73
REV NO: <b>0</b>