

Appendix D  
Preliminary 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., Intermediate [60%], Pre-Final [90%], and Final [100%] RD). The preliminary 30% drawings are shown in bold.

### GENERAL

<b>G01</b>	<b>Cover Sheet</b>
G02	General Notes and Abbreviations
G03	Key Map
G04	Construction Sequencing
G05	Survey Control Plan
G06	Site Access and Staging Areas

### EXISTING CONDITIONS

EC01-EC08	Existing Conditions
EC09-E12	Site Photographs

### EXISTING CONDITIONS

R01	Demolition
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### CIVIL

<b>C01-C08</b>	<b>Dredging and ENR Plans</b>
<b>C09-C22</b>	<b>Dredging Sections</b>
C23	Dredging Details
C24	Offloading, Stockpiling, BMPs
C25-C26	Backfill, ENR, and RMC Details
<b>C27</b>	<b>Capping Plan</b>
<b>C28</b>	<b>Capping Sections</b>
C29	Capping Details
C30	Final Grading and Habitat Material Placement

## **STRUCTURAL**

<b>S001</b>	<b>Structural Abbreviations and Symbols</b>
<b>S002</b>	<b>Structural General Notes</b>
<b>S100</b>	<b>South Park Bridge Plan and Photos</b>
<b>S101</b>	<b>South Park Marina Plan and Photos</b>
<b>S102</b>	<b>Outfalls 2075 &amp; 2073 Plan and Photos</b>
<b>S103-104</b>	<b>ST-03 (Bulkheads) Plan and Photos</b>
<b>S105</b>	<b>L-Shape Pier &amp; Dolphins Plan and Photos</b>
<b>S106</b>	<b>Boeing Range Track Dock and Piles Plan and Photos</b>
<b>S107</b>	<b>Timber Groins Plan and Photos</b>
<b>S108</b>	<b>Outfalls 2094 &amp; 2093 Plan and Photos</b>
S109-S111	Sections and Details
S112-S114	Outfall Foundation and Grade Level Sections and Details
S115-S117	Outfall Sections and Details
S118-S119	Structure Replacement Details

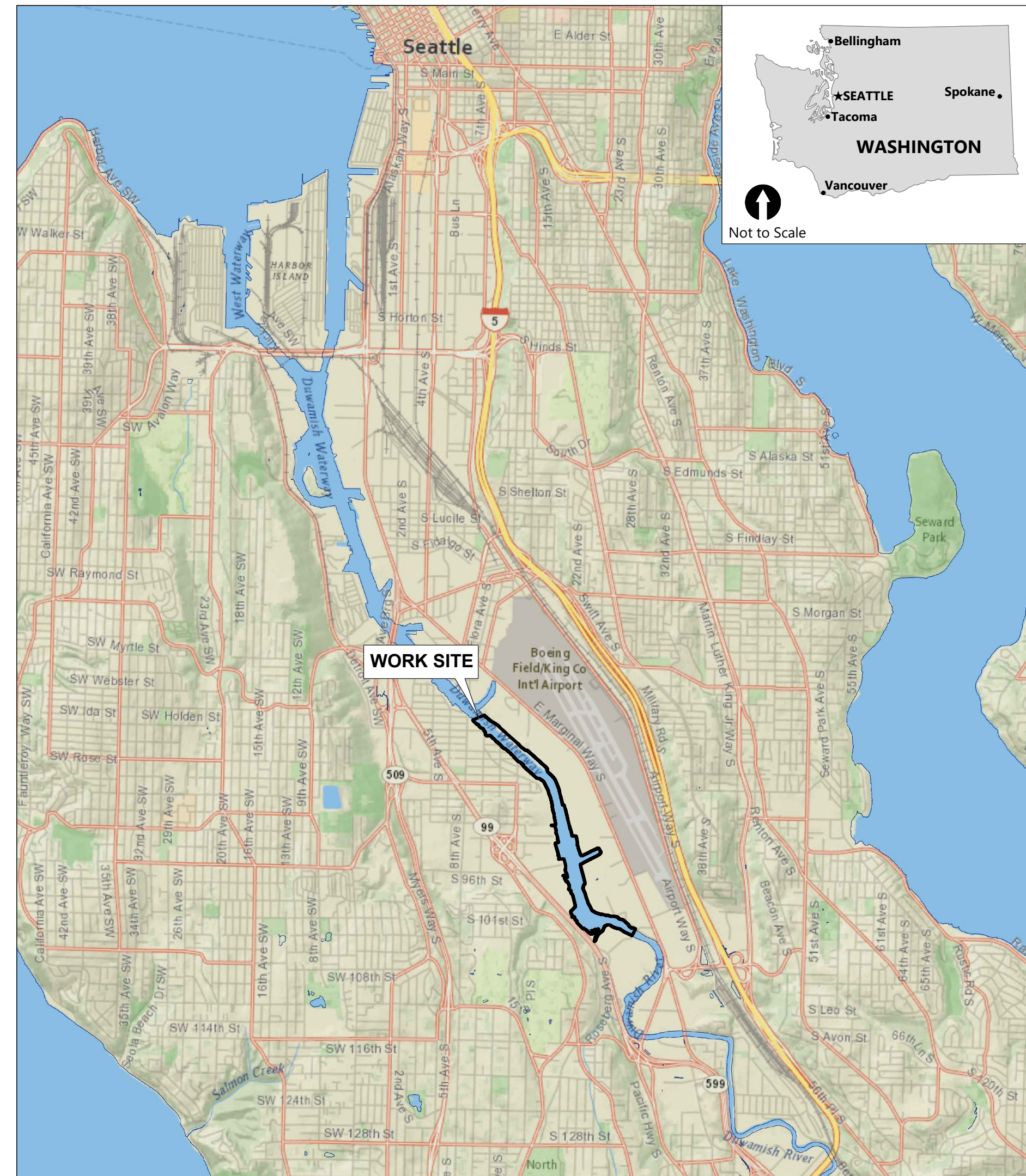


# 30% DESIGN SUBMITTAL

# LOWER DUWAMISH WATERWAY UPPER REACH

## LOWER DUWAMISH WATERWAY GROUP

DRAWING INDEX		
SHT #	DWG #	TITLE
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4	C02	DREDGE PLAN (RM 3.2 TO 3.5)
5	C03	DREDGE PLAN (RM 3.5 TO 3.7)
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7	C05	DREDGE PLAN (RM 3.9 TO 4.1)
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9	C07	DREDGE PLAN (RM 4.5 TO 4.7)
10	C08	DREDGE PLAN (RM 4.7 TO 5.0)
11	C09	CROSS SECTIONS
12	C10	CROSS SECTIONS
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14	C12	CROSS SECTIONS
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18	C16	CROSS SECTIONS
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20	C18	CROSS SECTIONS
21	C19	CROSS SECTIONS
22	C20	CROSS SECTIONS
23	C21	CROSS SECTIONS
24	C22	CROSS SECTIONS
25	CP01	CAPPING PLAN
26	CP02	CAPPING SECTIONS
27-37	SXX	STRUCTURAL SHEETS



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

VICINITY MAP

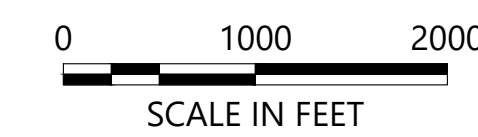


NORTH



SOURCE: AERIAL PHOTOGRAPH FROM ©MICROSOFT, BING MAPS

LOCATION MAP



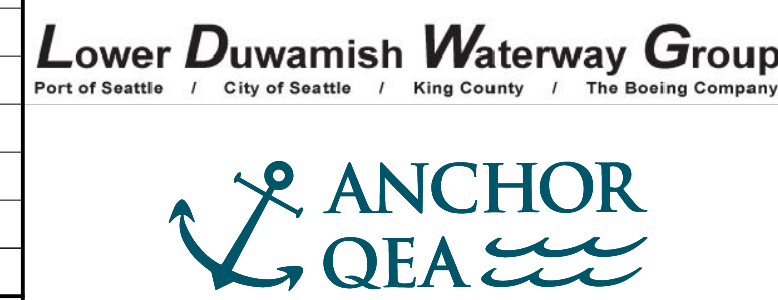
NORTH

**COLOR IMAGE**

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NO	REVISION DESCRIPTION	BY	APVD	DATE



**PRELIMINARY ISSUE DRAWING**  
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 AUGUST 2022

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: AUGUST 2022  
 DRAWING NO: **G01**  
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 REV NO: **0**



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 PLOTTED: Aug 19, 2022 01:03:48pm By jigsby

**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.

**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: NAD 83-2011 EPOCH 2010.00, STATE PLANE COORDINATES, WASHINGTON NORTH ZONE.
4. UNITS: U.S SURVEY FEET
5. VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW). THE CONVERSION BETWEEN NAVD88 AND MLLW WAS DETERMINED USING NOAA/NOS VDATUM 3.9. THE VDATUM CALCULATED SEPERATION 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 ATTITUDE 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 WAS 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.

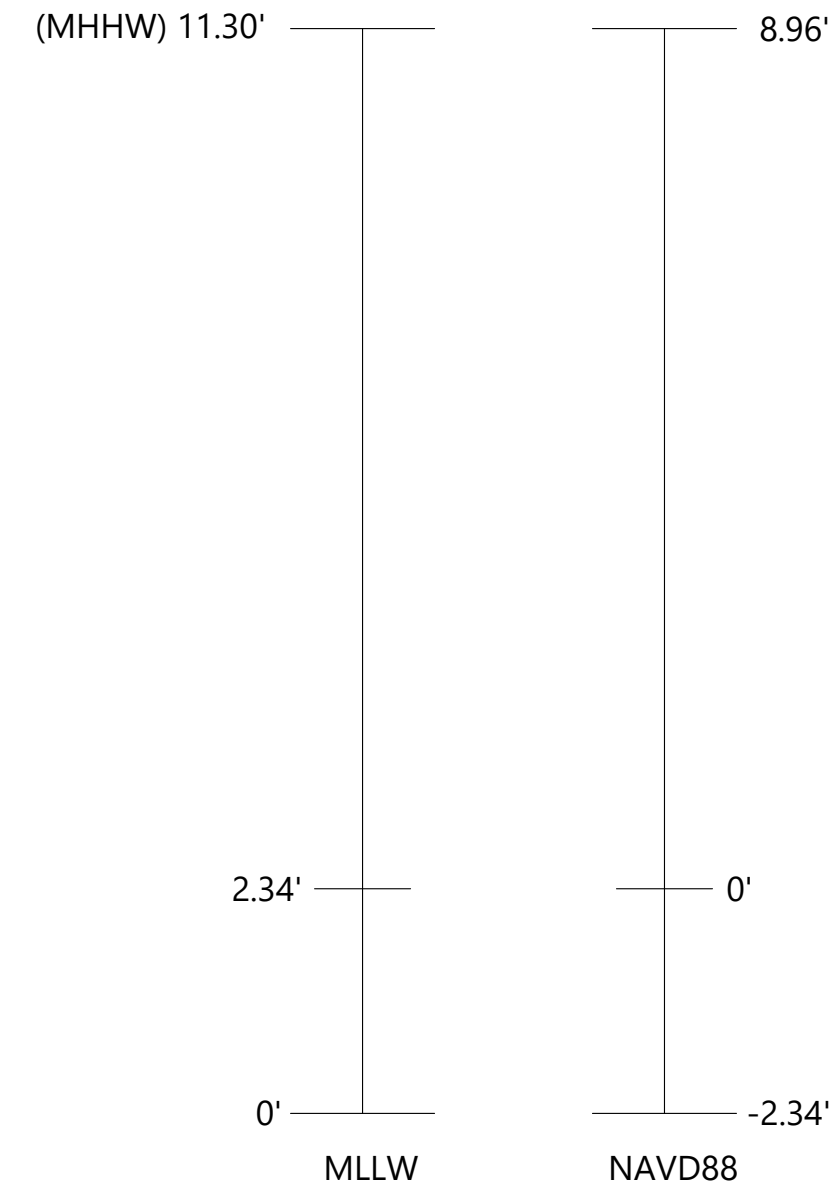
**TOPOGRAPHIC SURVEY NOTES:**

1. THE UPLAND TOPOGRAPHIC SURVEY WAS COMPLETED BY TRUE NORTH LAND SURVEYING, INC. DATE OF SURVEY: JULY 1 THROUGH AUGUST 10, 2021
2. HORIZONTAL DATUM: NAD 83-2011, WA NORTH ZONE FROM WSDOT, WSDOT MON GP17005-176 & GP17005-181
3. VERTICAL DATUM: MLLW CONVERTED FROM NAD 88 (NAVD 88 + 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 (NAVD 88) 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 (NAVD 88) 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. MEAN HIGHER HIGH WATER IS EQUAL TO 8.16 FEET BASED ON MLLW DATUM (8.02 FEET BASED ON NAVD88 DATUM)

**DATUM CONVERSION**

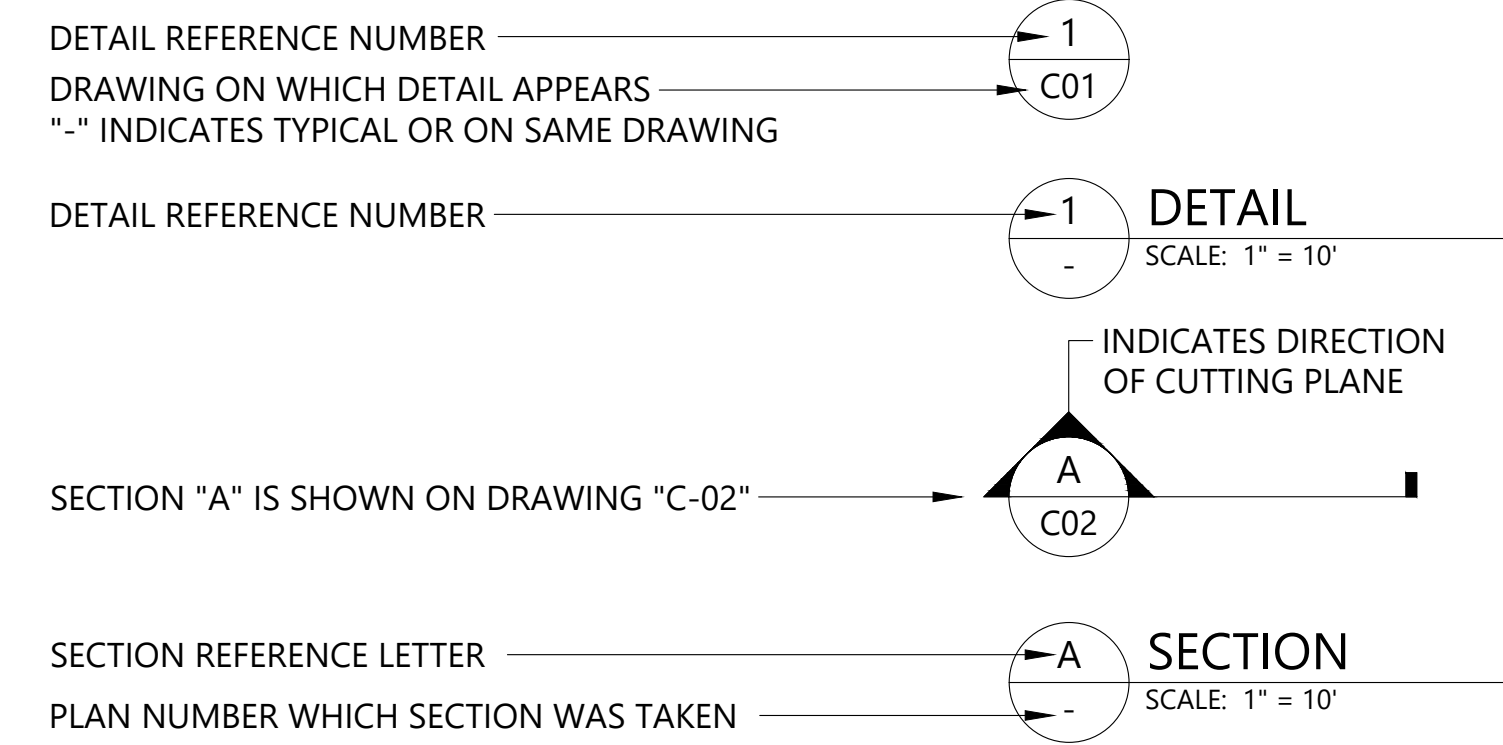


NOT TO SCALE

**ABBREVIATIONS:**

BLDG	BUILDING
BMP	BEST MANAGEMENT PRACTICES
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
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:**



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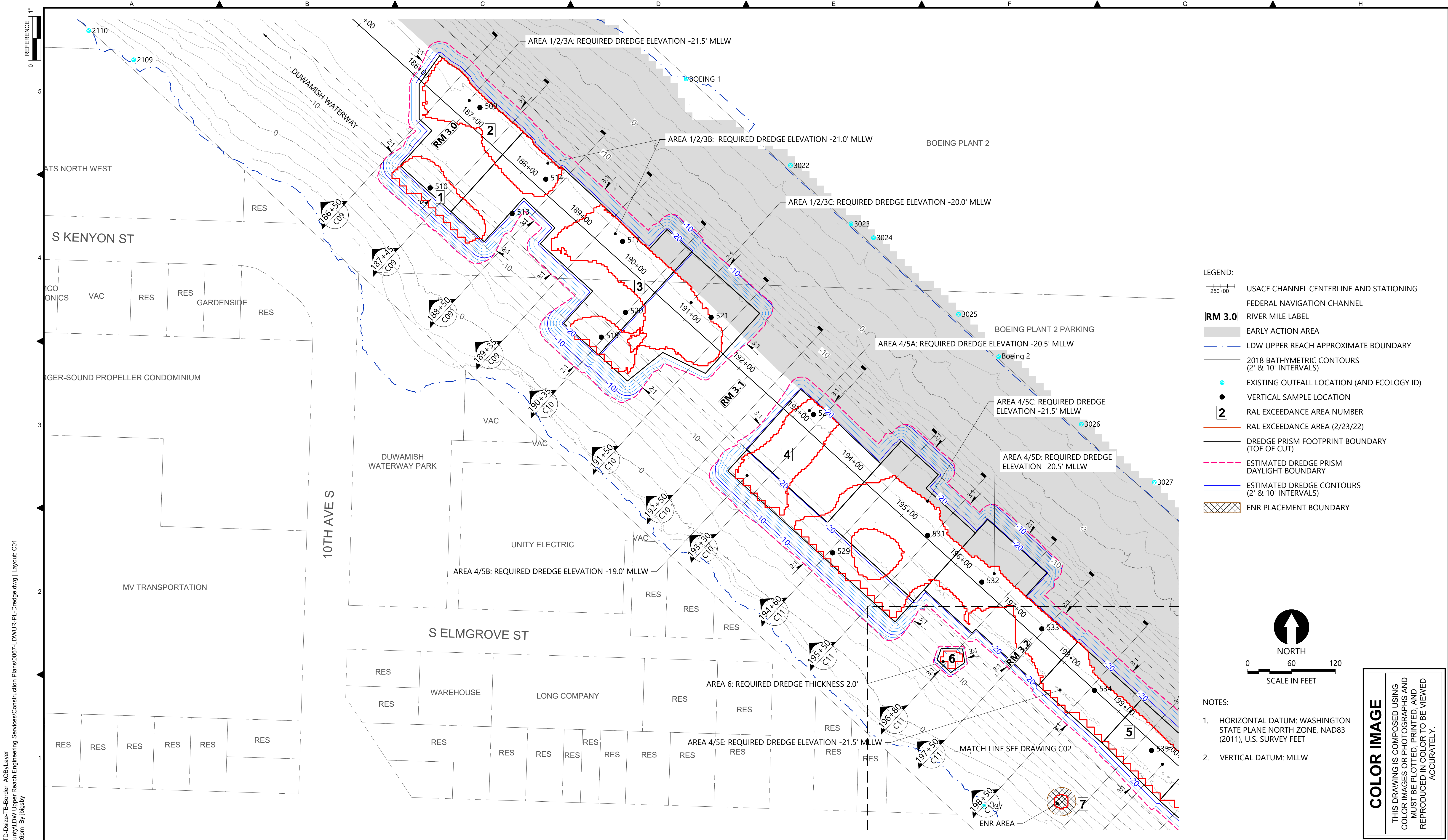
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PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

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

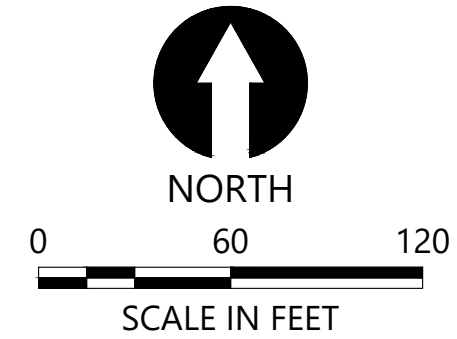
**GENERAL NOTES & ABBREVIATIONS**

DATE: AUGUST 2022
DRAWING NO: <b>G02</b>
SHT NO / TOTAL 2 / 26
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
  - 2018 BATHYMETRIC CONTOURS (2' & 10' INTERVALS)
  - EXISTING OUTFALL LOCATION (AND ECOLOGY ID)
  - VERTICAL SAMPLE LOCATION
  - 2** RAL EXCEEDANCE AREA NUMBER
  - RAL EXCEEDANCE AREA (2/23/22)
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - ESTIMATED DREDGE CONTOURS (2' & 10' INTERVALS)
  - ENR PLACEMENT BOUNDARY



- NOTES:**
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  - VERTICAL DATUM: MLLW

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**Lower Duwamish Waterway Group**  
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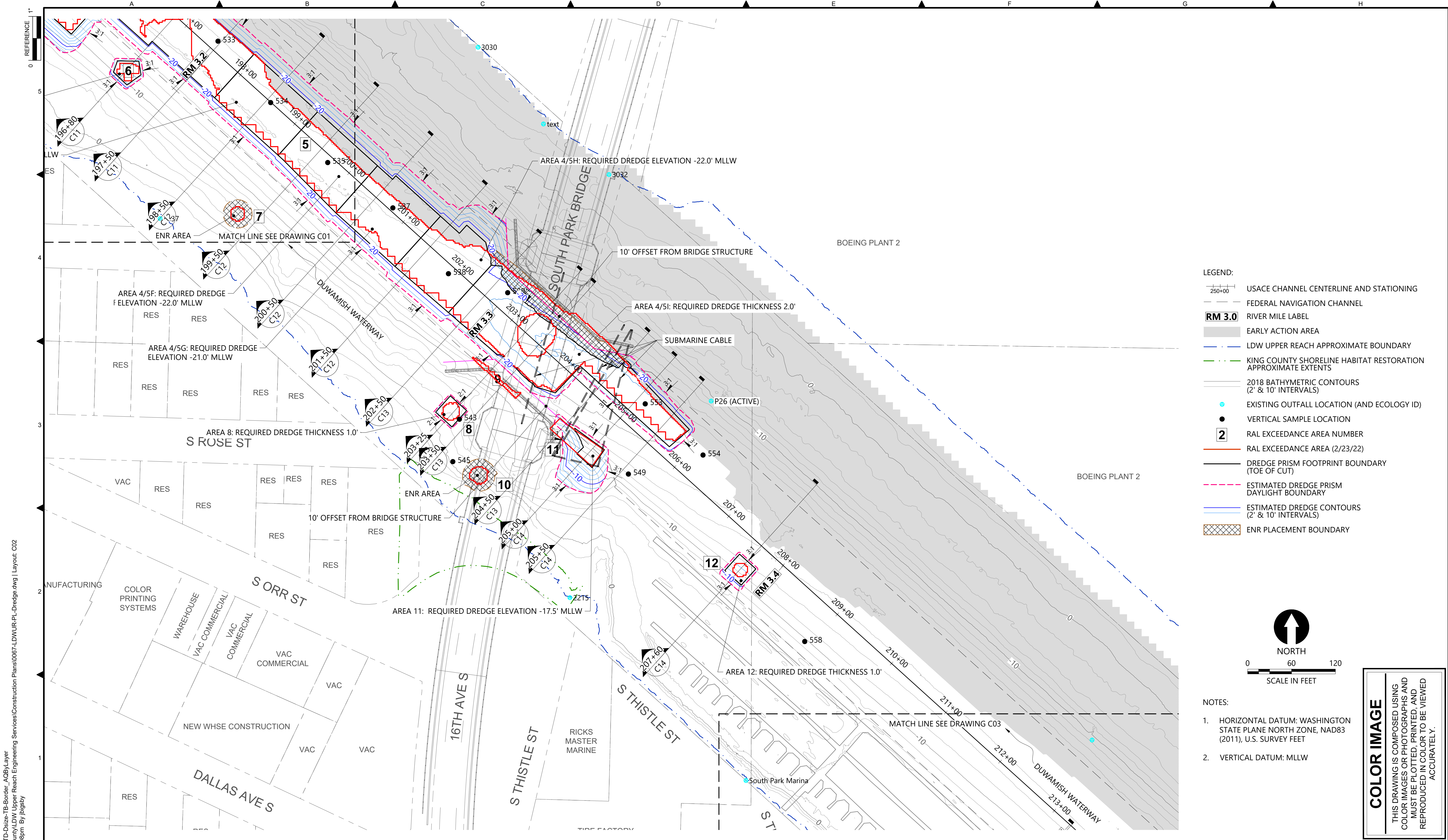
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PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
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WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

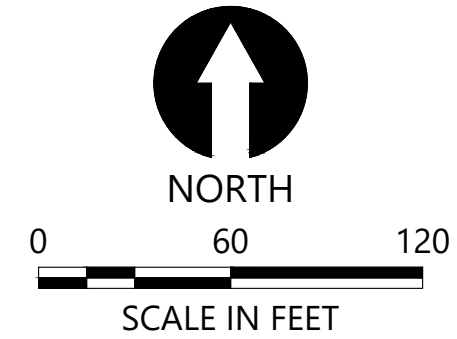
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DATE: AUGUST 2022
DRAWING NO: <b>C01</b>
SHT NO / TOTAL 3 / 26
REV NO: <b>0</b>





- LEGEND:**
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  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - KING COUNTY SHORELINE HABITAT RESTORATION APPROXIMATE EXTENTS
  - 2018 BATHYMETRIC CONTOURS (2' & 10' INTERVALS)
  - EXISTING OUTFALL LOCATION (AND ECOLOGY ID)
  - VERTICAL SAMPLE LOCATION
  - RAL EXCEEDANCE AREA NUMBER
  - RAL EXCEEDANCE AREA (2/23/22)
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - ESTIMATED DREDGE CONTOURS (2' & 10' INTERVALS)
  - ENR PLACEMENT BOUNDARY



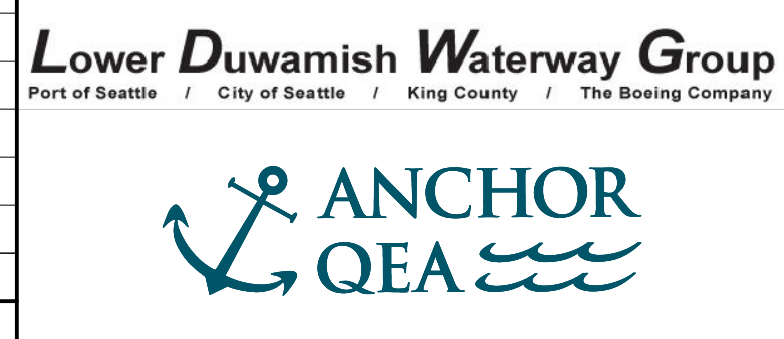
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- HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  - VERTICAL DATUM: MLLW

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 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

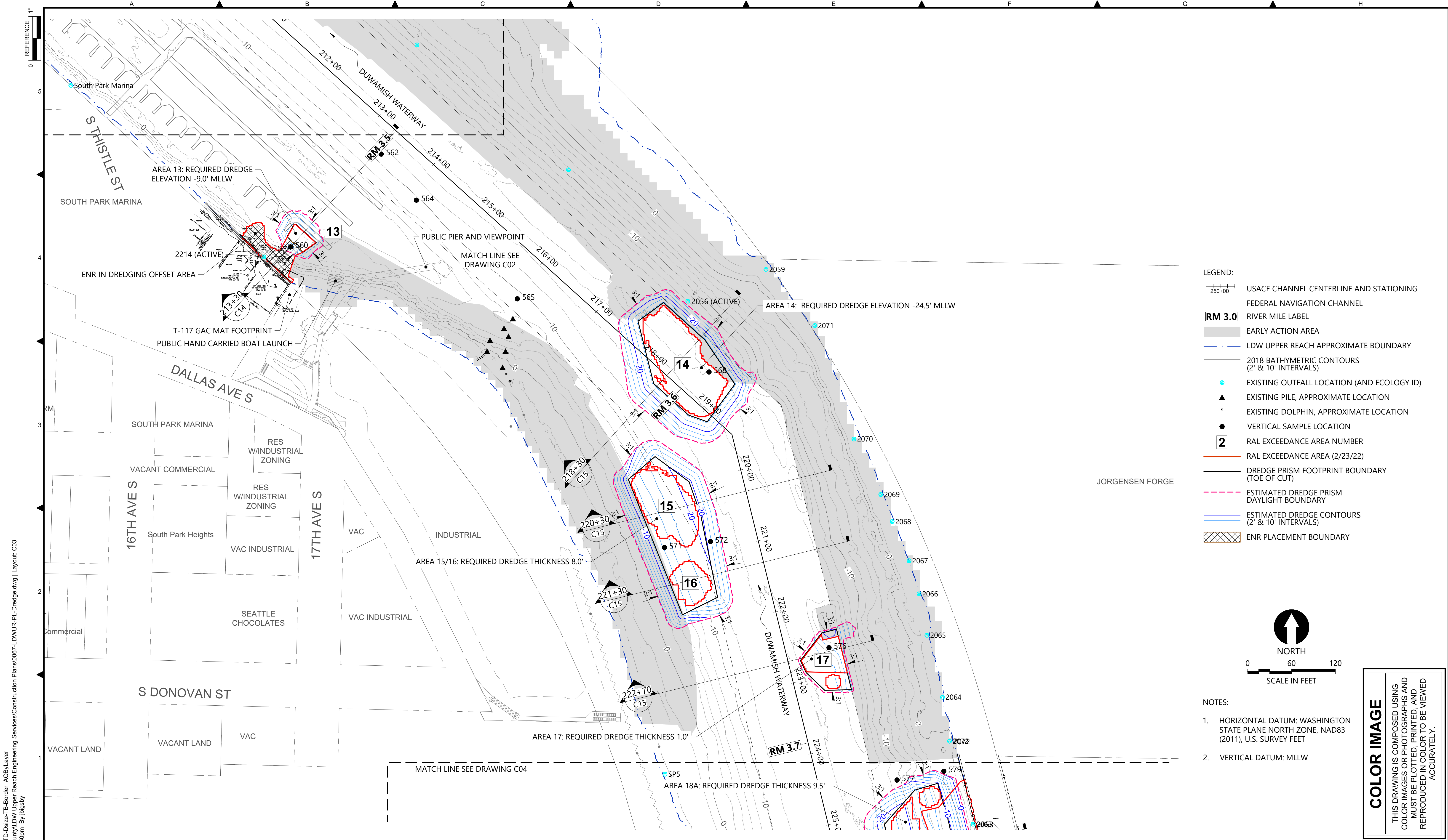


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 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

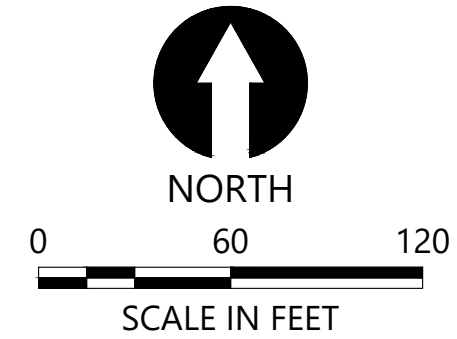
**DREDGE PLAN (RM 3.2 TO 3.5)**

DATE: AUGUST 2022  
 DRAWING NO: **C02**  
 SHT NO / TOTAL: 4 / 26  
 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
  - 2018 BATHYMETRIC CONTOURS (2' & 10' INTERVALS)
  - EXISTING OUTFALL LOCATION (AND ECOLOGY ID)
  - EXISTING PILE, APPROXIMATE LOCATION
  - EXISTING DOLPHIN, APPROXIMATE LOCATION
  - VERTICAL SAMPLE LOCATION
  - 2** RAL EXCEEDANCE AREA NUMBER
  - RAL EXCEEDANCE AREA (2/23/22)
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - ESTIMATED DREDGE CONTOURS (2' & 10' INTERVALS)
  - ENR PLACEMENT BOUNDARY



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

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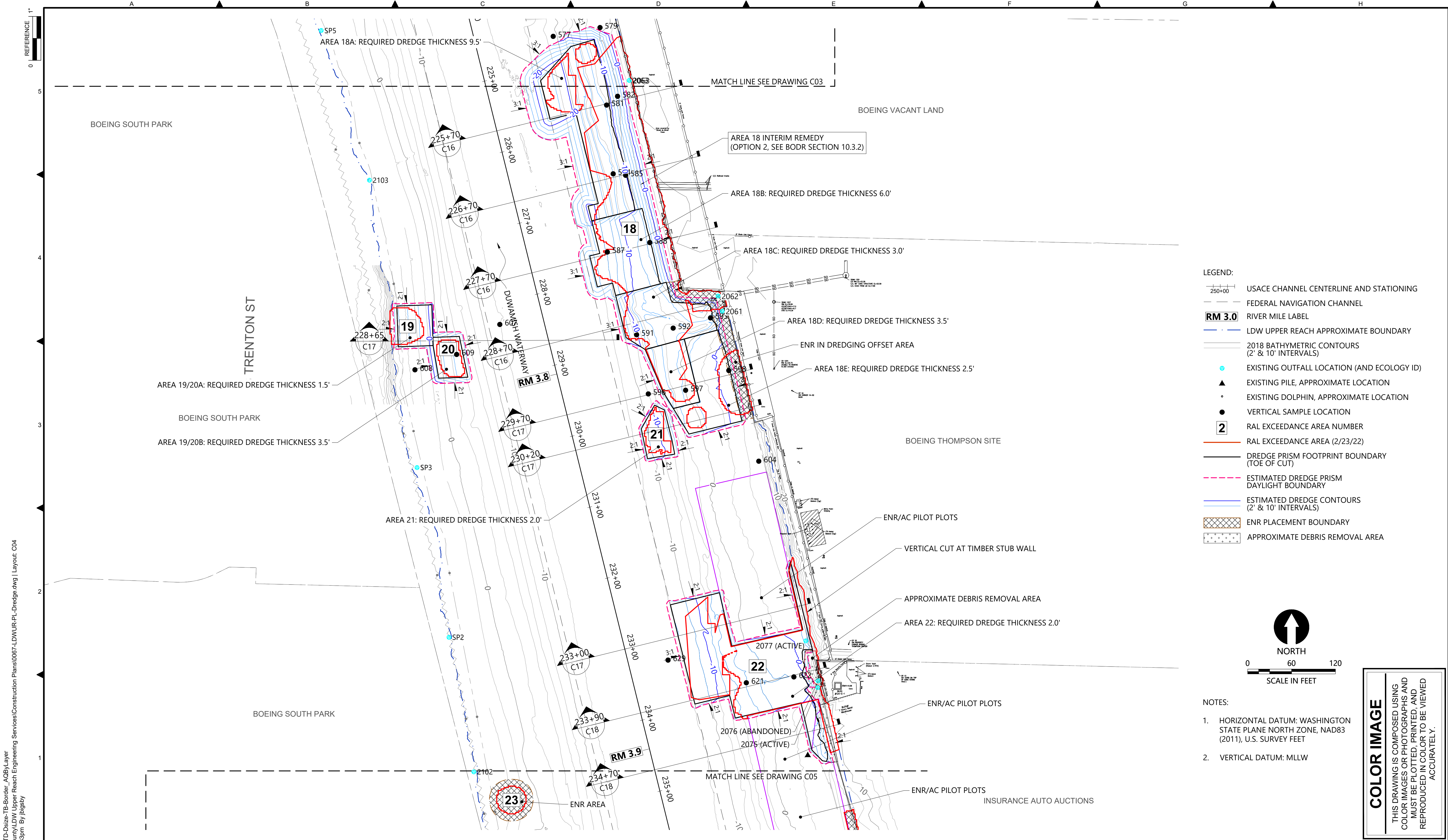
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PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: T. WANG	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCX

DEPARTMENT OF NATURAL RESOURCES & PARKS  
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 ENGINEERING SERVICES AND SEDIMENT CLEANUP

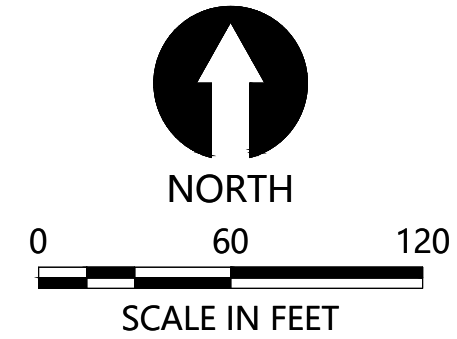
**DREDGE PLAN (RM 3.5 TO 3.7)**

DATE: AUGUST 2022
DRAWING NO: <b>C03</b>
SHT NO / TOTAL 5 / 26
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - 2018 BATHYMETRIC CONTOURS (2' & 10' INTERVALS)
  - EXISTING OUTFALL LOCATION (AND ECOLOGY ID)
  - EXISTING PILE, APPROXIMATE LOCATION
  - EXISTING DOLPHIN, APPROXIMATE LOCATION
  - VERTICAL SAMPLE LOCATION
  - 2** RAL EXCEEDANCE AREA NUMBER
  - RAL EXCEEDANCE AREA (2/23/22)
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - ESTIMATED DREDGE CONTOURS (2' & 10' INTERVALS)
  - ENR PLACEMENT BOUNDARY
  - APPROXIMATE DEBRIS REMOVAL AREA

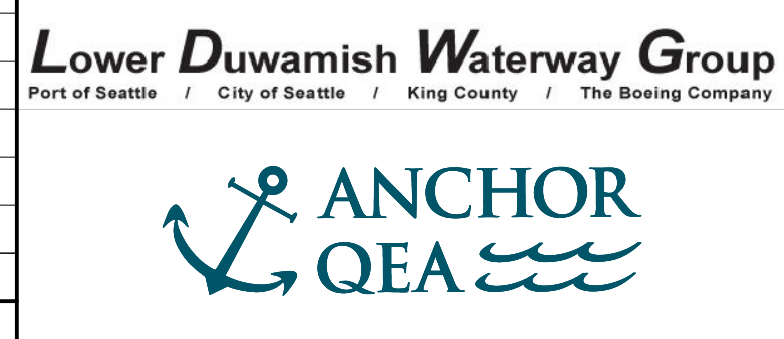


- NOTES:**
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  - VERTICAL DATUM: MLLW

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PROJECT ENGINEER: J. LAPLANTE  
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ENGINEERING SERVICES AND SEDIMENT CLEANUP

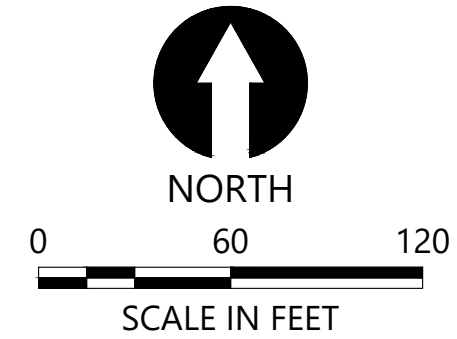
**DREDGE PLAN (RM 3.7 TO 3.9)**

DATE: AUGUST 2022  
DRAWING NO: **C04**  
SHT NO / TOTAL: 6 / 26  
REV NO: **0**





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - 2018 BATHYMETRIC CONTOURS (2' & 10' INTERVALS)
  - EXISTING OUTFALL LOCATION (AND ECOLOGY ID)
  - EXISTING PILE, APPROXIMATE LOCATION
  - EXISTING DOLPHIN, APPROXIMATE LOCATION
  - VERTICAL SAMPLE LOCATION
  - 2** RAL EXCEEDANCE AREA NUMBER
  - RAL EXCEEDANCE AREA (2/23/22)
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - ESTIMATED DREDGE CONTOURS (2' & 10' INTERVALS)
  - ENR PLACEMENT BOUNDARY

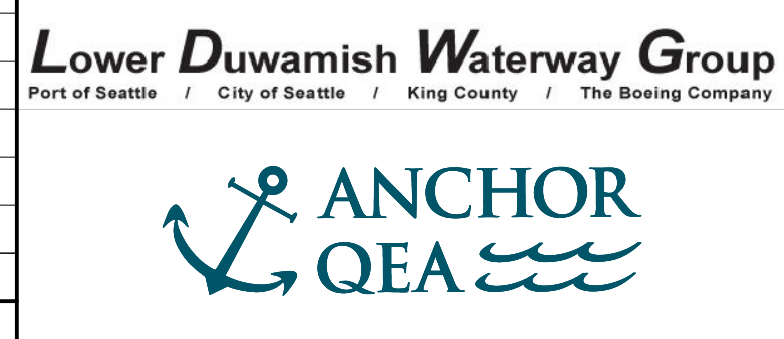


- NOTES:**
- HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  - VERTICAL DATUM: MLLW

**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: Aug 19, 2022 01:12:15pm By jigsby

NO	REVISION DESCRIPTION	BY	APVD	DATE



**PRELIMINARY ISSUE DRAWING**  
 INFORMATION ONLY  
**30% REVIEW**  
 AUGUST 2022

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

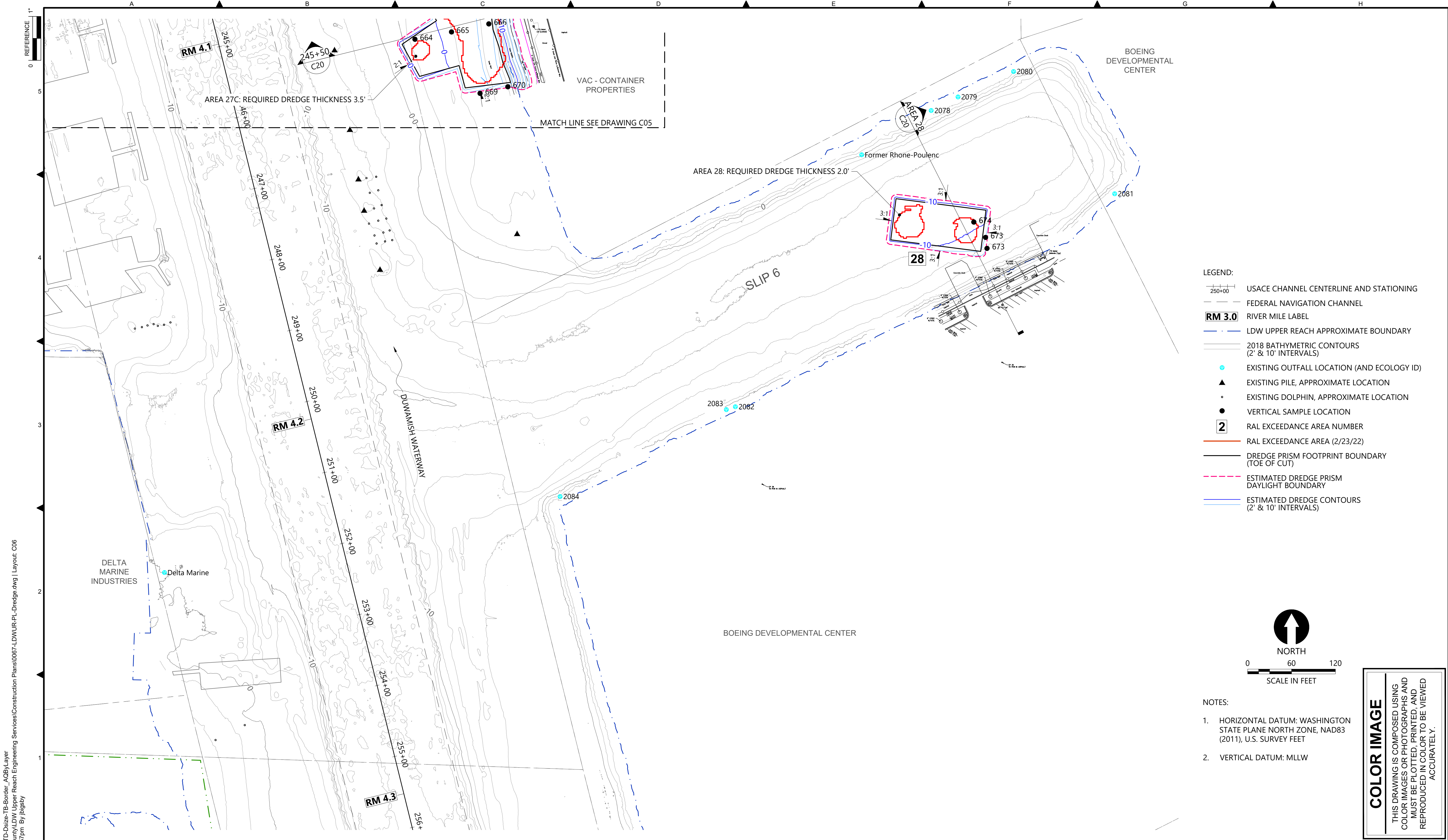


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**DREDGE PLAN (RM 3.9 TO 4.1)**

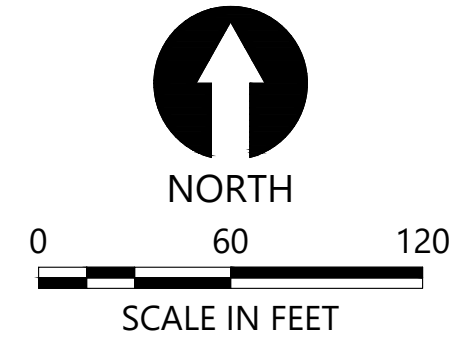
DATE: AUGUST 2022  
 DRAWING NO: **C05**  
 SHT NO / TOTAL: 7 / 26  
 REV NO: **0**





1" REFERENCE  
0 1' 2' 3' 4' 5'

- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - 2018 BATHYMETRIC CONTOURS (2' & 10' INTERVALS)
  - EXISTING OUTFALL LOCATION (AND ECOLOGY ID)
  - EXISTING PILE, APPROXIMATE LOCATION
  - EXISTING DOLPHIN, APPROXIMATE LOCATION
  - VERTICAL SAMPLE LOCATION
  - 2** RAL EXCEEDANCE AREA NUMBER
  - RAL EXCEEDANCE AREA (2/23/22)
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - ESTIMATED DREDGE CONTOURS (2' & 10' INTERVALS)

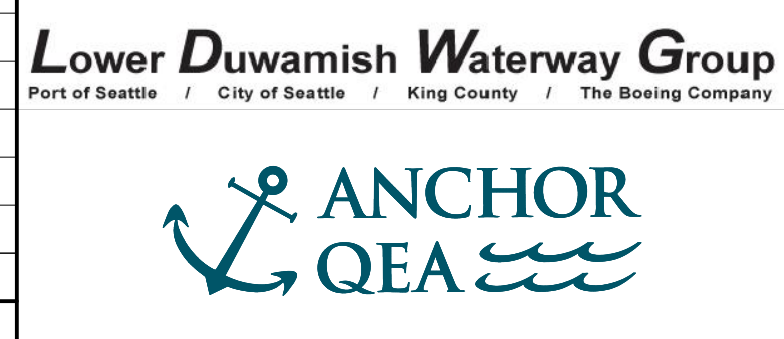


- NOTES:**
- HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  - VERTICAL DATUM: MLLW

**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: x:\KOVTD\size-TB-Border\_ACBM\_Layer  
\\gala\ca\Projects\067-King County\LDW Upper Reach Engineering Services\Construction Plans\0067-LDWUR-PL-Dredge.dwg | Layout: C06  
PLOTTED: Aug 19, 2022 01:12:57pm By jigsby

NO	REVISION DESCRIPTION	BY	APVD	DATE



**PRELIMINARY ISSUE DRAWING**  
INFORMATION ONLY  
**30% REVIEW**  
AUGUST 2022

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

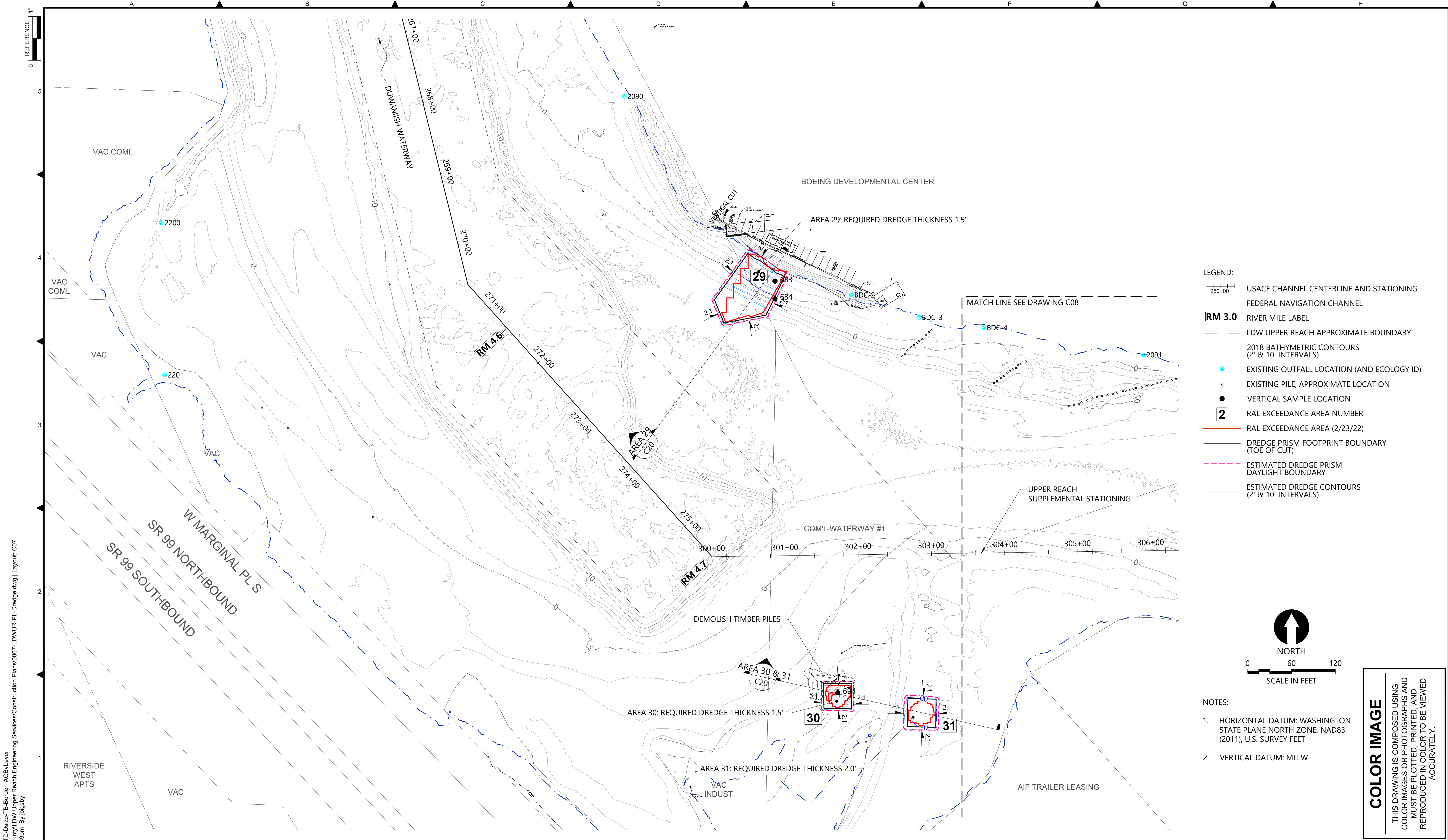


DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

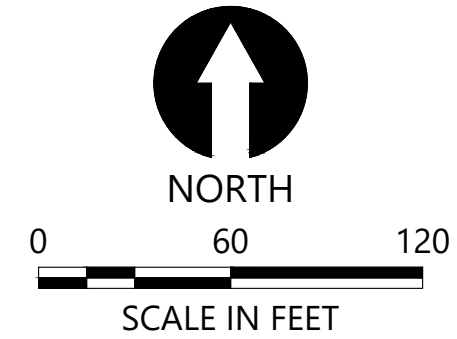
**DREDGE PLAN (RM 4.1 TO 4.3)**

DATE: AUGUST 2022  
DRAWING NO: **C06**  
SHT NO / TOTAL: 8 / 26  
REV NO: **0**





- LEGEND:**
- USACE CHANNEL CENTERLINE AND STATIONING
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - 2018 BATHYMETRIC CONTOURS (2' & 10' INTERVALS)
  - EXISTING OUTFALL LOCATION (AND ECOLOGY ID)
  - EXISTING PILE, APPROXIMATE LOCATION
  - VERTICAL SAMPLE LOCATION
  - 2** RAL EXCEEDANCE AREA NUMBER
  - RAL EXCEEDANCE AREA (2/23/22)
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - ESTIMATED DREDGE CONTOURS (2' & 10' INTERVALS)



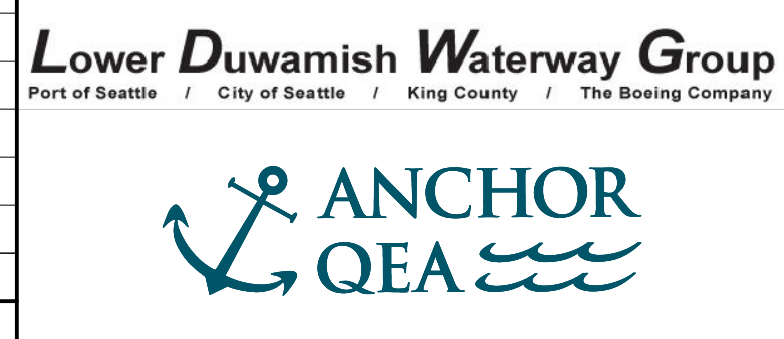
- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW

**COLOR IMAGE**

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BORDER FILE EDITION: x:\KOVTD\size-TB-Border\_ACB\layer \gala\ca\Projects\067-King County\LDW Upper Reach Engineering Services\Construction Plans\0067-LDWUR-PL-Dredge.dwg | Layout: C07 PLOTTED: Aug 19, 2022 01:13:39pm By jigsby

NO	REVISION DESCRIPTION	BY	APVD	DATE



**PRELIMINARY ISSUE DRAWING**  
**INFORMATION ONLY**  
30% REVIEW  
 AUGUST 2022

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

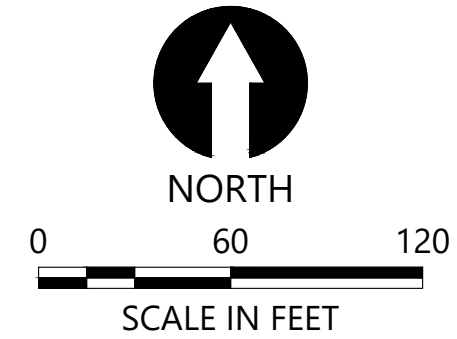
DREDGE PLAN (RM 4.5 TO 4.7)

DATE: AUGUST 2022
DRAWING NO: <span style="font-size: 2em; font-weight: bold;">C07</span>
SHT NO / TOTAL 9 / 26
REV NO: <span style="font-size: 1.5em; font-weight: bold;">0</span>





- LEGEND:**
- RM 3.0 RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - 2018 BATHYMETRIC CONTOURS (2' & 10' INTERVALS)
  - EXISTING OUTFALL LOCATION (AND ECOLOGY ID)
  - EXISTING PILE, APPROXIMATE LOCATION
  - VERTICAL SAMPLE LOCATION
  - 2 RAL EXCEEDANCE AREA NUMBER
  - RAL EXCEEDANCE AREA (2/23/22)
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - ESTIMATED DREDGE CONTOURS (2' & 10' INTERVALS)
  - ENR PLACEMENT BOUNDARY



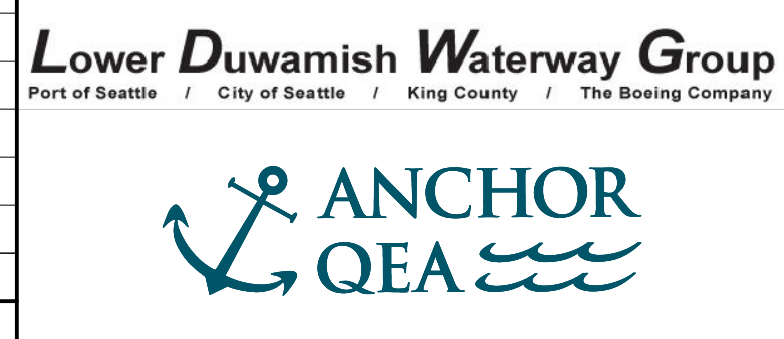
- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  2. VERTICAL DATUM: MLLW

**COLOR IMAGE**

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BORDER FILE EDITION: x:\KOVTD\size-TB-Border\_ACB\Layer \gala\ca\Projects\067-King County\LDW Upper Reach Engineering Services\Construction Plans\0067-LDWUR-PL-Dredge.dwg | Layout: C08 PLOTTED: Aug 19, 2022 01:15:02pm By jigsby

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**PRELIMINARY ISSUE DRAWING**  
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 AUGUST 2022

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



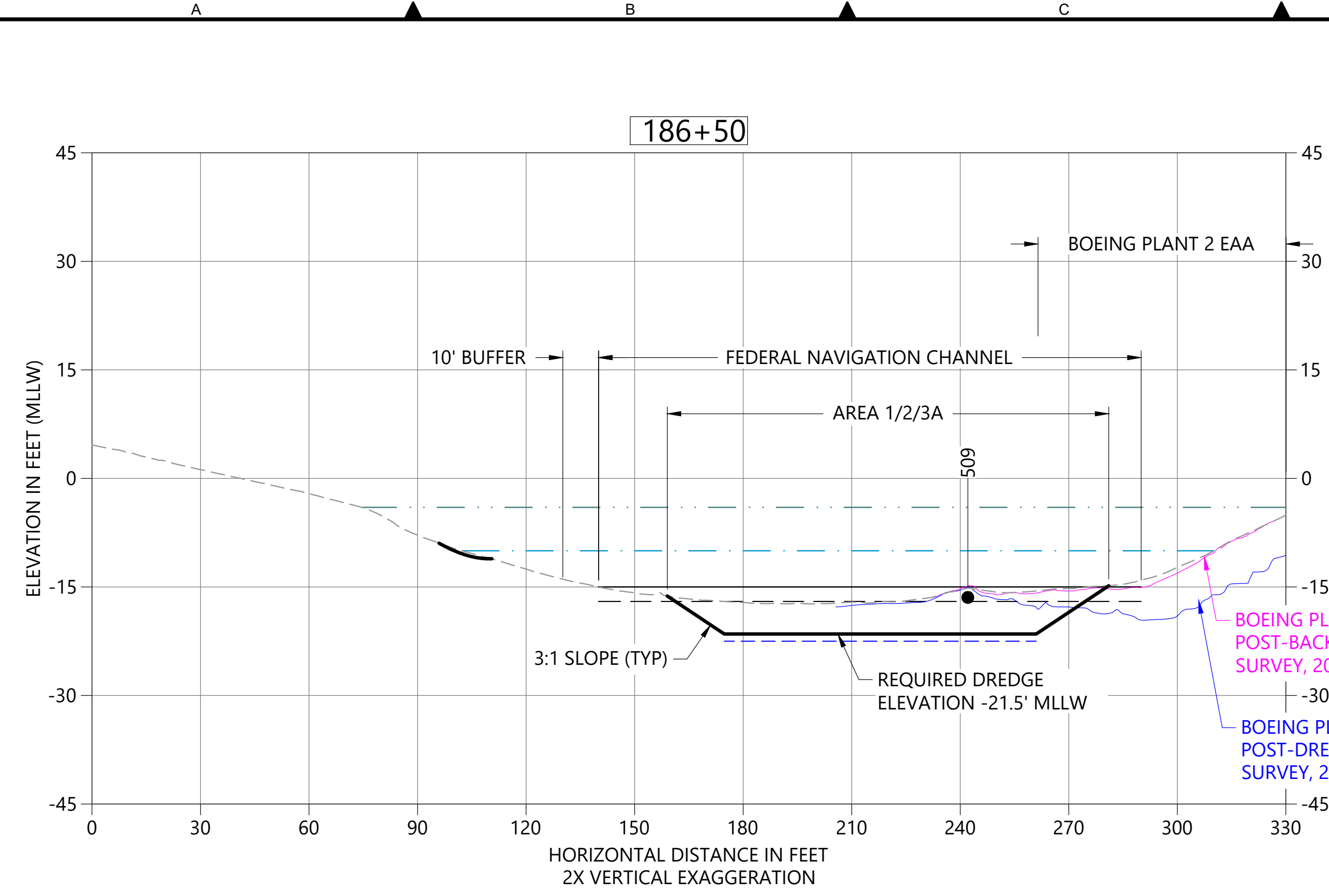
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**DREDGE PLAN (RM 4.7 TO 5.0)**

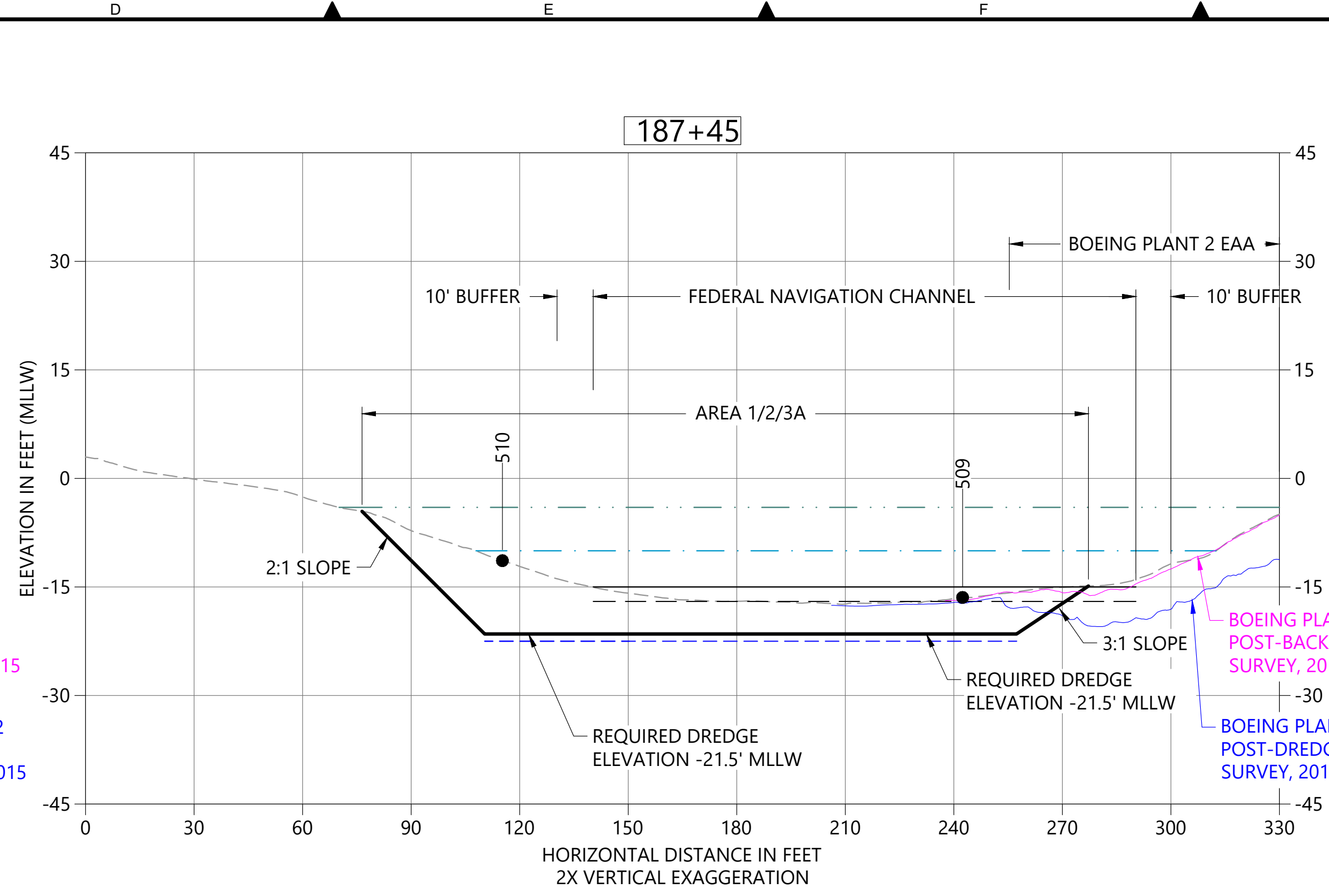
DATE: AUGUST 2022
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SHT NO / TOTAL 10 / 26
REV NO: <span style="font-size: 1.5em; font-weight: bold;">0</span>



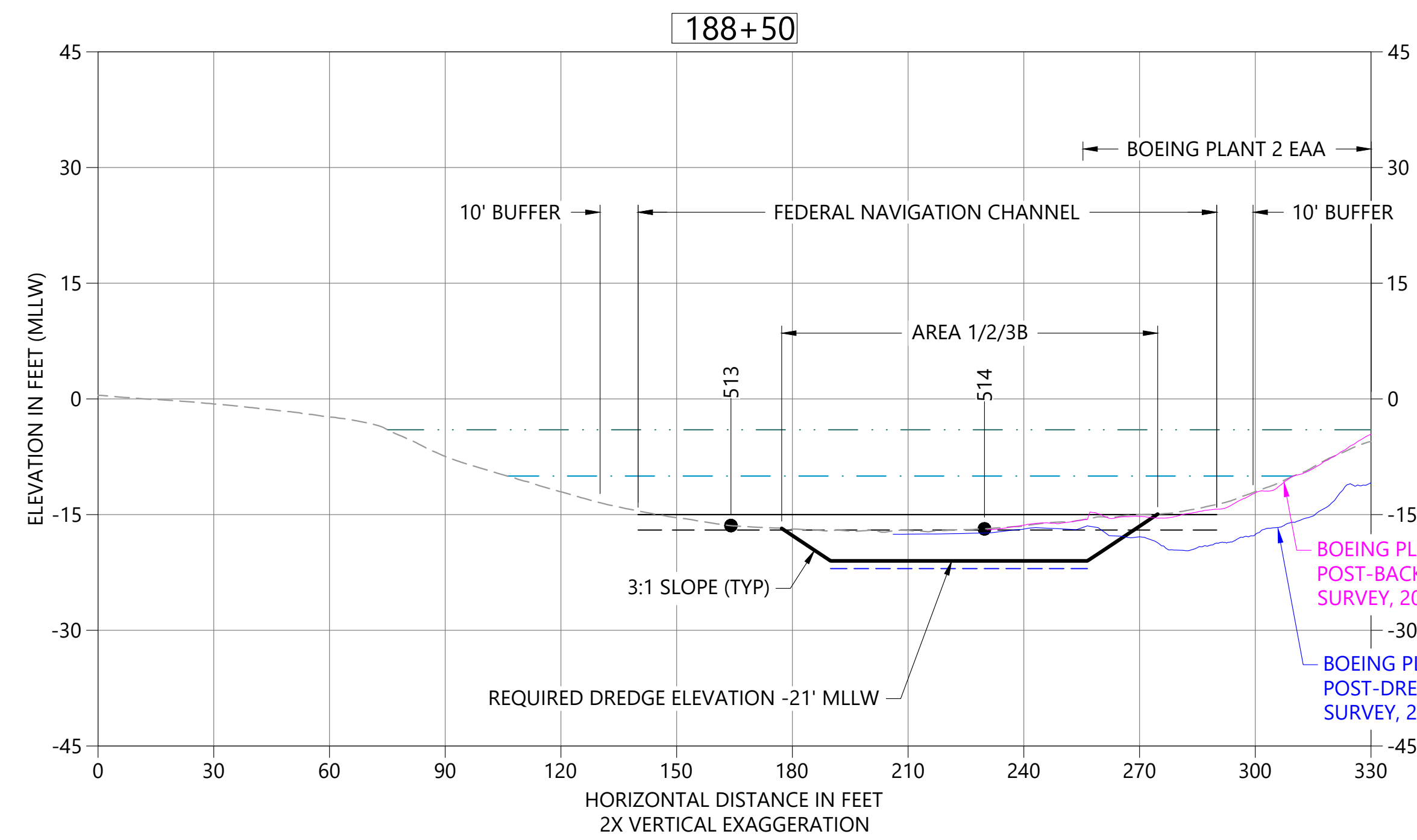
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 PLOTTED: Aug 19, 2022 01:15:12pm By jigsby



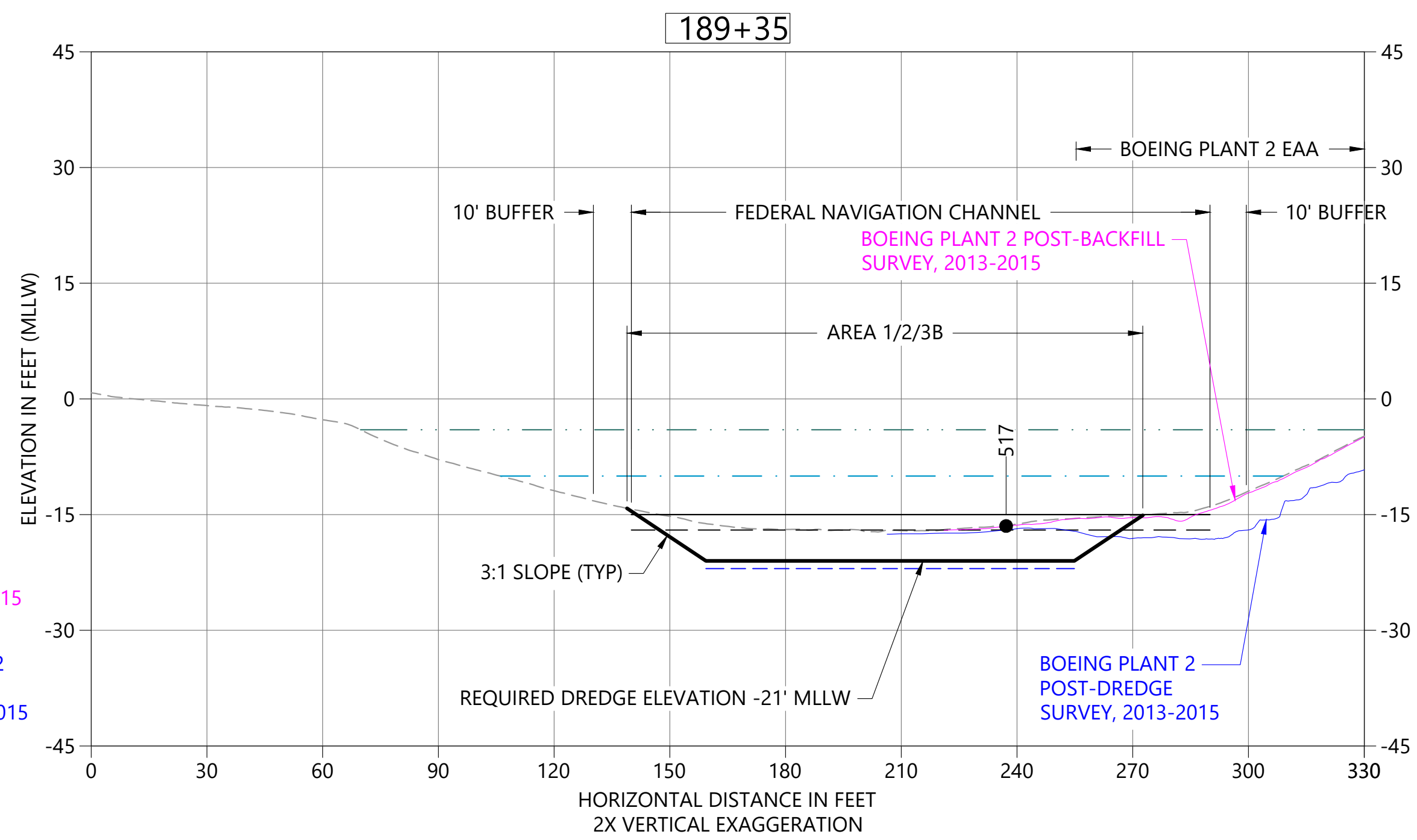
**A** DREDGE SECTION STA 186+50  
 C01 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**B** DREDGE SECTION STA 187+45  
 C01 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**C** DREDGE SECTION STA 188+50  
 C01 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



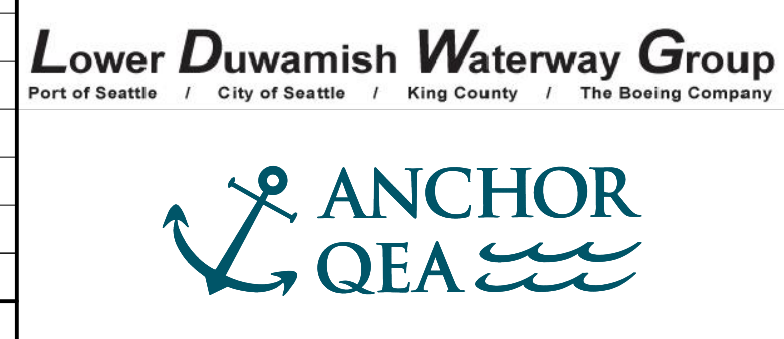
**D** DREDGE SECTION STA 189+35  
 C01 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'

- LEGEND:**
- EXISTING BATHYMETRY (2019/20)
  - 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

**NOTES:**  
 1. VERTICAL DATUM: MLLW

**COLOR IMAGE**  
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 COLOR IMAGES OR PHOTOGRAPHS AND  
 MUST BE PLOTTED, PRINTED, AND  
 REPRODUCED IN COLOR TO BE VIEWED  
 ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE



**PRELIMINARY ISSUE DRAWING**  
 INFORMATION ONLY  
**30% REVIEW**  
 AUGUST 2022

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



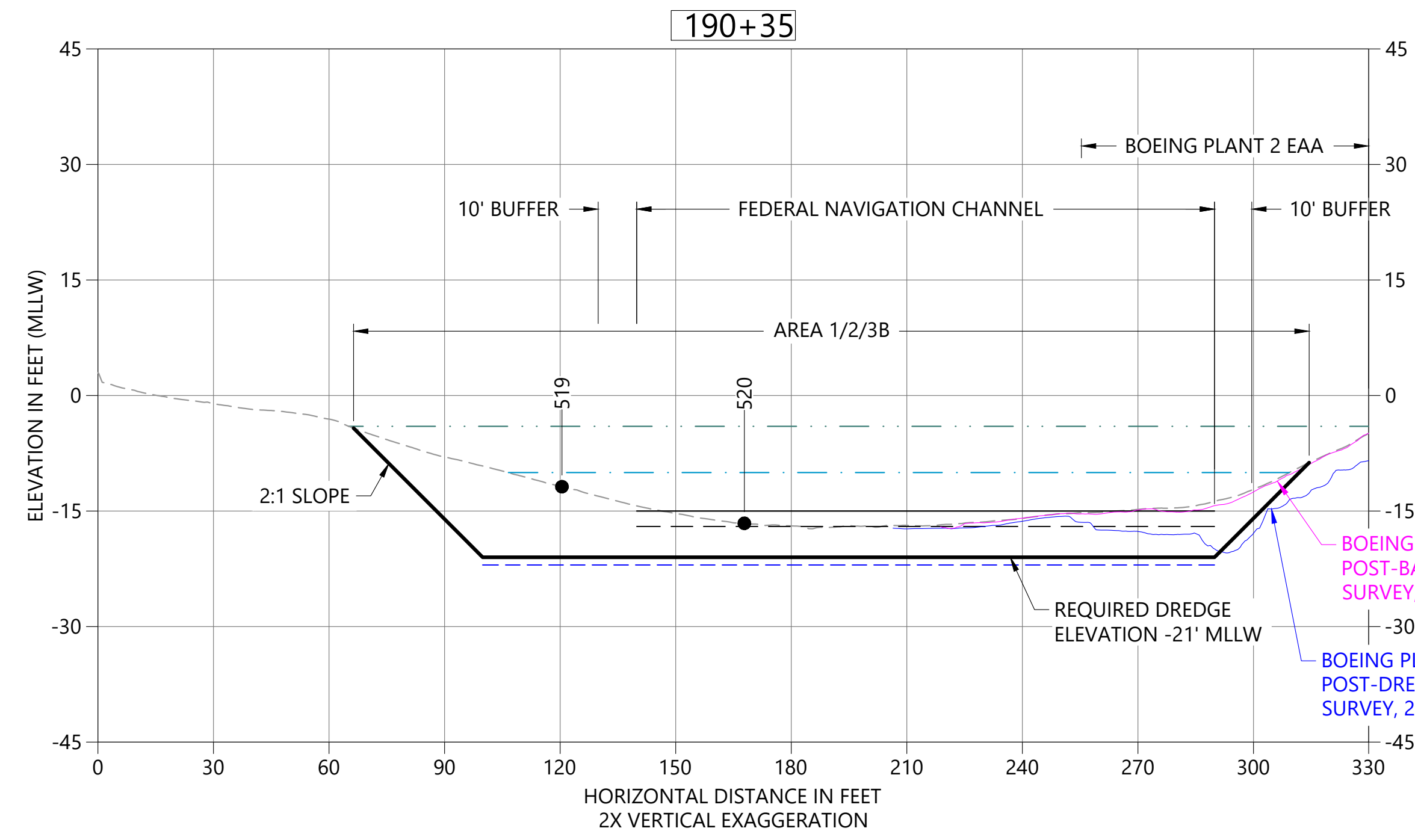
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**CROSS SECTIONS**

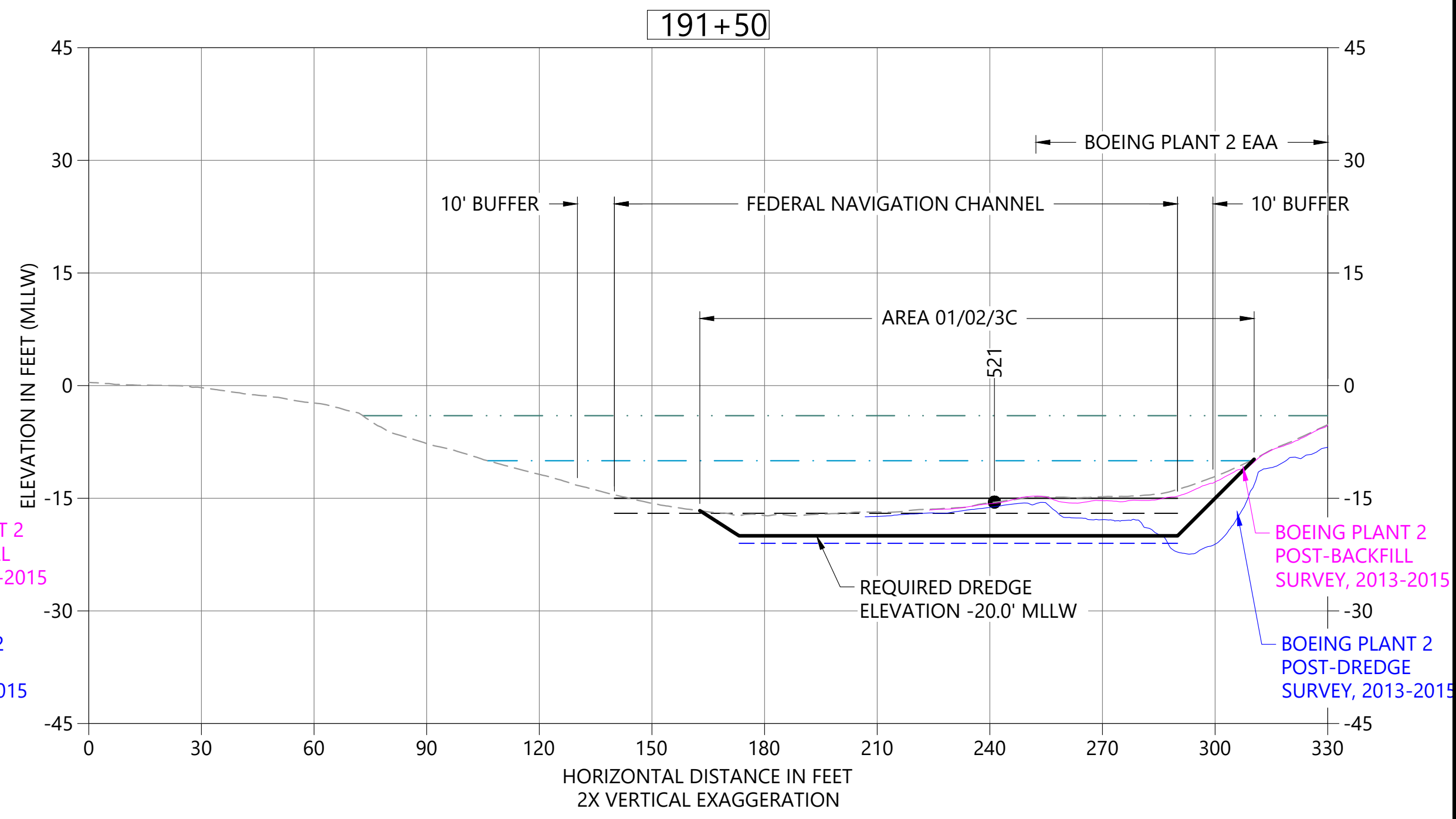
DATE: AUGUST 2022
DRAWING NO: <b>C09</b>
SHT NO / TOTAL 11 / 26
REV NO: <b>0</b>



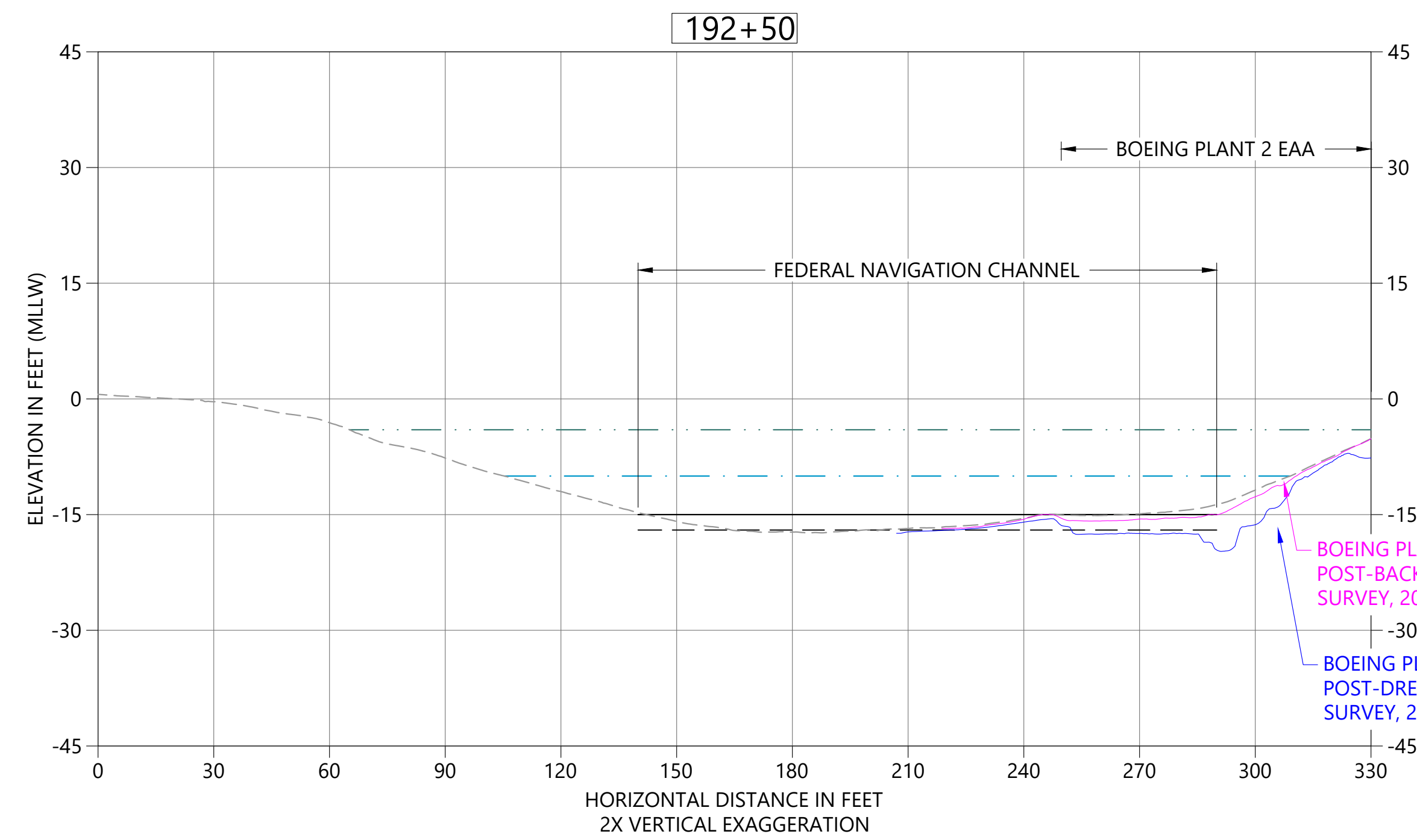
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 PLOTTED: Aug 19, 2022 01:17:00pm By jigsby



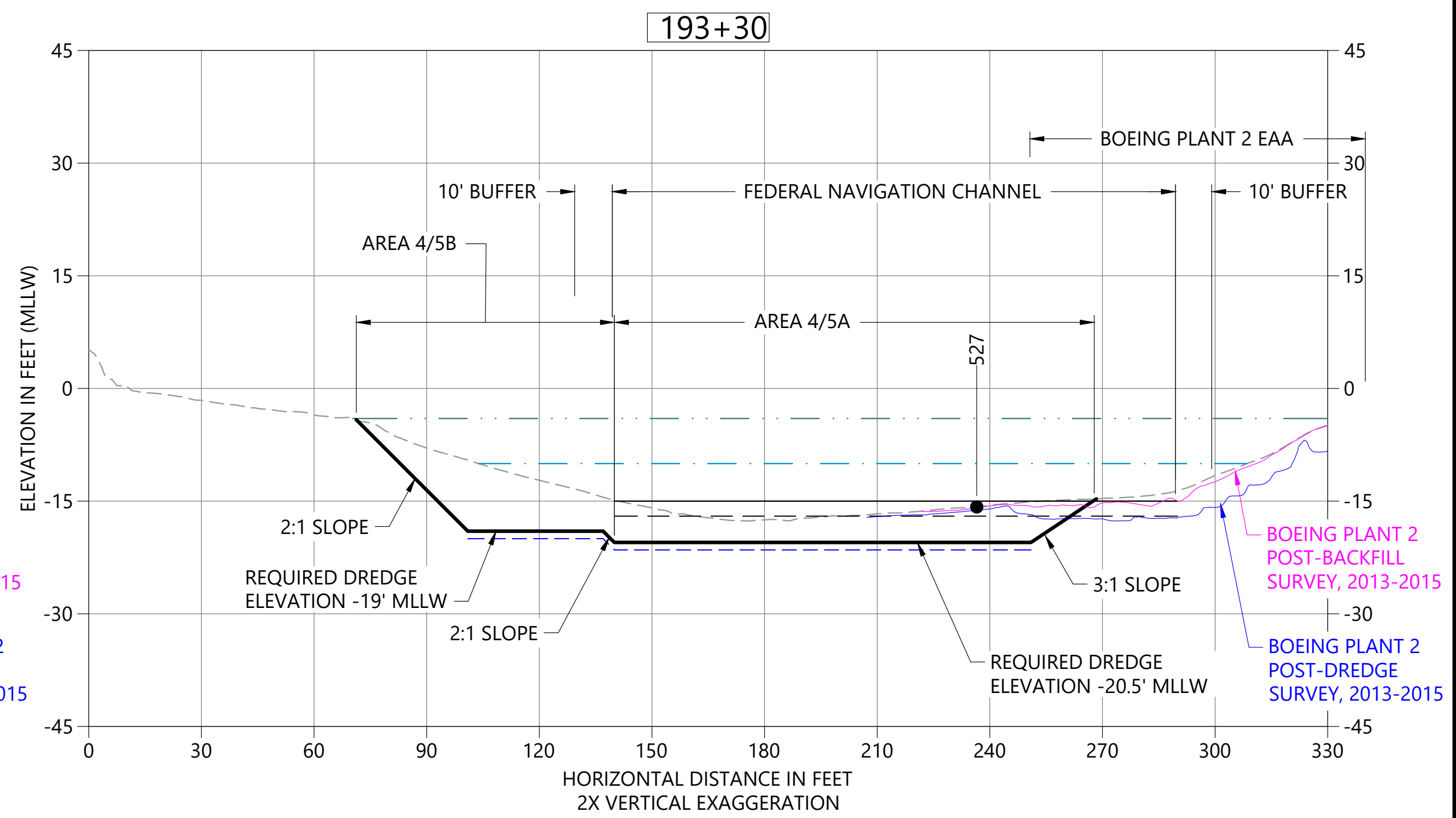
**A DREDGE SECTION STA 190+35**  
 C01 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**B DREDGE SECTION STA 191+50**  
 C01 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**C DREDGE SECTION STA 192+50**  
 C01 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



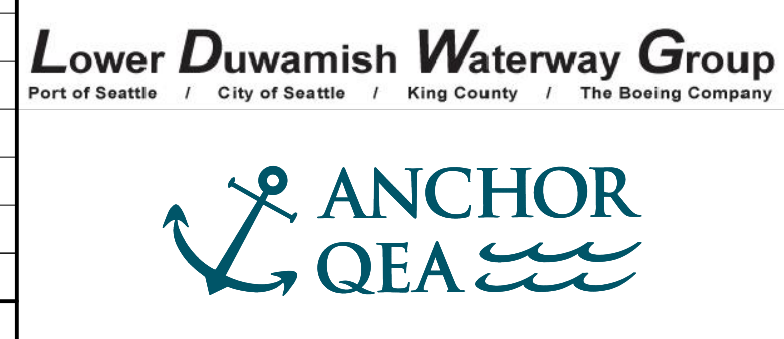
**D DREDGE SECTION STA 193+30**  
 C01 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'

- LEGEND:**
- EXISTING BATHYMETRY (2019/20)
  - 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

**NOTES:**  
 1. VERTICAL DATUM: MLLW

**COLOR IMAGE**  
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 COLOR IMAGES OR PHOTOGRAPHS AND  
 MUST BE PLOTTED, PRINTED, AND  
 REPRODUCED IN COLOR TO BE VIEWED  
 ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE



**PRELIMINARY ISSUE DRAWING**  
**INFORMATION ONLY**  
**30% REVIEW**  
 AUGUST 2022

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



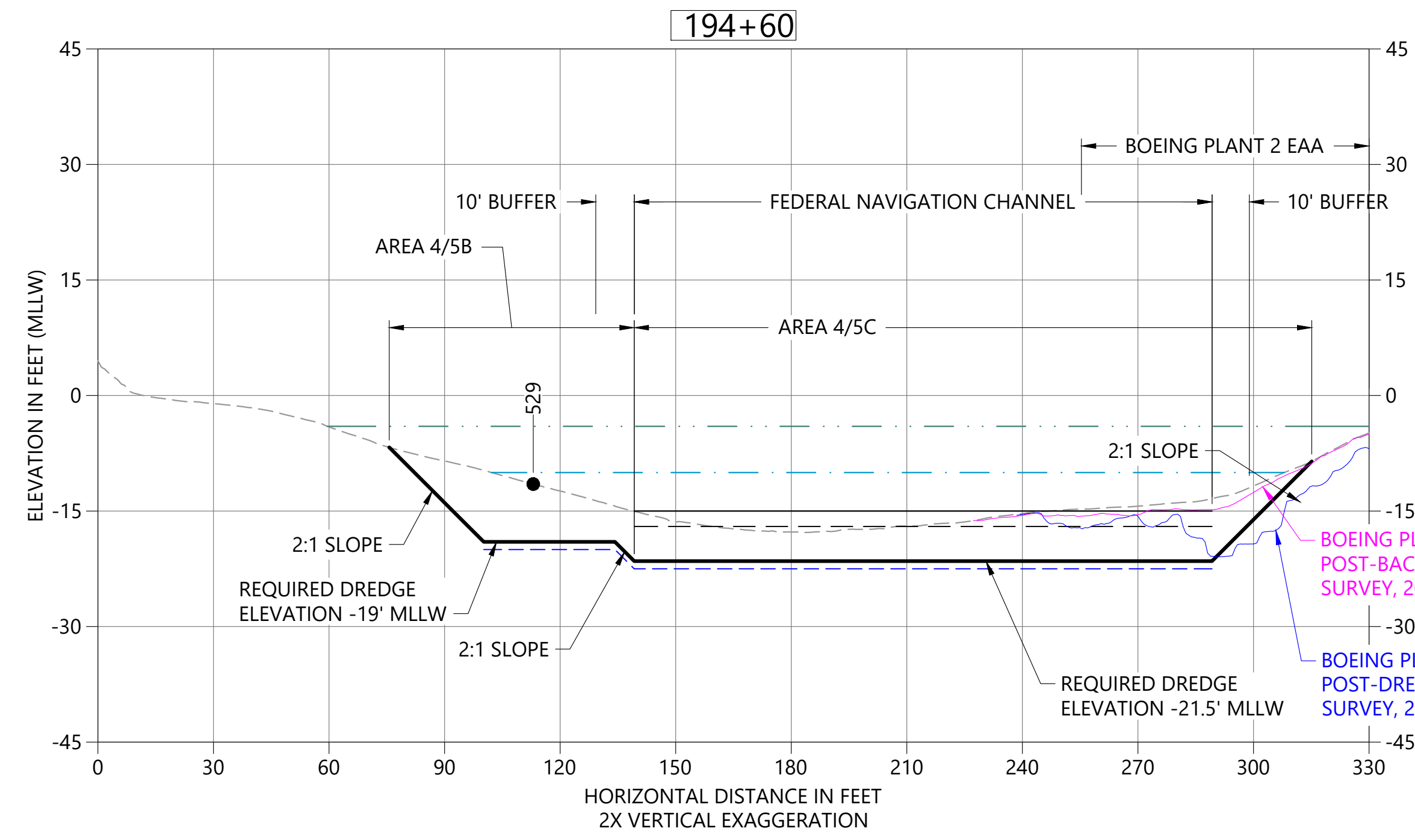
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**CROSS SECTIONS**

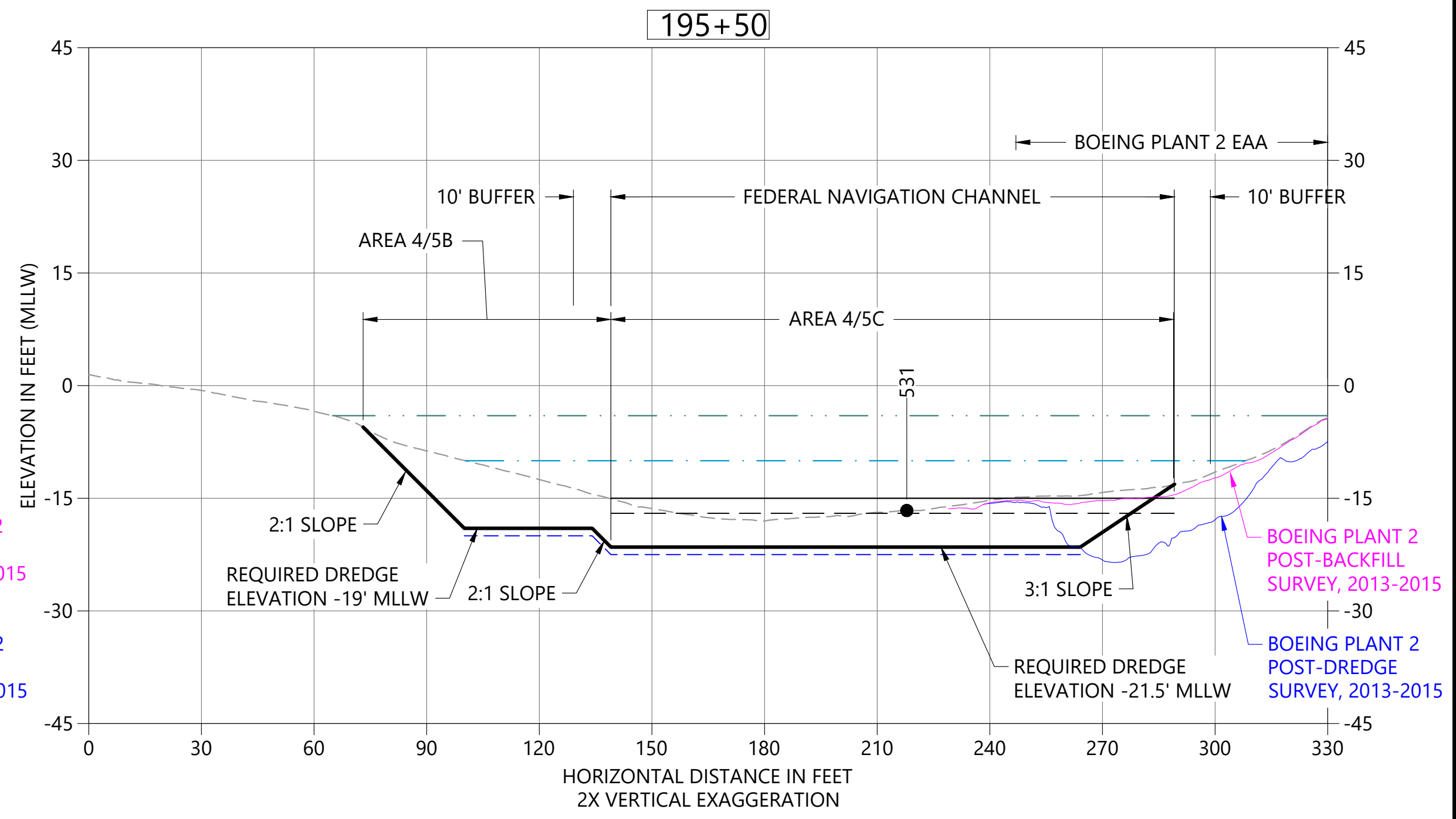
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SHT NO / TOTAL 12 / 26
REV NO: <b>0</b>



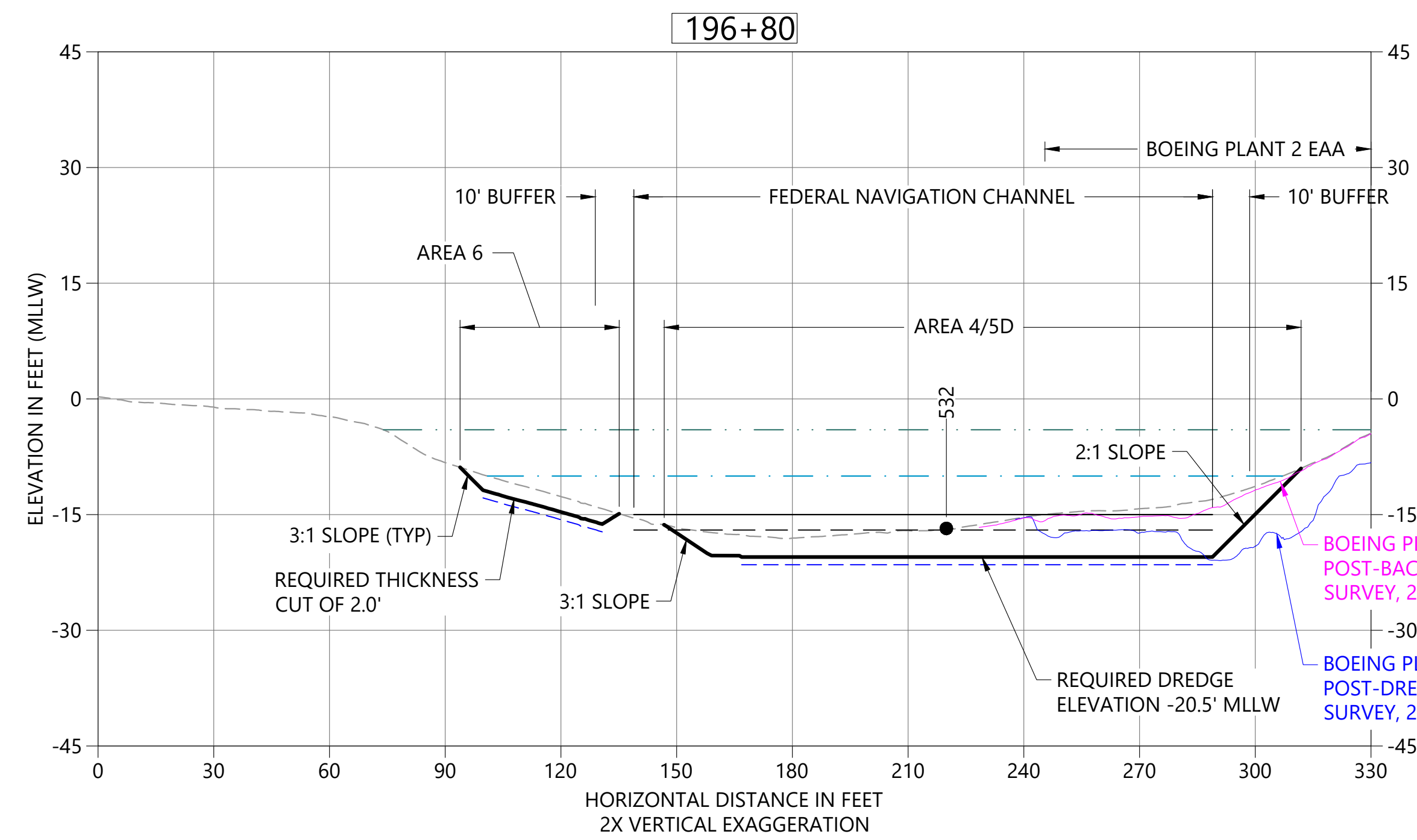
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 PLOTTED: Aug 19, 2022 01:17:12pm By jigsby



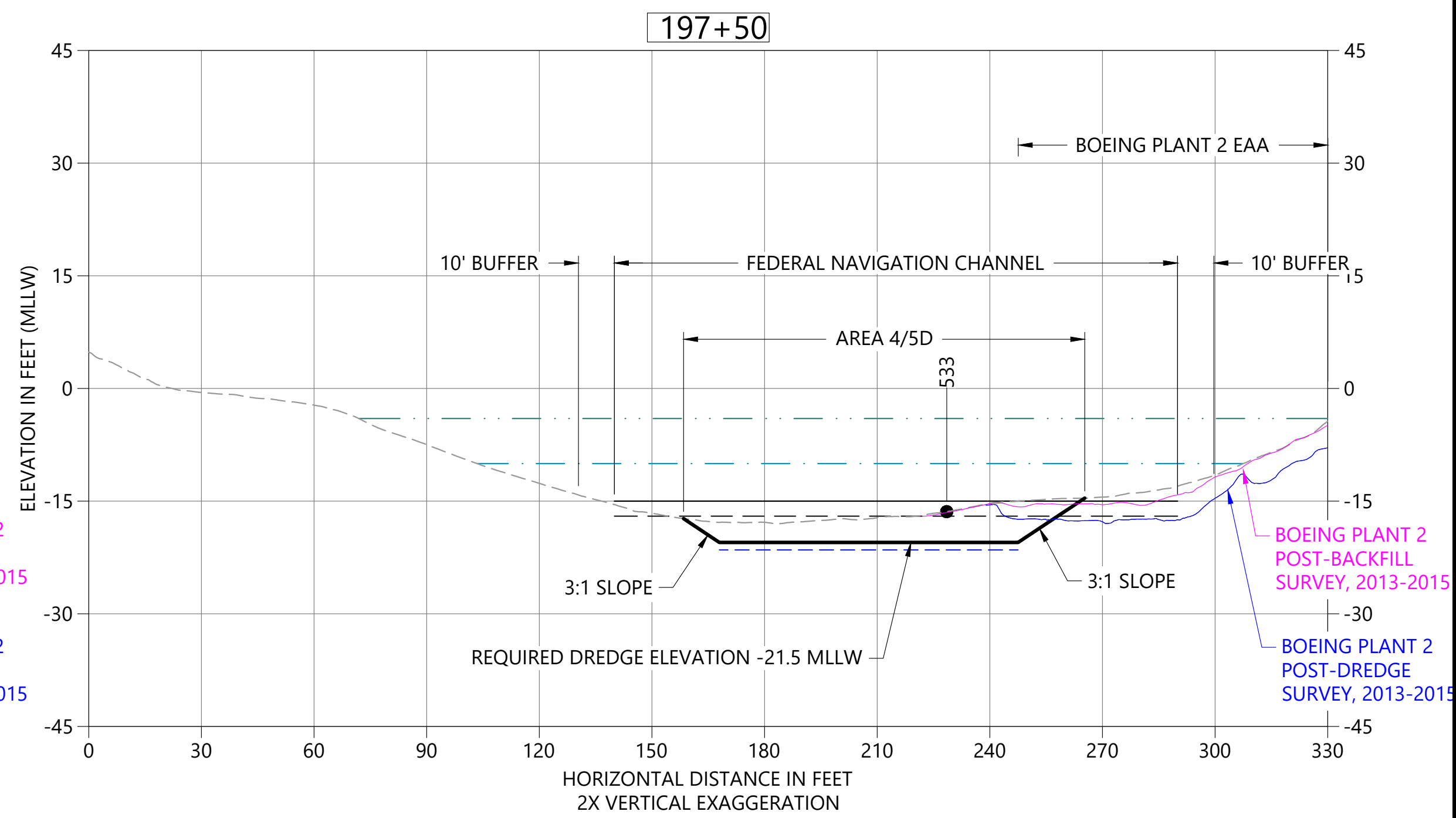
**A DREDGE SECTION STA 194+60**  
 C01 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**B DREDGE SECTION STA 195+50**  
 C01 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**C DREDGE SECTION & STA 196+80**  
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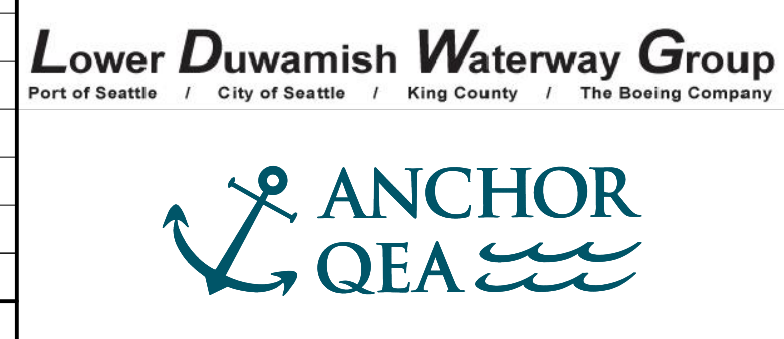
**D DREDGE SECTION STA 197+50**  
 C01 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'

- LEGEND:**
- EXISTING BATHYMETRY (2019/20)
  - 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

**NOTES:**  
 1. VERTICAL DATUM: MLLW

**COLOR IMAGE**  
 THIS DRAWING IS COMPOSED USING  
 COLOR IMAGES OR PHOTOGRAPHS AND  
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 ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE



**PRELIMINARY ISSUE DRAWING**  
**INFORMATION ONLY**  
**30% REVIEW**  
 AUGUST 2022

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



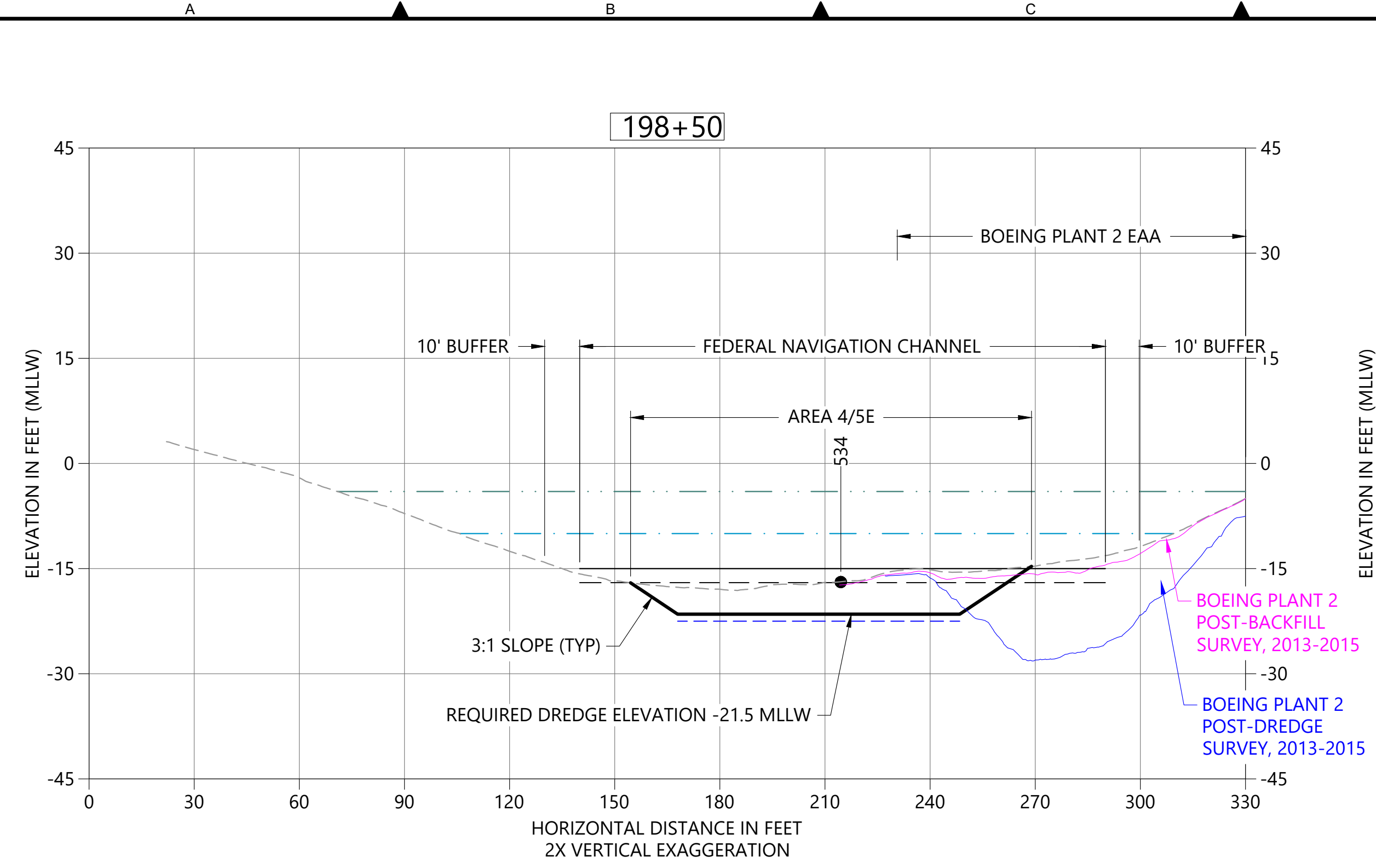
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**CROSS SECTIONS**

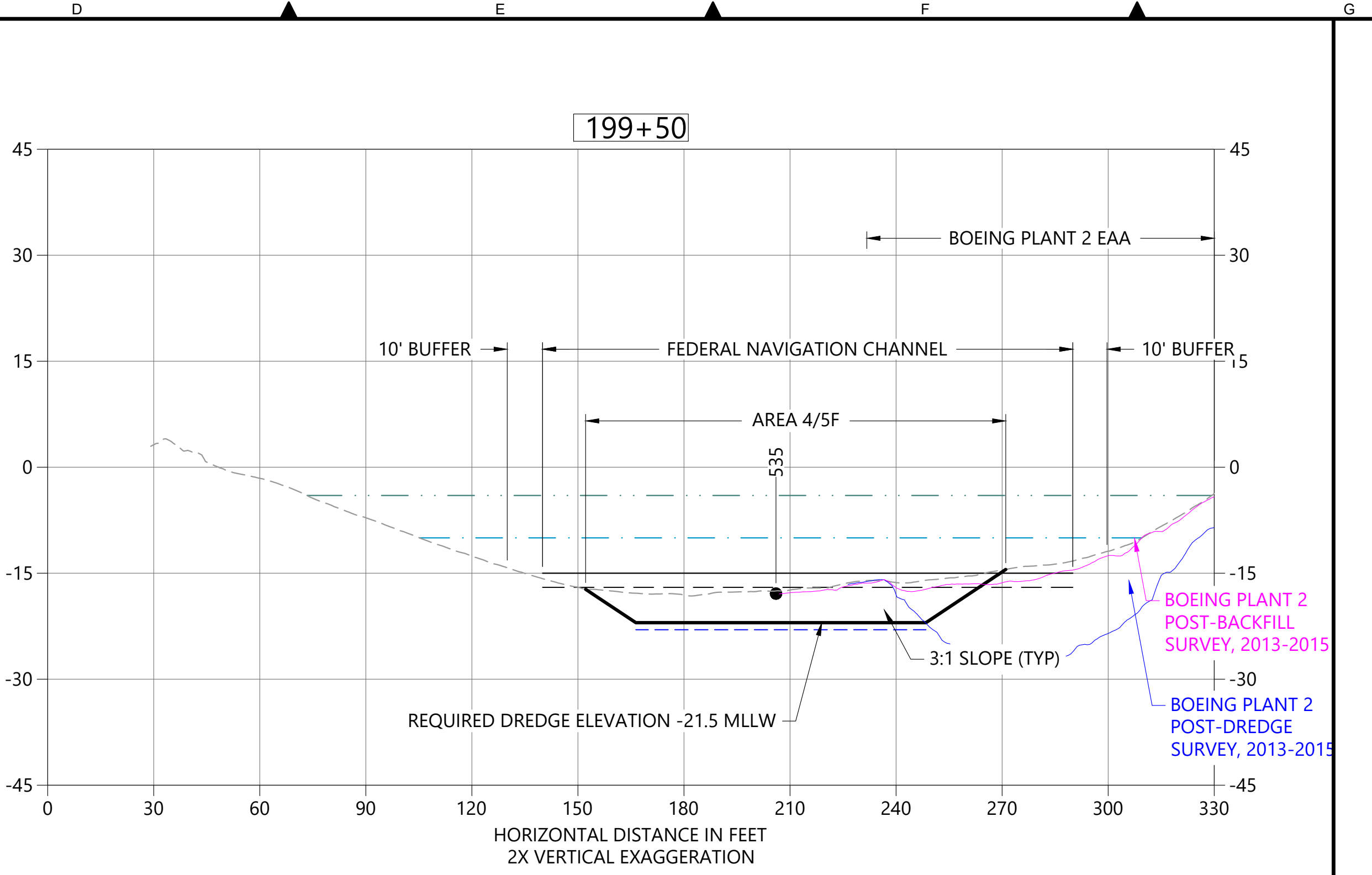
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 SHT NO / TOTAL: 13 / 26  
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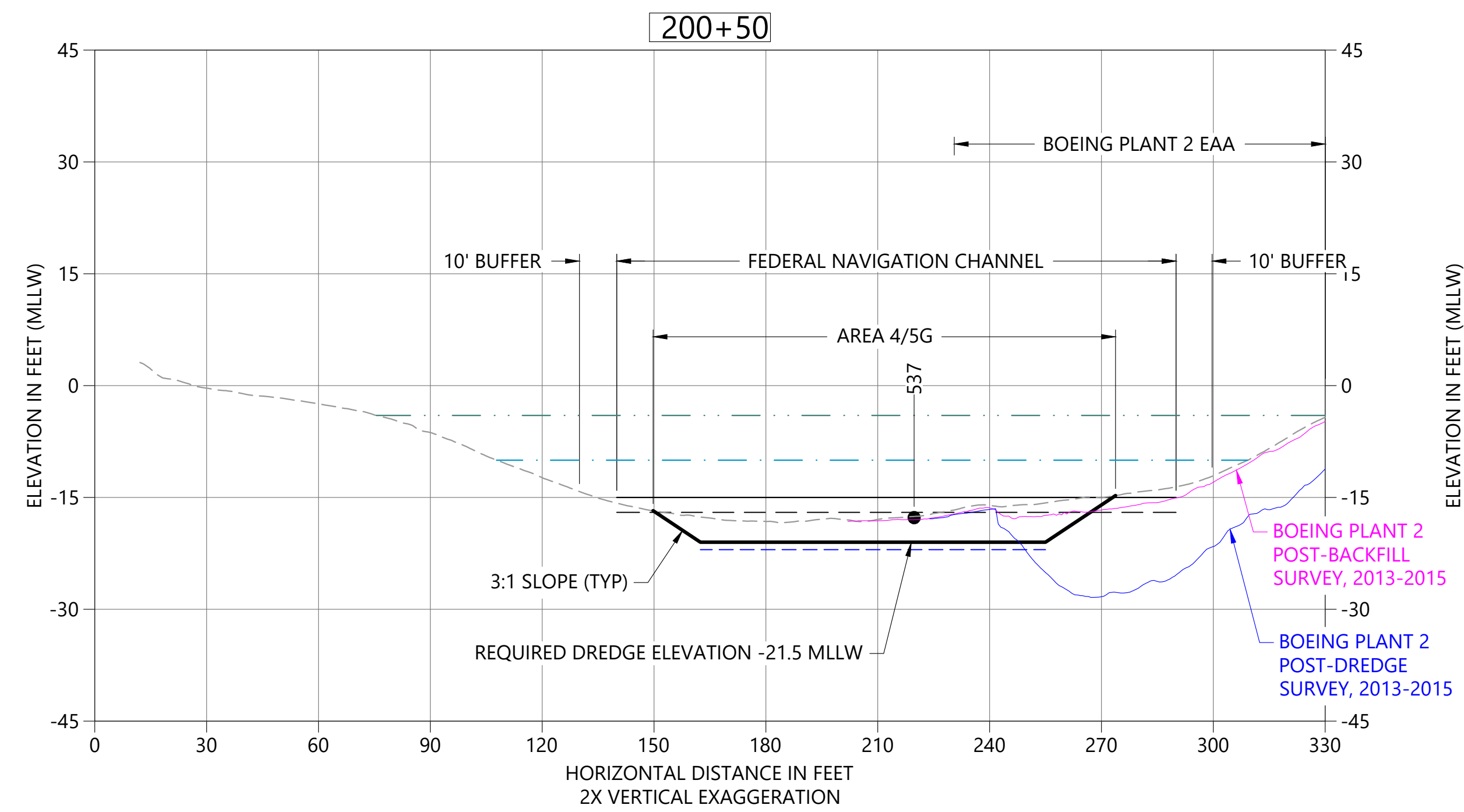
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 PLOTTED: Aug 19, 2022 01:17:25pm By jigsby



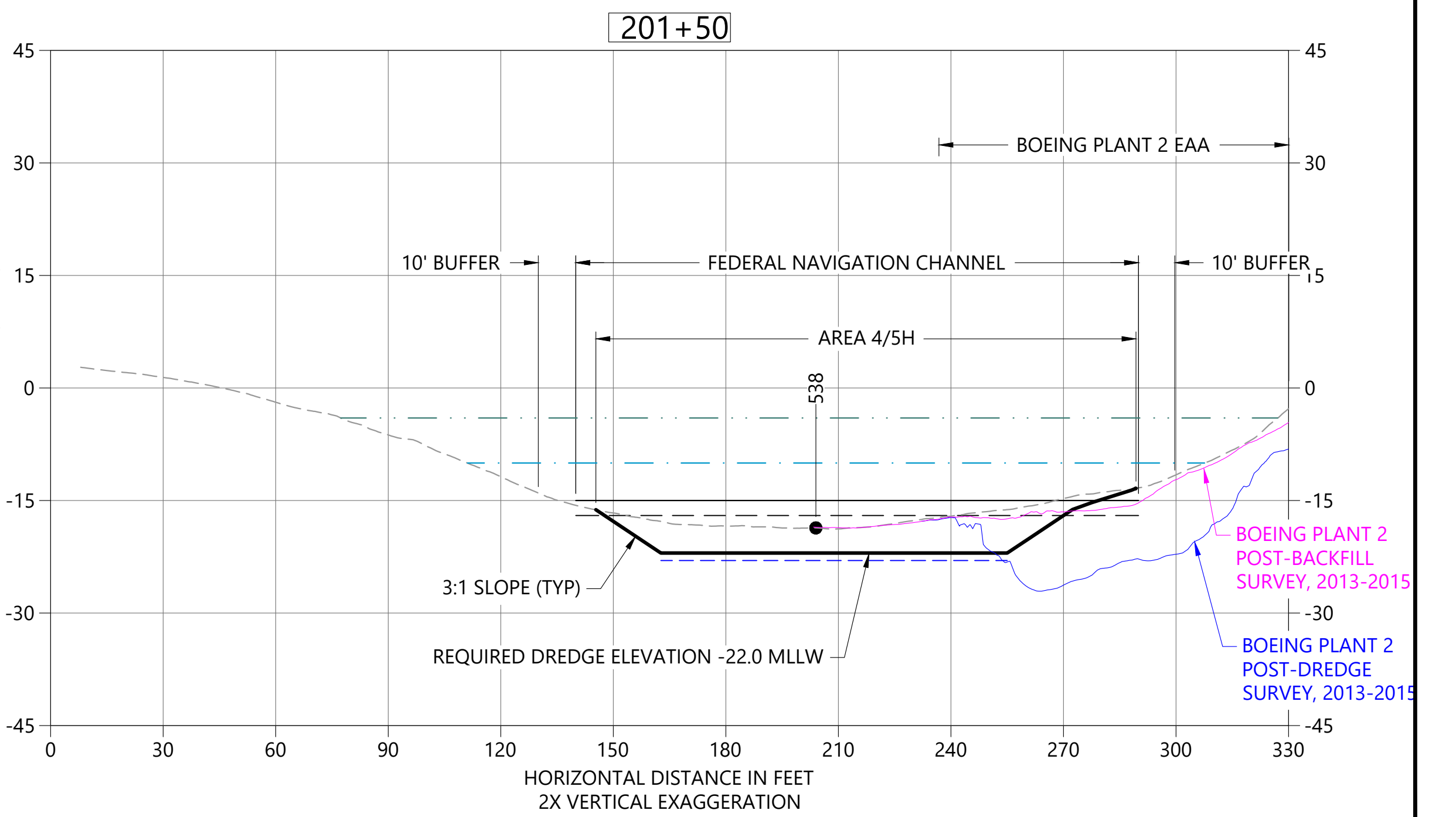
**A DREDGE SECTION STA 198+50**  
 C01 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**B DREDGE SECTION STA 199+50**  
 C02 HORIZONTAL SCALE: 1" = 30'  
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**C DREDGE SECTION STA 200+50**  
 C02 HORIZONTAL SCALE: 1" = 30'  
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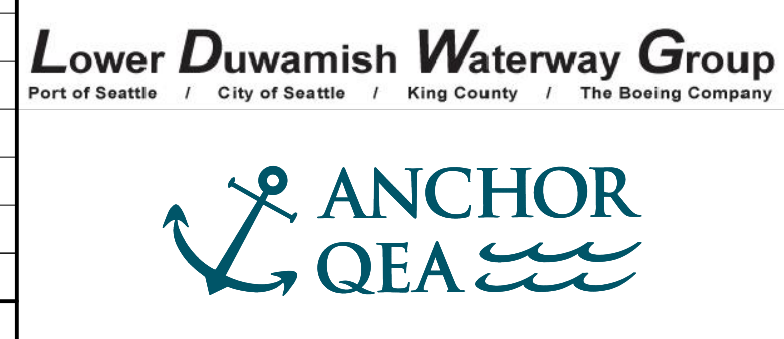
**D DREDGE SECTION STA 201+50**  
 C02 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'

- LEGEND:**
- EXISTING BATHYMETRY (2019/20)
  - 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

**NOTES:**  
 1. VERTICAL DATUM: MLLW

**COLOR IMAGE**  
 THIS DRAWING IS COMPOSED USING  
 COLOR IMAGES OR PHOTOGRAPHS AND  
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NO	REVISION DESCRIPTION	BY	APVD	DATE



**PRELIMINARY ISSUE DRAWING**  
 INFORMATION ONLY  
**30% REVIEW**  
 AUGUST 2022

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



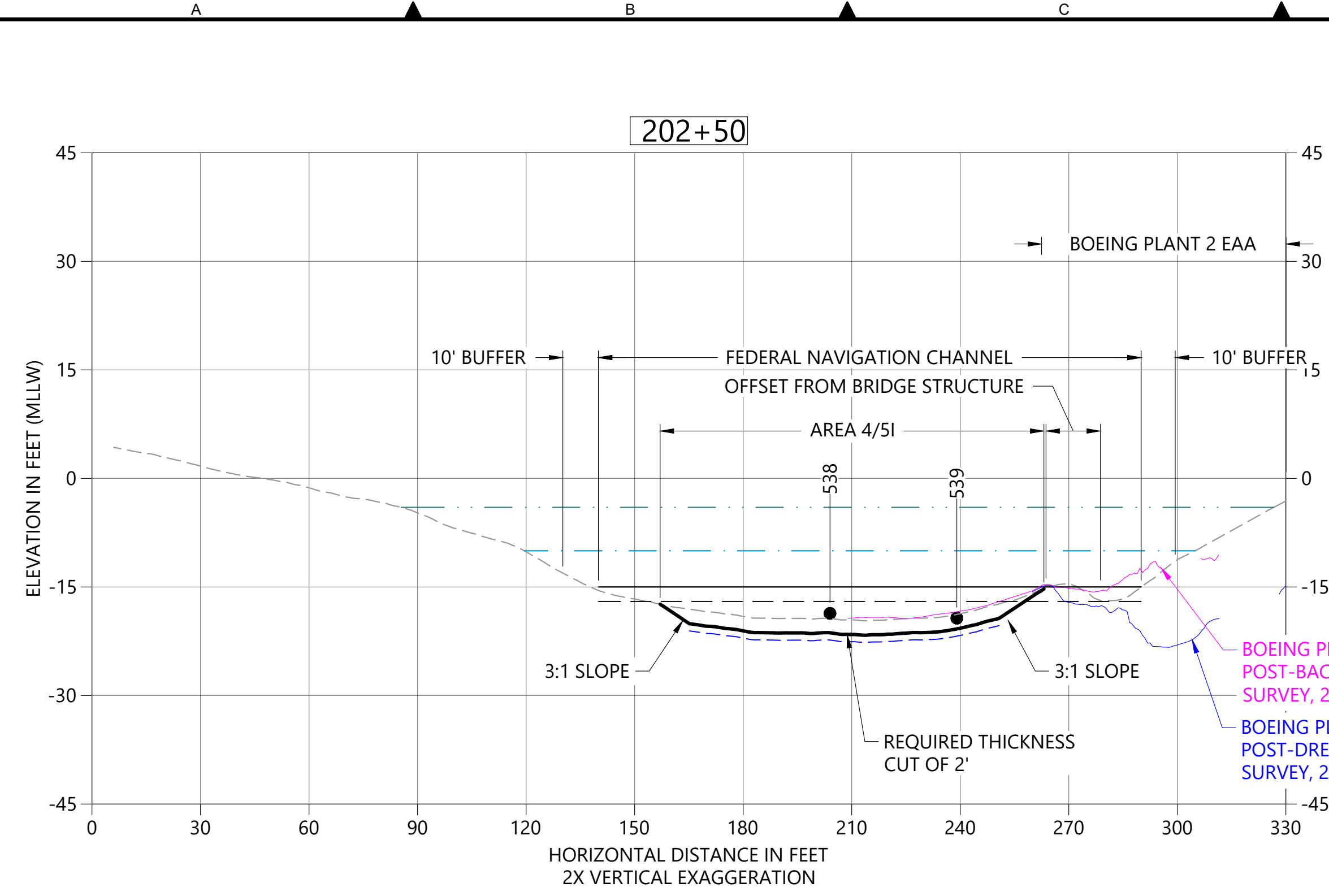
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**CROSS SECTIONS**

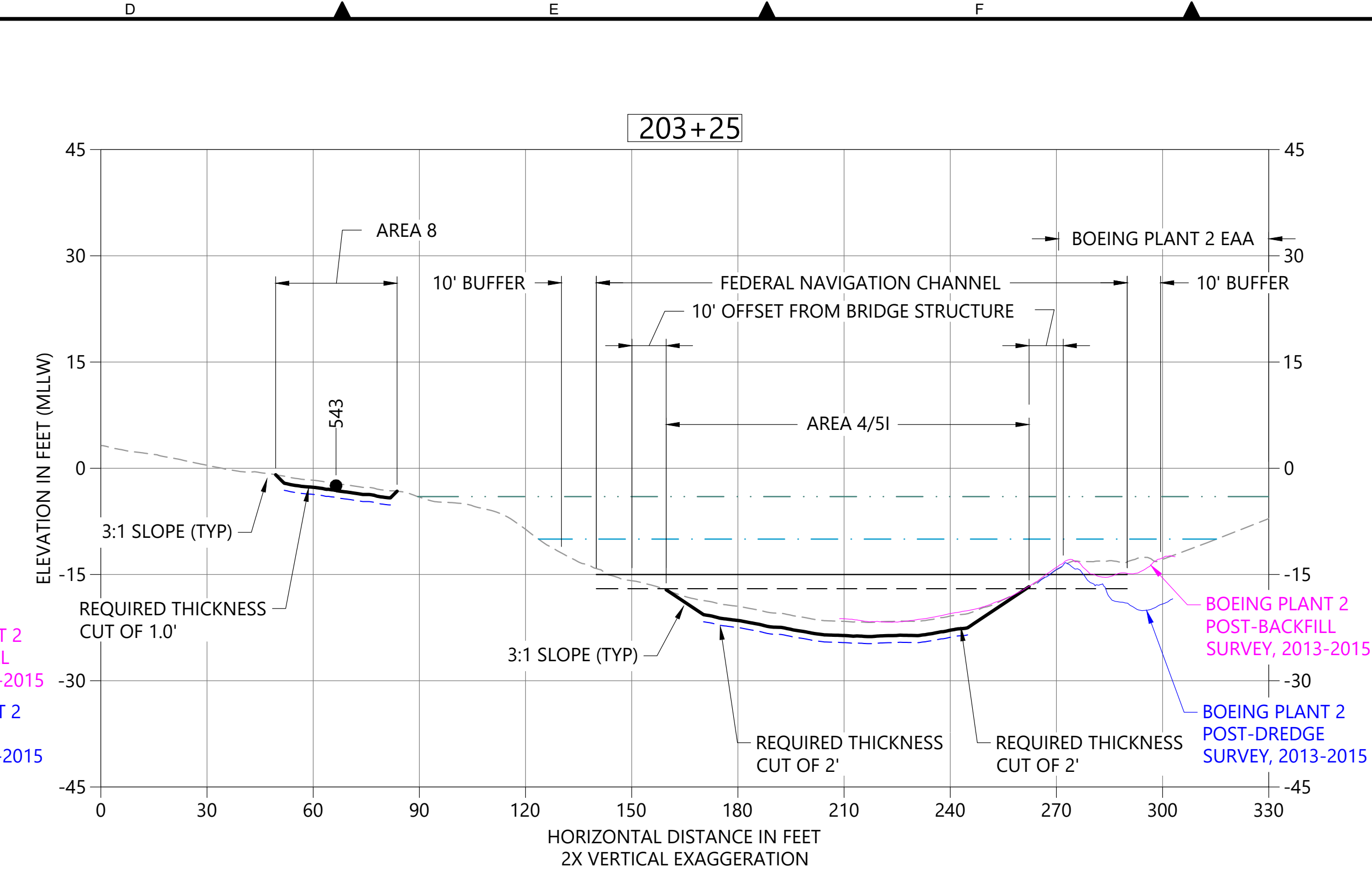
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SHT NO / TOTAL 14 / 26
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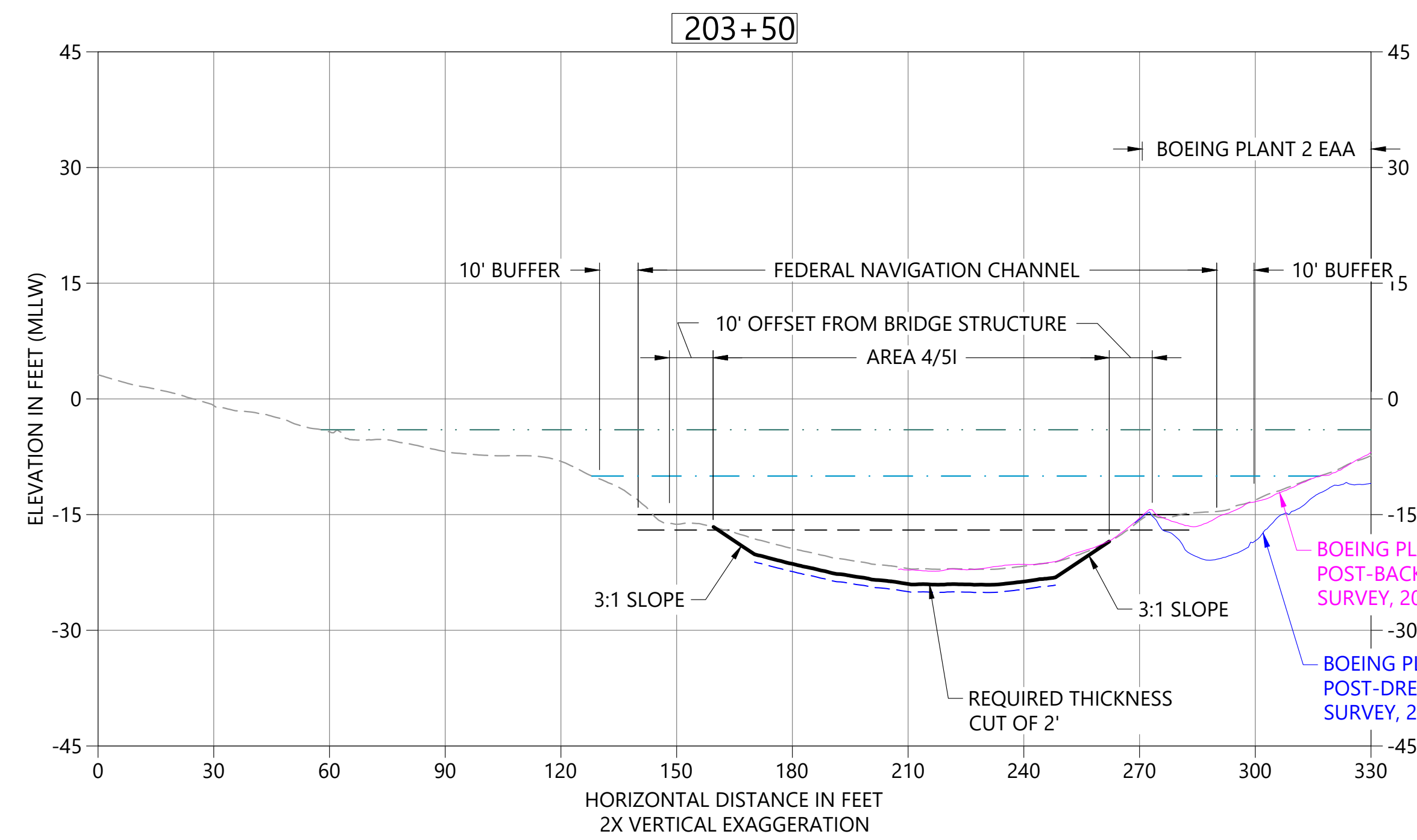
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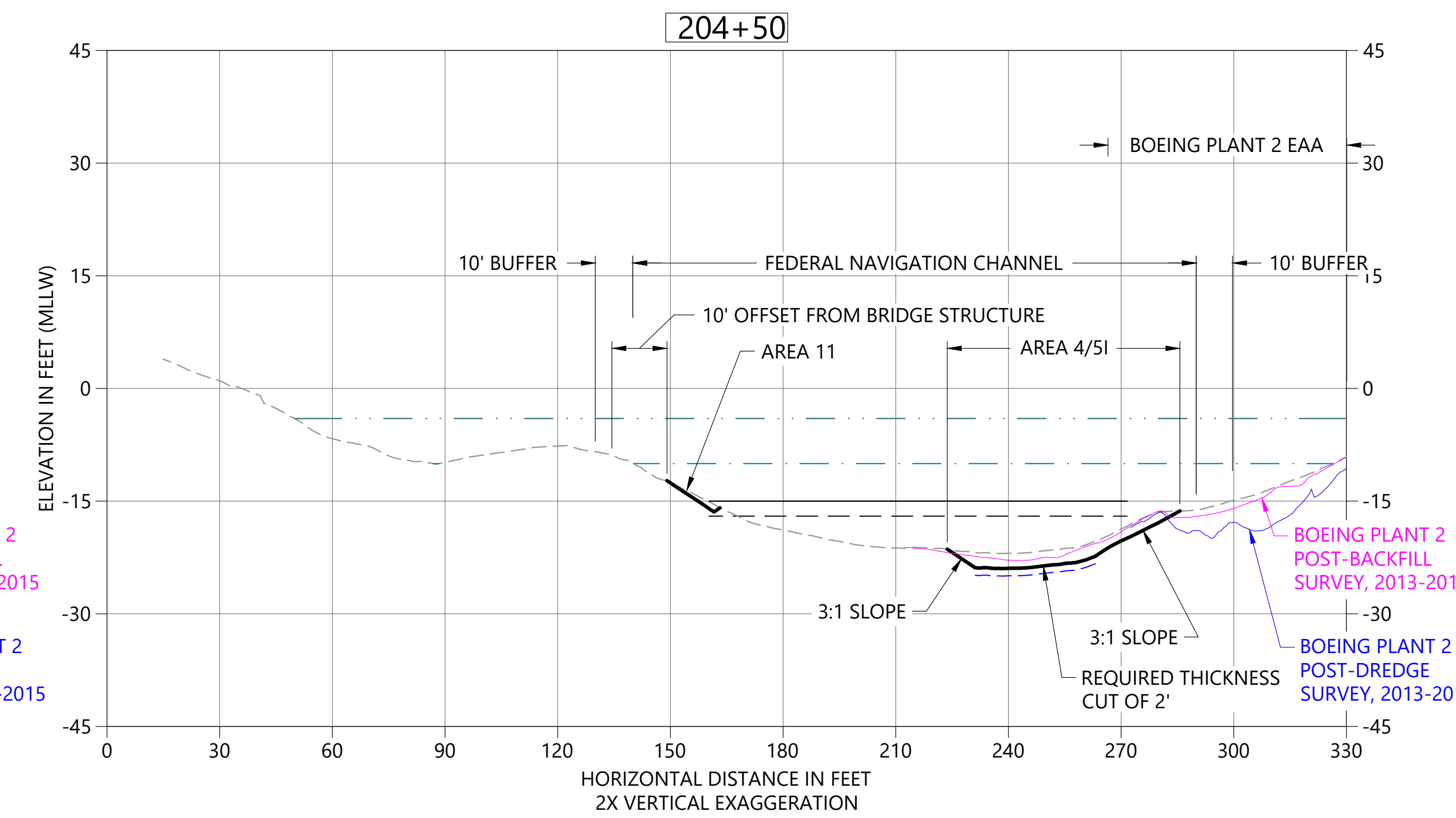
**A** DREDGE SECTION STA 202+50  
 C02 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**B** DREDGE SECTION STA 203+25  
 C02 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**C** DREDGE SECTION STA 203+50  
 C02 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



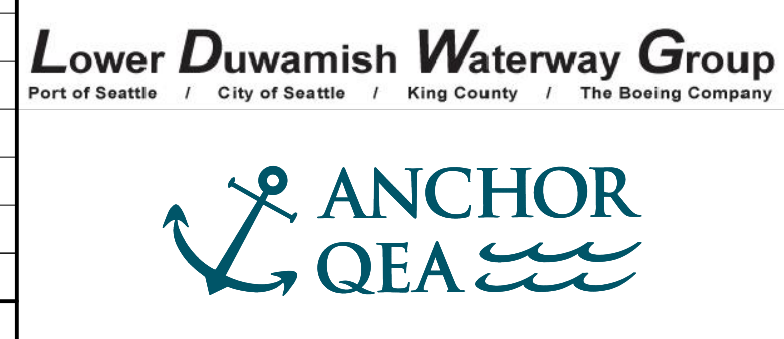
**D** DREDGE SECTION STA 204+50  
 C02 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'

- LEGEND:**
- EXISTING BATHYMETRY (2019/20)
  - 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

**NOTES:**  
 1. VERTICAL DATUM: MLLW

**COLOR IMAGE**  
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**PRELIMINARY ISSUE DRAWING**  
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**30% REVIEW**  
 AUGUST 2022

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



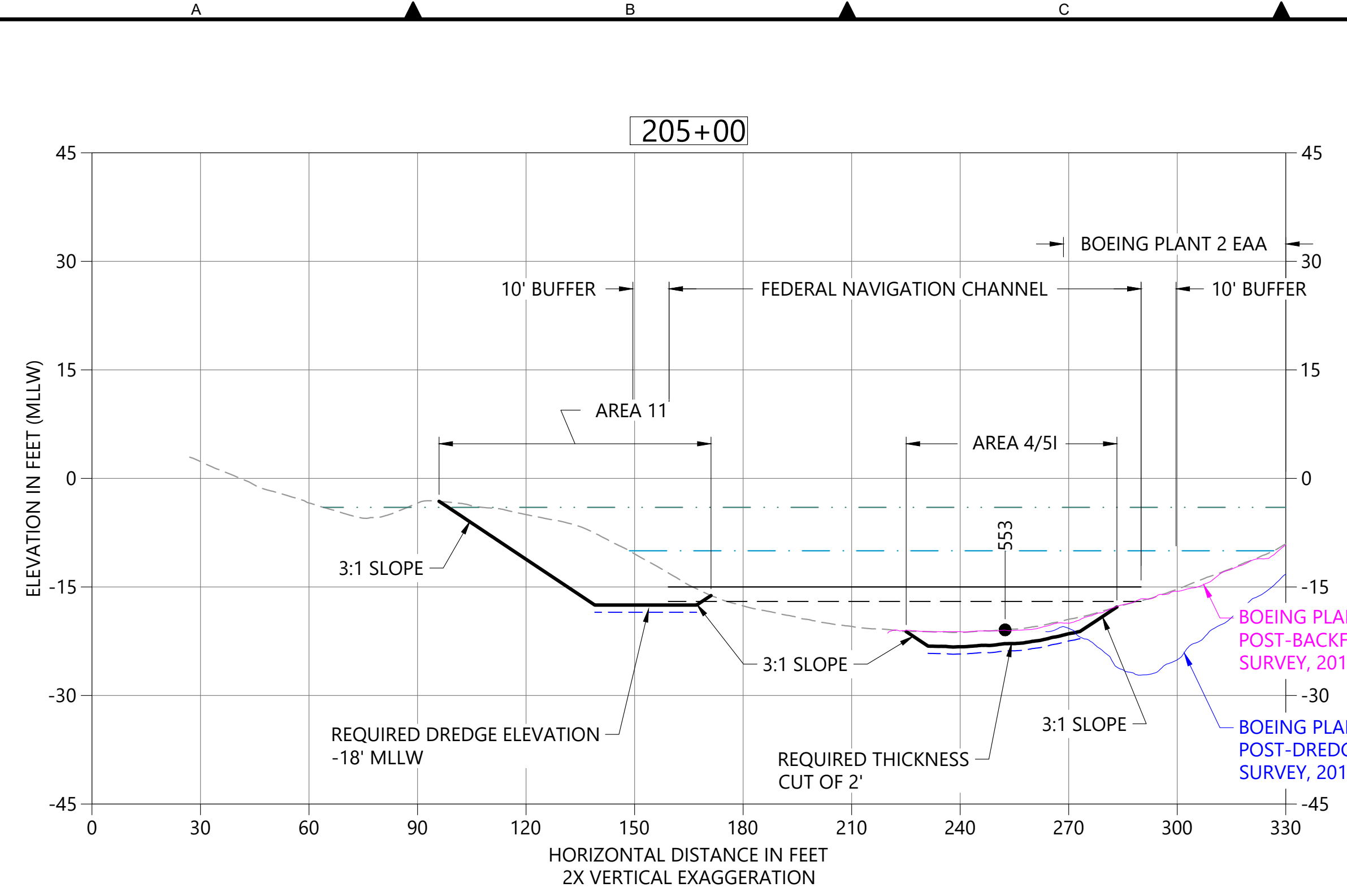
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**CROSS SECTIONS**

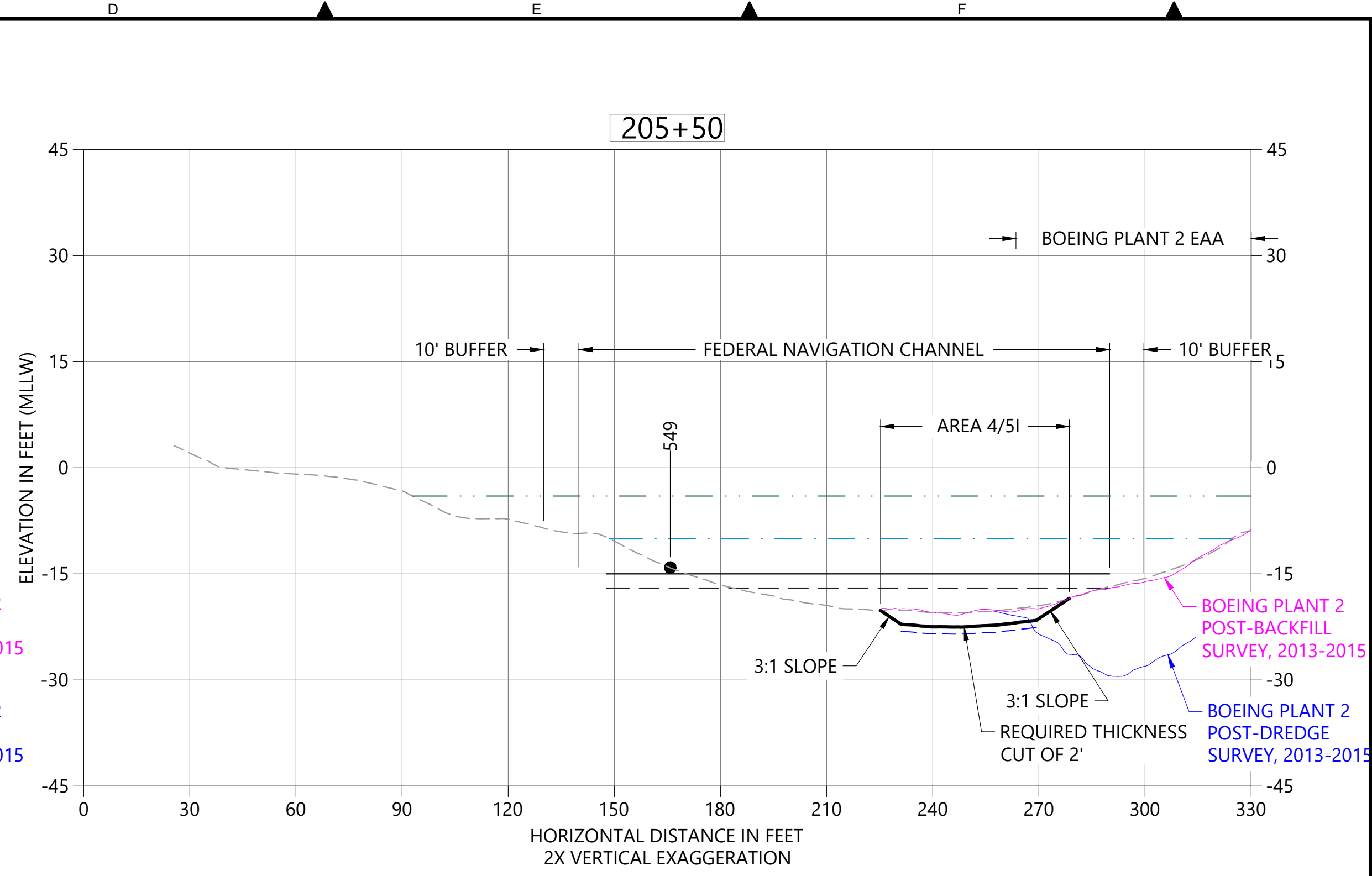
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SHT NO / TOTAL 15 / 26
REV NO: <b>0</b>



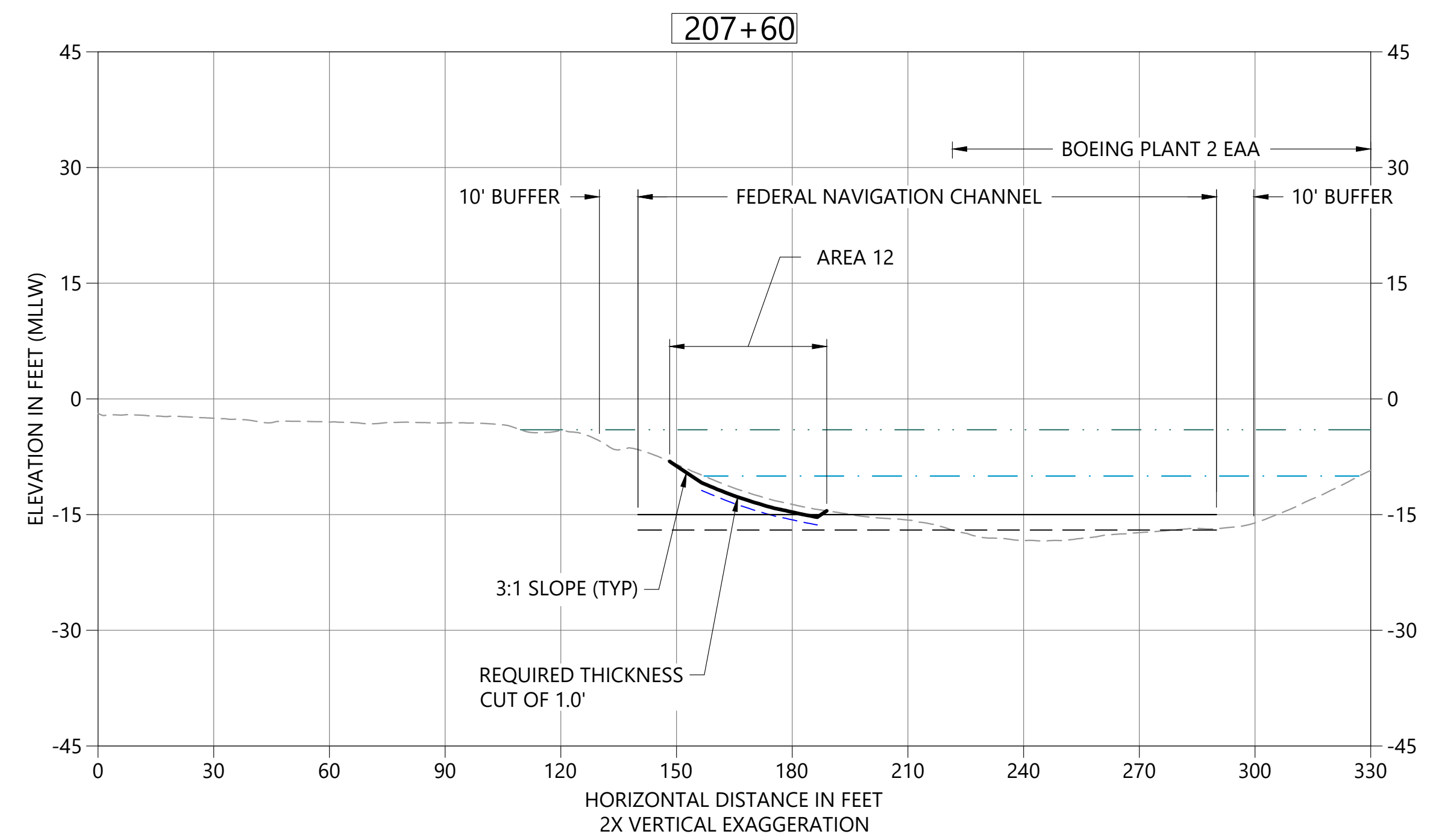
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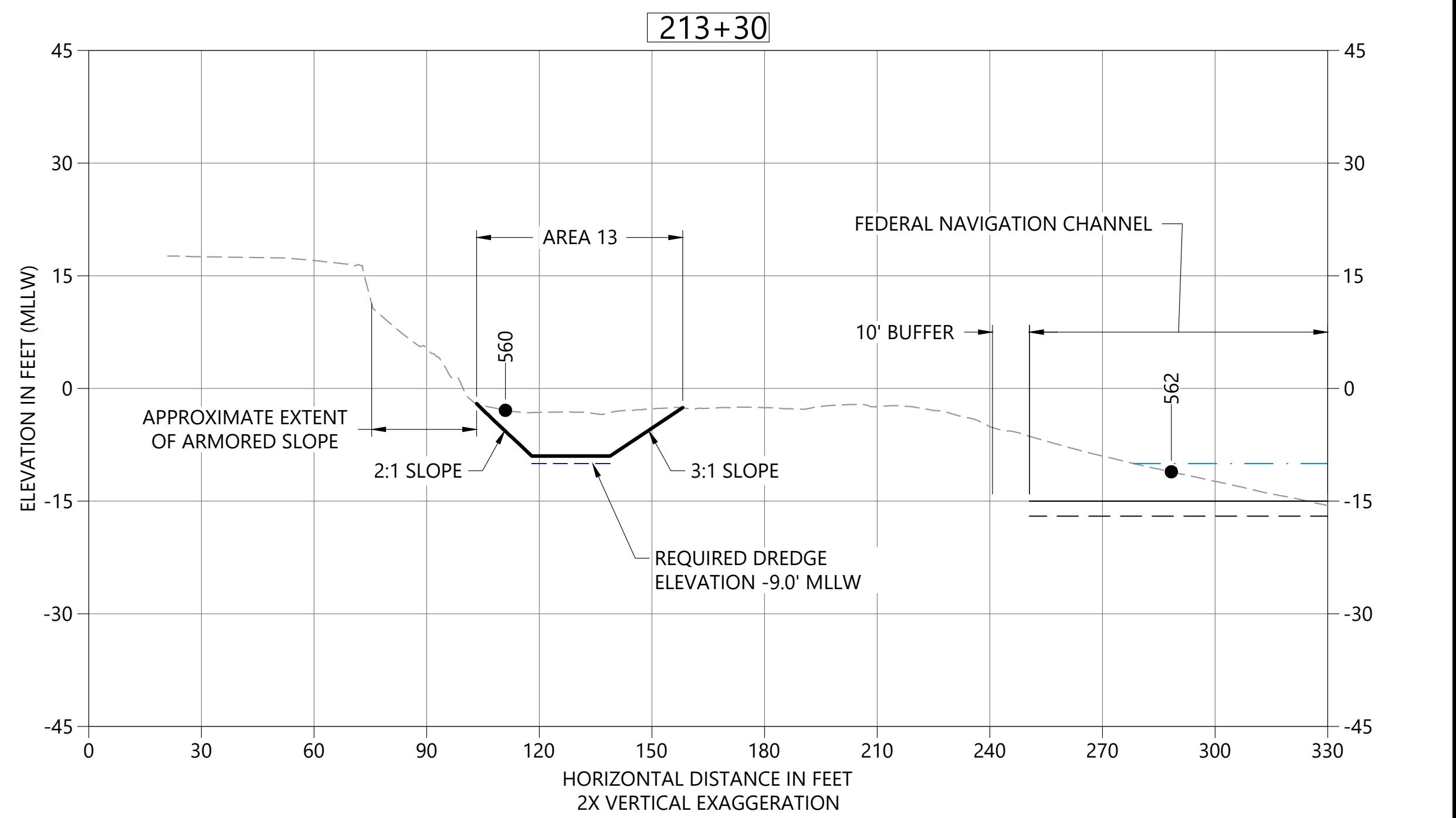
**A DREDGE SECTION & STA 205+00**  
 C02 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**B DREDGE SECTION STA 205+50**  
 C02 HORIZONTAL SCALE: 1" = 30'  
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**C DREDGE SECTION STA 207+60**  
 C02 HORIZONTAL SCALE: 1" = 30'  
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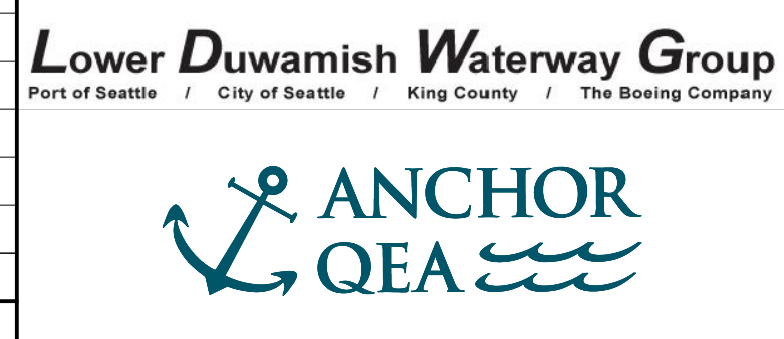


**D DREDGE SECTION STA 213+30**  
 C03 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'

- LEGEND:**
- EXISTING BATHYMETRY (2019/20)
  - 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
- NOTES:**
- VERTICAL DATUM: MLLW

**COLOR IMAGE**  
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 AUGUST 2022

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



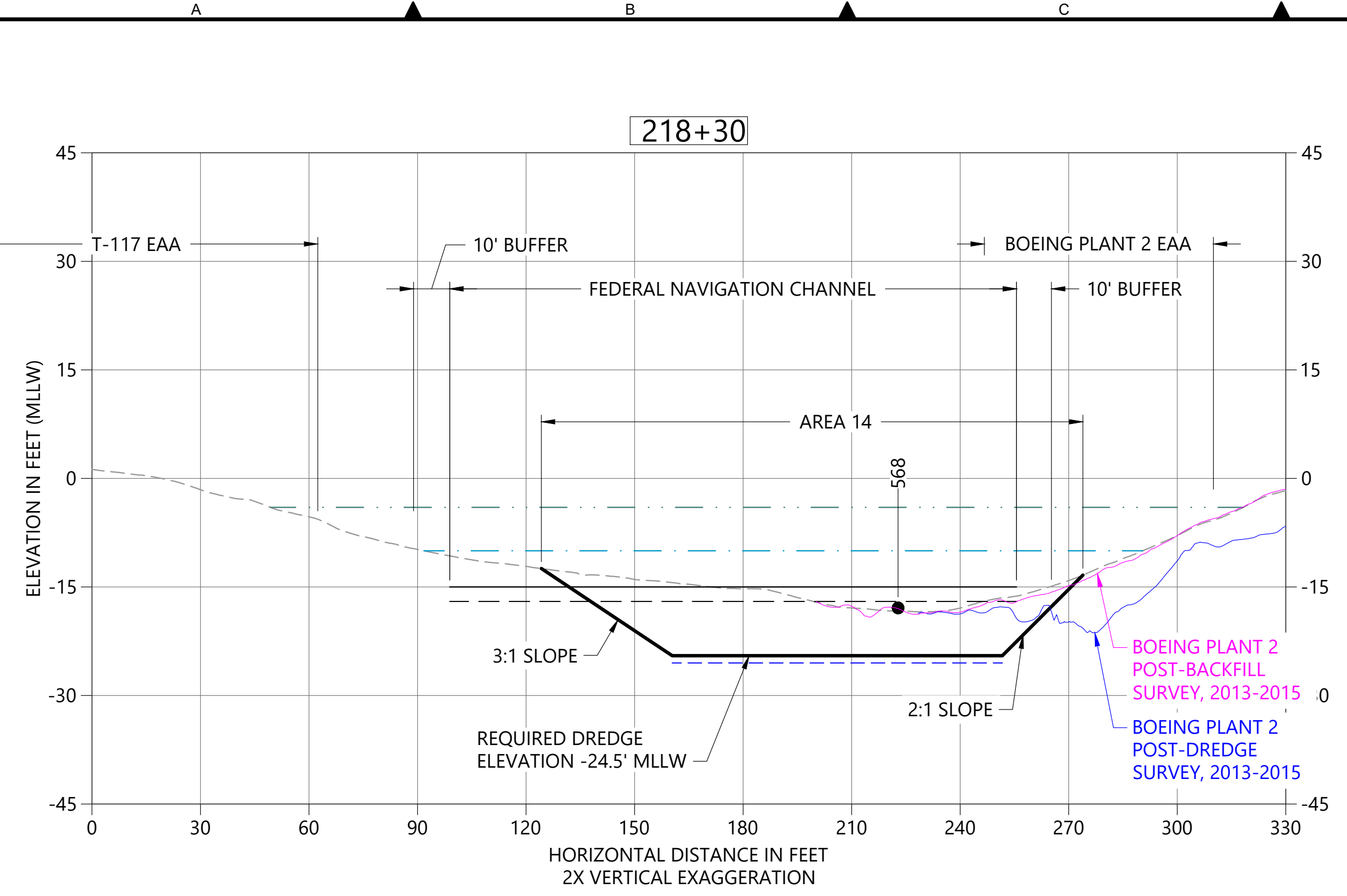
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**CROSS SECTIONS**

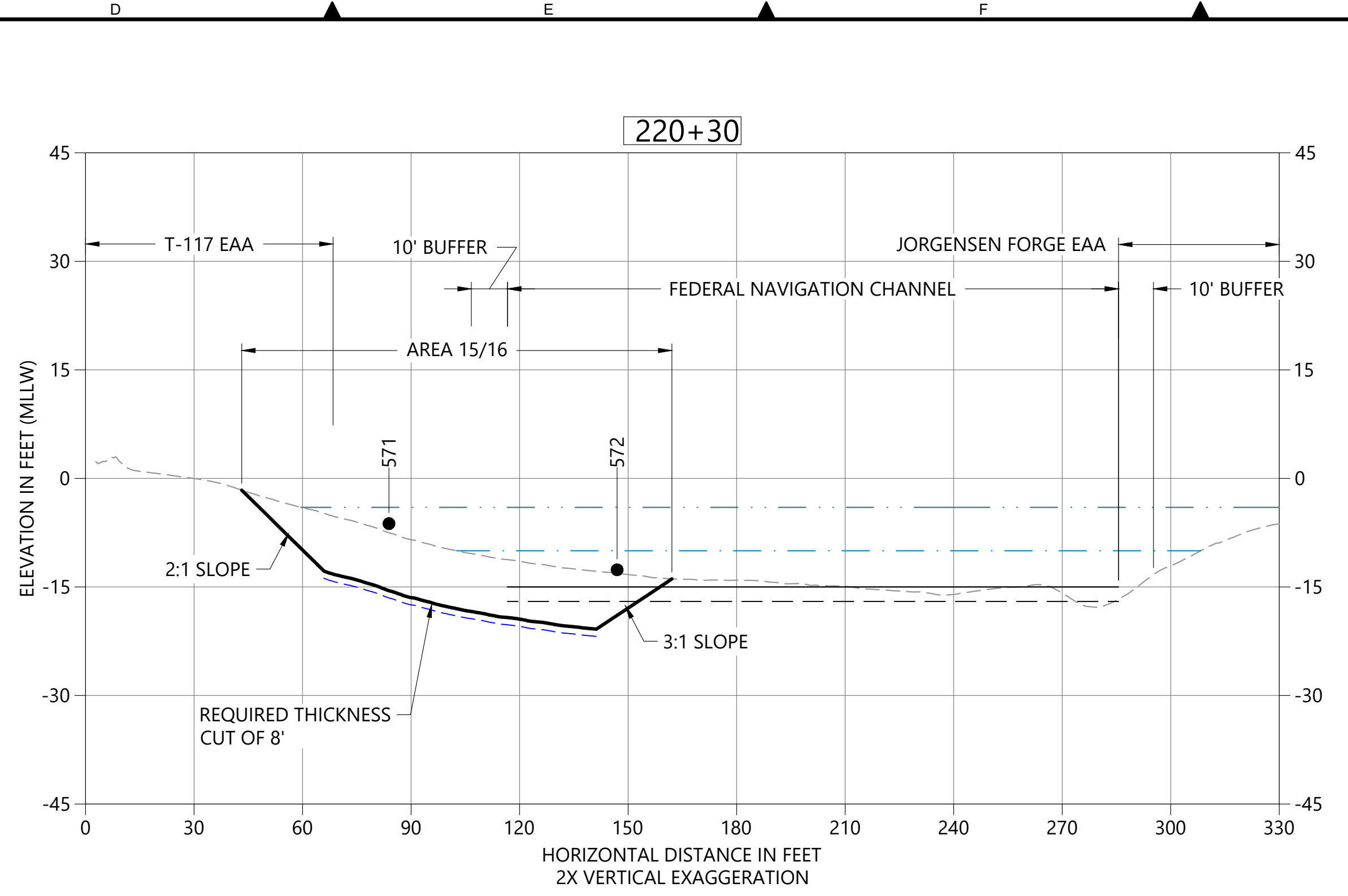
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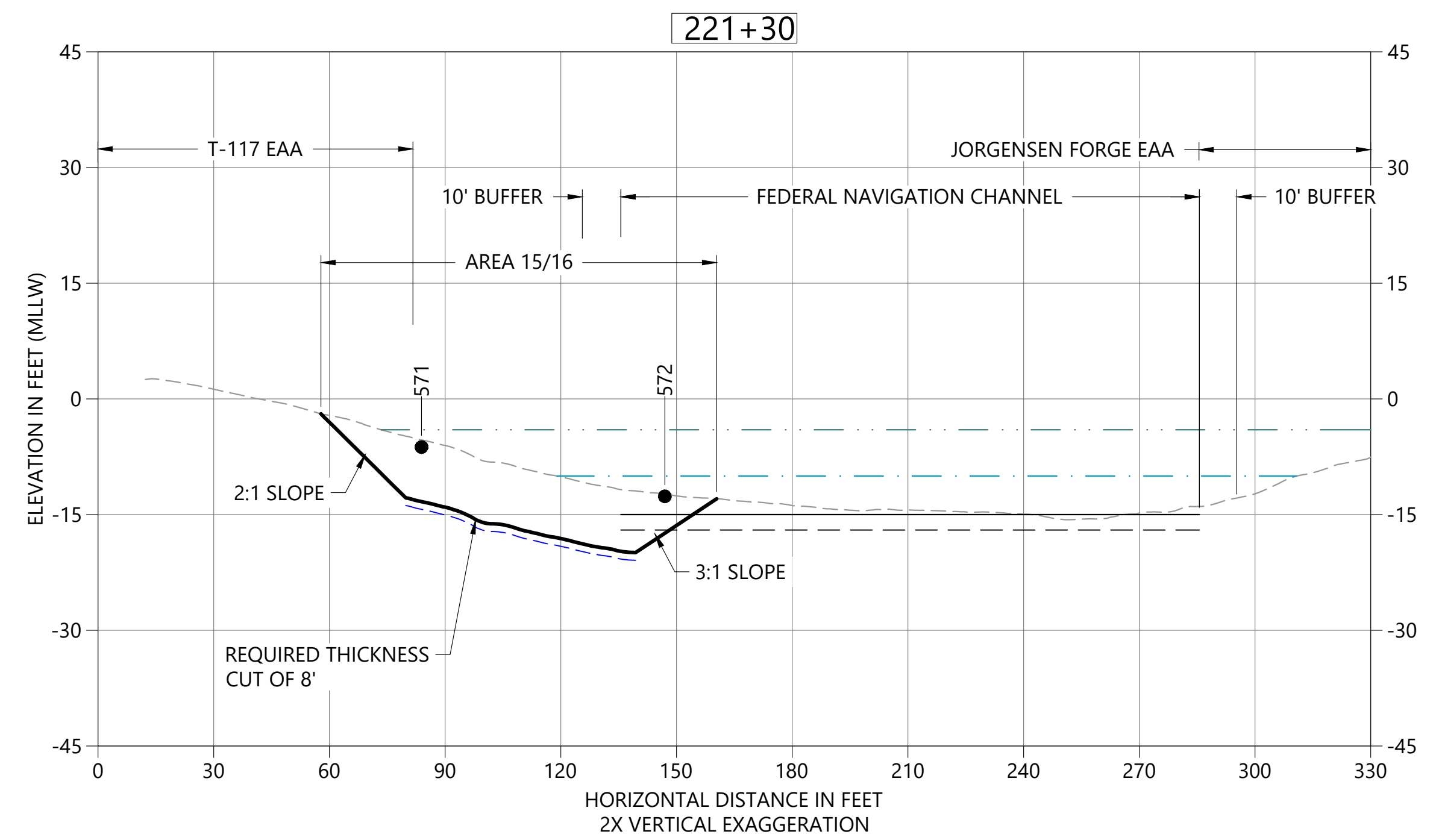
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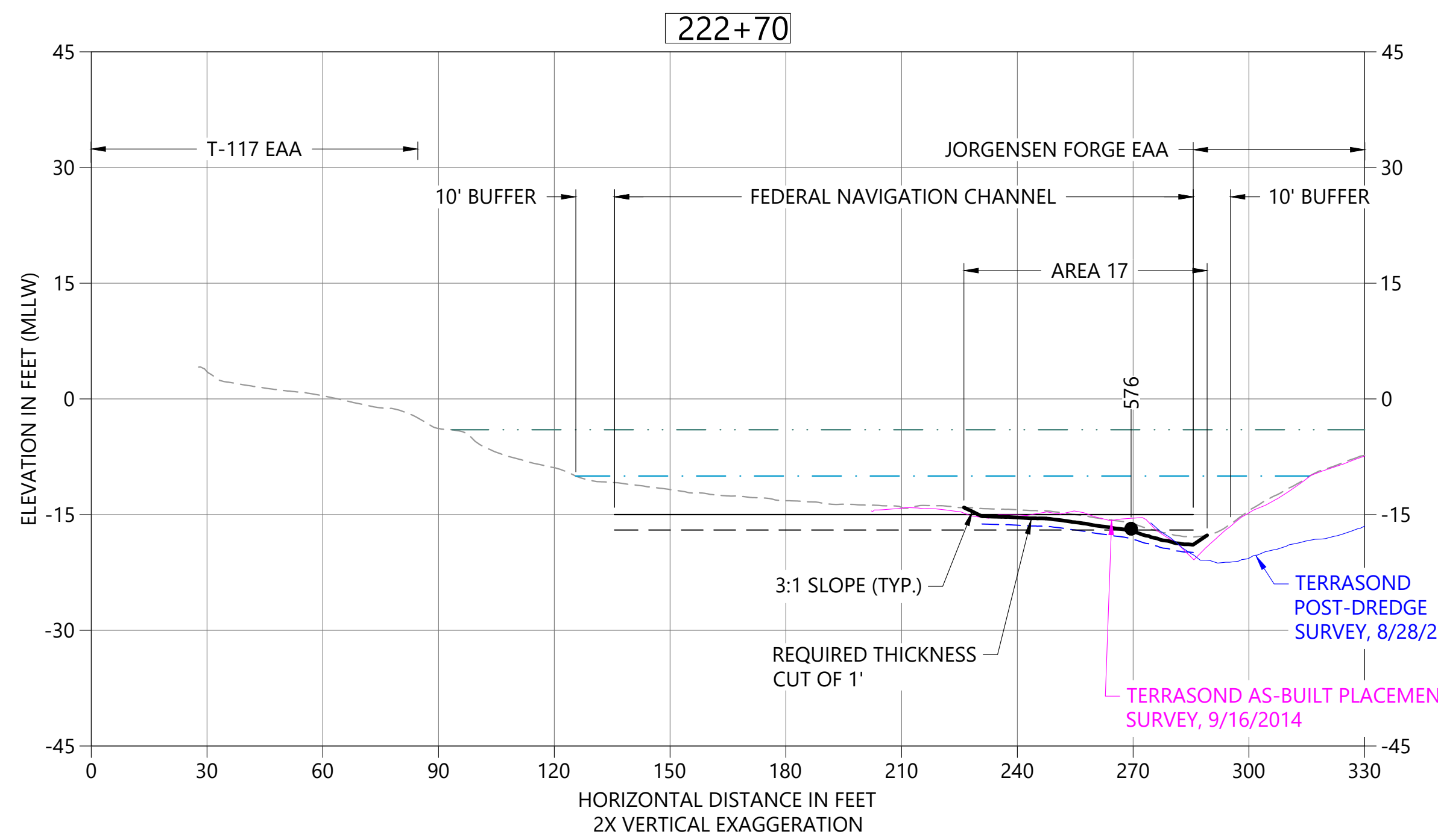
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 C03 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 10'



**B DREDGE SECTION STA 220+30**  
 C03 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 10'



**C DREDGE SECTION STA 221+30**  
 C03 HORIZONTAL SCALE: 1" = 30'  
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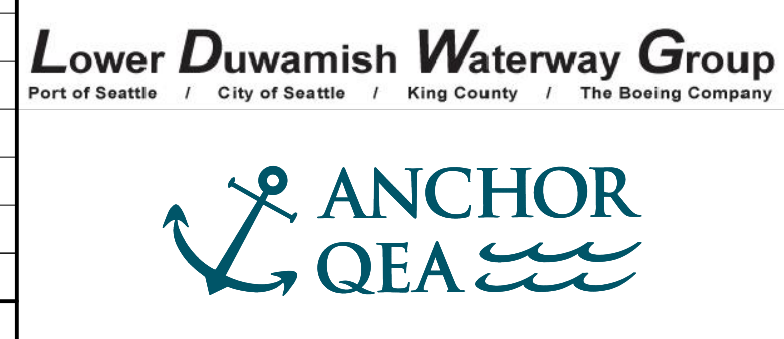
**D DREDGE SECTION STA 222+70**  
 C03 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'

- LEGEND:**
- EXISTING BATHYMETRY (2019/20)
  - 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

**NOTES:**  
 1. VERTICAL DATUM: MLLW

**COLOR IMAGE**  
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**PRELIMINARY ISSUE DRAWING**  
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 AUGUST 2022

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  
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 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**CROSS SECTIONS**

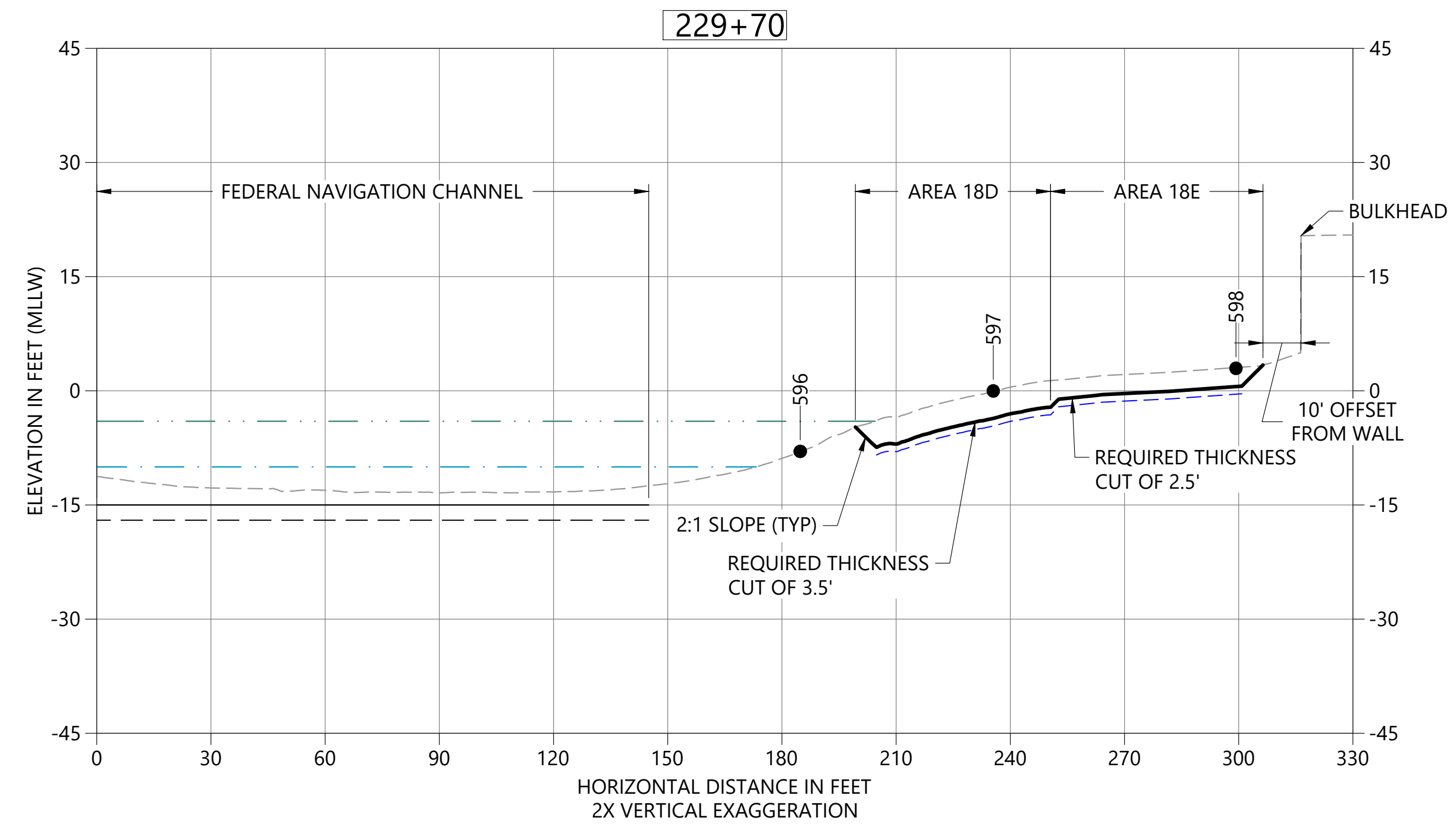
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SHT NO / TOTAL 17 / 26
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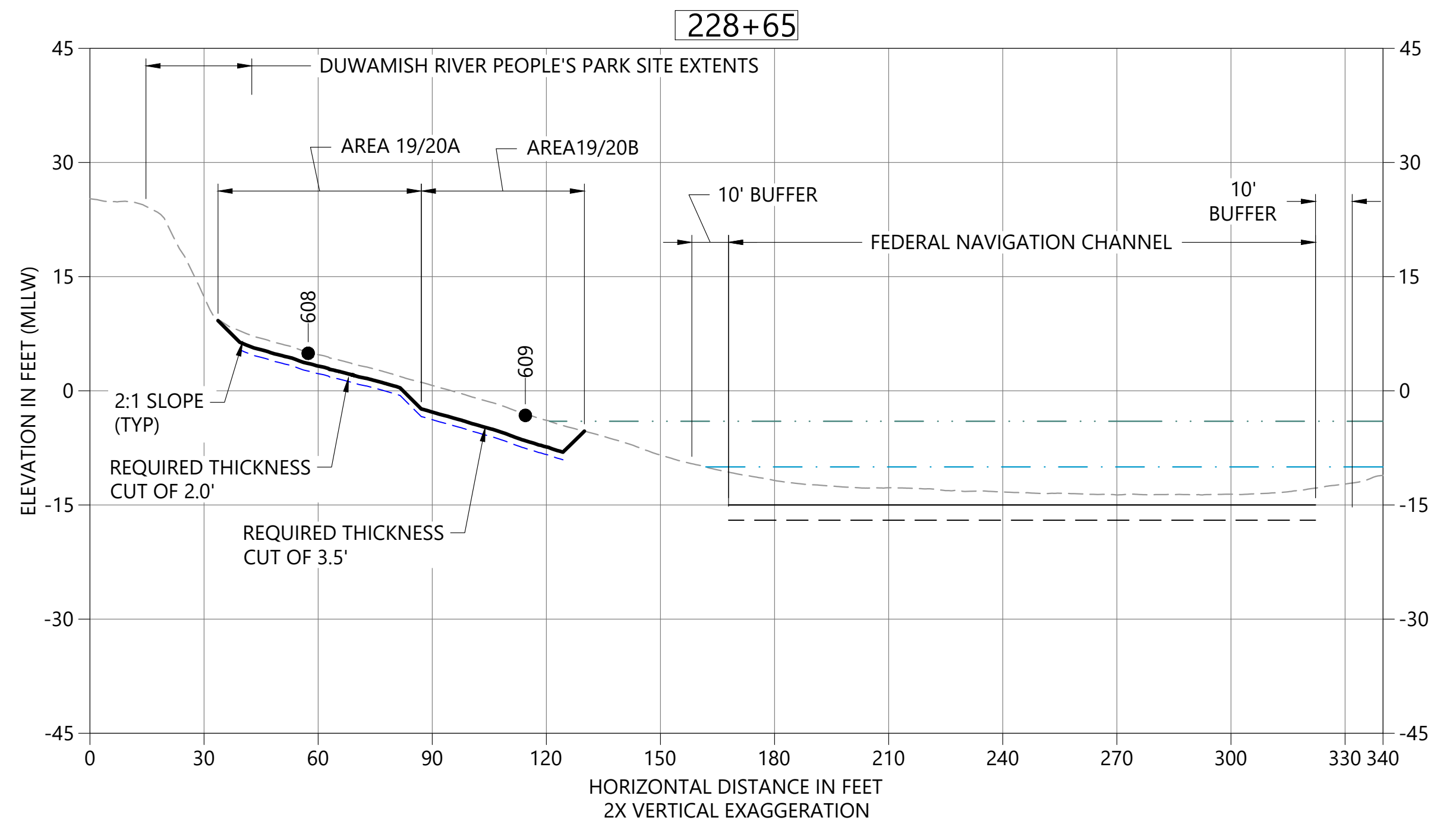




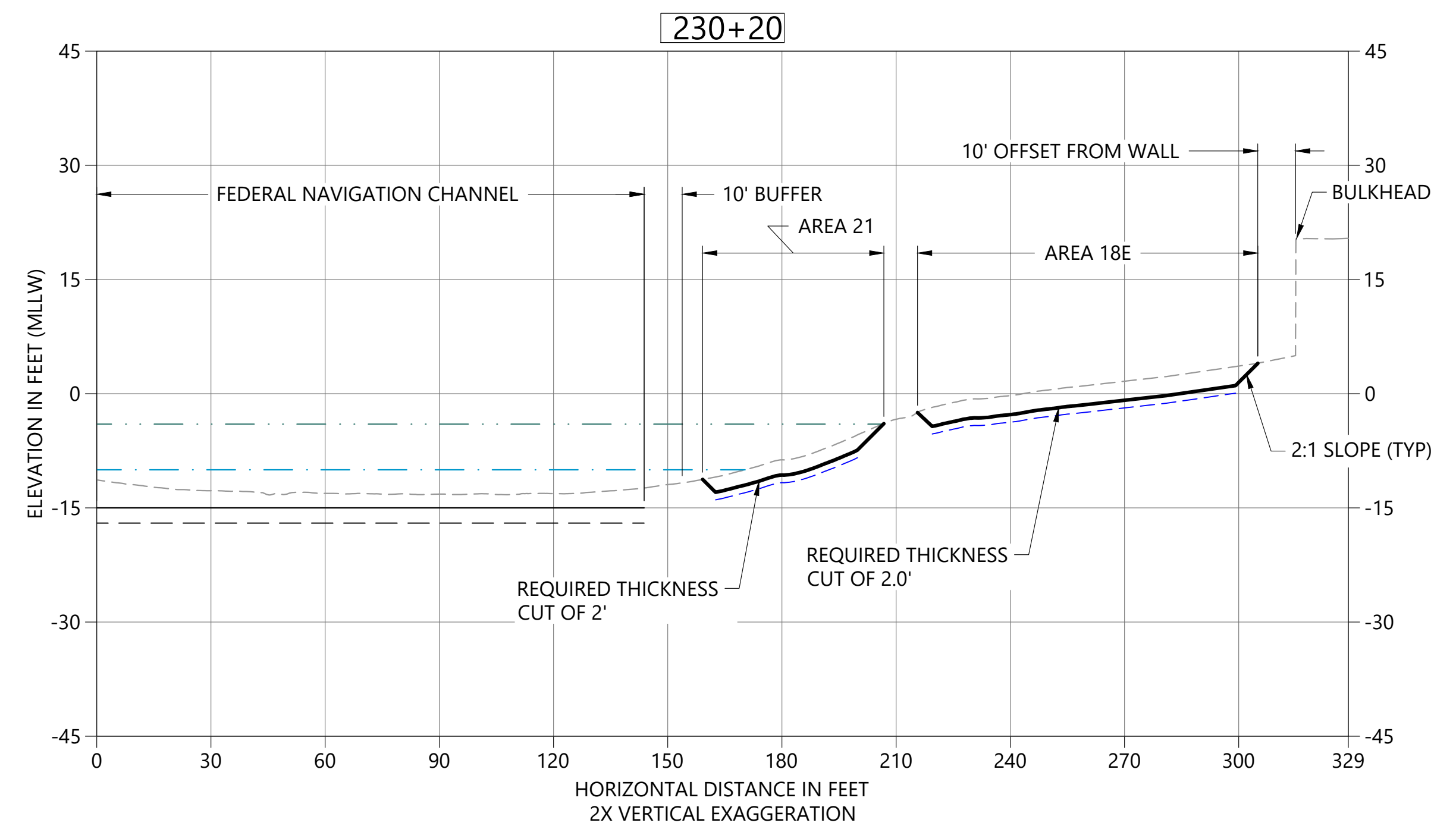
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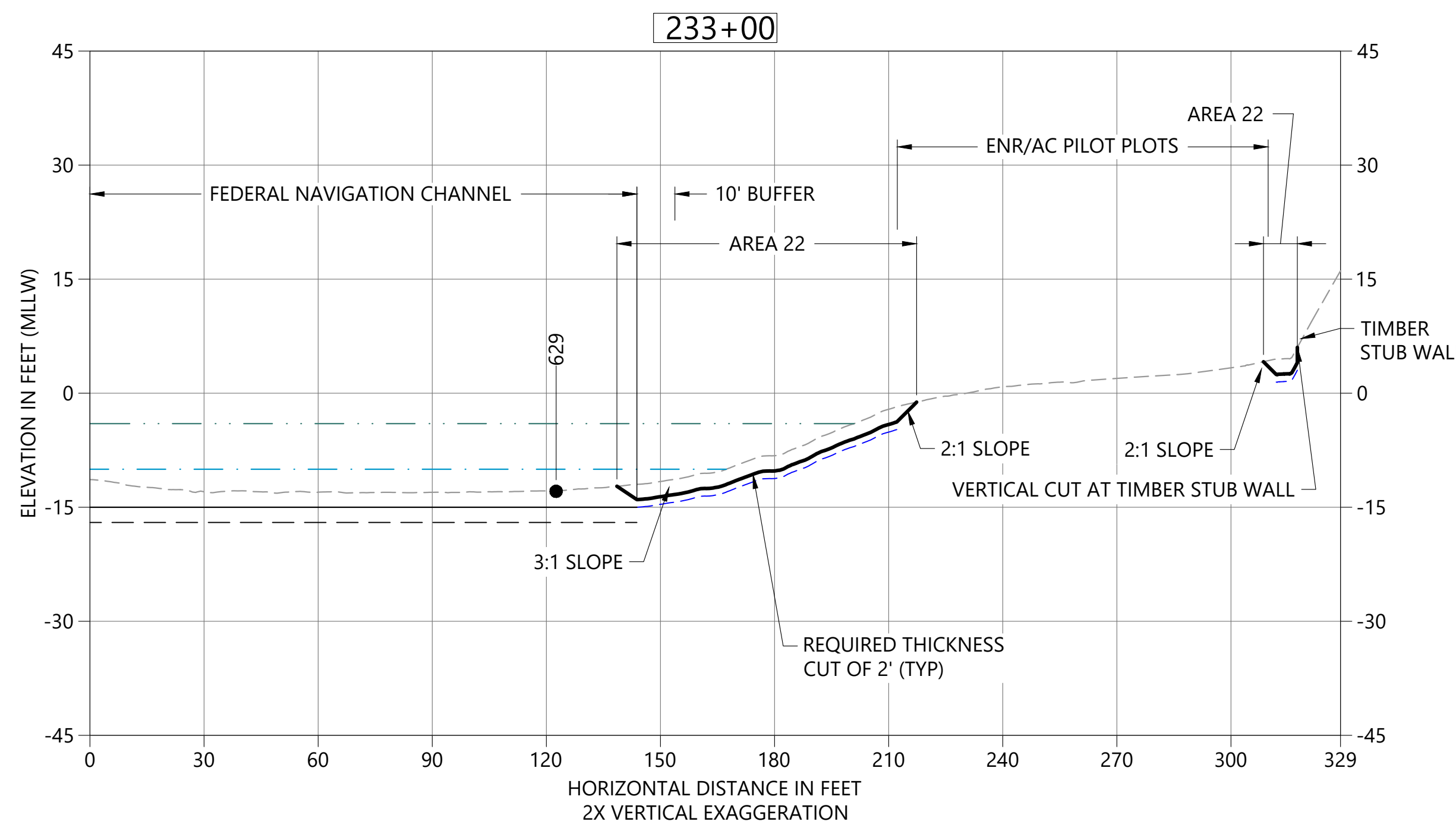
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 C04 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**B** DREDGE SECTION & STA 228+65  
 C04 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**C** DREDGE SECTION & STA 230+20  
 C04 HORIZONTAL SCALE: 1" = 30'  
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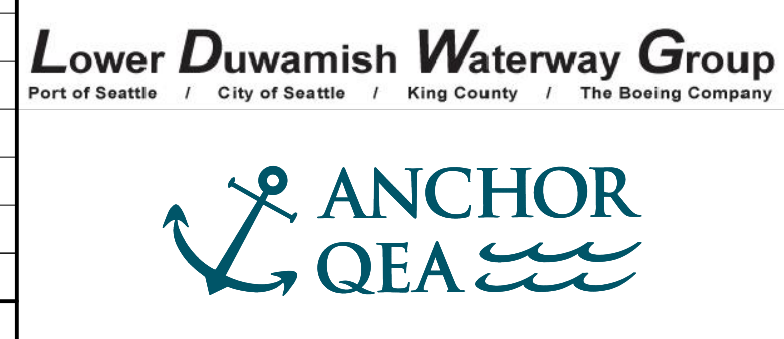
**D** DREDGE SECTION STA 233+00  
 C04 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'

- LEGEND:**
- EXISTING BATHYMETRY (2019/20)
  - 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

**NOTES:**  
 1. VERTICAL DATUM: MLLW

**COLOR IMAGE**  
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 COLOR IMAGES OR PHOTOGRAPHS AND  
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 AUGUST 2022

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



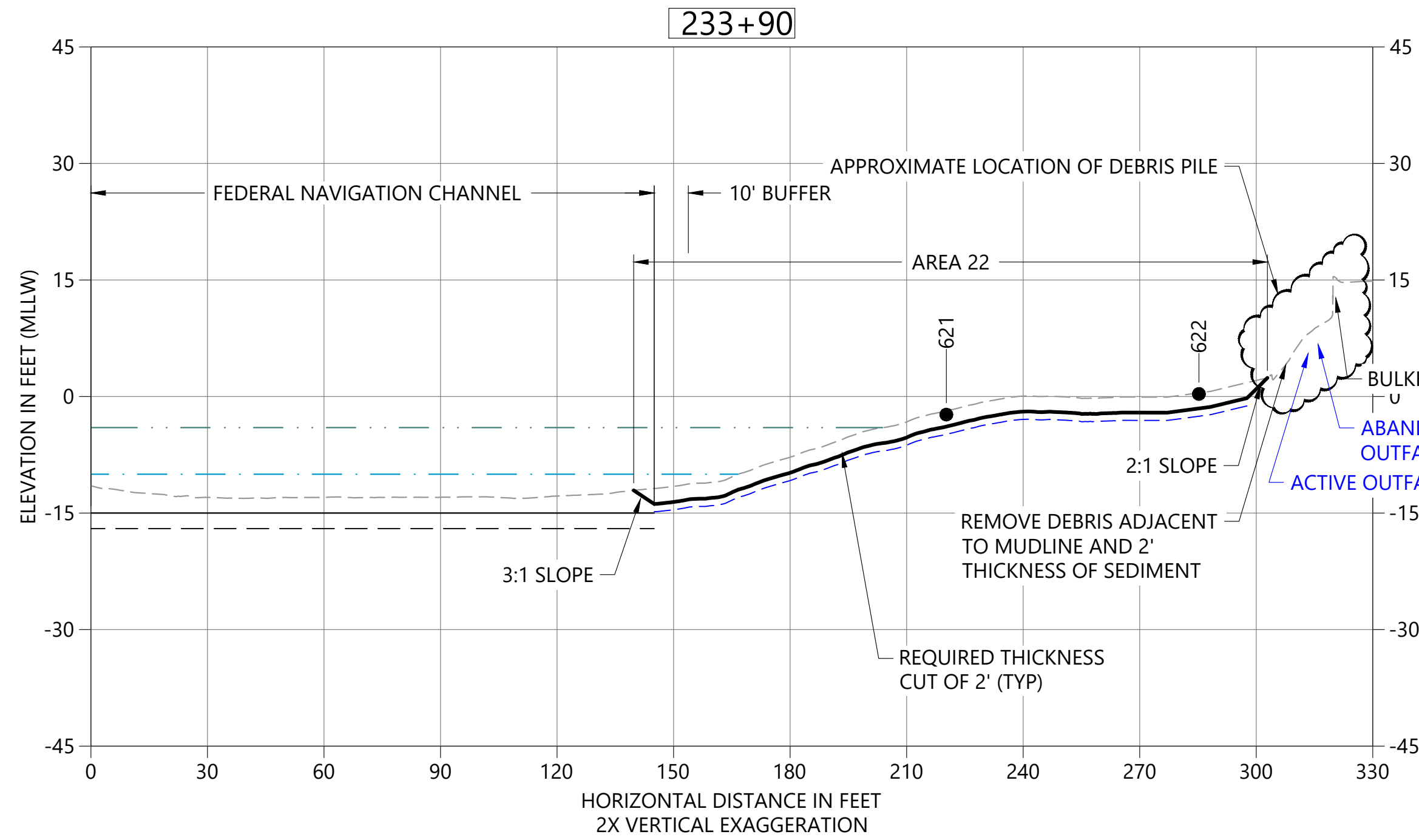
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

CROSS SECTIONS

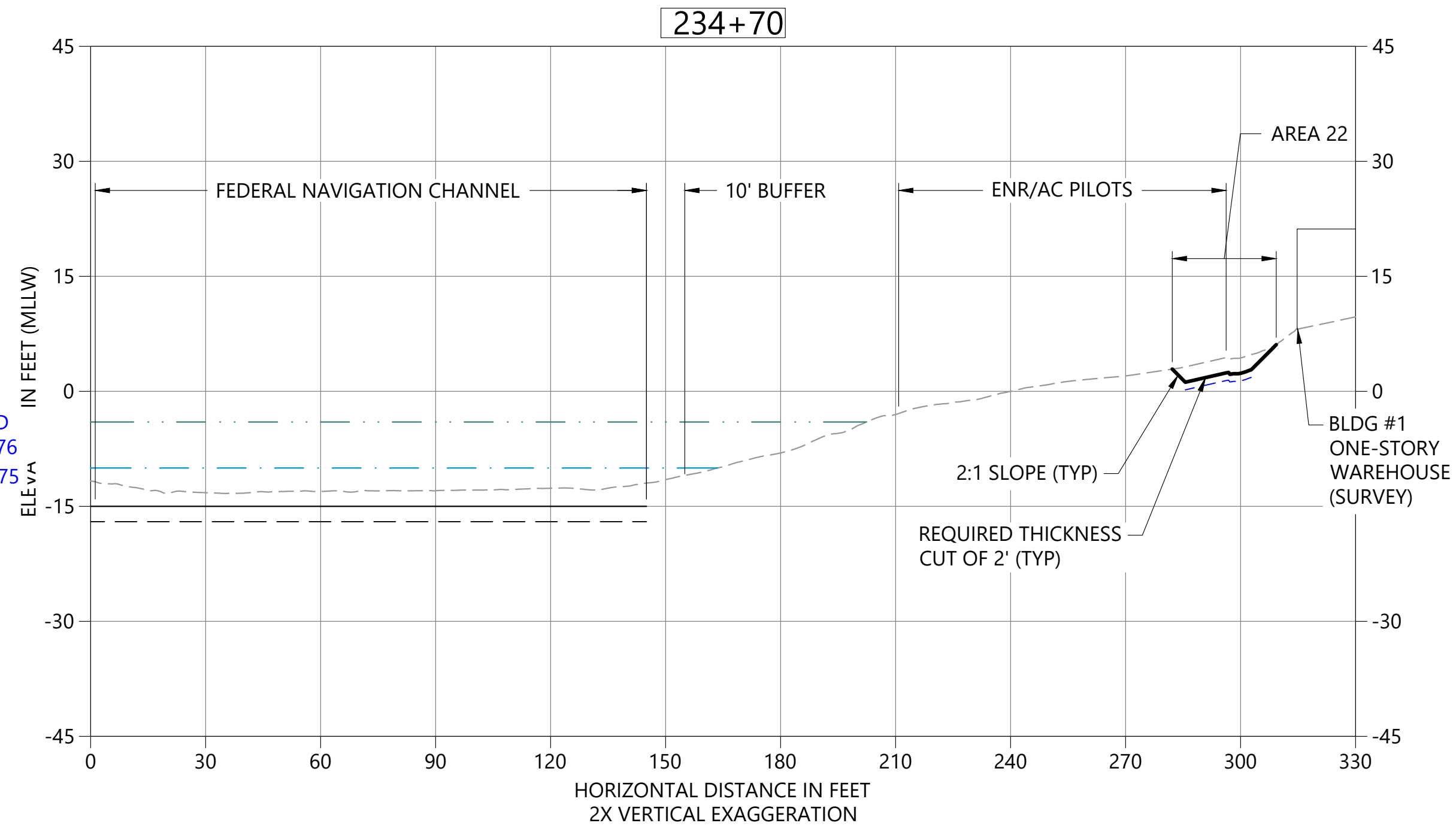
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SHT NO / TOTAL 19 / 26
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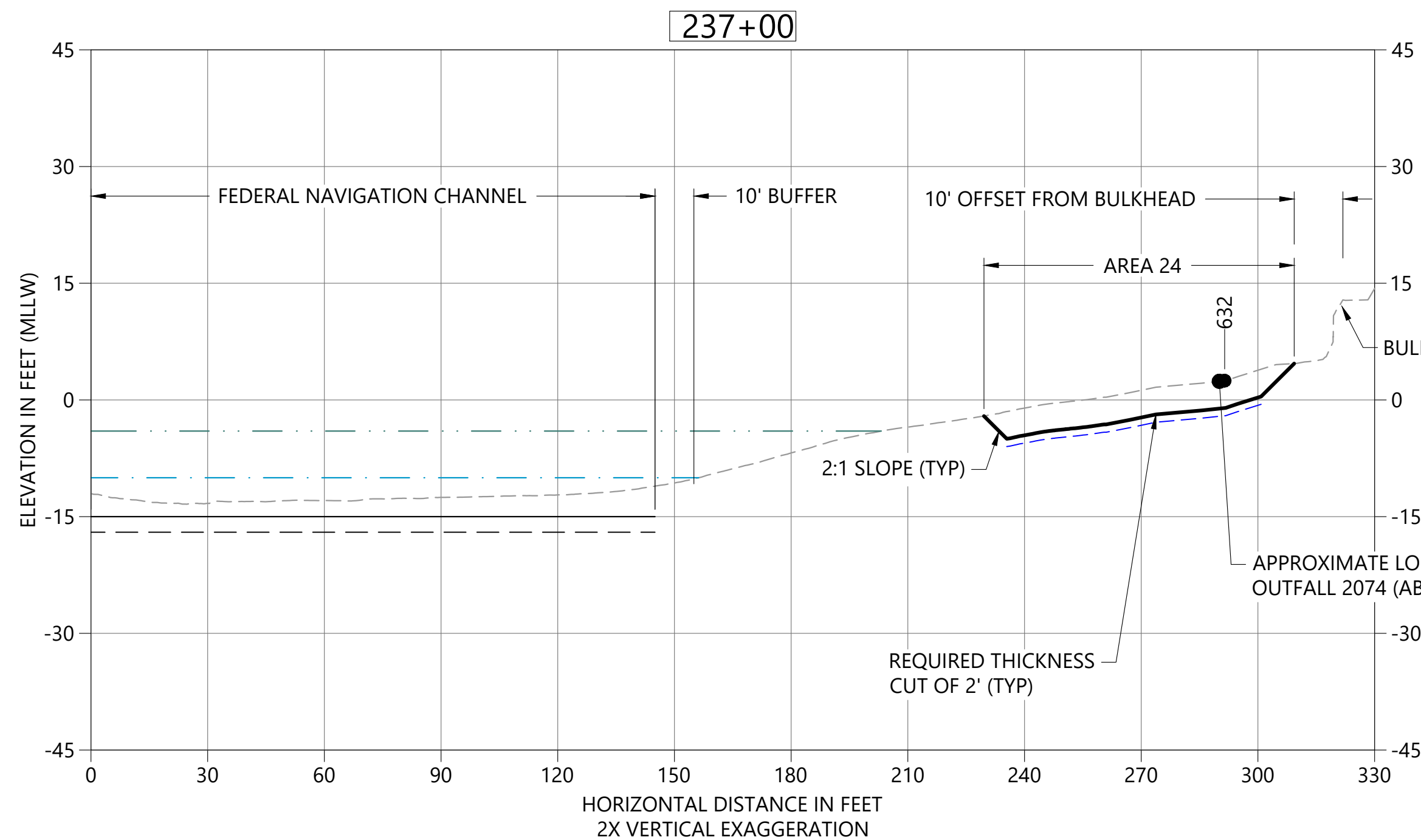
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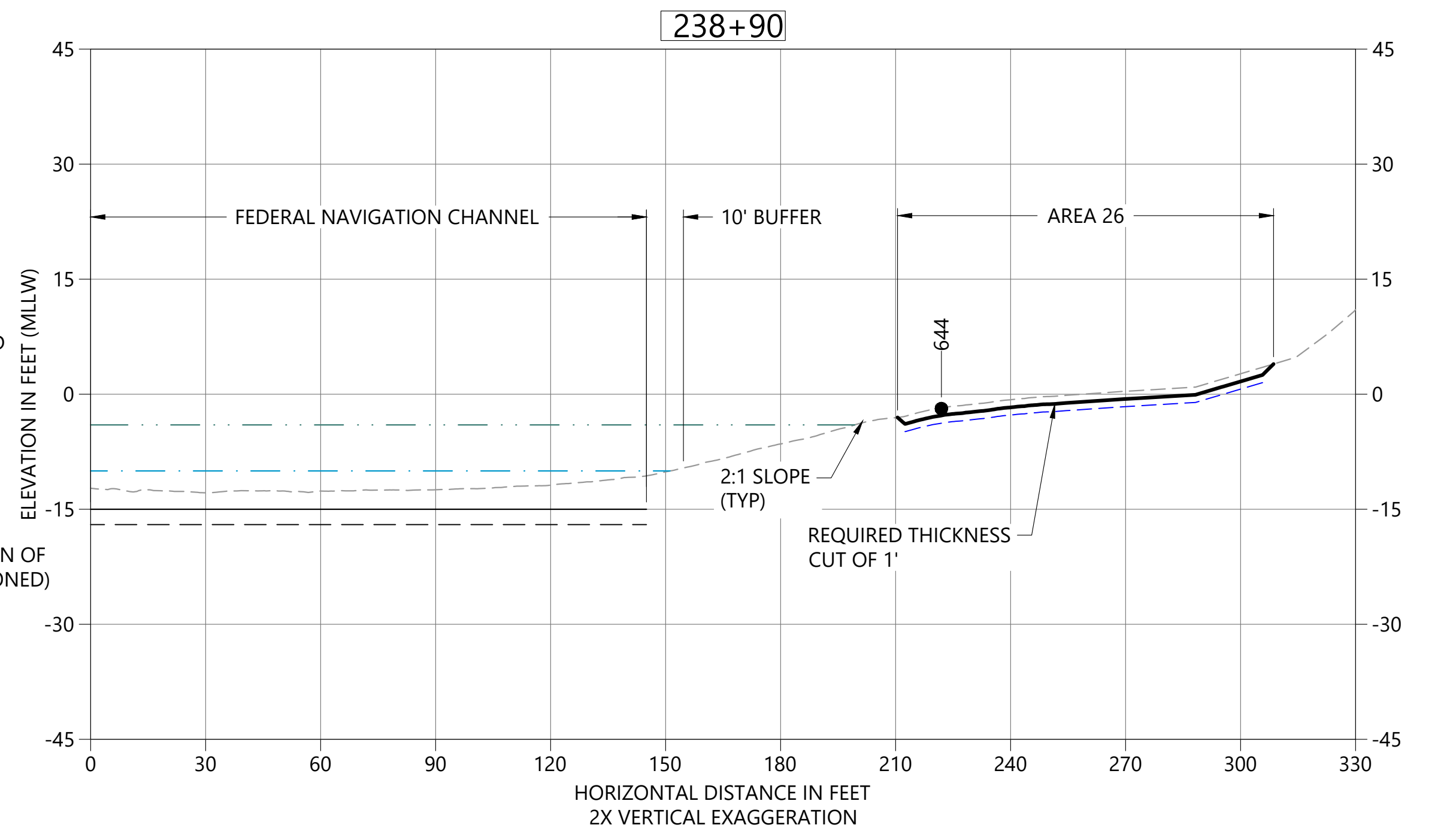
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C04 HORIZONTAL SCALE: 1" = 30'  
VERTICAL SCALE: 1" = 15'



**B** DREDGE SECTION STA 234+70  
C04 HORIZONTAL SCALE: 1" = 30'  
VERTICAL SCALE: 1" = 15'



**C** DREDGE SECTION STA 237+00  
C05 HORIZONTAL SCALE: 1" = 30'  
VERTICAL SCALE: 1" = 15'



**D** DREDGE SECTION STA 238+90  
C05 HORIZONTAL SCALE: 1" = 30'  
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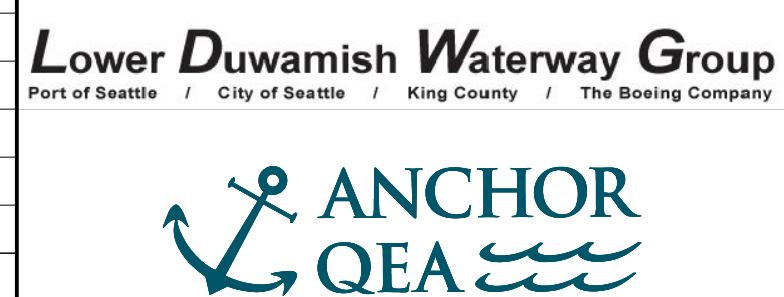
- LEGEND:**
- EXISTING BATHYMETRY (2019/20)
  - USACE AUTHORIZED CHANNEL ELEVATION (-15' MLLW)
  - - - USACE MAINTENANCE ELEVATION (-17' MLLW)
  - · - · - INTERTIDAL/SUBTIDAL TRANSITION (-4' MLLW)
  - · - · - LOWEST HABITAT AREA ELEVATION (-10' MLLW)
  - DREDGE DESIGN SURFACE
  - - - 1' ALLOWABLE OVERDREDGE
  - VERTICAL SAMPLE LOCATION

**NOTES:**  
1. VERTICAL DATUM: MLLW

**COLOR IMAGE**  
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PLOTTED: Aug 19, 2022 01:18:40pm By jigsby

NO	REVISION DESCRIPTION	BY	APVD	DATE



**PRELIMINARY ISSUE DRAWING**  
INFORMATION ONLY  
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AUGUST 2022

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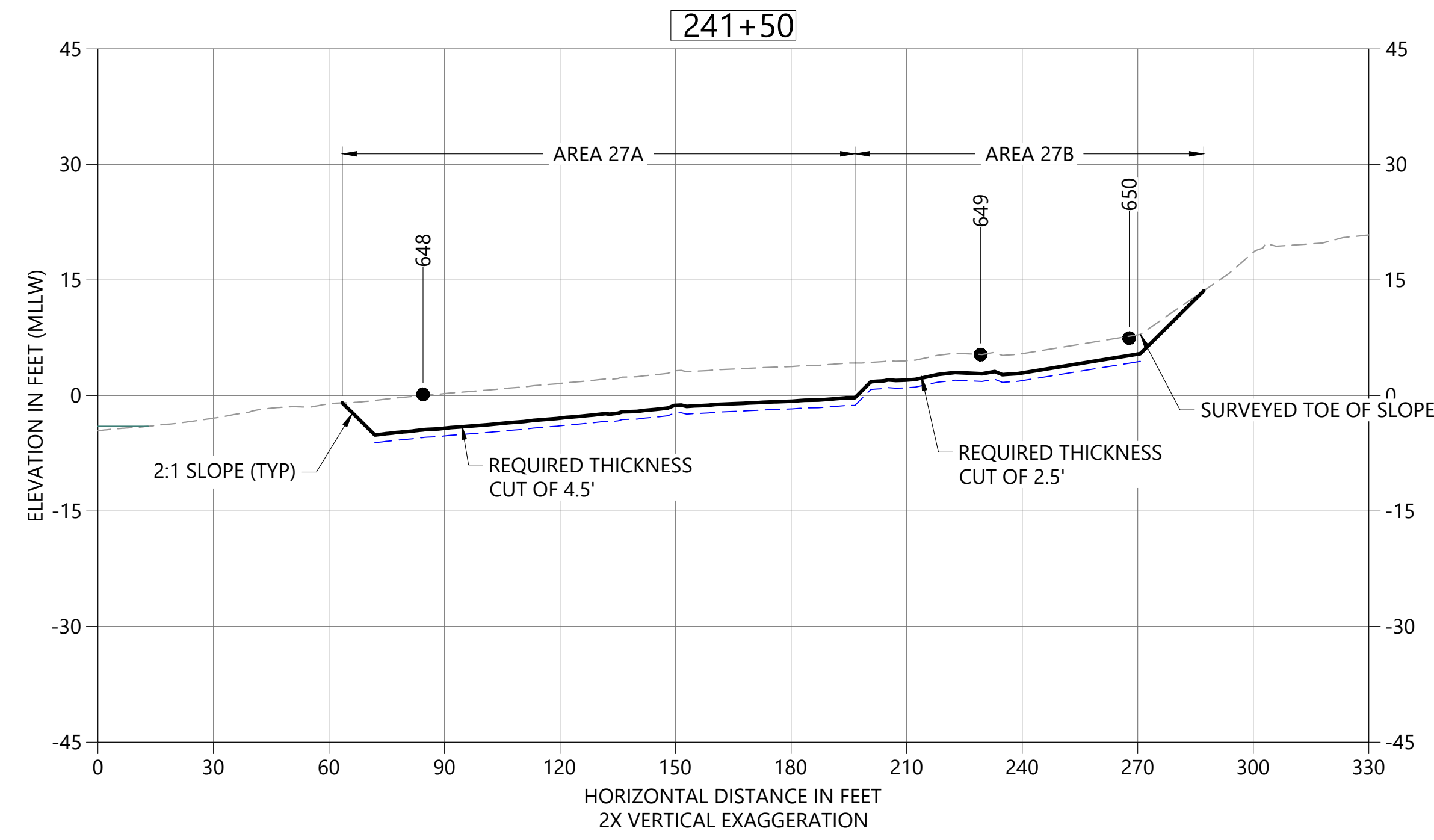
DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

**CROSS SECTIONS**

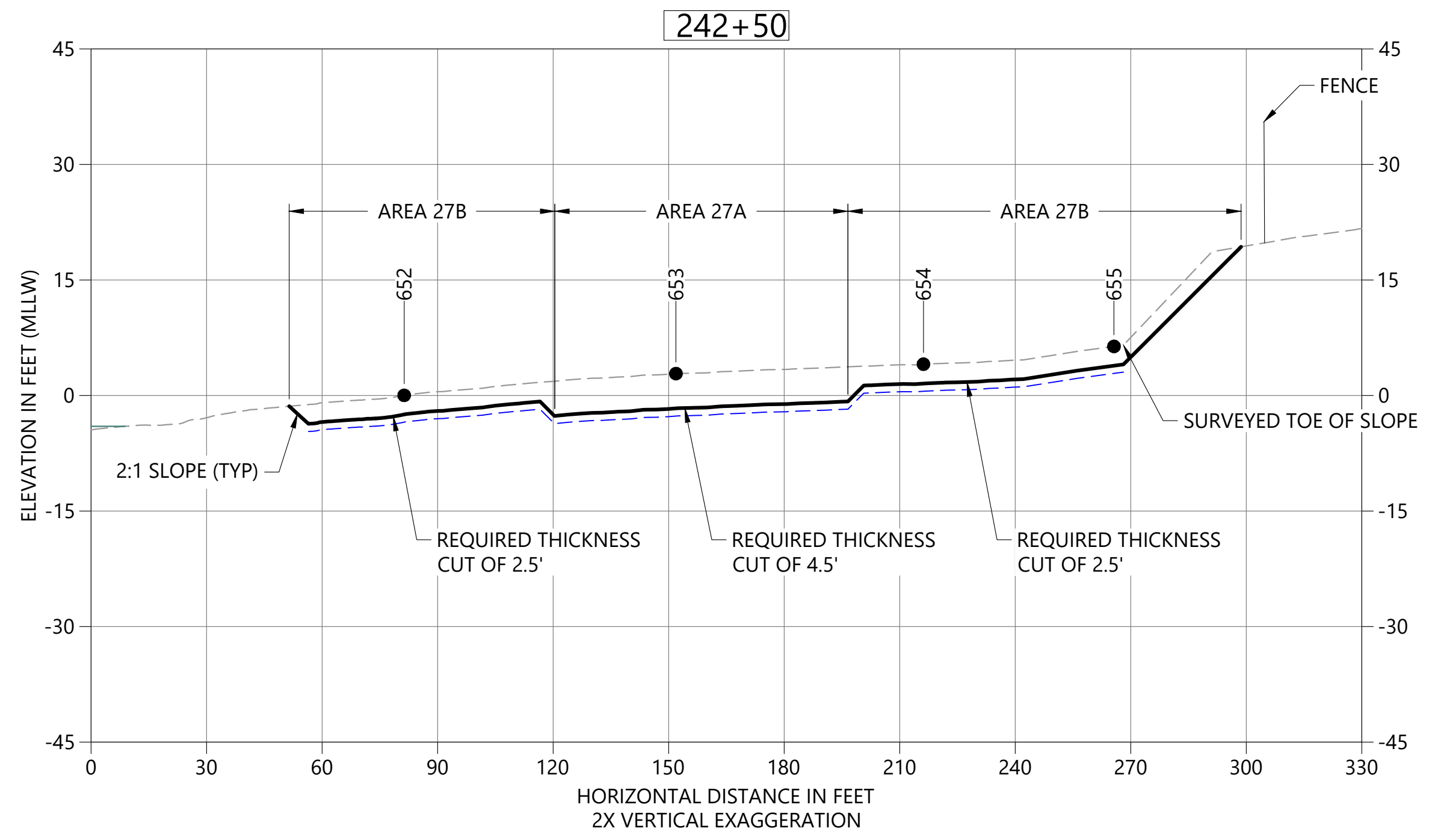
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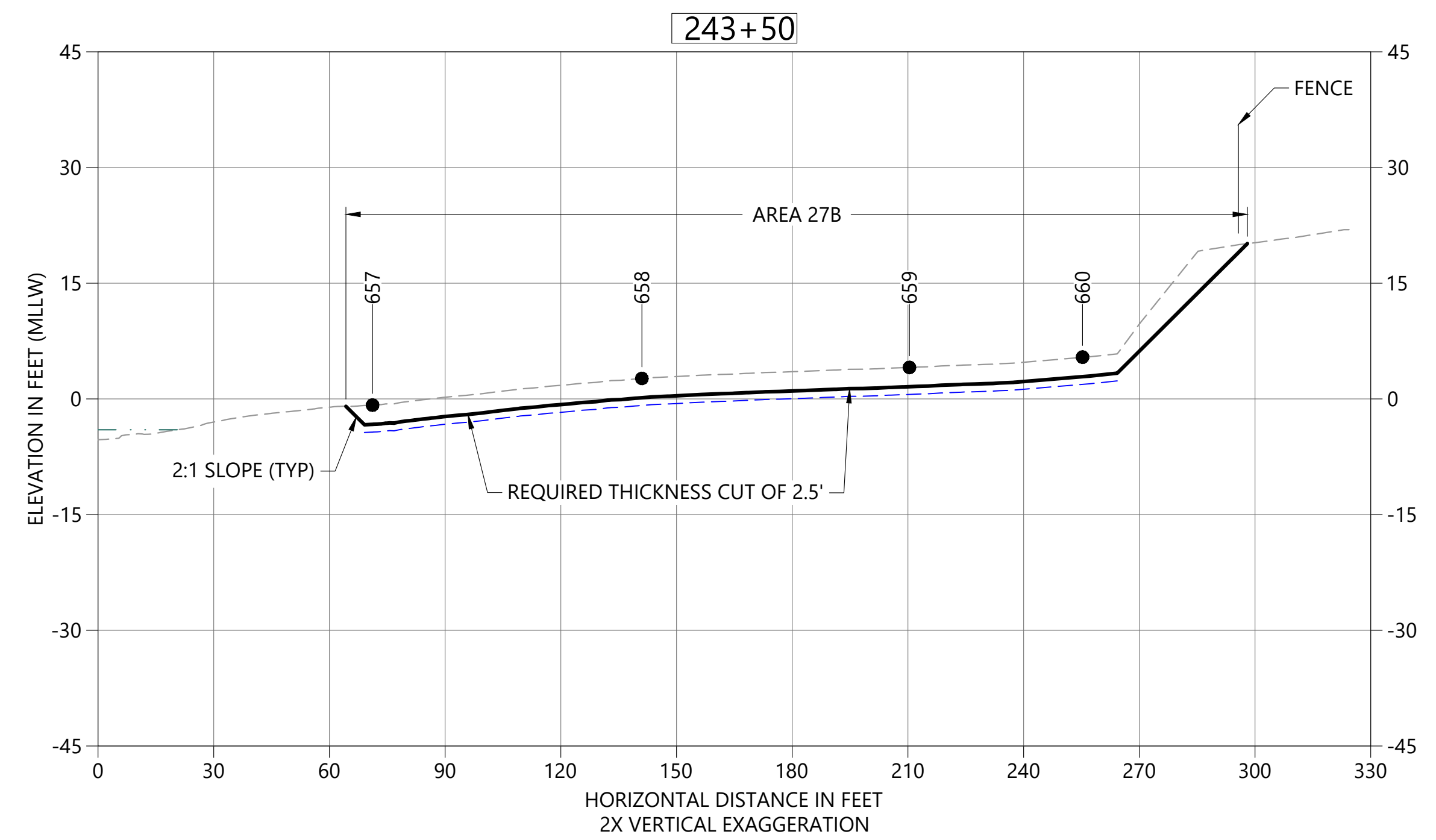
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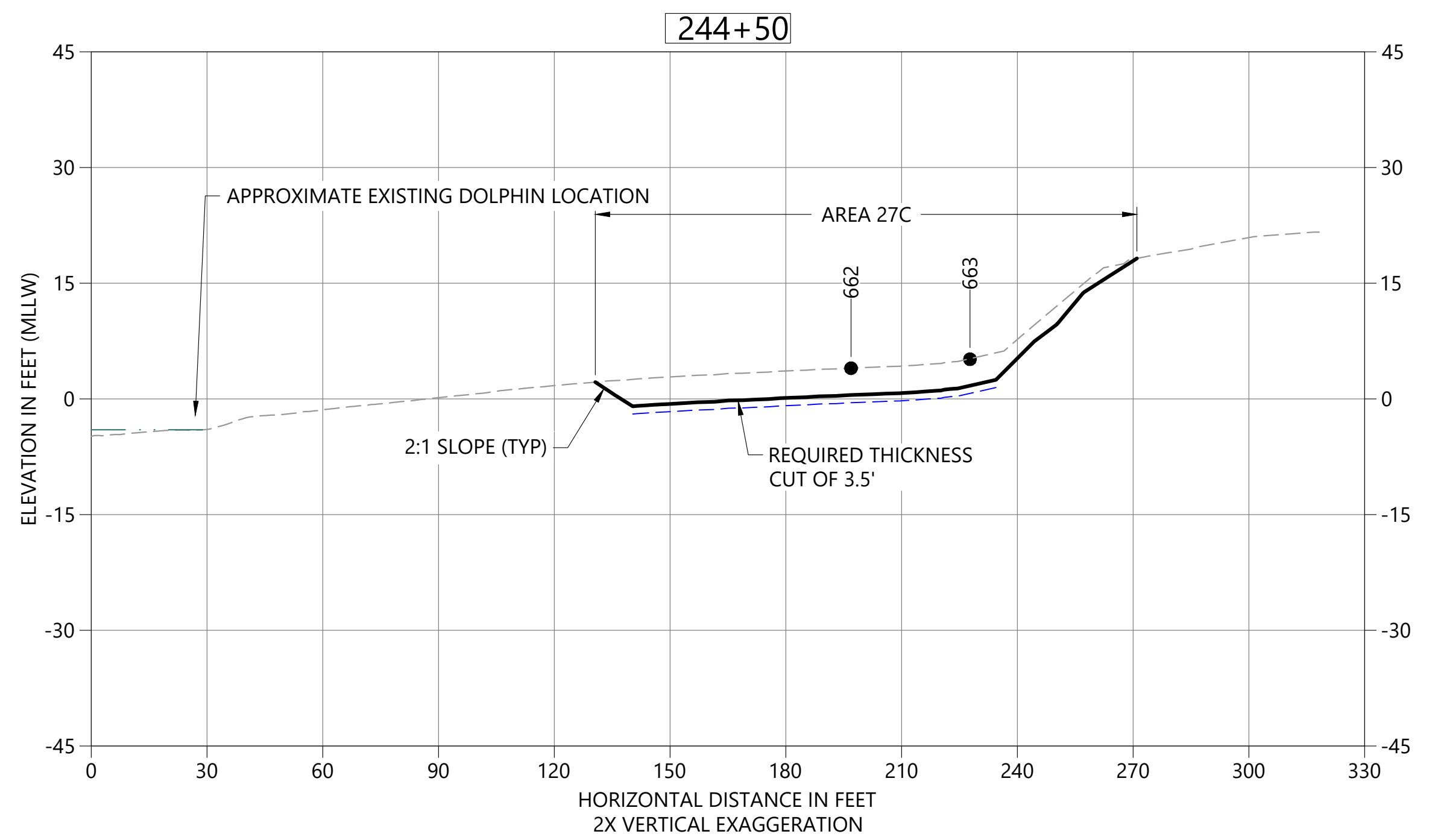
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 C05 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**B DREDGE SECTION STA 242+50**  
 C05 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**C DREDGE SECTION STA 243+50**  
 C05 HORIZONTAL SCALE: 1" = 30'  
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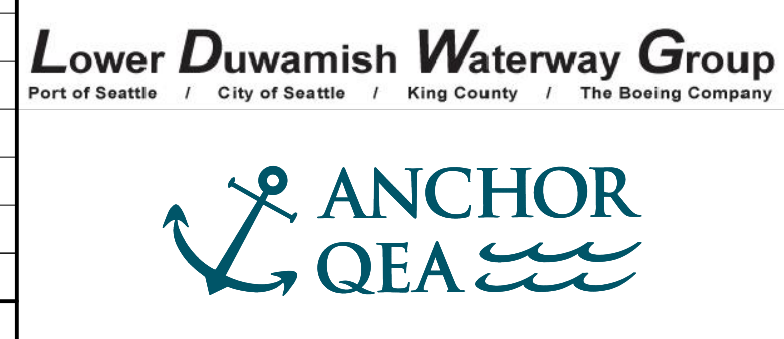
**D DREDGE SECTION STA 244+50**  
 C05 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'

- LEGEND:**
- EXISTING BATHYMETRY (2019/20)
  - 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

**NOTES:**  
 1. VERTICAL DATUM: MLLW

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**PRELIMINARY ISSUE DRAWING**  
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 AUGUST 2022

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



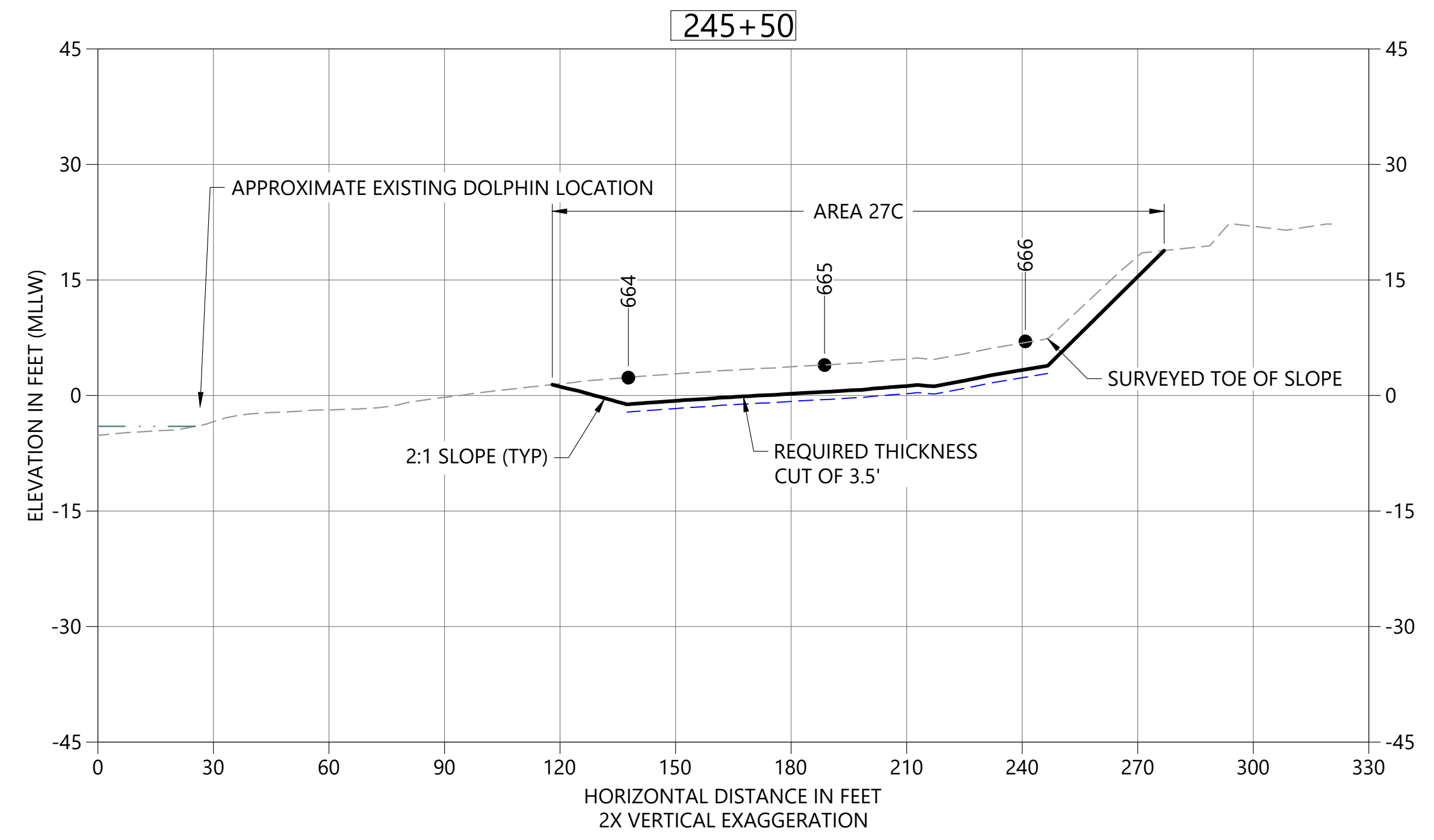
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**CROSS SECTIONS**

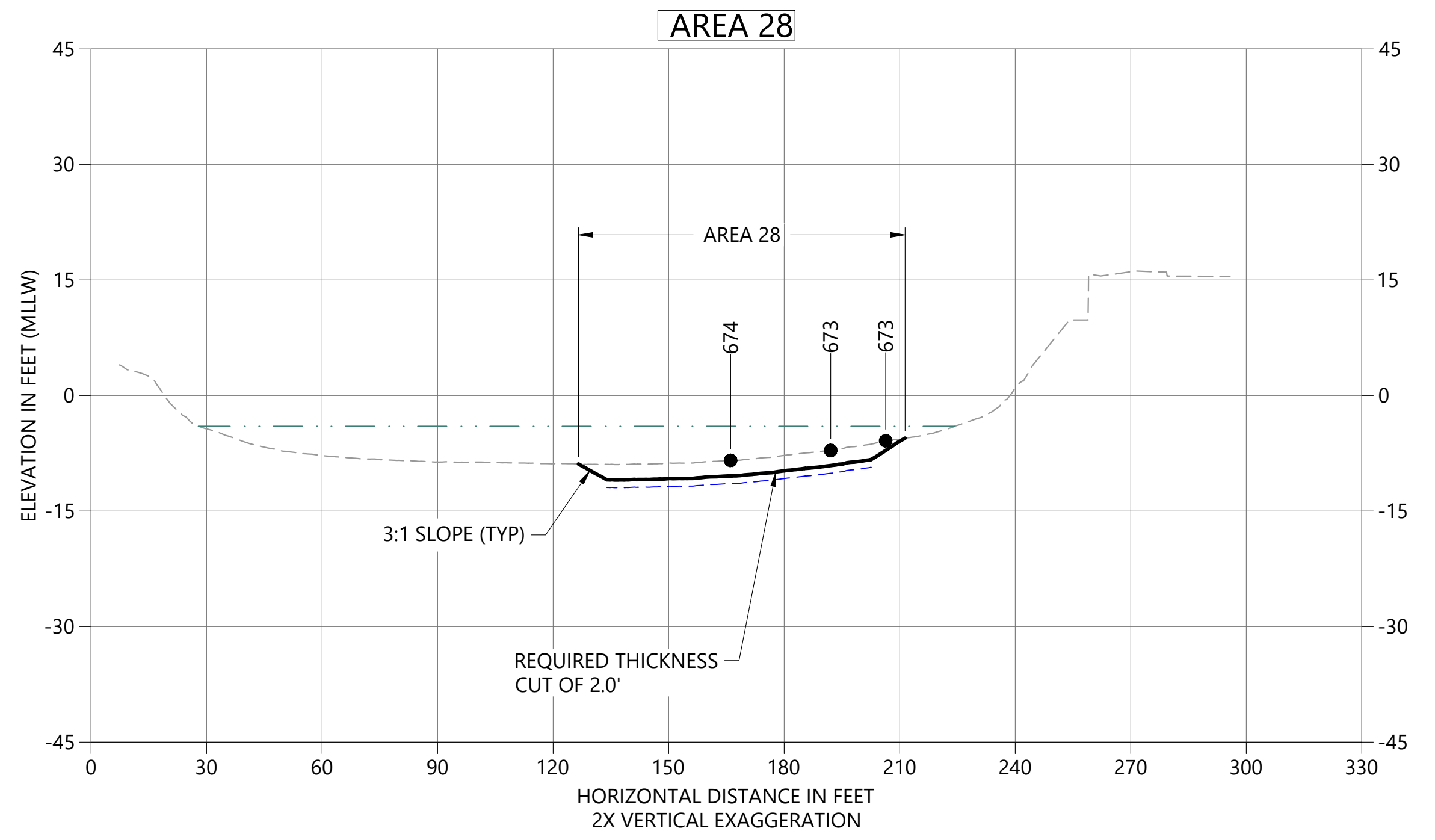
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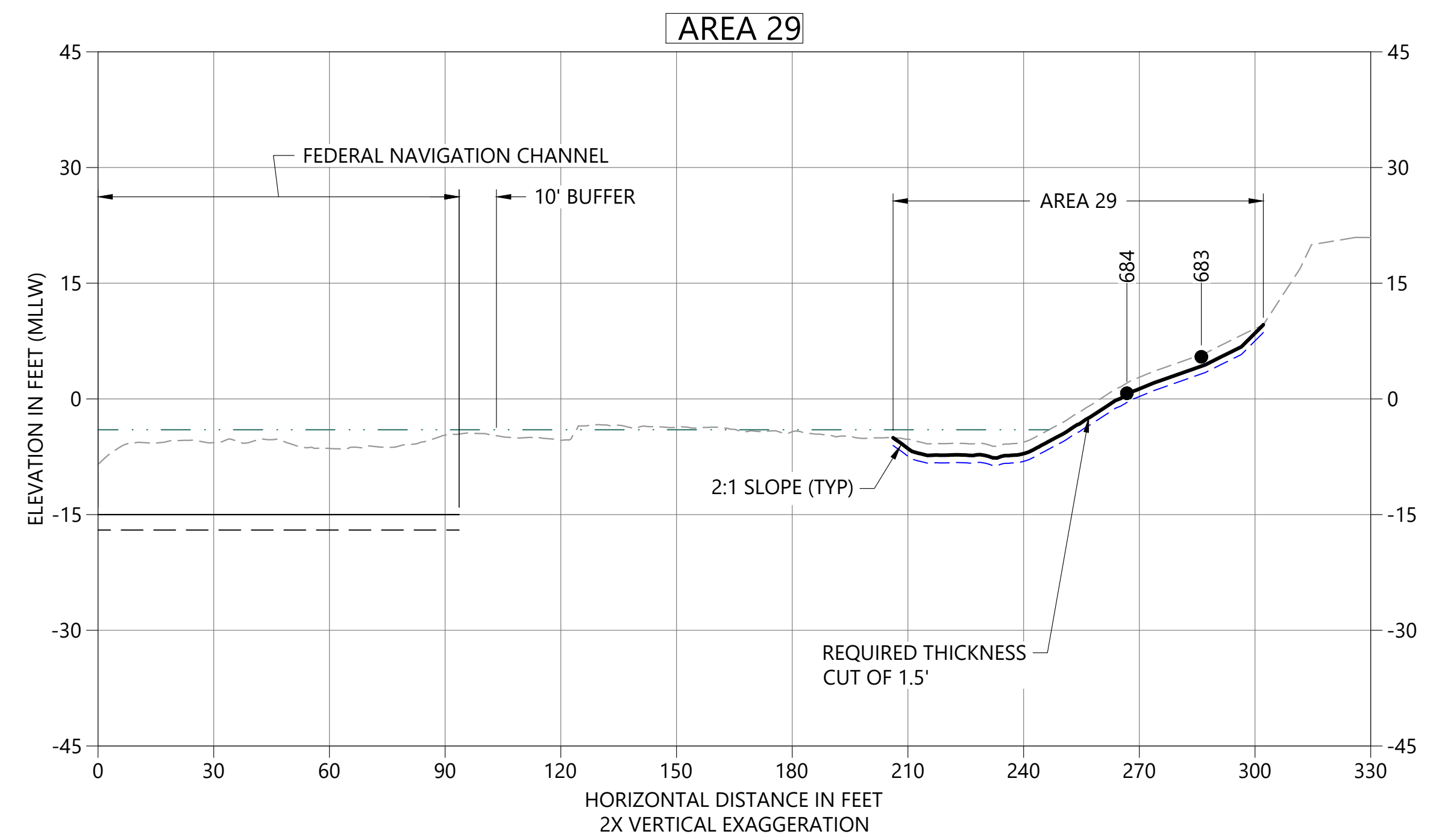
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 PLOTTED: Aug 19, 2022 01:19:00pm By jigsby



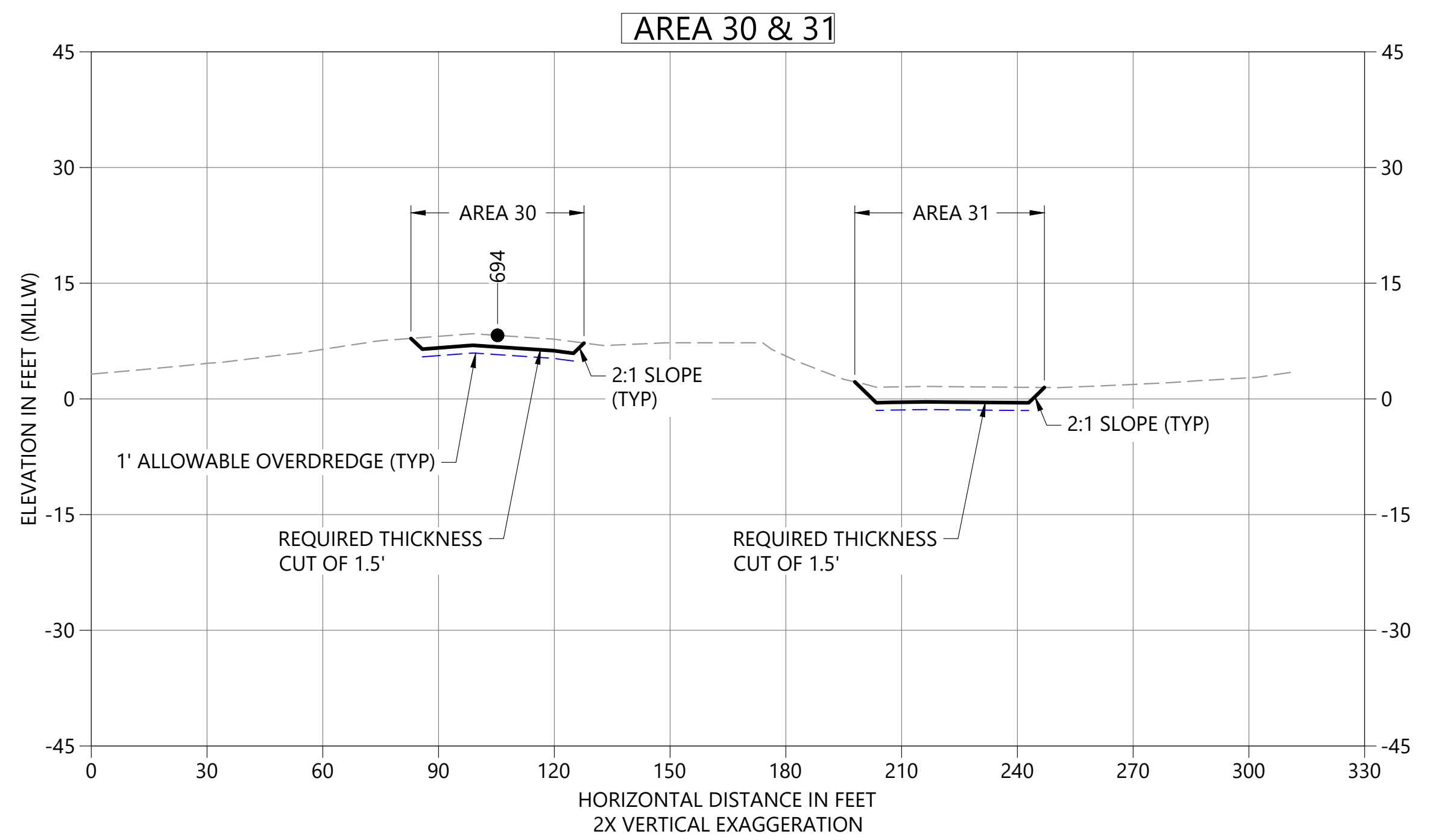
**A DREDGE SECTION STA 244+50**  
 C05 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**B DREDGE SECTION**  
 C06 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'



**C DREDGE SECTION**  
 C07 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 10'

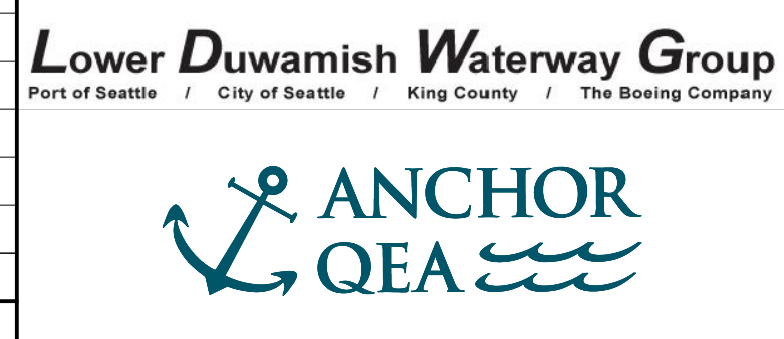


**D DREDGE SECTION**  
 C07 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 10'

- LEGEND:**
- EXISTING BATHYMETRY (2019/20)
  - 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
- NOTES:**
- 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.

NO	REVISION DESCRIPTION	BY	APVD	DATE



**PRELIMINARY ISSUE DRAWING**  
 INFORMATION ONLY  
**30% REVIEW**  
 AUGUST 2022

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



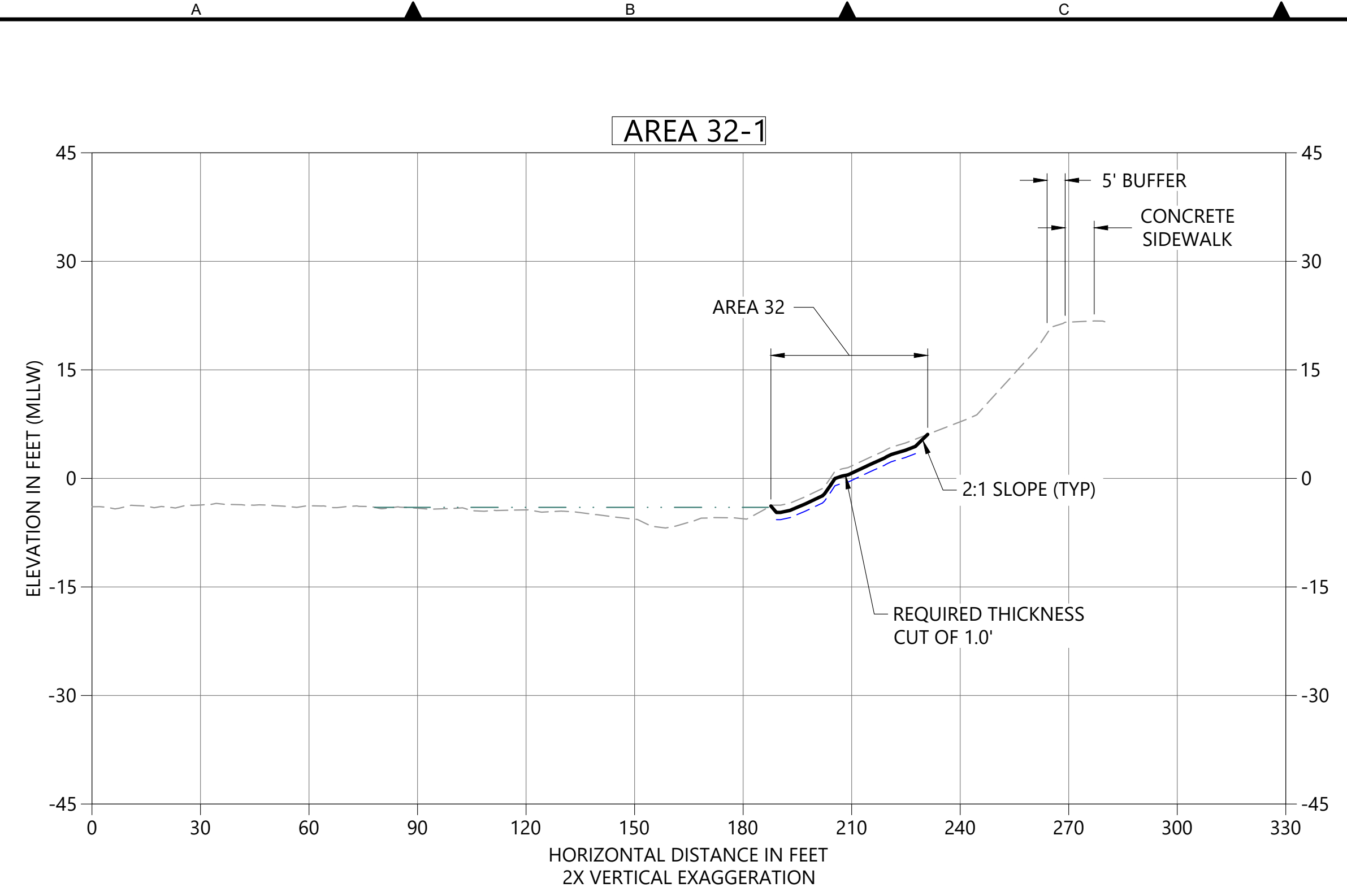
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**CROSS SECTIONS**

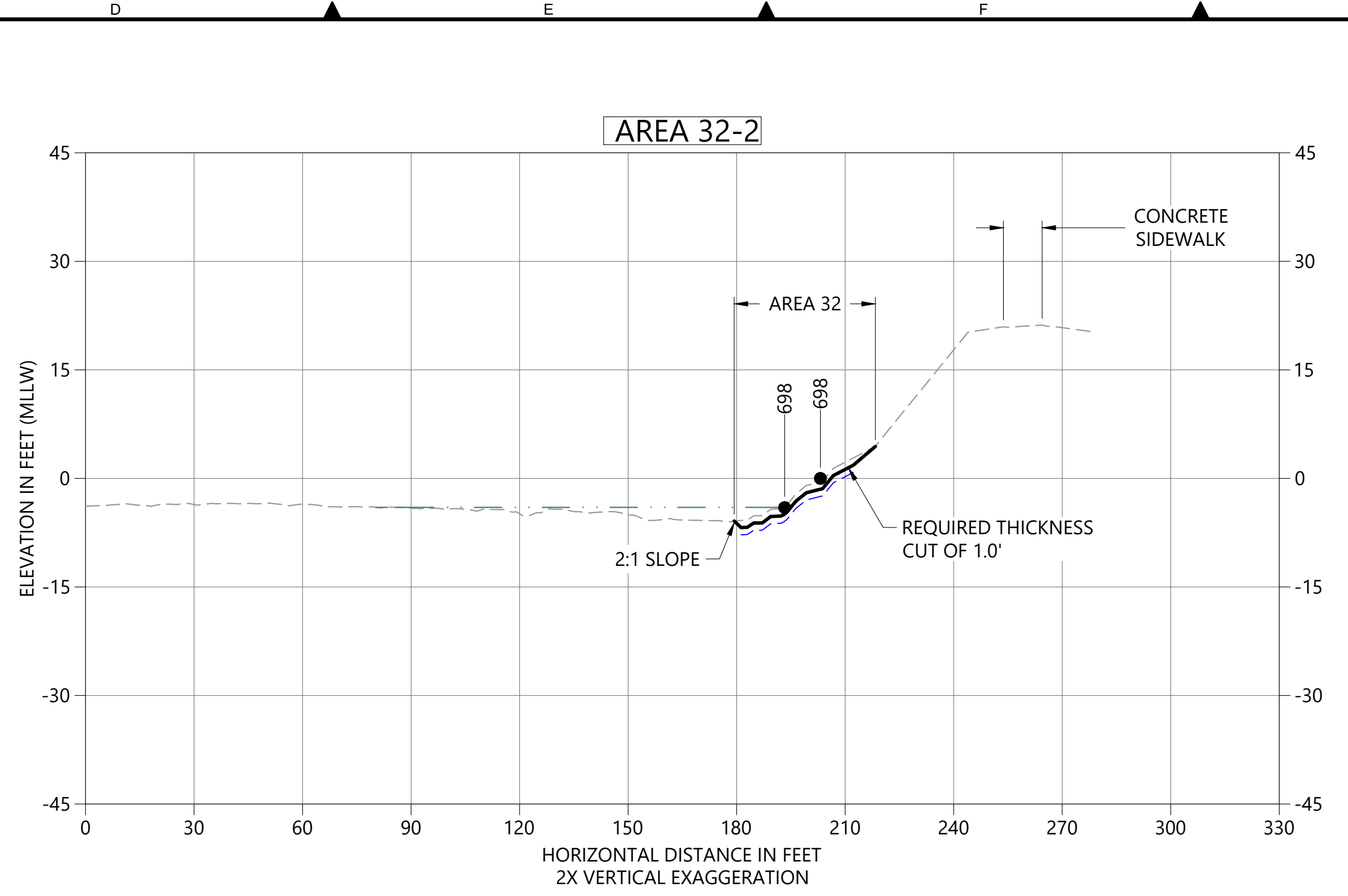
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DRAWING NO: <b>C20</b>
SHT NO / TOTAL 22 / 26
REV NO: <b>0</b>



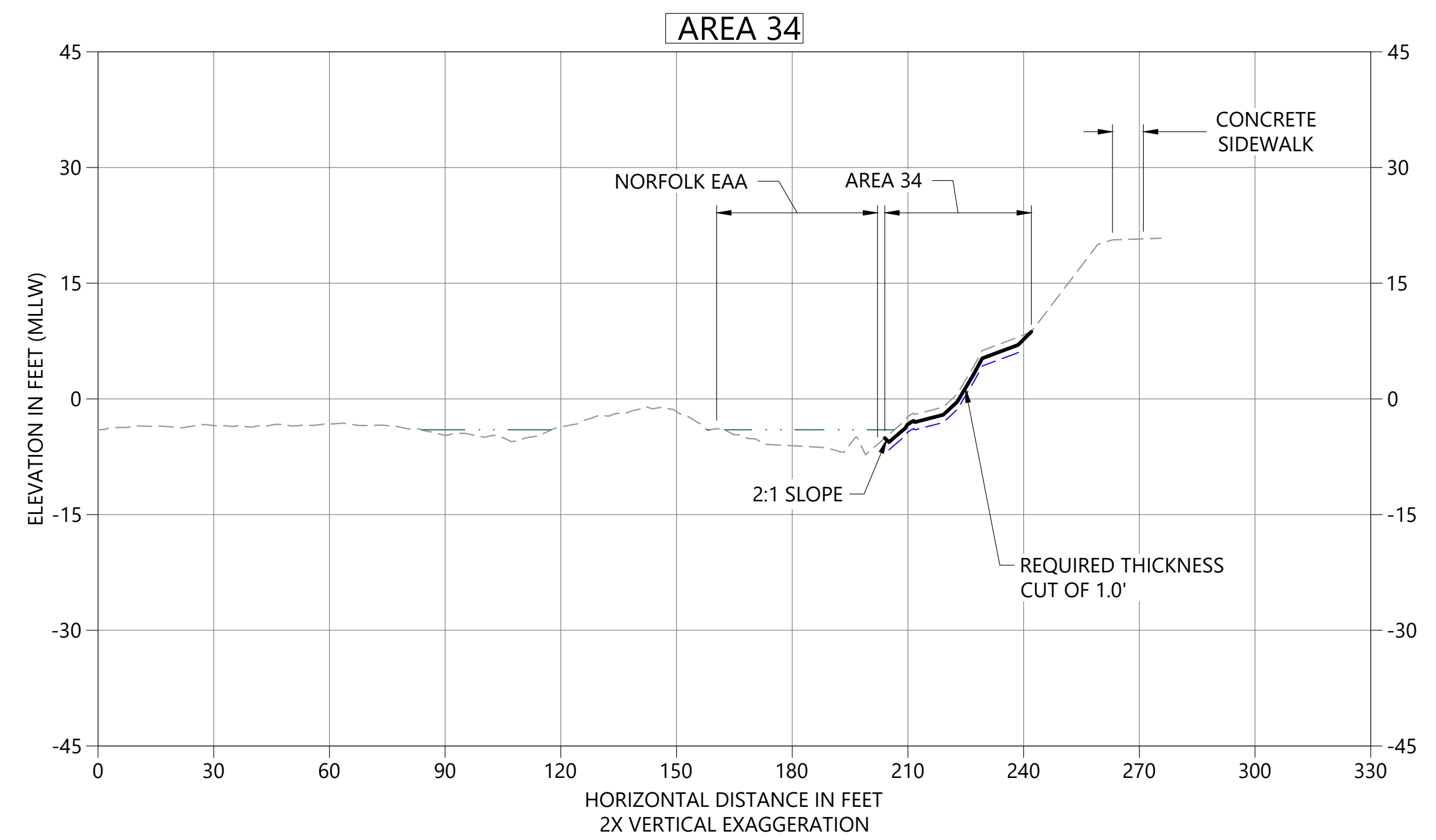
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 PLOTTED: Aug 19, 2022 01:19:10pm By jigsby



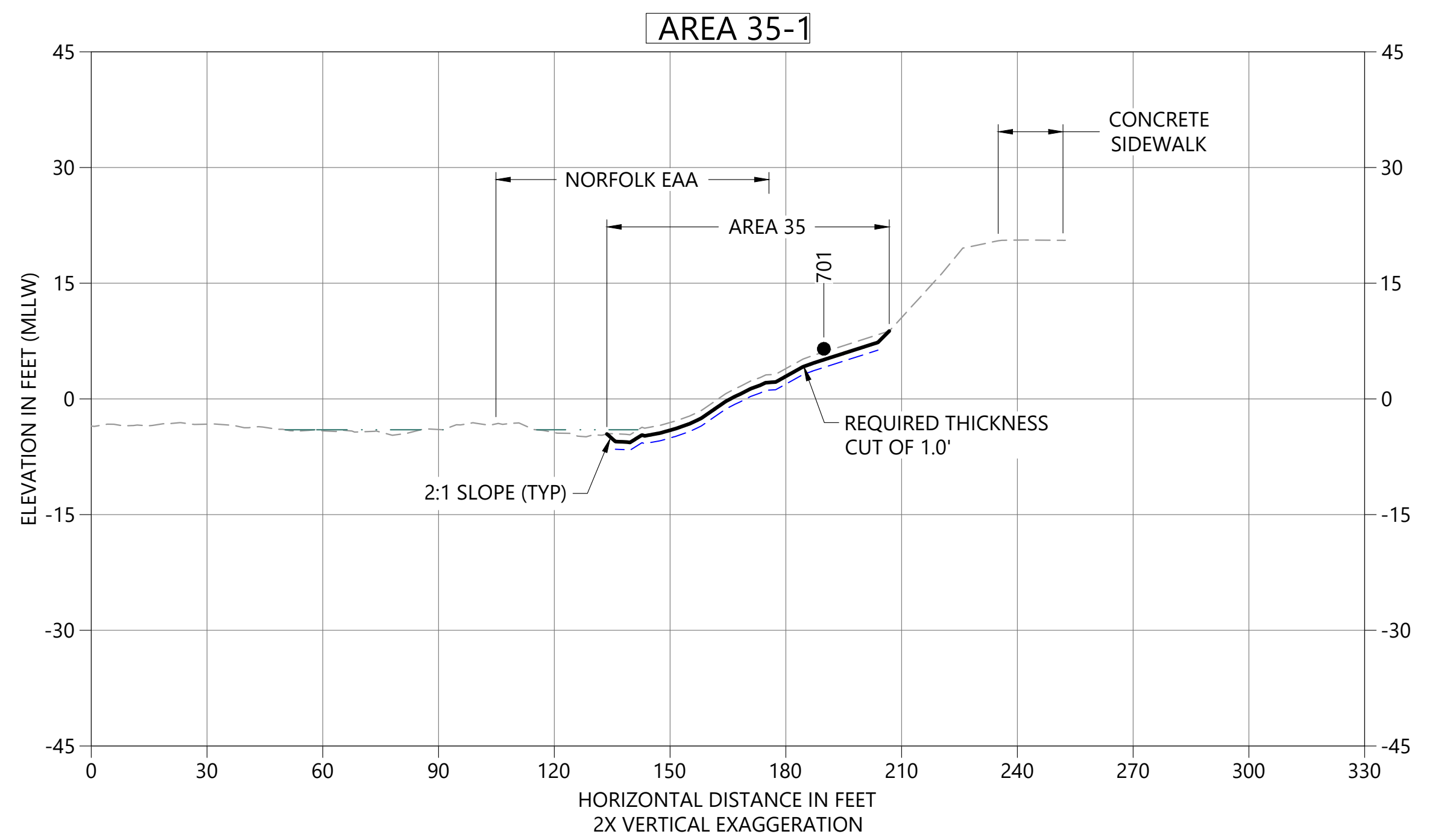
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C07 HORIZONTAL SCALE: 1" = 30'  
VERTICAL SCALE: 1" = 15'



**B DREDGE SECTION**  
C08 HORIZONTAL SCALE: 1" = 30'  
VERTICAL SCALE: 1" = 15'



**C DREDGE SECTION**  
C08 HORIZONTAL SCALE: 1" = 30'  
VERTICAL SCALE: 1" = 15'



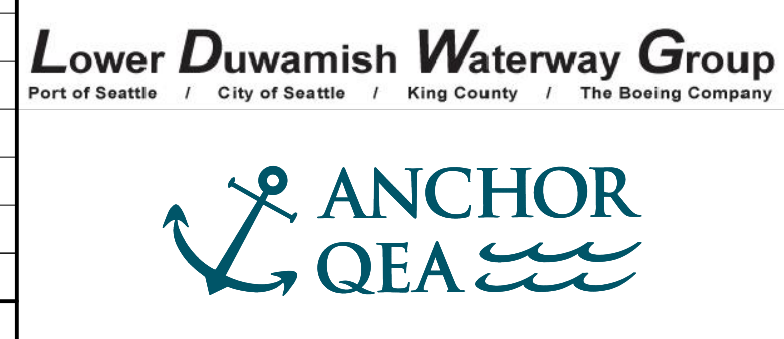
**D DREDGE SECTION**  
C08 HORIZONTAL SCALE: 1" = 30'  
VERTICAL SCALE: 1" = 15'

- LEGEND:**
- EXISTING BATHYMETRY (2019/20)
  - 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

**NOTES:**  
1. VERTICAL DATUM: MLLW

**COLOR IMAGE**  
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 ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE



**PRELIMINARY ISSUE DRAWING**  
**INFORMATION ONLY**  
**30% REVIEW**  
 AUGUST 2022

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



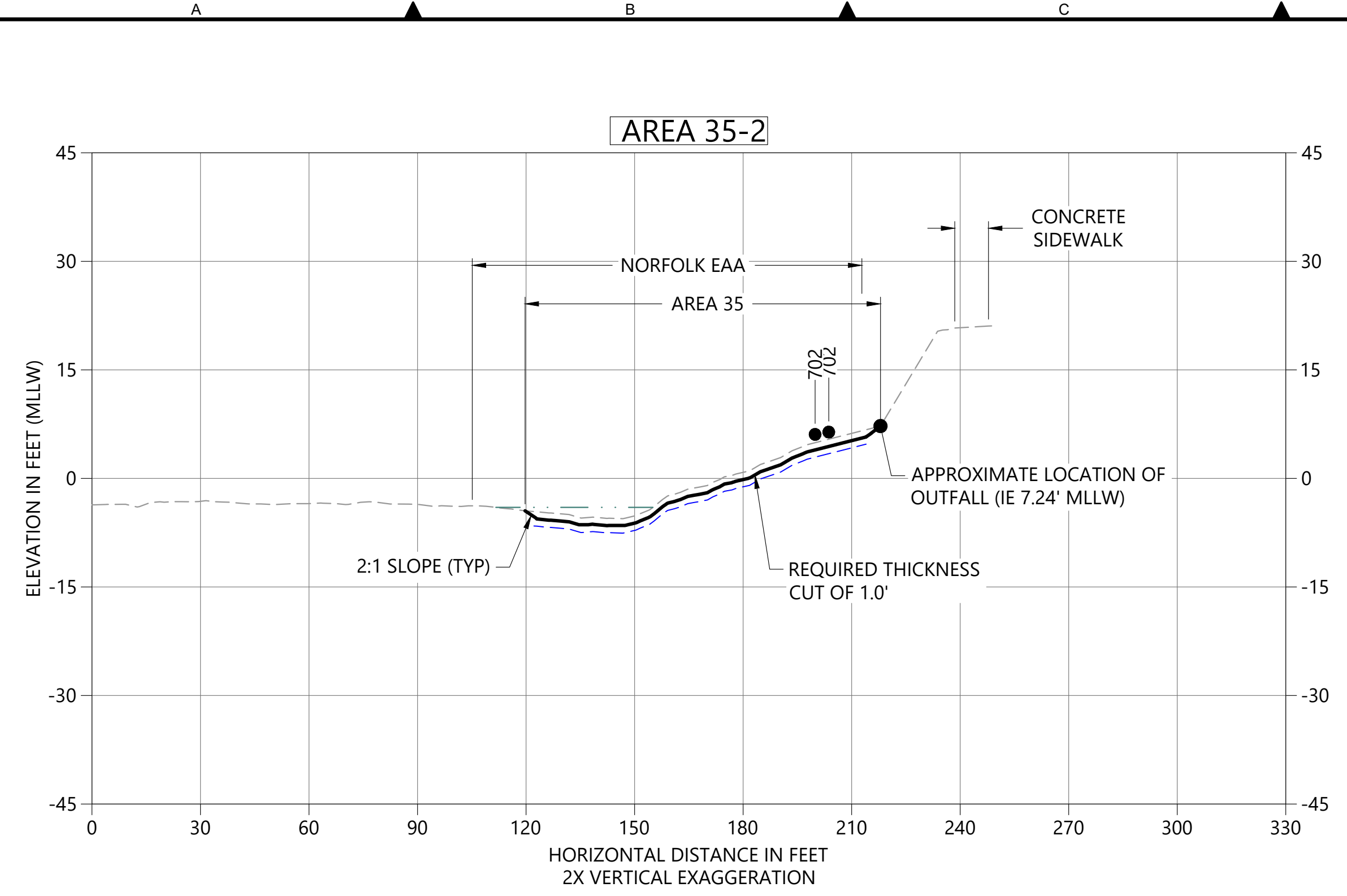
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**CROSS SECTIONS**

DATE: AUGUST 2022
DRAWING NO: <b>C21</b>
SHT NO / TOTAL 23 / 26
REV NO: <b>0</b>



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 PLOTTED: Aug 19, 2022 01:19:18pm By jigsby



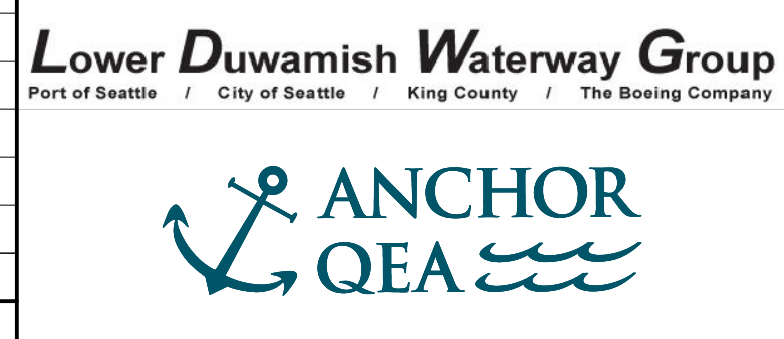
**A DREDGE SECTION**  
 C08 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 15'

- LEGEND:**
- EXISTING BATHYMETRY (2019/20)
  - 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

**NOTES:**  
 1. VERTICAL DATUM: MLLW

**COLOR IMAGE**  
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 ACCURATELY.

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 INFORMATION ONLY  
**30% REVIEW**  
 AUGUST 2022

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

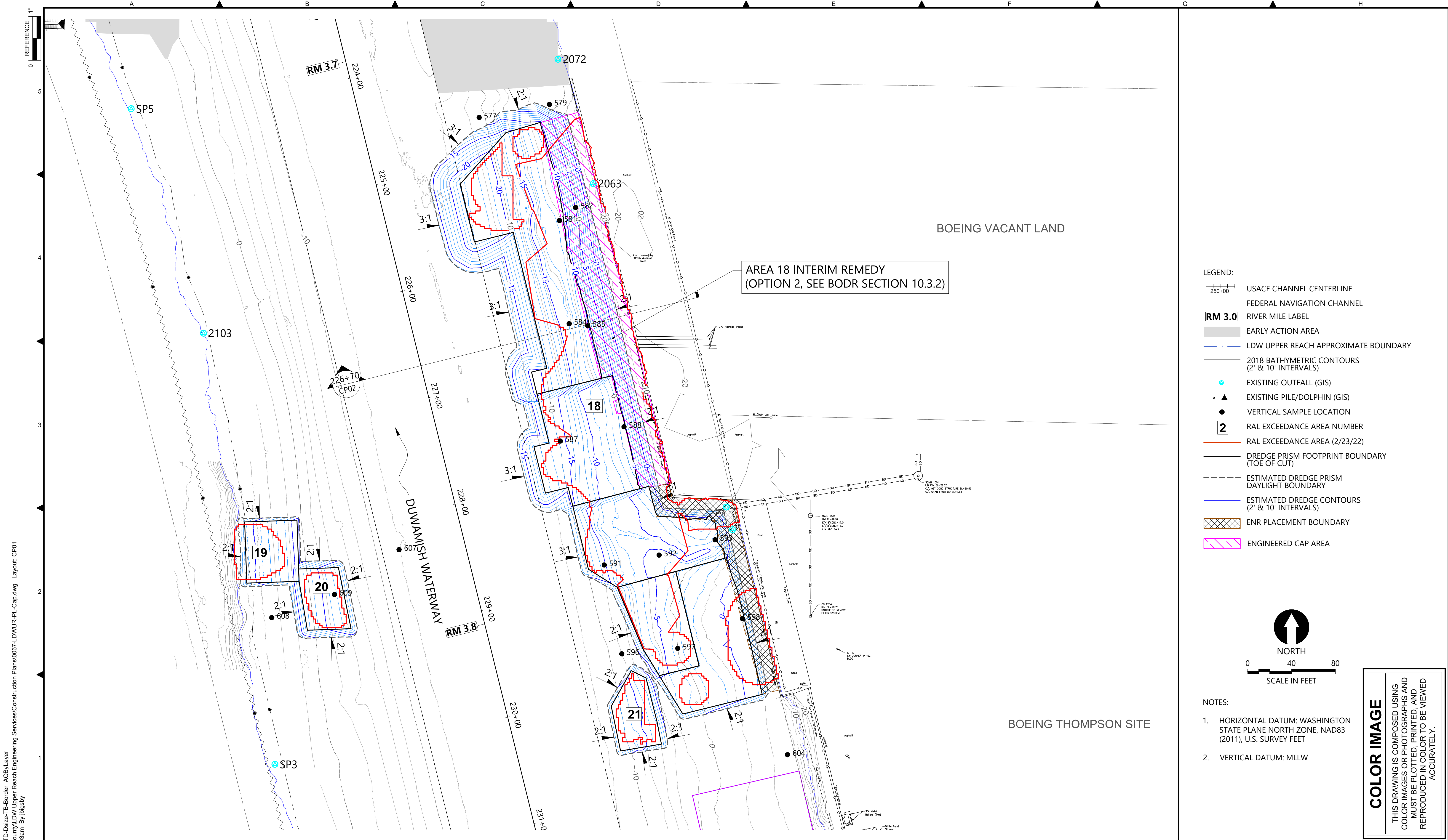


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

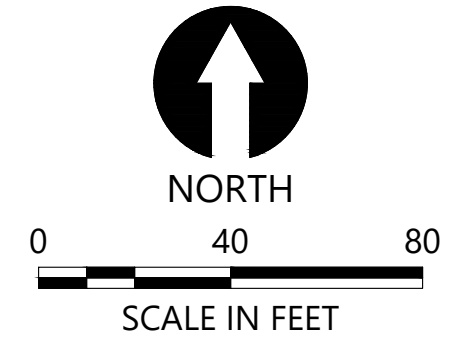
**CROSS SECTIONS**

DATE: AUGUST 2022
DRAWING NO: <b>C22</b>
SHT NO / TOTAL 24 / 26
REV NO: <b>0</b>





- LEGEND:**
- USACE CHANNEL CENTERLINE
  - FEDERAL NAVIGATION CHANNEL
  - RM 3.0** RIVER MILE LABEL
  - EARLY ACTION AREA
  - LDW UPPER REACH APPROXIMATE BOUNDARY
  - 2018 BATHYMETRIC CONTOURS (2' & 10' INTERVALS)
  - EXISTING OUTFALL (GIS)
  - EXISTING PILE/DOLPHIN (GIS)
  - VERTICAL SAMPLE LOCATION
  - 2** RAL EXCEEDANCE AREA NUMBER
  - RAL EXCEEDANCE AREA (2/23/22)
  - DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
  - ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
  - ESTIMATED DREDGE CONTOURS (2' & 10' INTERVALS)
  - ENR PLACEMENT BOUNDARY
  - ENGINEERED CAP AREA



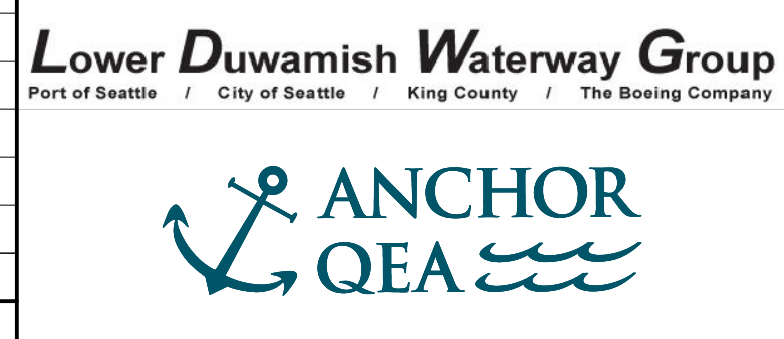
- NOTES:**
- HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
  - VERTICAL DATUM: MLLW

**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: Aug 19, 2022 11:35:03am By jbigby

NO	REVISION DESCRIPTION	BY	APVD	DATE



**PRELIMINARY ISSUE DRAWING**  
**INFORMATION ONLY**  
**30% REVIEW**  
 AUGUST 2022

DESIGNED/DRAWN: J. LAPLANTE  
 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



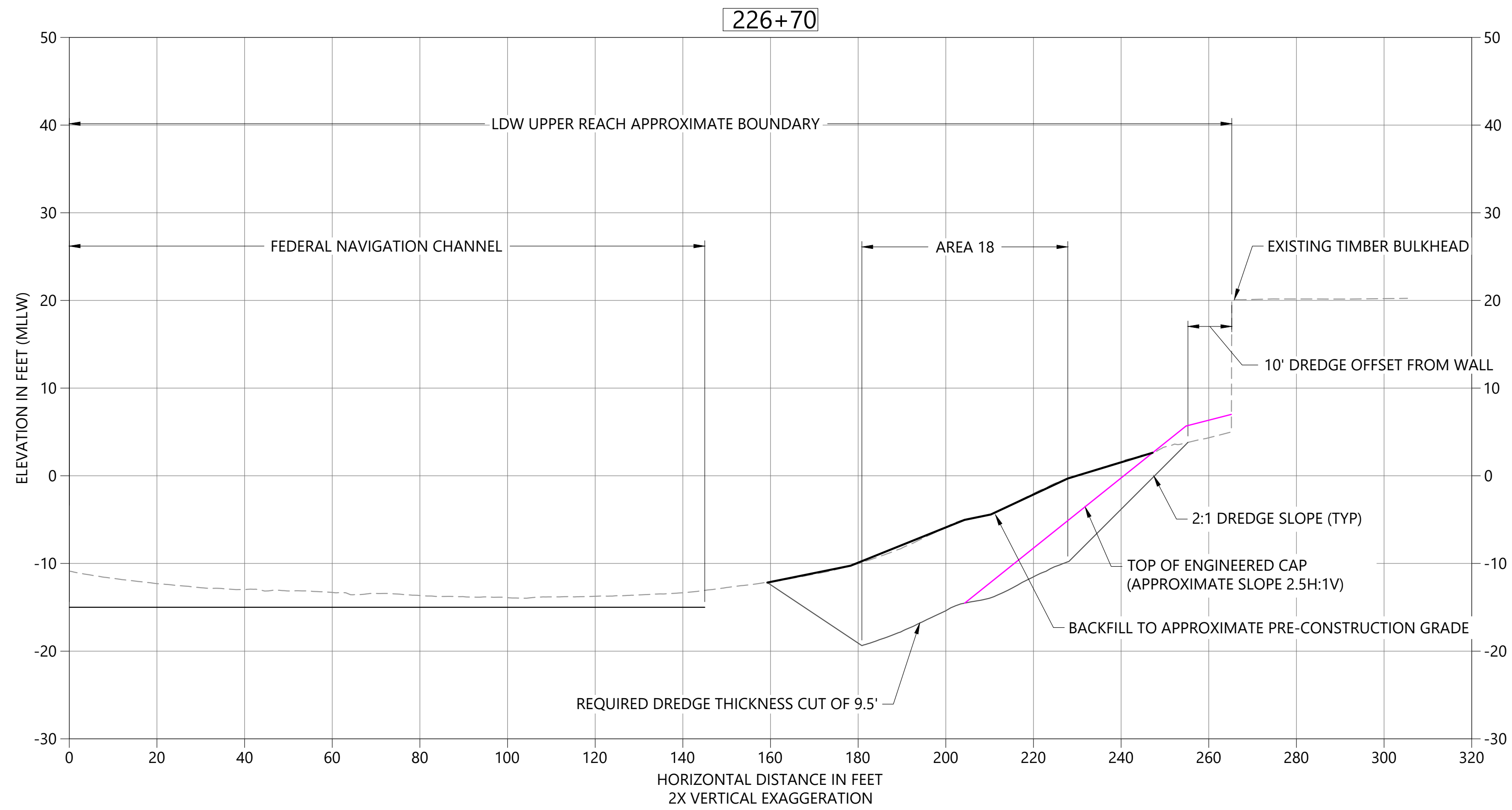
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**CAPPING PLAN**

DATE: AUGUST 2022  
 DRAWING NO: **CP01**  
 SHT NO / TOTAL: 25 / 26  
 REV NO: **0**



BORDER FILE EDITION: x:\KOV\TD-Size-TB-Border\_ACBY.Layer  
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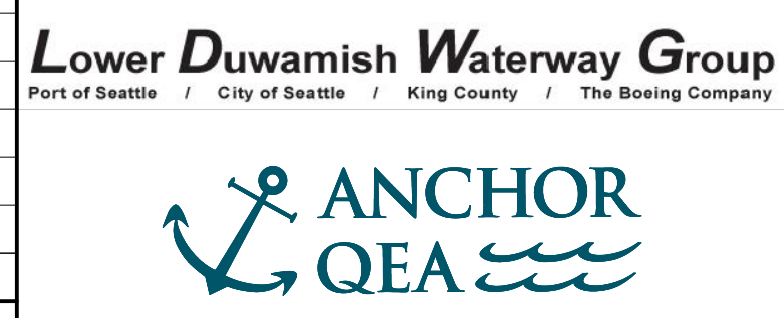


**A** ENGINEERED CAP SECTION AREA 18 STA 226+70  
 CP01 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 10'

- NOTES:
1. VERTICAL DATUM: MLLW

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



**PRELIMINARY ISSUE DRAWING**  
 INFORMATION ONLY  
**30% REVIEW**  
 AUGUST 2022

DESIGNED/DRAWN: DESIGNER KG?	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  
**CAPPING SECTIONS**

DATE:	AUGUST 2022
DRAWING NO:	<b>CP02</b>
SHT NO / TOTAL	26 / 26
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		
		TEMP	TEMPORARY
HDPE	HIGH-DENSITY POLYETHYLENE	T&B	TOP AND BOTTOM
HORIZ	HORIZONTAL	TOC	TOP OF CONCRETE
HP	HIGH POINT	TOF	TOP OF FOOTING
		TOS	TOP OF STEEL
IBC	INTERNATIONAL BUILDING CODE	TOW	TOP OF WALL
ID	INSIDE DIAMETER	TRANS	TRANSVERSE
IE	INVERT ELEVATION	TYP	TYPICAL
IF	INSIDE FACE		
IN	INCH	UNO	UNLESS NOTED OTHERWISE
INFO	INFORMATION	VERT	VERTICAL
JT	JOINT	w/	WITH
		w/o	WITHOUT
K	KIPS (1,000 POUNDS)	WP	WORK POINT
KC	KING COUNTY		
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**

950-A201      950-A201      **DESCRIPTIVE SUBTITLE**

**ELEVATION**      **A**

SCALE: 1/4"=1'-0"      950-A101

**DESCRIPTIVE SUBTITLE**

SECTION      **A**

SCALE: 1/4"=1'-0"      300-M101

300-M201

300-M301

**DESCRIPTIVE SUBTITLE**

**DETAIL**      **1**

SCALE: 1"=1'-0"      300-M101

300-M201

300-M301

**DESCRIPTIVE SUBTITLE**

**SITE PLAN**

SCALE: 1/8"=1'-0"

**PHOTOGRAPH NUMBER IDENTIFIER**

950-A201      **DESCRIPTIVE SUBTITLE**

**PHOTO**      **A1**      **1**

SCALE: NONE      300-M101      300-M101

**DETAIL BUBBLE SYMBOL**

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

**NORTH ARROW**

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

0      20      40      60

1" = 20'

**KEY NOTE INDICATOR**

**1**      **1**

**CONCRETE**

**EARTH**

**BACKFILL**

**EXISTING STRUCTURE TO BE REMOVED**

**EXISTING STRUCTURE ABANDON IN PLACE**

**COLOR IMAGE**

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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: S-001  
 PLOTTED: Aug 22, 2022 05:33:13pm By slor

**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

**PRELIMINARY ISSUE DRAWING**  
 INFORMATION ONLY

**30% REVIEW**

AUGUST 2022

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**

**STRUCTURAL ABBREVIATIONS  
 AND SYMBOLS**

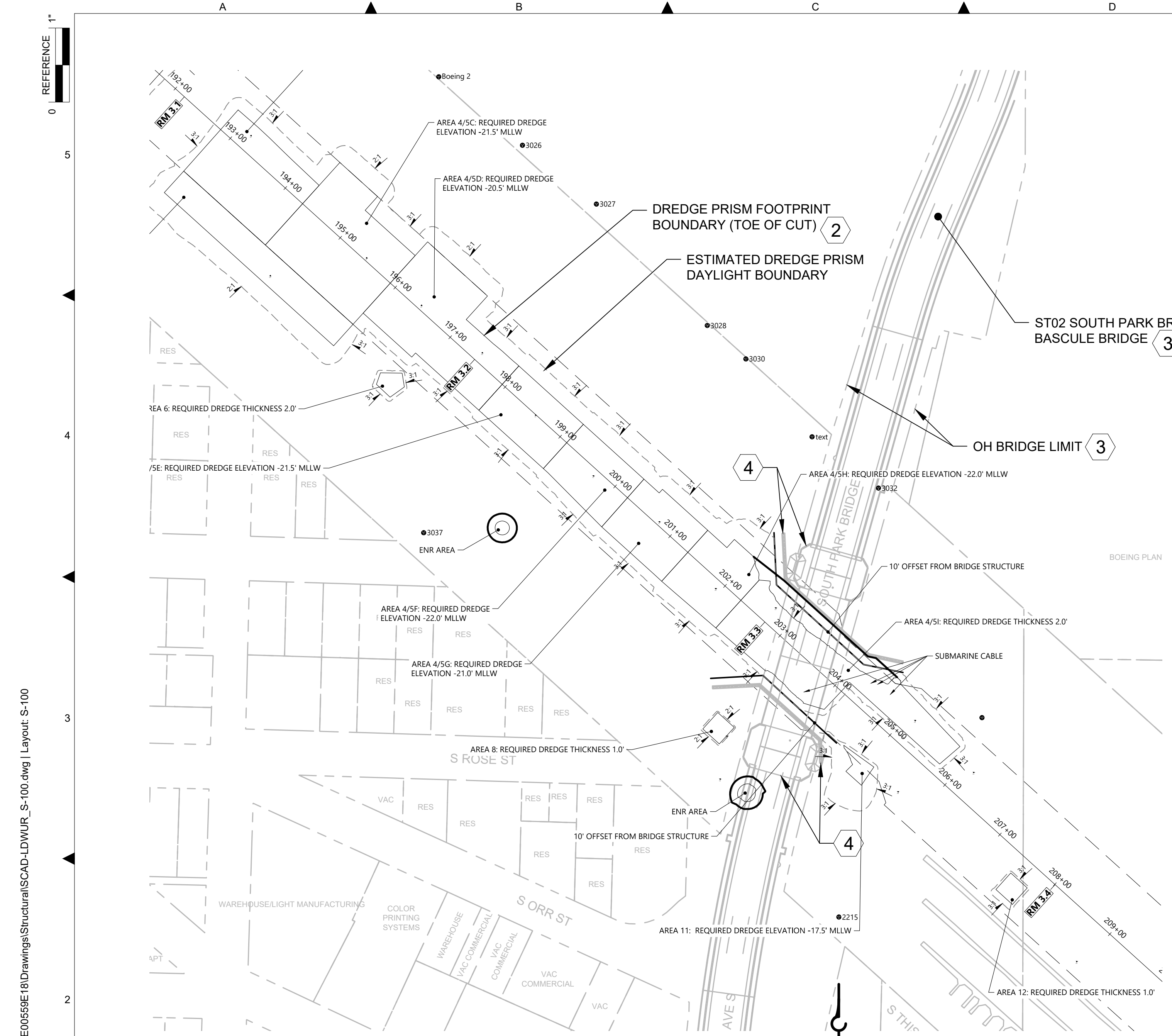
DATE: AUGUST 2022
DRAWING NO: <b>S-001</b>
WP701-G-00001
SHT NO / TOTAL    REV NO: 27 / 37            0

NO	REVISION DESCRIPTION	BY	APVD	DATE









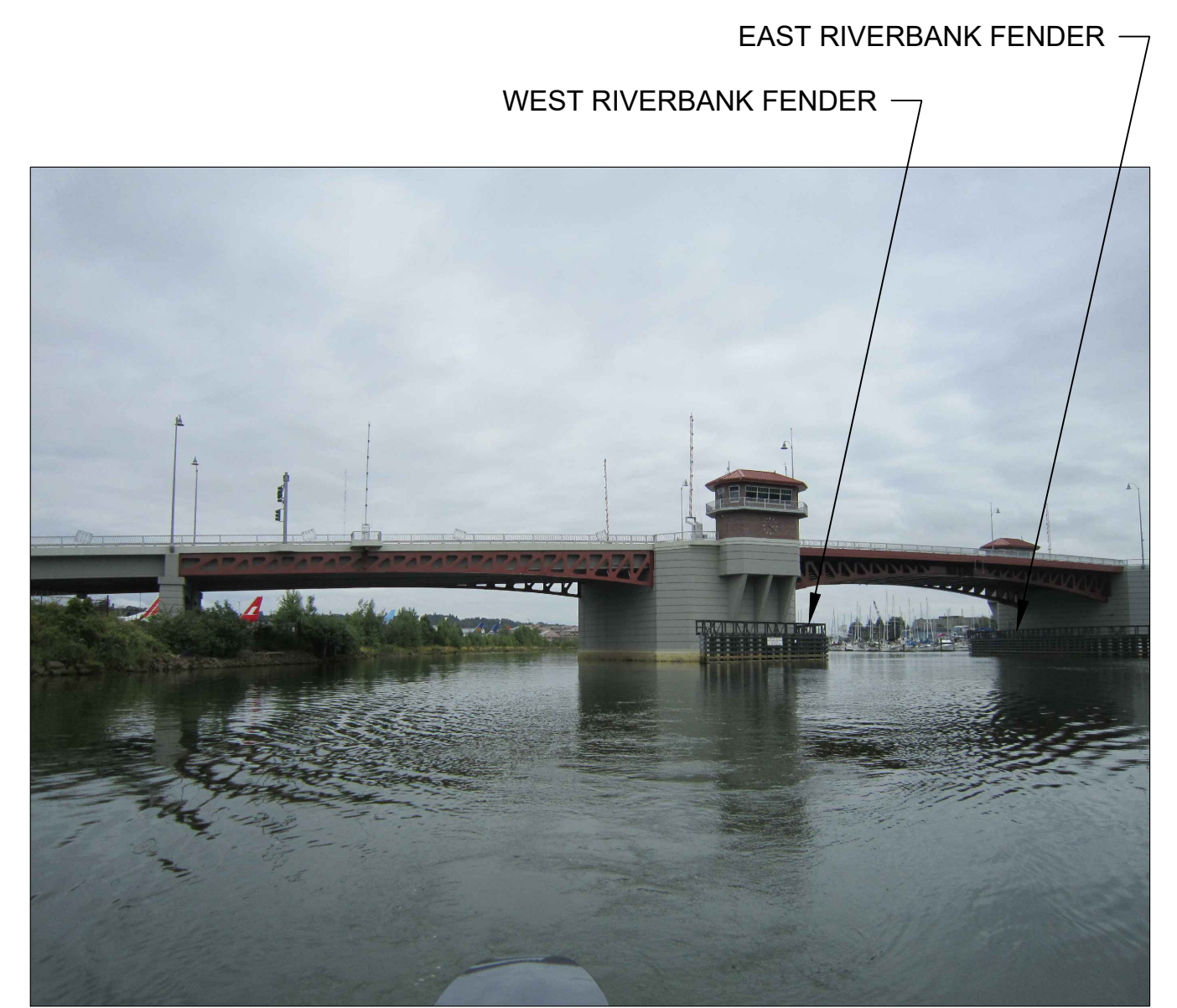
**GENERAL NOTES**

- 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 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  
1  
S-100

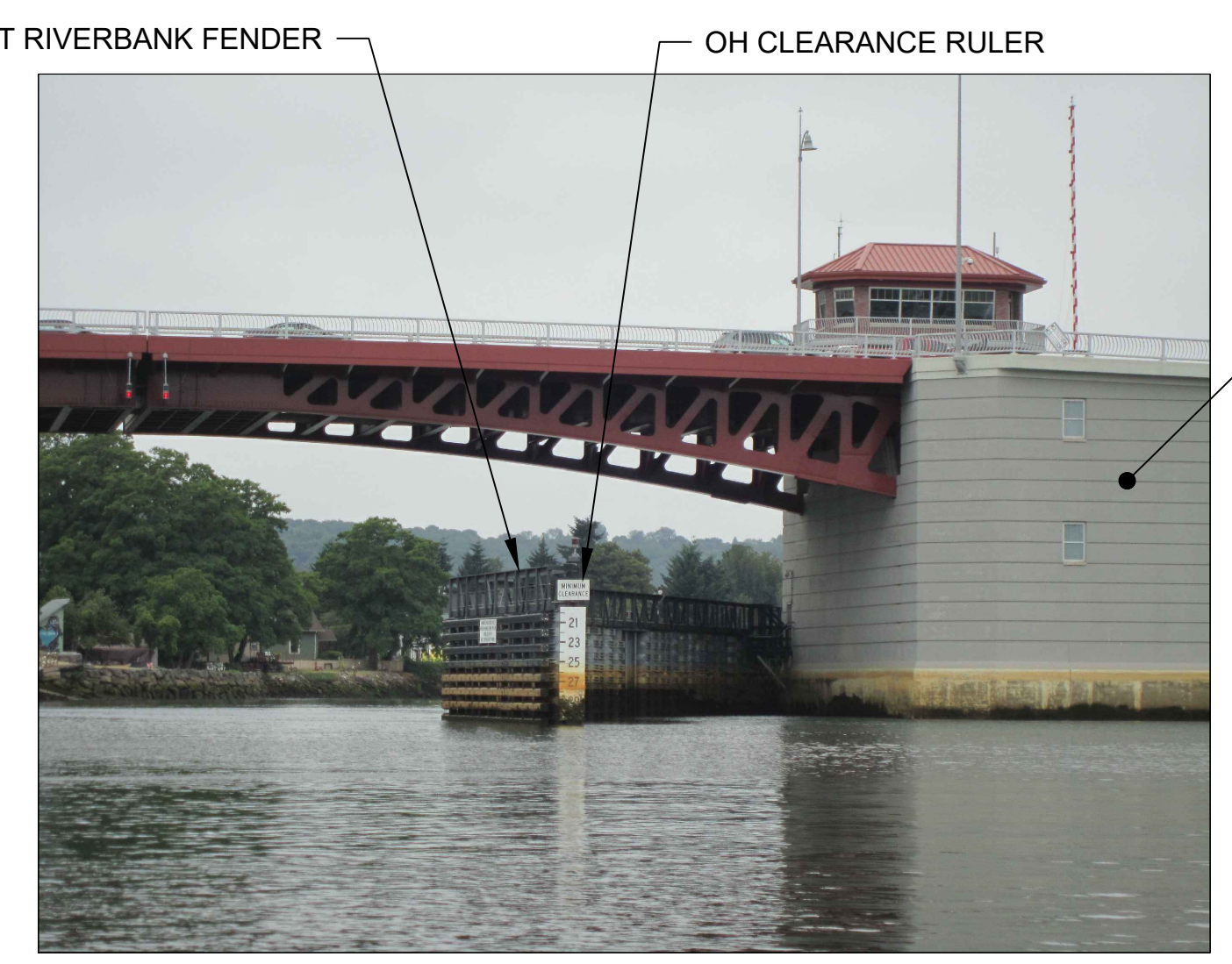


**FENDERS (LOOKING DOWNSTREAM)**

PHOTO  
SCALE: NONE  
2  
S-100



**GOOGLE MAP VIEW**  
SCALE: NONE



**FENDER (LOOKING DOWNSTREAM)**

PHOTO  
SCALE: NONE  
3  
S-100

**COLOR IMAGE**  
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BORDER FILE EDITION: xkocwtd-size-TB-Border\_ACOBYLayer  
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-100.dwg | Layout: S-100  
PLOTTED: Aug 23, 2022 02:43:45pm By slor

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

**PRELIMINARY ISSUE DRAWING**  
INFORMATION ONLY  
**30% REVIEW**  
AUGUST 2022

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



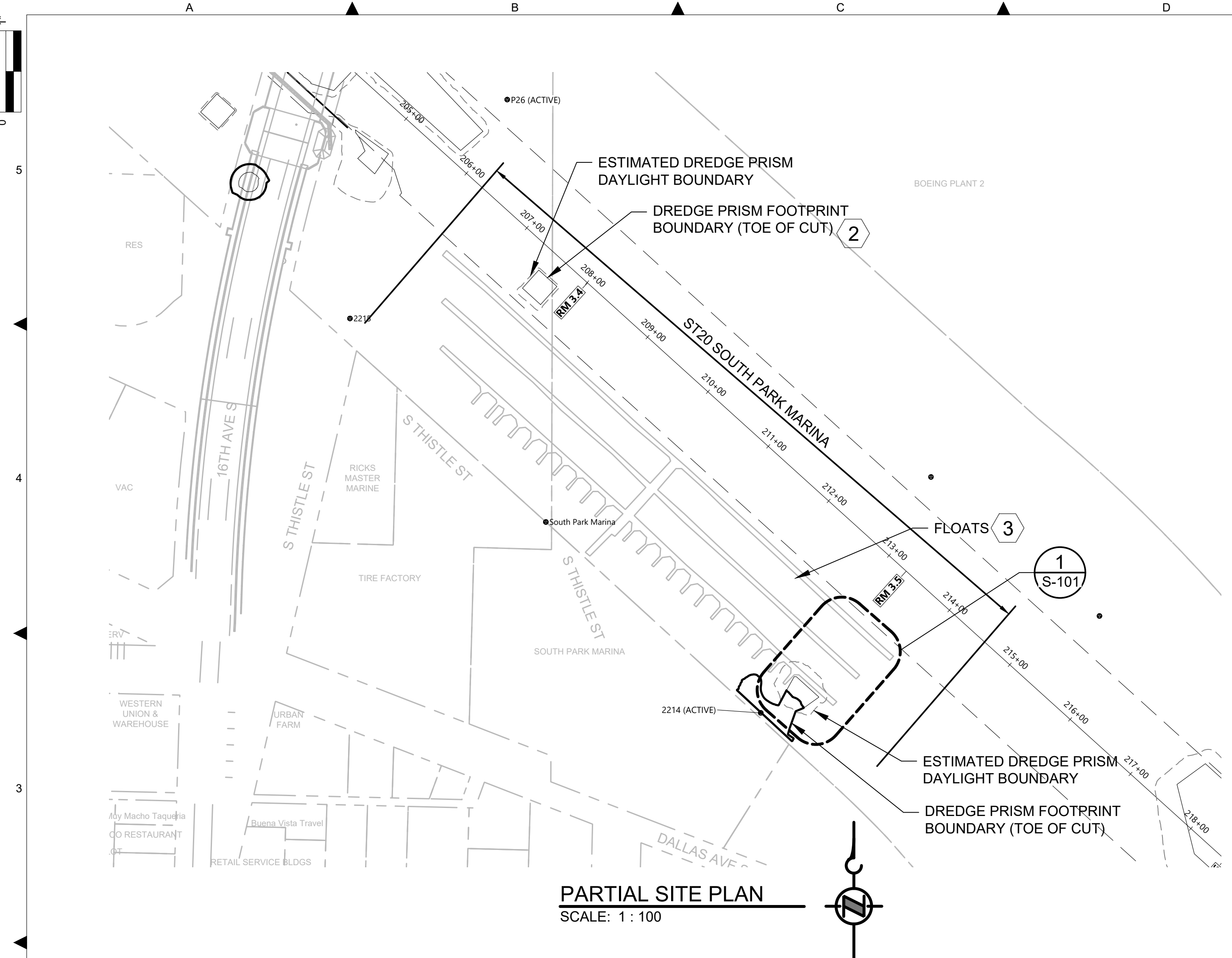
DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

**ST02 SOUTH PARK BRIDGE  
PLAN AND PHOTOS**

DATE: AUGUST 2022
DRAWING NO: <b>S-100</b>
WP701-G-00001
SHT NO / TOTAL 29 / 37
REV NO: <b>0</b>



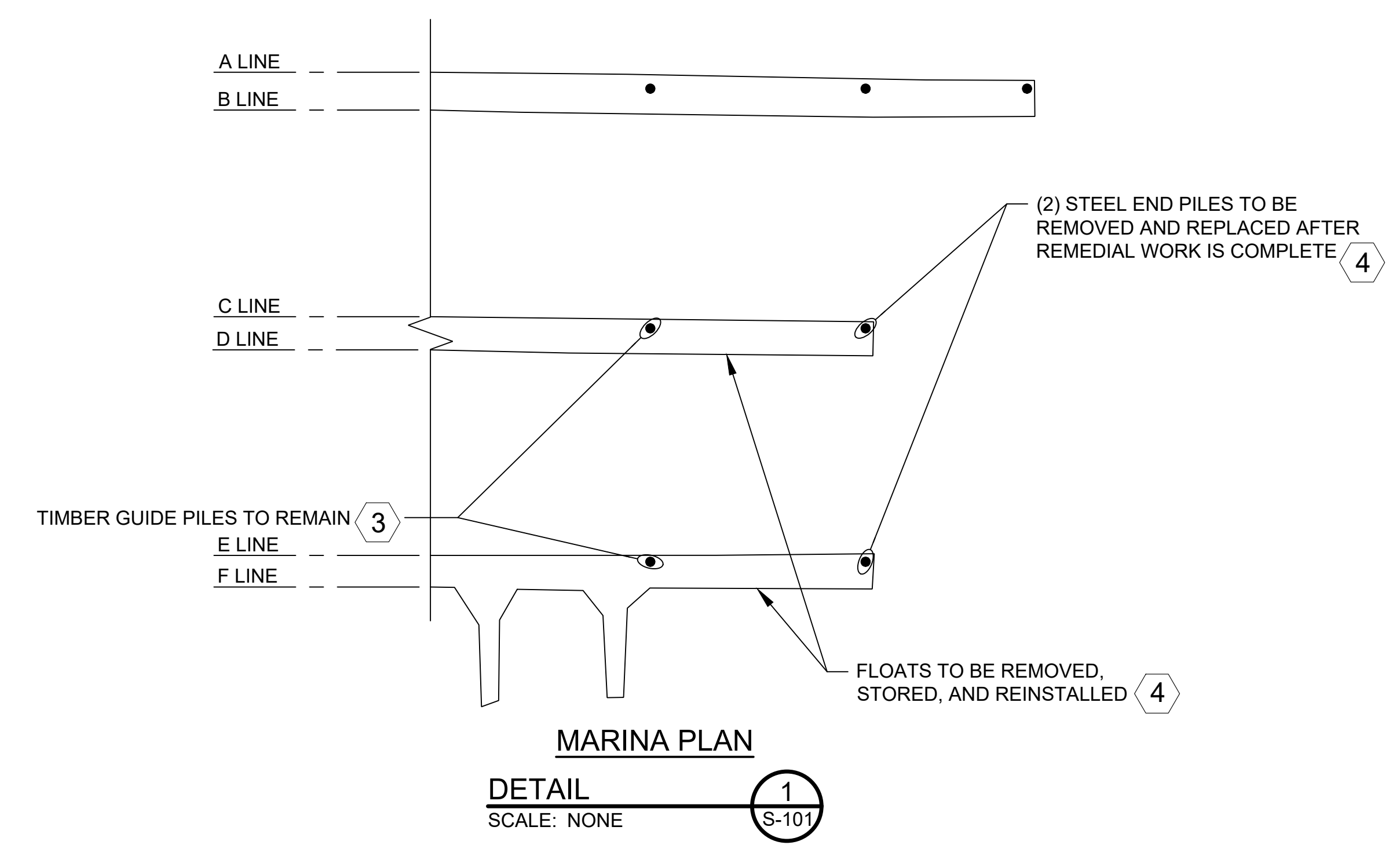
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**PARTIAL SITE PLAN**  
SCALE: 1 : 100

**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 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. (2) FLOATS SHALL BE TEMPORARILY REMOVED AND RELOCATED 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.
  - 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. TEMPORARY REMOVAL, RELOCATION AND REINSTALLATION OF FLOATS SHALL BE THE RESPONSIBILITY OF THE SOUTH PARK MARINA OWNER.



**MARINA PLAN**  
**DETAIL**  
SCALE: NONE



**GOOGLE MAP VIEW**  
SCALE: NONE



**STEEL PILE, PILE GUIDE, AND HOOP**  
PHOTO  
SCALE: NONE



**RAA 13 (LOOKING SOUTH)**  
PHOTO  
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

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

**PRELIMINARY ISSUE DRAWING**  
**INFORMATION ONLY**  
**30% REVIEW**  
 AUGUST 2022

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



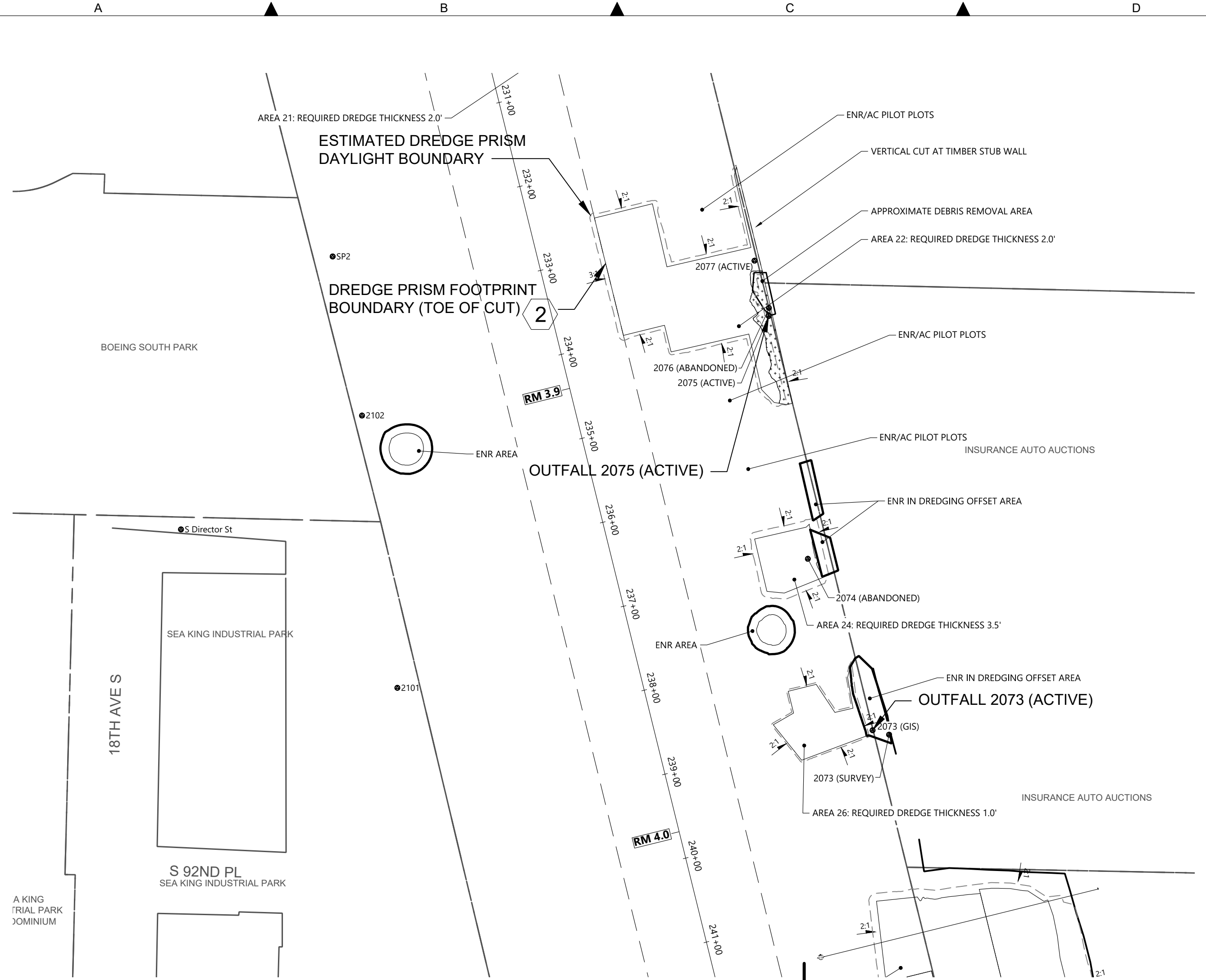
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**ST20 SOUTH PARK MARINA  
 PLAN AND PHOTOS**

DATE: AUGUST 2022
DRAWING NO: <b>S-101</b>
WP701-G-00001
SHT NO / TOTAL 30 / 37
REV NO: 0



BORDER FILE EDITION: x:\KOWTD\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-102.dwg | Layout: S-102 PLOTTED: Aug 23, 2022 02:07:07pm By slor



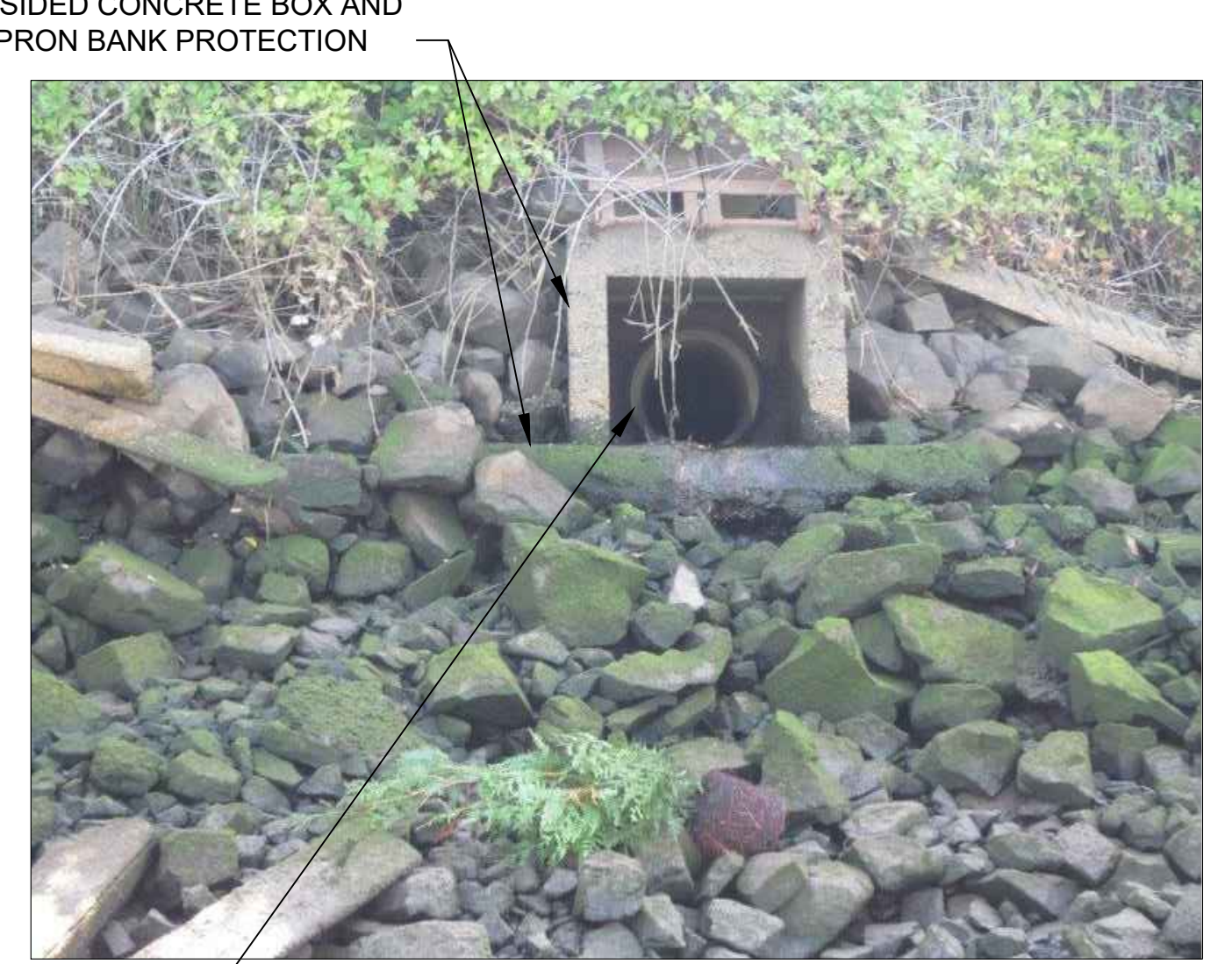
**PARTIAL SITE PLAN**  
SCALE: 1 : 100



**GOOGLE MAP VIEW**  
SCALE: NONE



**OUTFALL 2075**  
32" DIA STEEL RISER  
SCALE: NONE



**OUTFALL 2073**  
18" DIA CONCRETE PIPE  
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 CUT SLOPE AND RESTORATION, SEE CIVIL DRAWINGS.
- 3 SUPPORT STORMWATER PIPE IN PLACE. PIPE SUPPORT TO BE DESIGNED BY CONTRACTOR. REMOVE PIPE SUPPORT AFTER COMPLETION OF WORK AND BANK RESTORATION.
- 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.

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

**PRELIMINARY ISSUE DRAWING**  
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**30% REVIEW**  
 AUGUST 2022

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

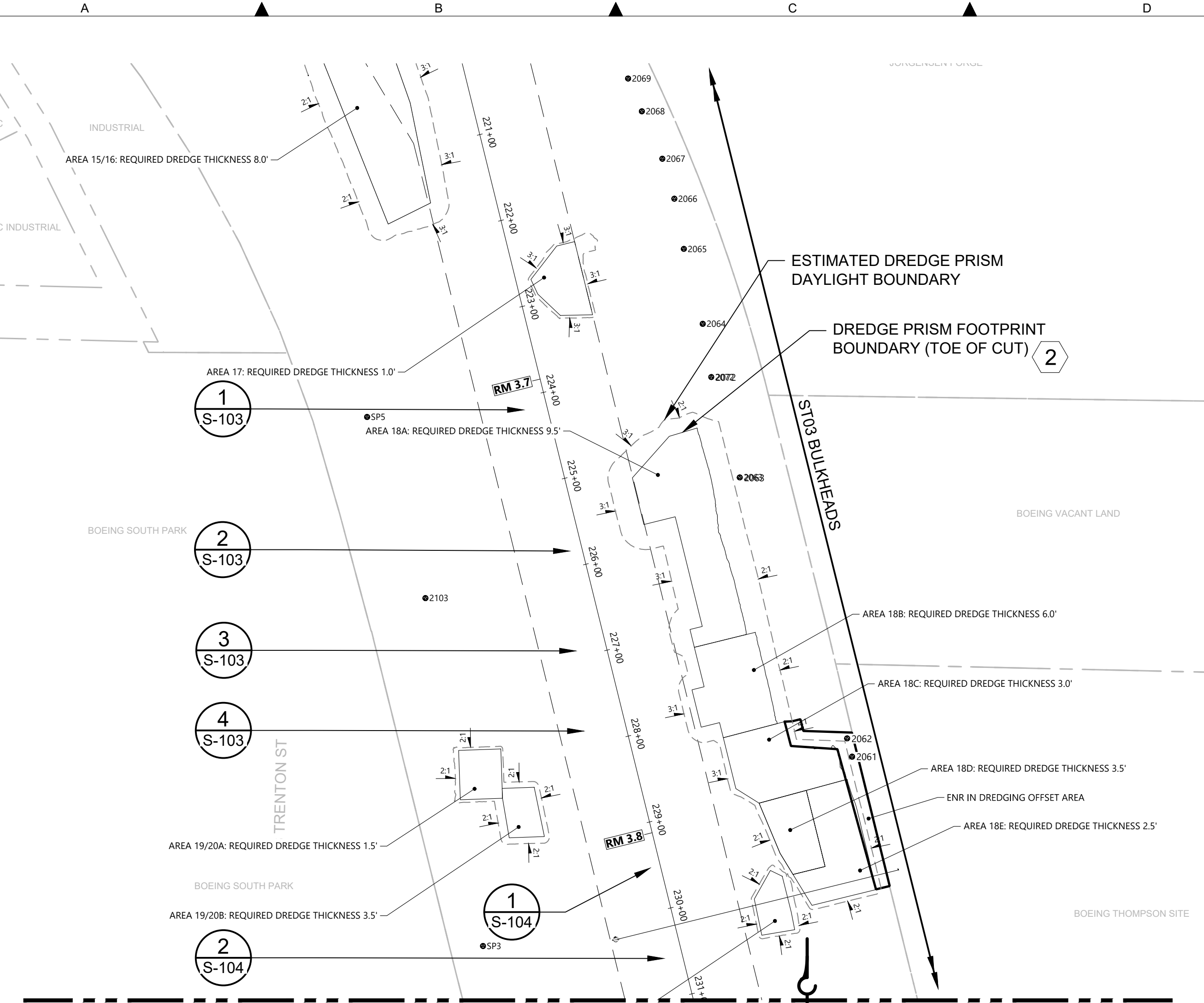


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
**LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP**  
**OUTFALLS 2075 & 2073  
 PLAN AND PHOTOS**

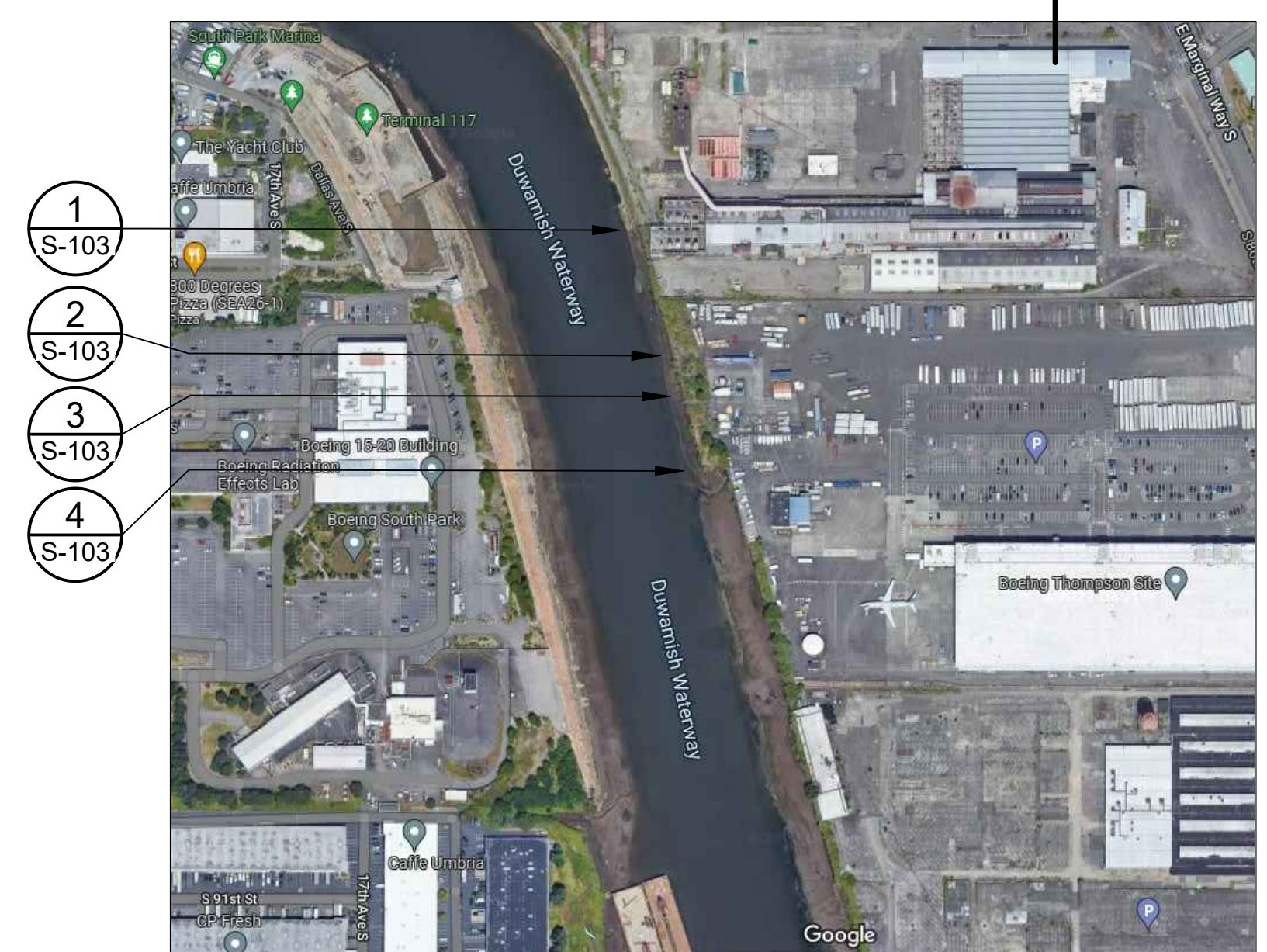
DATE: AUGUST 2022
DRAWING NO: <b>S-102</b>
WP701-G-00001
SHT NO / TOTAL REV NO: 31 / 37 0



BORDER FILE EDITION: xk0vtd-size-TB-Border\_ACBM.dwg  
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 PLOTTED: Aug 23, 2022 03:09:34pm By slor



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



**GOOGLE MAP VIEW**  
SCALE: NONE



**PHOTO 1**  
SCALE: NONE  
S-103



**PHOTO 2**  
SCALE: NONE  
S-103



**PHOTO 3**  
SCALE: NONE  
S-103



**PHOTO 4**  
SCALE: NONE  
S-103

**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 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.

**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  
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 F: (206) 625-1851

**PRELIMINARY ISSUE DRAWING**  
**INFORMATION ONLY**  
**30% REVIEW**  
 AUGUST 2022

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  
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 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

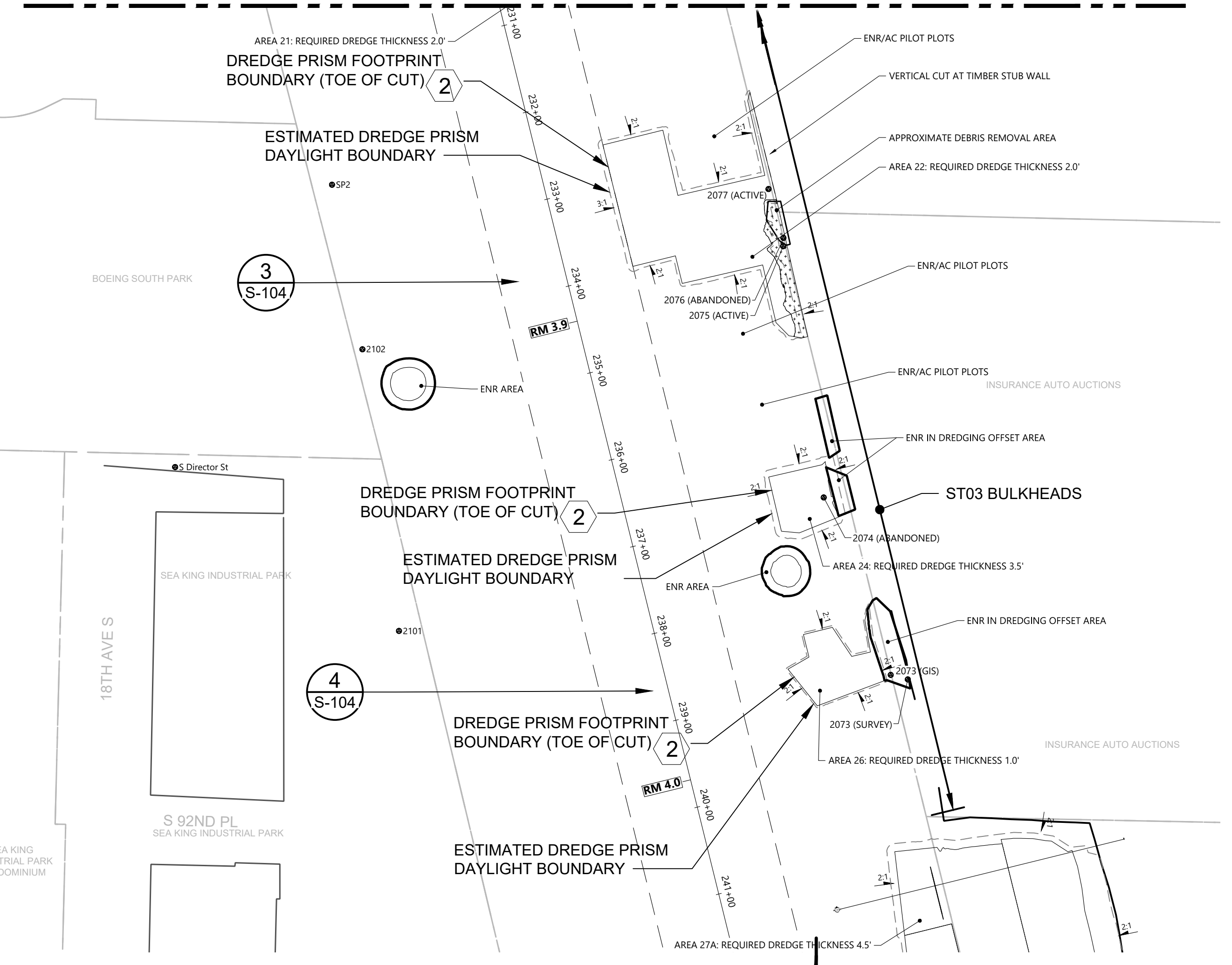
**ST03 BULKHEADS SHEET 1**  
**PLAN AND PHOTOS**

DATE: AUGUST 2022
DRAWING NO: <b>S-103</b>
WP701-G-00001
SHT NO / TOTAL 32 / 37
REV NO: <b>0</b>



BORDER FILE EDITION: x:\KOWTD\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-104.dwg | Layout: S-104 PLOTTED: Aug 23, 2022 2:22:49pm By slor

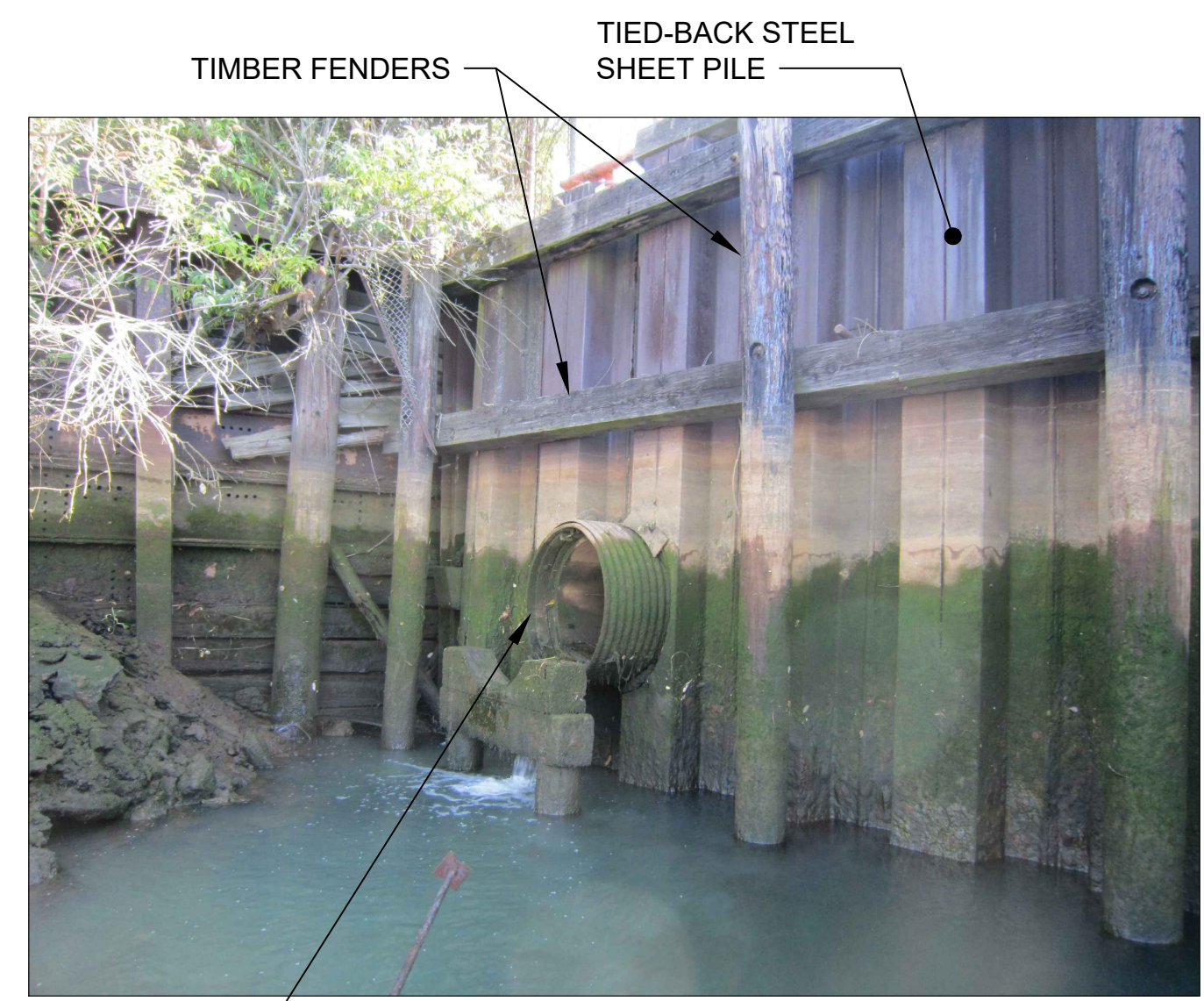
**MATCHLINE DWG S-103**



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



**GOOGLE MAP VIEW**  
SCALE: NONE



**PHOTO**  
SCALE: NONE  
1 S-103 S-104



**PHOTO**  
SCALE: NONE  
2 S-103 S-104



**PHOTO**  
SCALE: NONE  
3 S-104



**PHOTO**  
SCALE: NONE  
4 S-104

**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 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 HANDLE AND DISPOSE CREOSOTE TIMBER PILES IN CONFORMANCE TO THE SPECIFICATIONS AND PERMITS.
- 6 PROTECT OUTFALL AND DUCKBILL VALVE FROM DAMAGE AS REQUIRED.

**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  
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 F. (206) 625-1851

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 AUGUST 2022

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

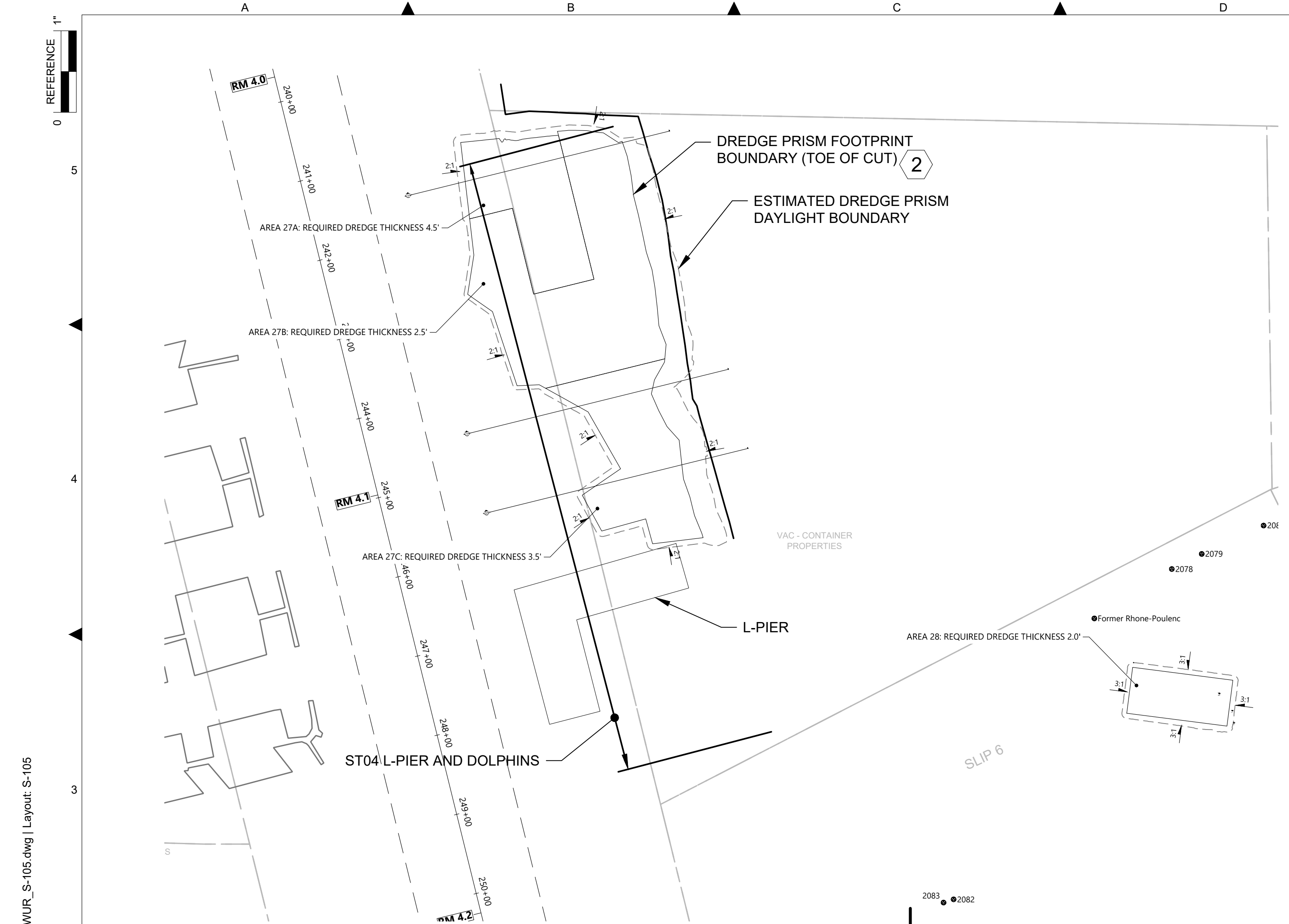


DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES FOR SEDIMENT CLEANUP

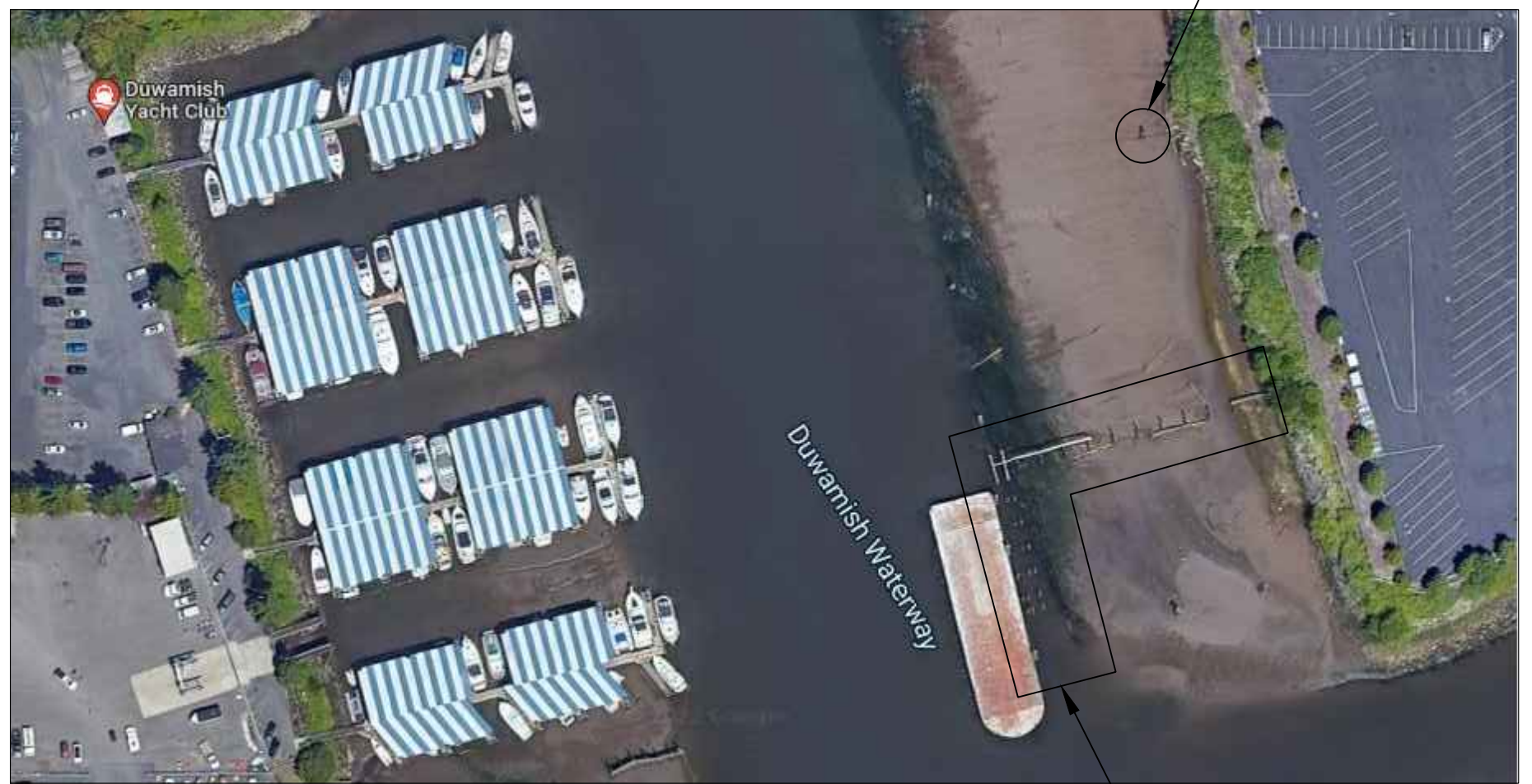
**ST03 BULKHEADS SHEET 2**  
**PLAN AND PHOTOS**

DATE: AUGUST 2022
DRAWING NO: <b>S-104</b>
WP701-G-00001
SHT NO / TOTAL 33 / 37
REV NO: <b>0</b>

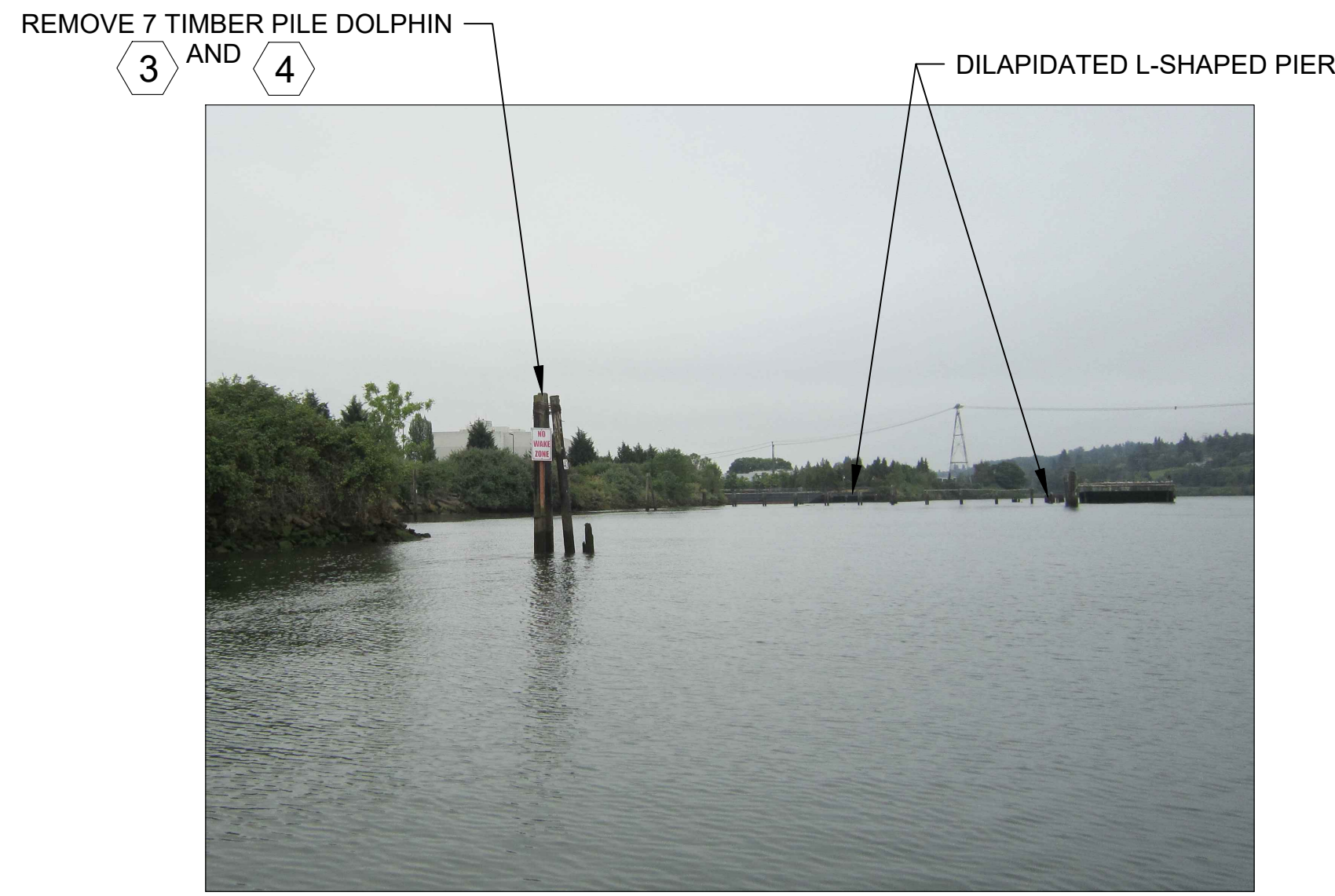




**PARTIAL SITE PLAN**  
SCALE: 1 : 100



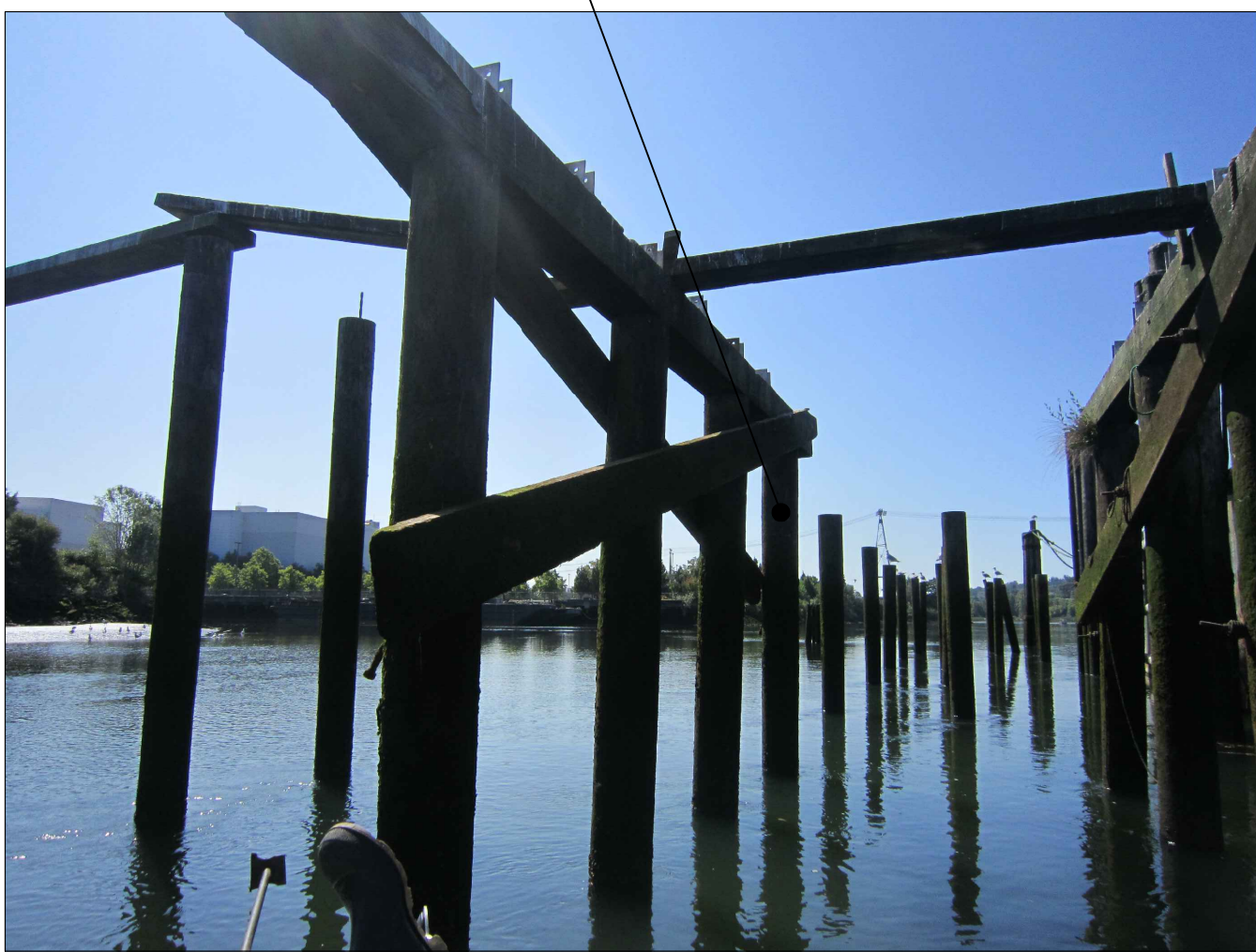
**GOOGLE MAP VIEW**  
SCALE: NONE



**DOLPHIN (LOOKING SOUTH)**  
PHOTO  
SCALE: NONE



**DOLPHINS**  
PHOTO  
SCALE: NONE



**DILAPIDATED L-SHAPED PIER BENT**  
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 CUT SLOPE AND RESTORATION, SEE CIVIL DRAWINGS.
- 3 REMOVE AND REPLACE (7) DOLPHIN WITH GALVANIZED STEEL PIPE DOLPHIN PILES WITH CLEATS, SEE SPECIFICATION.
- 4 HANDLE AND DISPOSE CREOSOTE TIMBER PILES IN CONFORMANCE TO THE SPECIFICATIONS AND PERMITS.

**COLOR IMAGE**  
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BORDER FILE EDITION: x:\KOWTD\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-105.dwg | Layout: S-105 PLOTTED: Aug 23, 2022-10:30:21pm By slor

NO	REVISION DESCRIPTION	BY	APVD	DATE

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AUGUST 2022

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PROJECT ENGINEER: A. BRIGHT	SCALE: AS NOTED
DESIGN APPROVAL:	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: PRJCT MNGR	CONTRACT NO: C0XXXXCXX



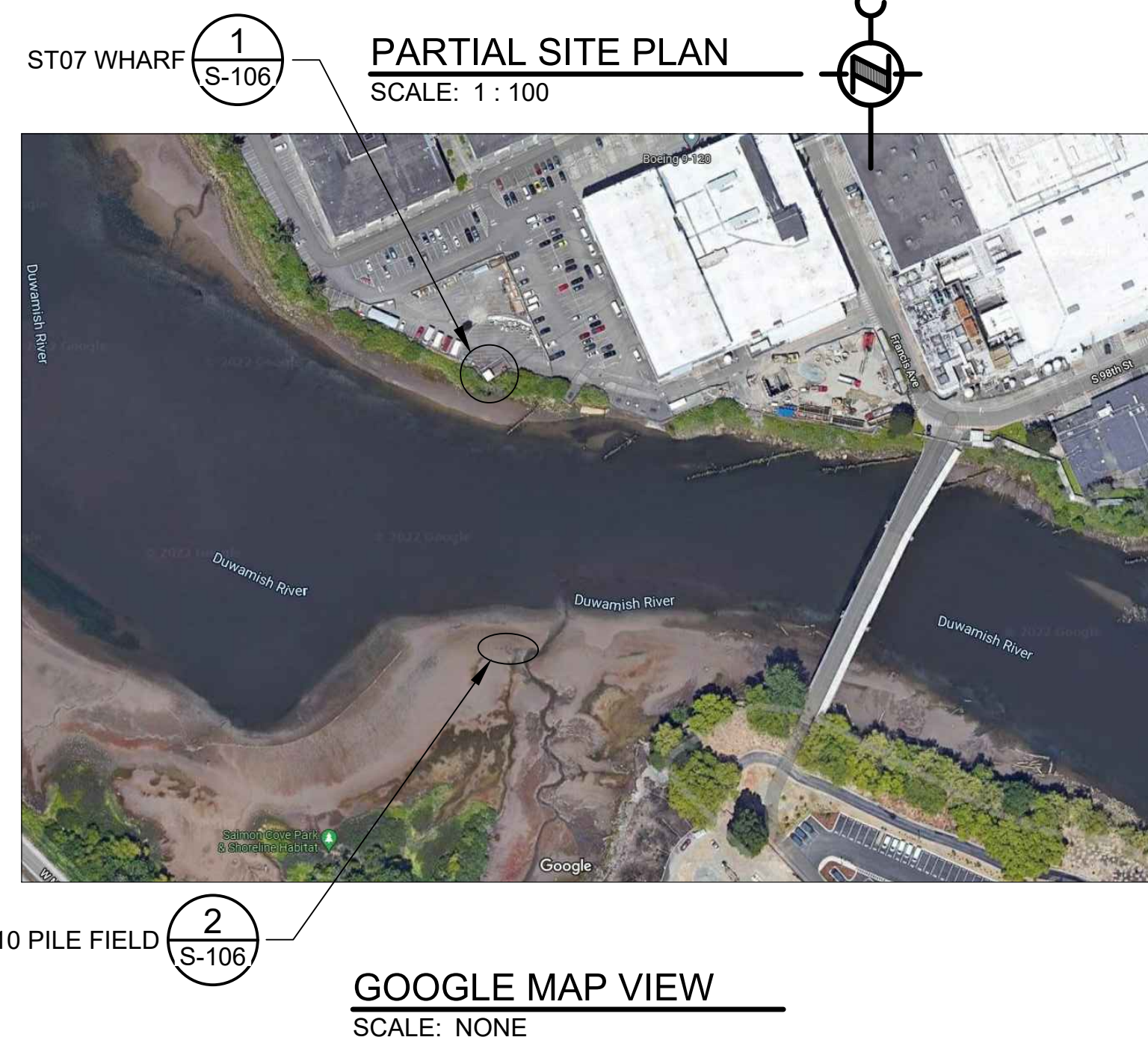
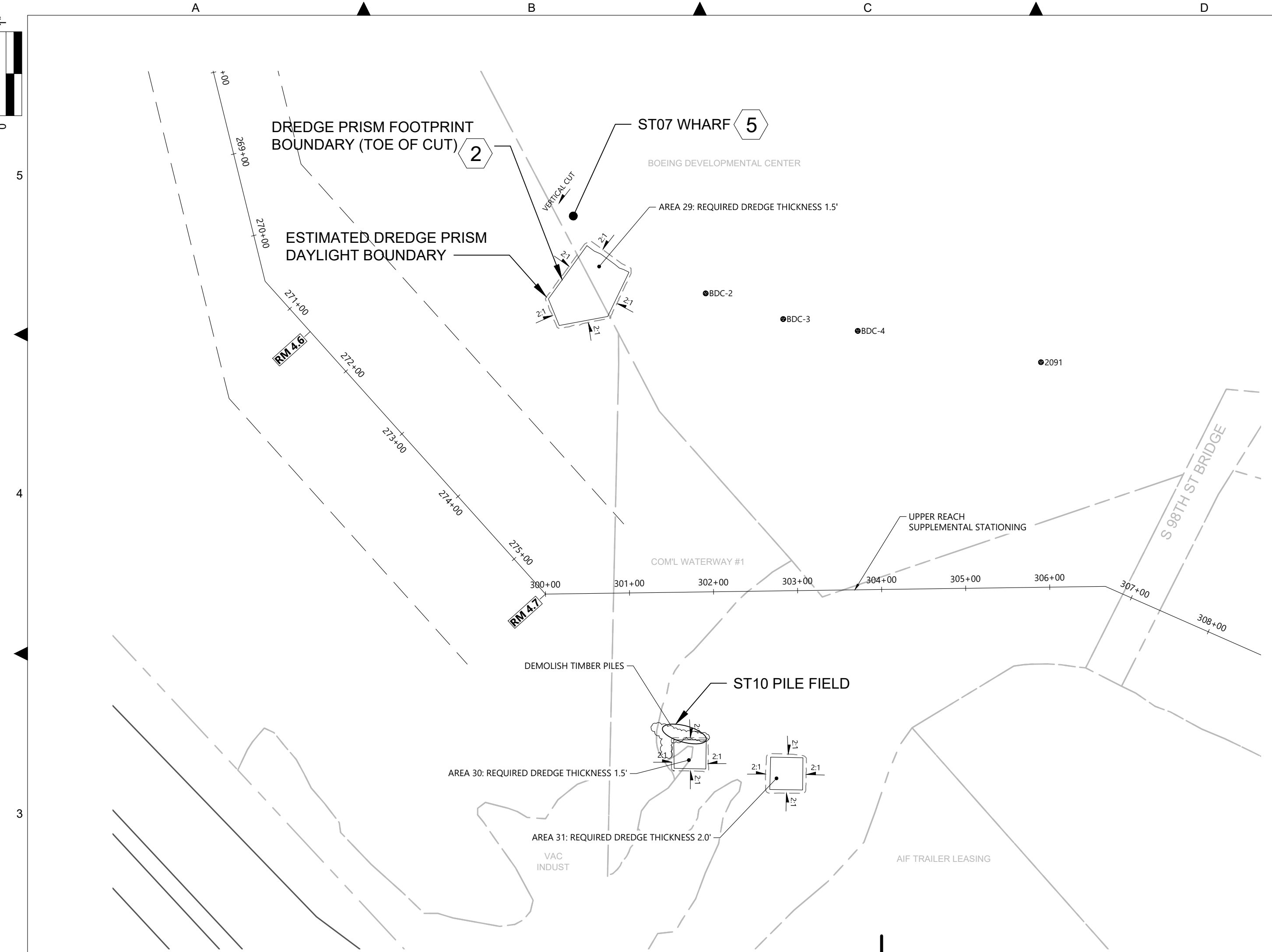
DEPARTMENT OF NATURAL RESOURCES & PARKS  
WASTEWATER TREATMENT DIVISION  
LOWER DUWAMISH WATERWAY UPPER REACH  
ENGINEERING SERVICES AND SEDIMENT CLEANUP

**ST04 L-SHAPE PIER & DOLPHINS  
PLAN AND PHOTOS**

DATE: AUGUST 2022
DRAWING NO: <b>S-105</b>
WP701-G-00001
SHT NO / TOTAL REV NO: 34 / 37 0



BORDER FILE EDITION: x:\KOWTD-Dsize-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-106.dwg | Layout: S-106 PLOTTED: Aug 23, 2022-03:48:05pm By slor



**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 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.



**WHARF 3**

CREOSOTE PILE TO BE PROTECTED 4

**SOUTH WHARF**

**PHOTO**  
SCALE: NONE 1 S-106



(7) TIMBER PILES TO BE REMOVED. NO REPLACEMENT

**SINGLE TIMBER PILE FIELD**

**PHOTO**  
SCALE: NONE 2 S-106

NO	REVISION DESCRIPTION	BY	APVD	DATE

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**PRELIMINARY ISSUE DRAWING**  
INFORMATION ONLY

**30% REVIEW**

AUGUST 2022

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**

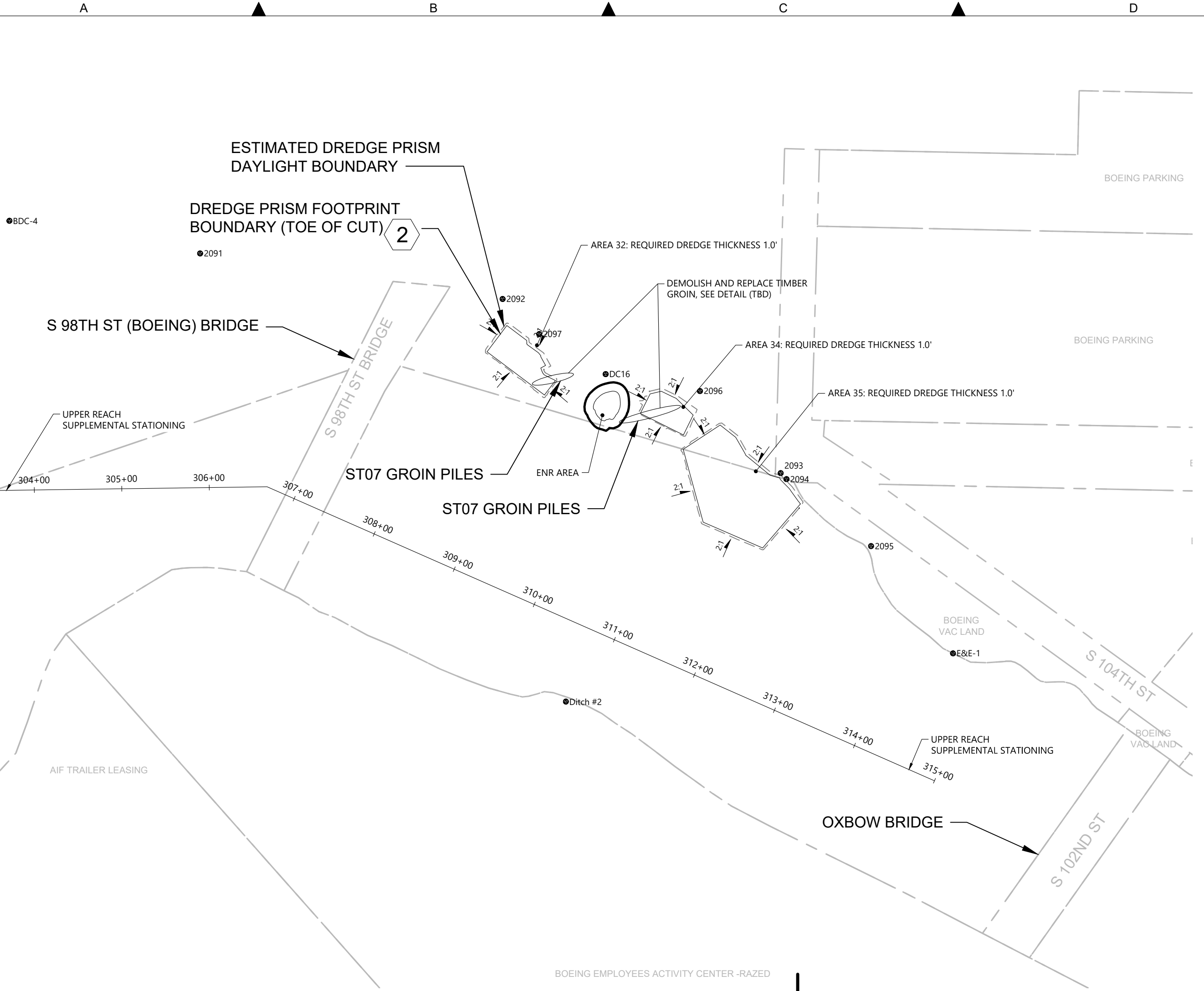
**COLOR IMAGE**

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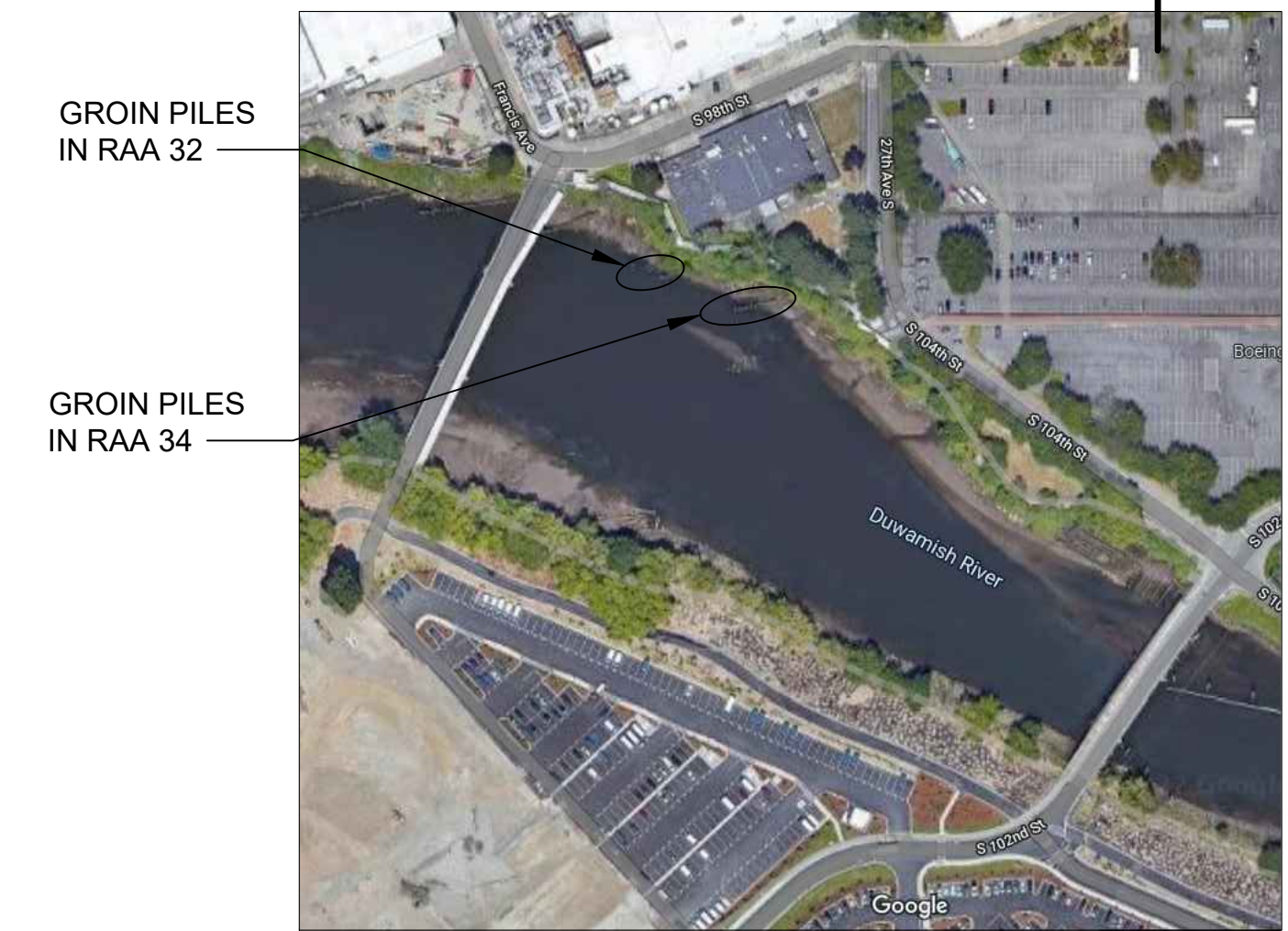
DATE: AUGUST 2022
DRAWING NO: <b>S-106</b>
WP701-G-00001
SHT NO / TOTAL 35 / 37
REV NO: 0



BORDER FILE EDITION: xk0vtd-size-TB-Border\_ACBYLayer  
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 PLOTTED: Aug 23, 2022 10:34:18pm By slor



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



**GOOGLE MAP VIEW**  
 SCALE: NONE



**GROIN PILES (LOOKING EAST)**

**PHOTO**  
 SCALE: NONE



**GROIN PILES**

**PHOTO**  
 SCALE: NONE



**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 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 MAINTAIN THE MINIMUM OFFSETS INDICATED ON THE PLANS.
- 5 CONTRACTOR IS RESPONSIBLE FOR PROTECTING AND PREVENTING ANY DAMAGE TO EXISTING PILE STRUCTURES.
- 6 REPLACE DAMAGED TIMBER PILES WITH GALVANIZED STEEL PIPE PILES. PILES DAMAGED BY THE CONTRACTOR SHALL BE REPLACED CONTRACTOR'S EXPENSE.
- 7 HANDLE AND DISPOSE CREOSOTE TIMBER PILES IN CONFORMANCE TO THE SPECIFICATIONS AND PERMITS.

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

**Lower Duwamish Waterway Group**  
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**PRELIMINARY ISSUE DRAWING**  
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**30% REVIEW**  
 AUGUST 2022

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



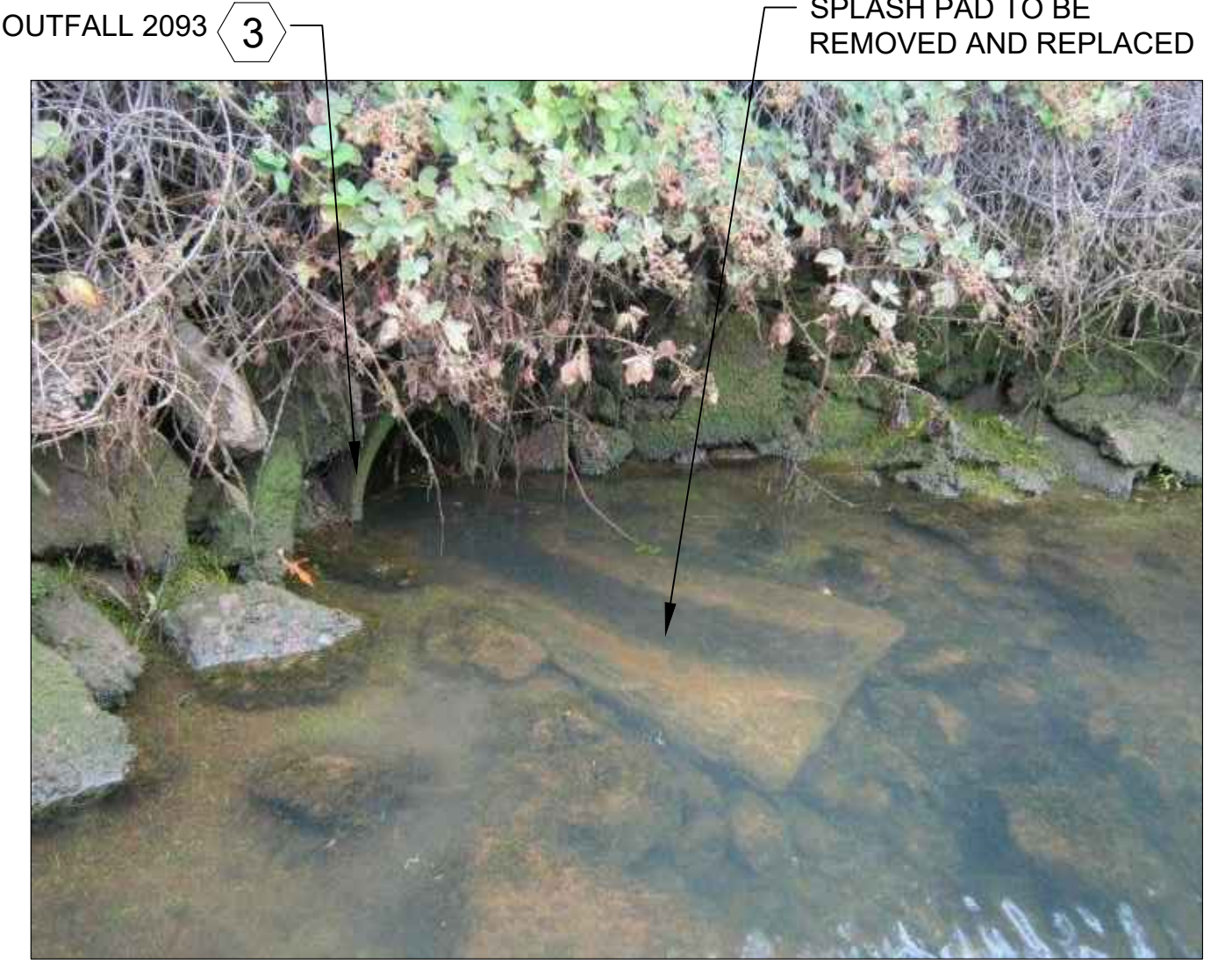
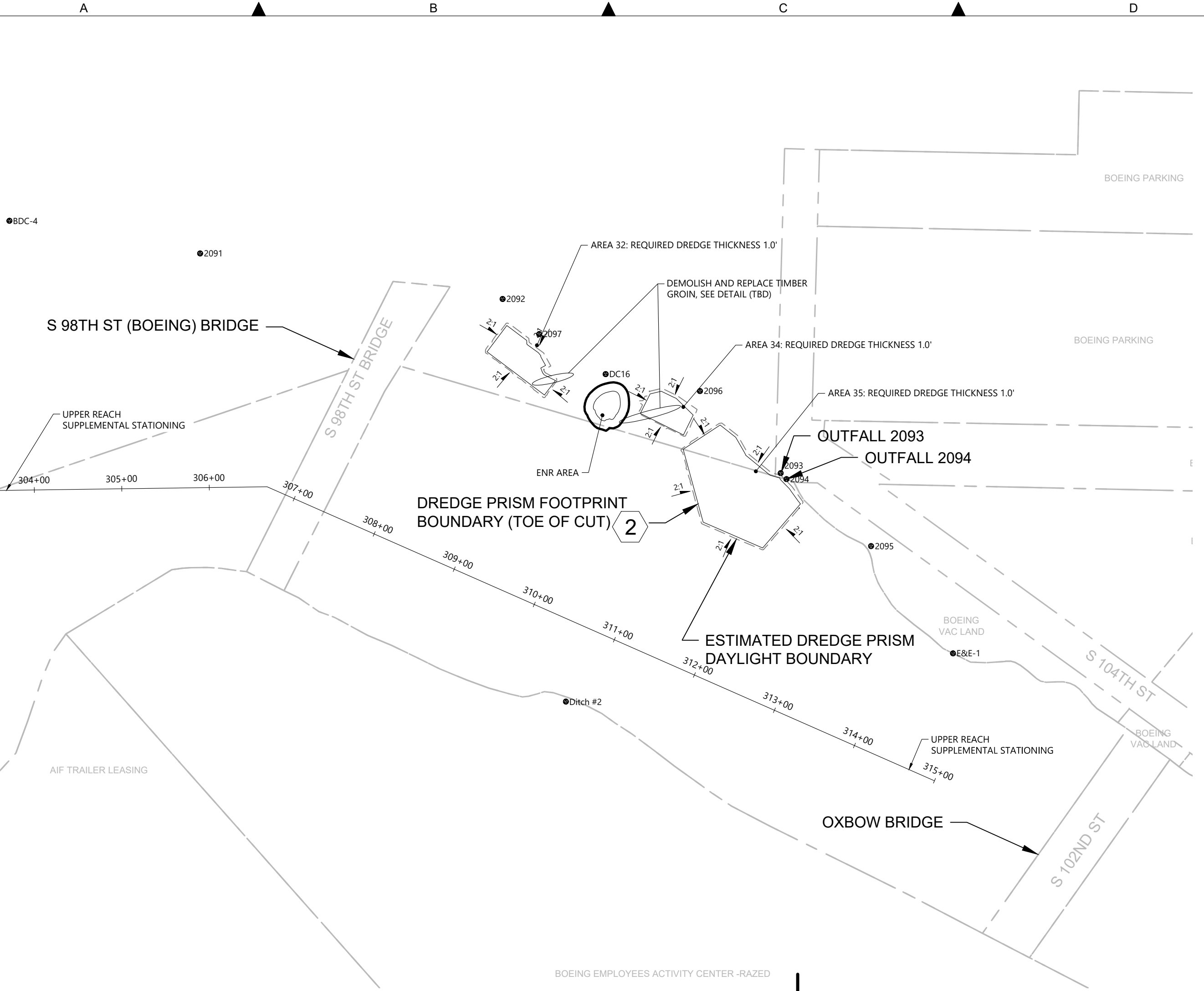
DEPARTMENT OF NATURAL RESOURCES & PARKS  
 WASTEWATER TREATMENT DIVISION  
 LOWER DUWAMISH WATERWAY UPPER REACH  
 ENGINEERING SERVICES AND SEDIMENT CLEANUP

**ST07 GROIN PILES  
 PLAN AND PHOTOS**

DATE: AUGUST 2022
DRAWING NO: <b>S-107</b>
WP701-G-00001
SHT NO / TOTAL 36 / 37
REV NO: <b>0</b>



BORDER FILE EDITION: x:\KOWTD\Size-TB-Border\_ACBY\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-108.dwg | Layout: S-108 PLOTTED: Aug 23, 2022 10:35:45pm By slor



- 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 CUT SLOPE AND RESTORATION, SEE CIVIL DRAWINGS.
  - SUPPORT OUTFALL PIPE IN PLACE. PIPE SUPPORT TO BE DESIGNED BY CONTRACTOR. REMOVE PIPE SUPPORT AFTER COMPLETION OF WORK AND BANK RESTORATION.

**PRELIMINARY ISSUE DRAWING**  
 INFORMATION ONLY  
**30% REVIEW**  
 AUGUST 2022

**Lower Duwamish Waterway Group**  
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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**

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

DATE: AUGUST 2022
DRAWING NO: <b>S-108</b>
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