



US Army Corps
of Engineers
Seattle District

Public Notice of Application for Permit

US Army Corps of Engineers
Regulatory Branch
4735 E. Marginal Way S., Bldg 1202
Seattle, WA 98134-2388
Telephone: (360) 393-2867
ATTN: Randel Perry,
Project Manager

Public Notice Date: February 2, 2024
Expiration Date: March 3, 2024

Reference No.: NWS-2023-739
Name: Chelan County PUD

Interested parties are hereby notified that the U.S. Army Corps of Engineers (Corps) has received an application to perform work in waters of the U.S. as described below and shown on the enclosed drawings dated November 2022. The Corps will review the work in accordance with Section 404 of the Clean Water Act (CWA).

APPLICANT: Chelan County PUD
Attention: Edrie Risdon
Post Office Box 1231
Wenatchee, Washington 98807
Telephone: (509) 661-4115

LOCATION: In Columbia River (RM 489) at Daroga State Park near Entiat, Douglas County, Washington.

WORK: Excavate and place fill to stabilize banks.

PURPOSE: The purpose of the project is to protect upland park infrastructure and provide safe public access to the Columbia River. Chelan PUD's FERC license requires the maintenance of parks within the Rocky Reach Hydroelectric Project Boundary (License No. 2145-060).

ADDITIONAL INFORMATION: The applicant proposes to place fill to install bank stabilization measures along a total of 2,935 feet of shoreline within Daroga State Park. Below the top of bank, the Project areas would be stabilized with materials able to withstand wave and current action. The layers would be crushed rock covered by gravel cobble and topped with a habitat-friendly sand and gravel mix. Areas above the top of bank would receive topsoil and native riparian planting matching the existing park setting.

The Project area is broken into two sections: northern and southern. The northern area is a total of 1,230 feet long and is located along the shoreline of the Columbia River adjacent to the boat ramp and dock, near the campgrounds. Shoreline repairs in this section would occur in six separate areas of varying size along the shore and would include clearing and grading of existing eroded shoreline, installation of topsoil in upland areas, and sand and gravel over

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crushed rock filter layer along in-water and transitional areas. Anchored large woody material (LWM) and large and small boulders would also be used to stabilize the shorelines. Excavation and fill activities would occur from the existing toe of the bank out to 16.5 feet (maximum) into the river. Existing trees, walls, benches, and infrastructure would be protected in place or salvaged for reuse to the extent possible. Once shoreline stabilization grading and material placement is completed, the shoreline would be planted with native riparian trees and shrubs.

The southern section is 1,705 feet long and is located in the southern portion of the park along the peninsula that separates the Columbia River from the inlet area. Erosional repairs would occur in eight different areas of various size. The repairs would be similar to those in the northern segment and would include clearing and grading of existing eroded shoreline, installation of topsoil in upland areas and sand and gravel over crushed rock filter layer along in-water and transitional areas. Anchored LWM and large and small boulders would also be used to stabilize the shorelines. Excavation and fill activities would occur from the existing toe of the bank out to 12.5 feet (maximum) into the river. Existing trees, walls, benches, and infrastructure would be protected in place or salvaged for reuse to the extent possible. Once shoreline stabilization grading and material placement is completed, the shoreline would be planted with native riparian trees and shrubs.

The overall project would entail excavation of 2,790 cubic yards (CY) of material from 15,349 square feet (sq. ft.) waterward of the ordinary high water (OHW) line, placement of 2,902 CY of crushed rock, cobbles, gravel, and sand in 15,349 sq. ft. waterward of the OHW line, placement of 1,045 CY boulders in 8,250 sq. ft. waterward of the OHW line, and placement of 126 CY rootwads/logs in 1,207 sq. ft. waterward of the OHW line.

Fill would come from a local quarry. All work occurring below the OHW line would take place “in the dry” to the extent possible, depending on Columbia River flows. If the work cannot be completed in the dry, a turbidity curtain and block net would be used. The turbidity curtain would be worked outward from the bank and fixed in place using temporary anchors. It would create an isolated work area to control sediment, facilitate removal of salmonids from the area of fill, and prevent fish access to the work area. Other turbidity containment measures would be implemented as appropriate including installation of silt fences and/or straw wattles. A spill prevention, control, and countermeasures plan, and a temporary erosion and sedimentation control plan would be implemented during construction.

The location of the ordinary high water mark shown on the project drawings have not yet been verified by the U.S. Army Corps of Engineers (Corps). If the Corps determines the boundaries of the wetland/waters are substantially inaccurate a new public notice may be published.

Copies of this public notice which have been mailed or otherwise physically distributed feature project drawings in black and white. The electronic version features those drawings in color, which we think more accurately communicates the scope of project impacts. To access the electronic version of this public notice, go to the Seattle District’s web page at <http://www.nws.usace.army.mil/> and under the heading Open Public Comment Periods select

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Regulatory Public Notices. Recently issued public notices are listed in chronological order of the date of issuance. Select and view the listing for this project.

MITIGATION: In order to mitigate for the removal of trees and disturbance of riparian vegetation during construction, the applicant proposes riparian plantings along the shoreline of the Columbia River adjacent to the Park. A detailed mitigation plan is available on request.

ENDANGERED SPECIES: The Endangered Species Act (ESA) requires federal agencies to consult with the National Marine Fisheries Service (NMFS) and/or U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the ESA on all actions that may affect a species listed (or proposed for listing) under the ESA as threatened or endangered or any designated critical habitat. After receipt of comments from this public notice, the U.S. Army Corps of Engineers will evaluate the potential impacts to proposed and/or listed species and their designated critical habitat.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). The proposed action would impact EFH in the project area. If the U.S. Army Corps of Engineers (Corps) determines that the proposed action may adversely affect EFH for federally managed fisheries in Washington waters, the Corps will initiate EFH consultation with the NMFS. The Corps' final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the NMFS.

CULTURAL RESOURCES: The work is required by Articles 17 and 19 of the applicant's Federal Energy Regulatory Commission (FERC) license. The FERC, as the lead agency for determining compliance with Section 106 of the National Historic Preservation Act, will consult with the State Historic Preservation Officer and Native American Nations as appropriate.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. The Washington Department

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of Ecology has or will evaluate the proposed project in accordance with Section 401 of the Clean Water Act and for consistency with the Coastal Zone Management Act.

The U.S. Army Corps of Engineers is soliciting comments from the public; Native American Nations or tribal governments; Federal, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for the work. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity.

SOURCE OF FILL MATERIAL: The source of the fill material will be from a local quarry and will be free of contaminants and fine sediments.

EVALUATION – ECOLOGY: Ecology is soliciting comments from the public; Federal, Native American Nations or tribal governments, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Ecology will be considering all comments to determine whether to certify or deny a Section 401 Water Quality Certification for the proposed project.

COMMENT AND REVIEW PERIOD: Conventional mail or e-mail comments on this public notice will be accepted and made part of the record and will be considered in determining whether authorizing the work would not be contrary to the public interest. In order to be accepted, e-mail comments must originate from the author's e-mail account and must include on the subject line of the e-mail message the permit applicant's name and reference number as shown below. All e-mail comments should be sent to randel.j.perry@usace.army.mil. Conventional mail comments should be sent U.S. Army Corps of Engineers, Regulatory Branch, 4735 E. Marginal Way S, Bldg 1202, Seattle, Washington, 98134-2388. Either conventional mail or e-mail comments must include the permit applicant's name and reference number, as shown below, and the commenter's name, address, and phone number. All comments received will become part of the administrative record and are subject to public release under the Freedom of Information Act including any personally identifiable information such as names, phone numbers, and addresses. All comments whether conventional mail or e-mail must reach this office, no later than the expiration date of this public notice to ensure consideration. Please include the following name and reference number:

To ensure proper consideration of all comments, responders must include the following name and reference number in the text of their comments: Chelan County PUD, NWS-2023-739

Encl: Figures (35)



REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:
1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC

NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION

PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83
VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)

LATITUDE: 47.7077
LONGITUDE: -120.1958
S-T-R: 29-27N-23E

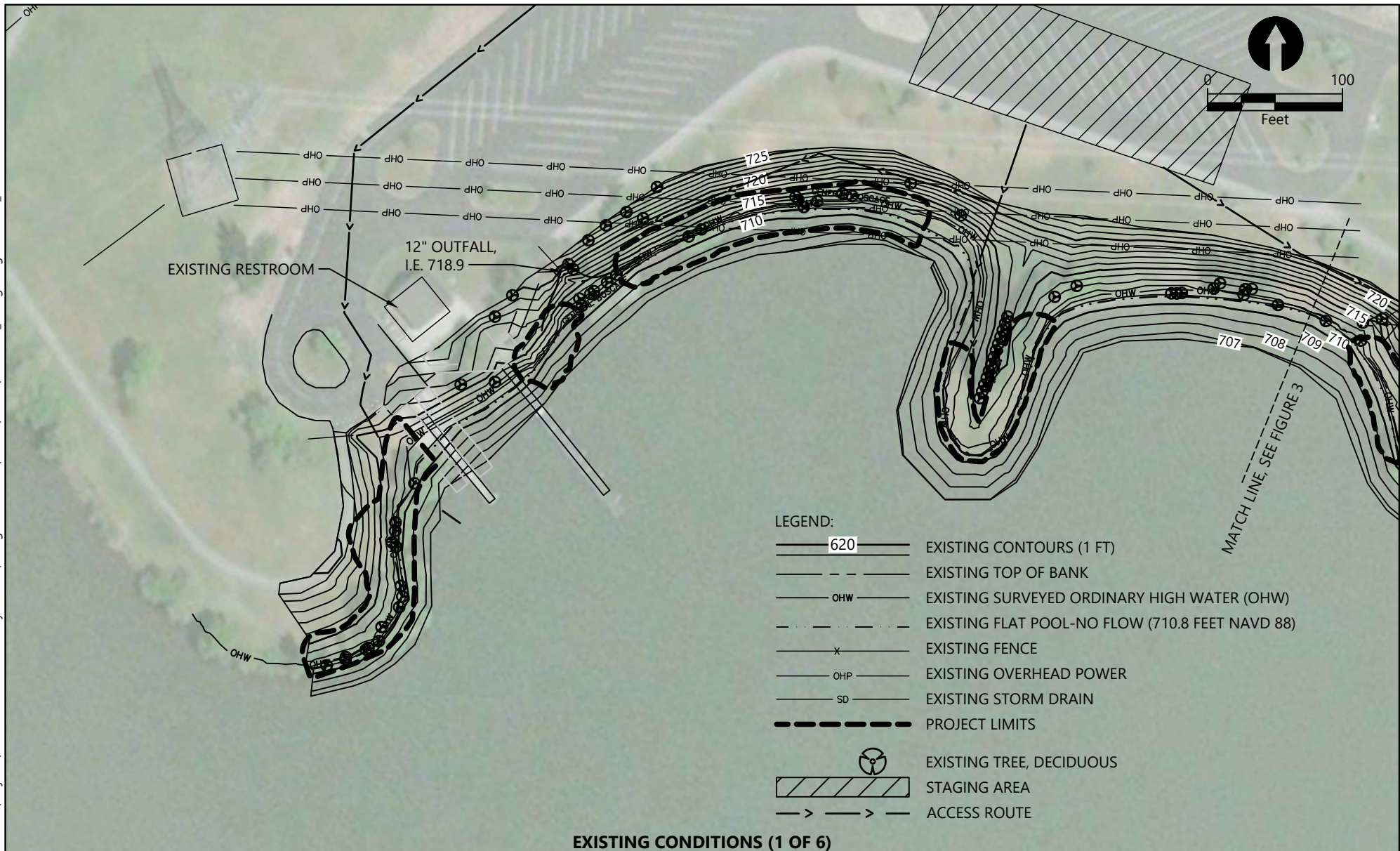
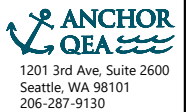
IN: COLUMBIA RIVER
NEAR/AT: ENTIAT
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STATE: WASHINGTON

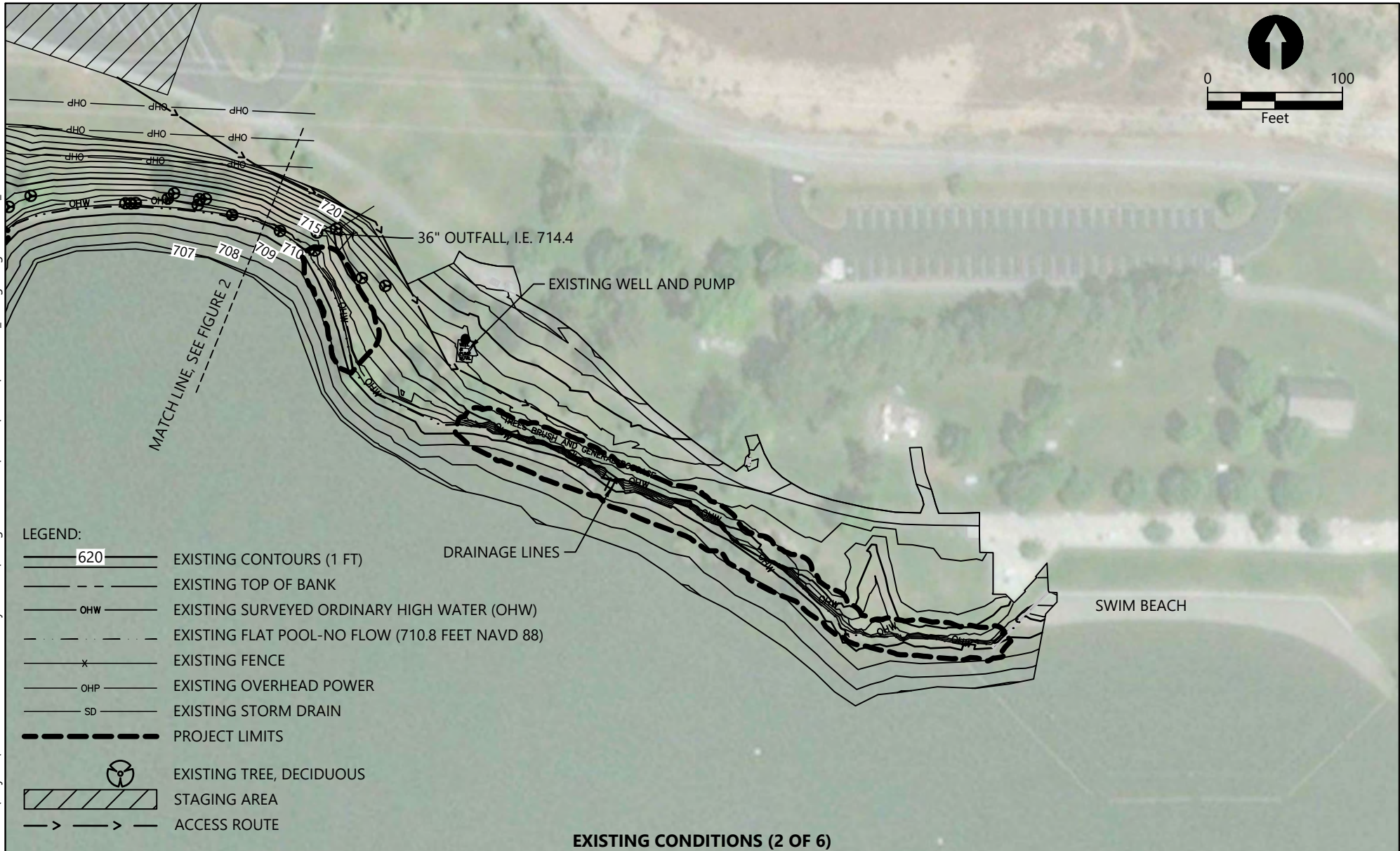
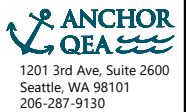
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- LEGEND:**
-  EXISTING CONTOURS (1 FT)
 -  EXISTING SURVEYED ORDINARY HIGH WATER (OHW)
 -  EXISTING FLAT POOL-NO FLOW (710.8 FEET NAVD 88)
 -  PROJECT LIMITS
 -  EXISTING TREE STUMP
 -  EXISTING TREE, DECIDUOUS



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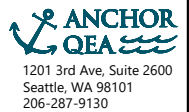
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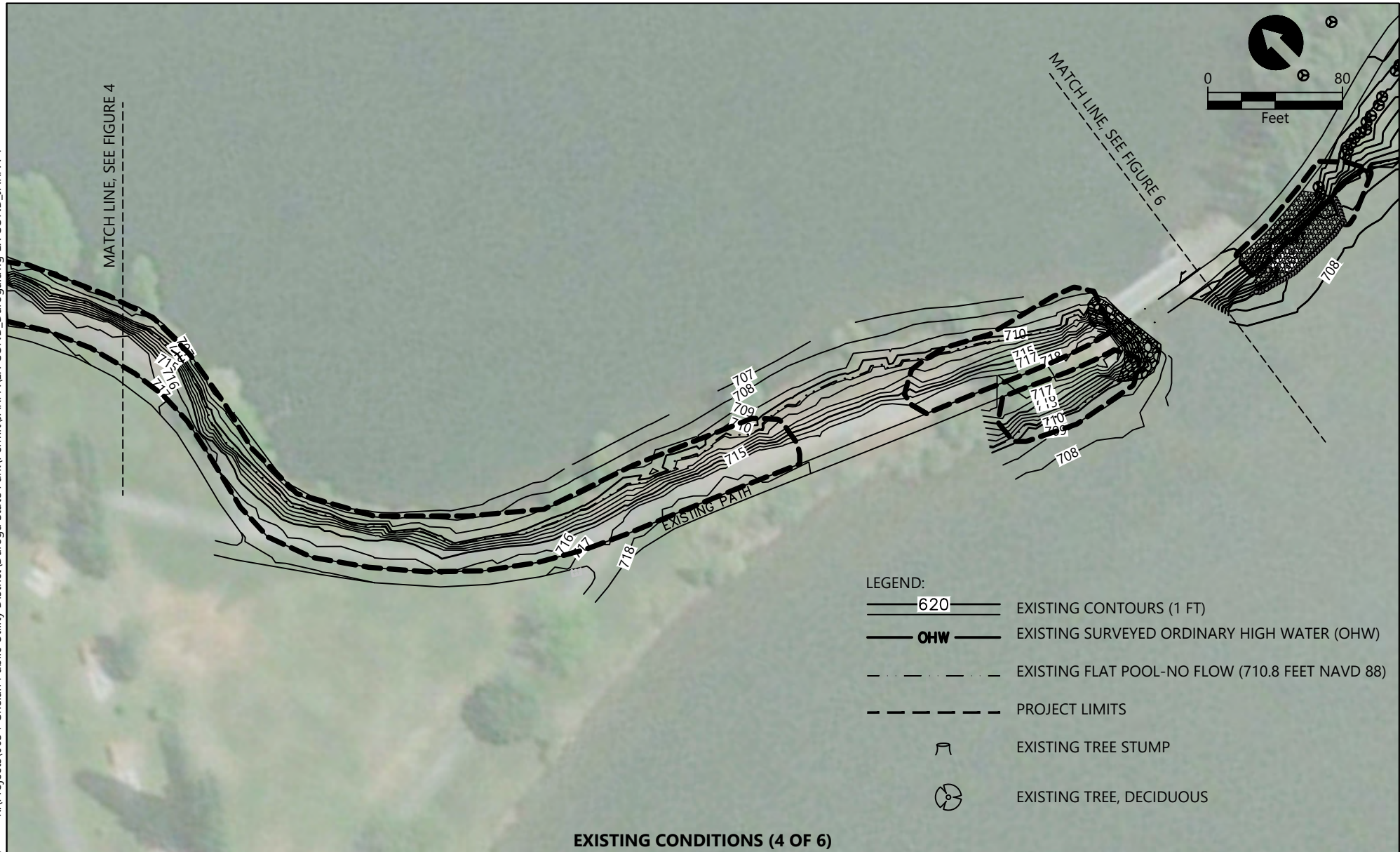
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EXISTING CONDITIONS (4 OF 6)

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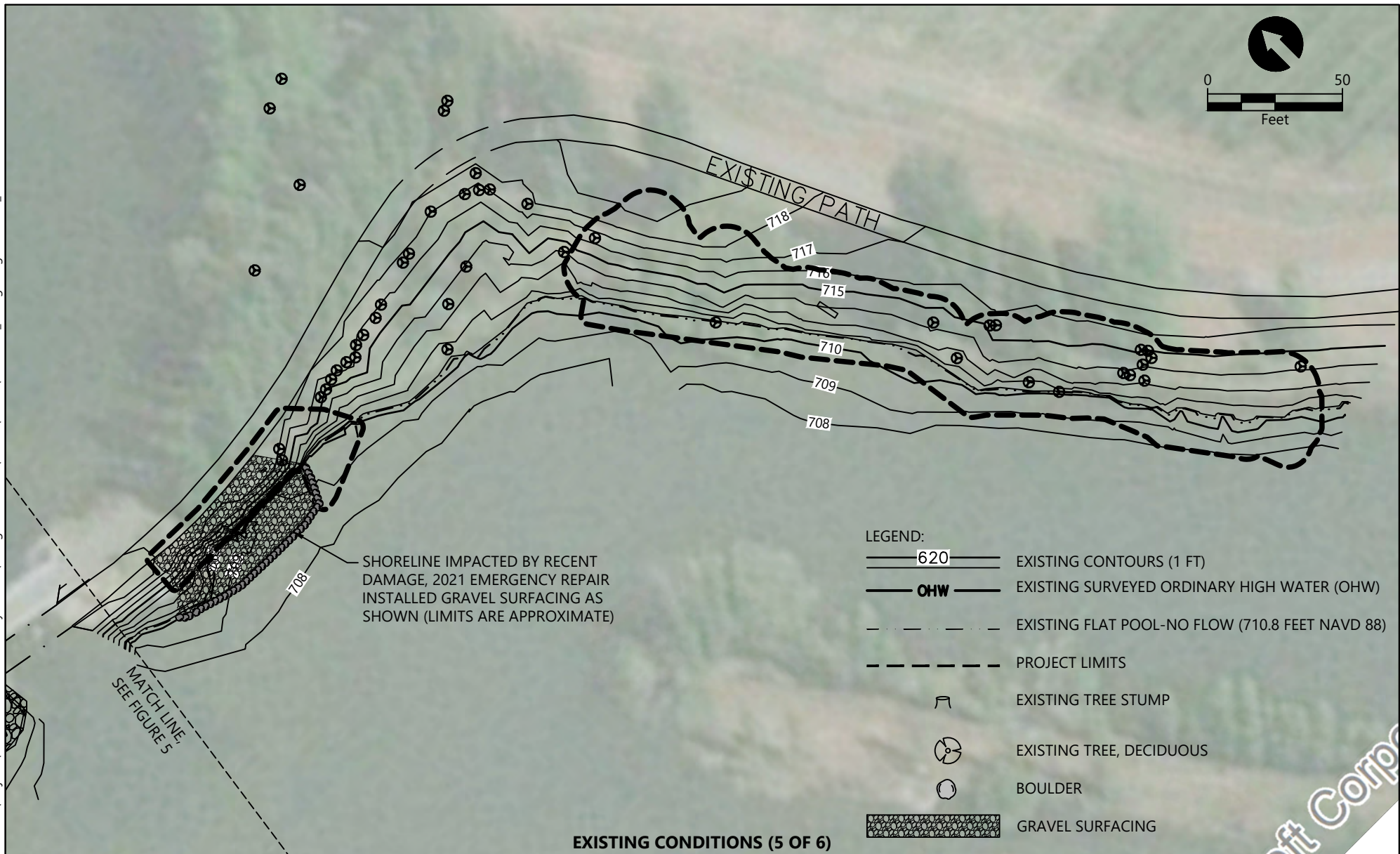
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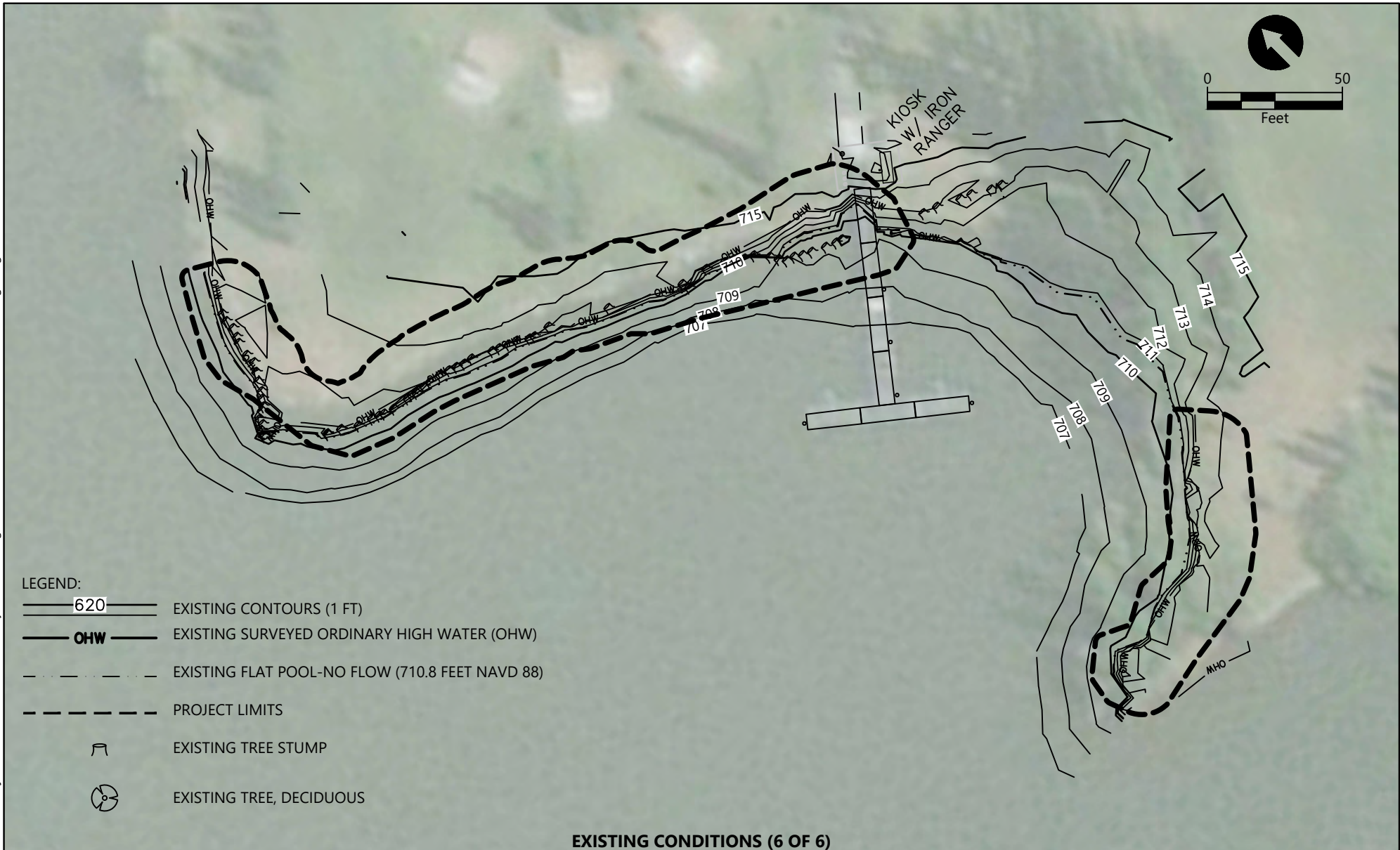

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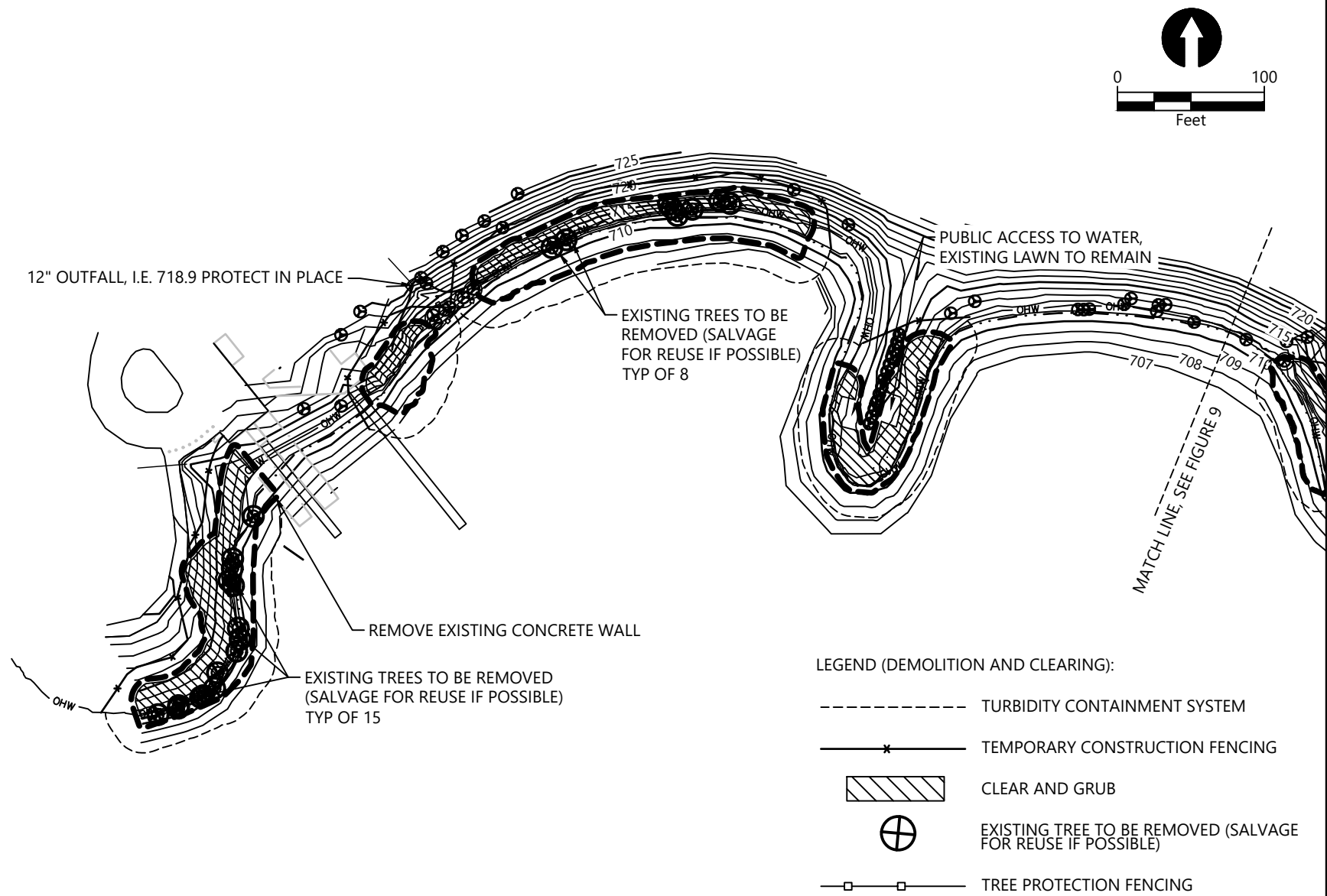
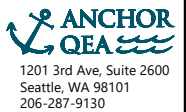
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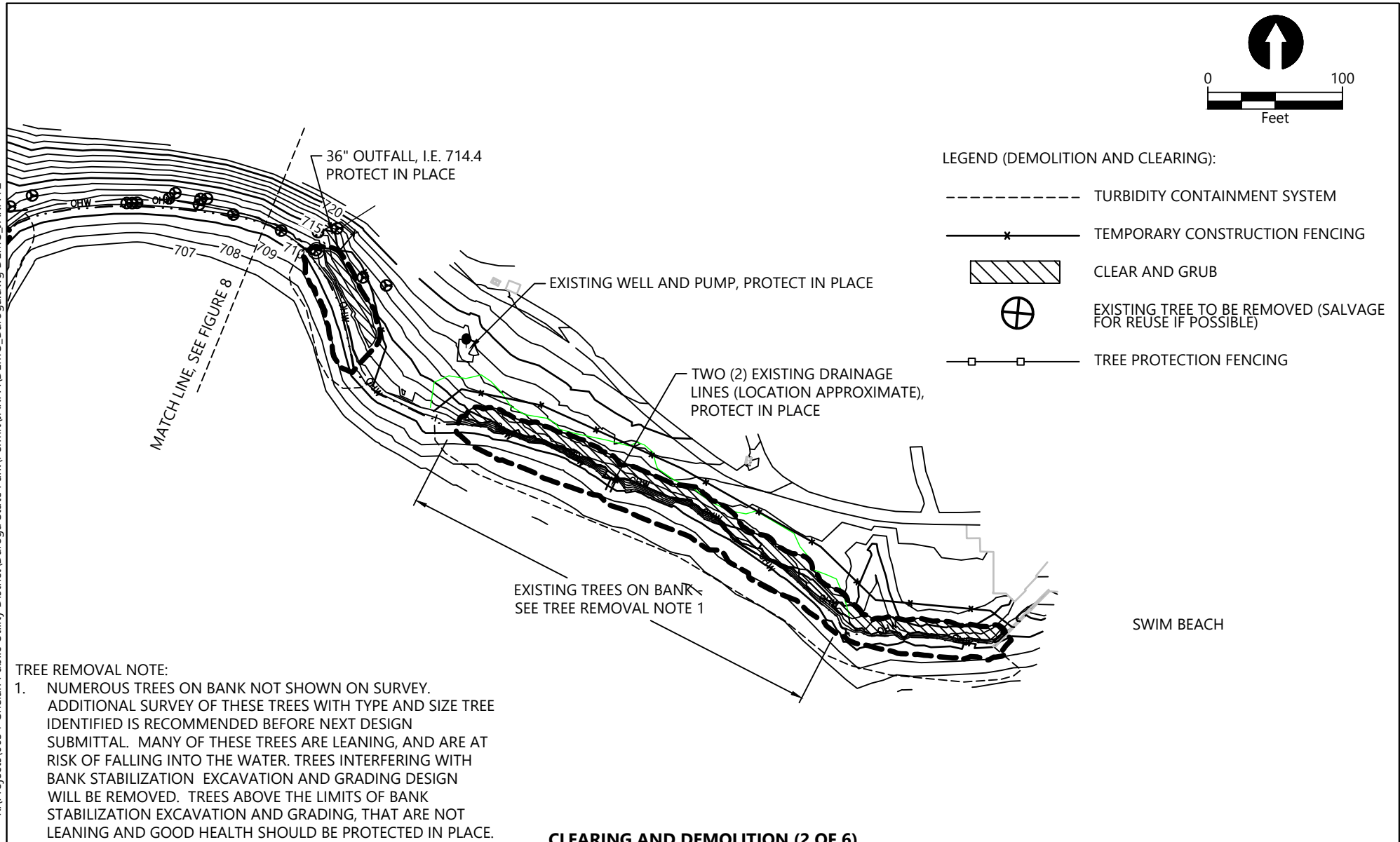
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**CLEARING AND DEMOLITION (1 OF 6)****REFERENCE #:** X**APPLICANT:** CHELAN COUNTY PUD NO. 1**LOCATION:** 1 S DAROGA PARK LANE,
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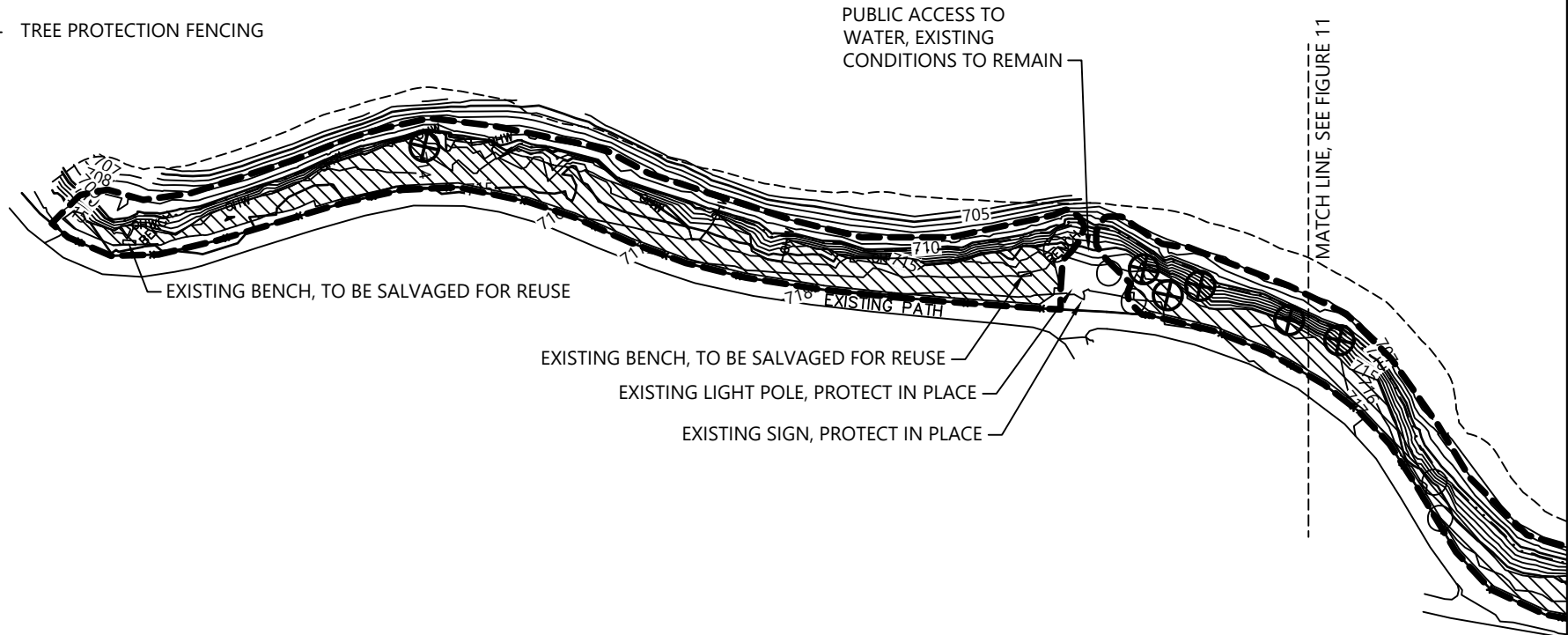
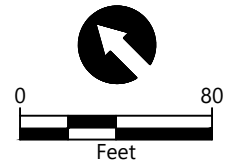
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LEGEND (DEMOLITION AND CLEARING):

- TURBIDITY CONTAINMENT SYSTEM
- x--- TEMPORARY CONSTRUCTION FENCING
-  CLEAR AND GRUB
-  EXISTING TREE TO BE REMOVED (SALVAGE FOR REUSE IF POSSIBLE)
- TREE PROTECTION FENCING



CLEARING AND DEMOLITION (3 OF 6)

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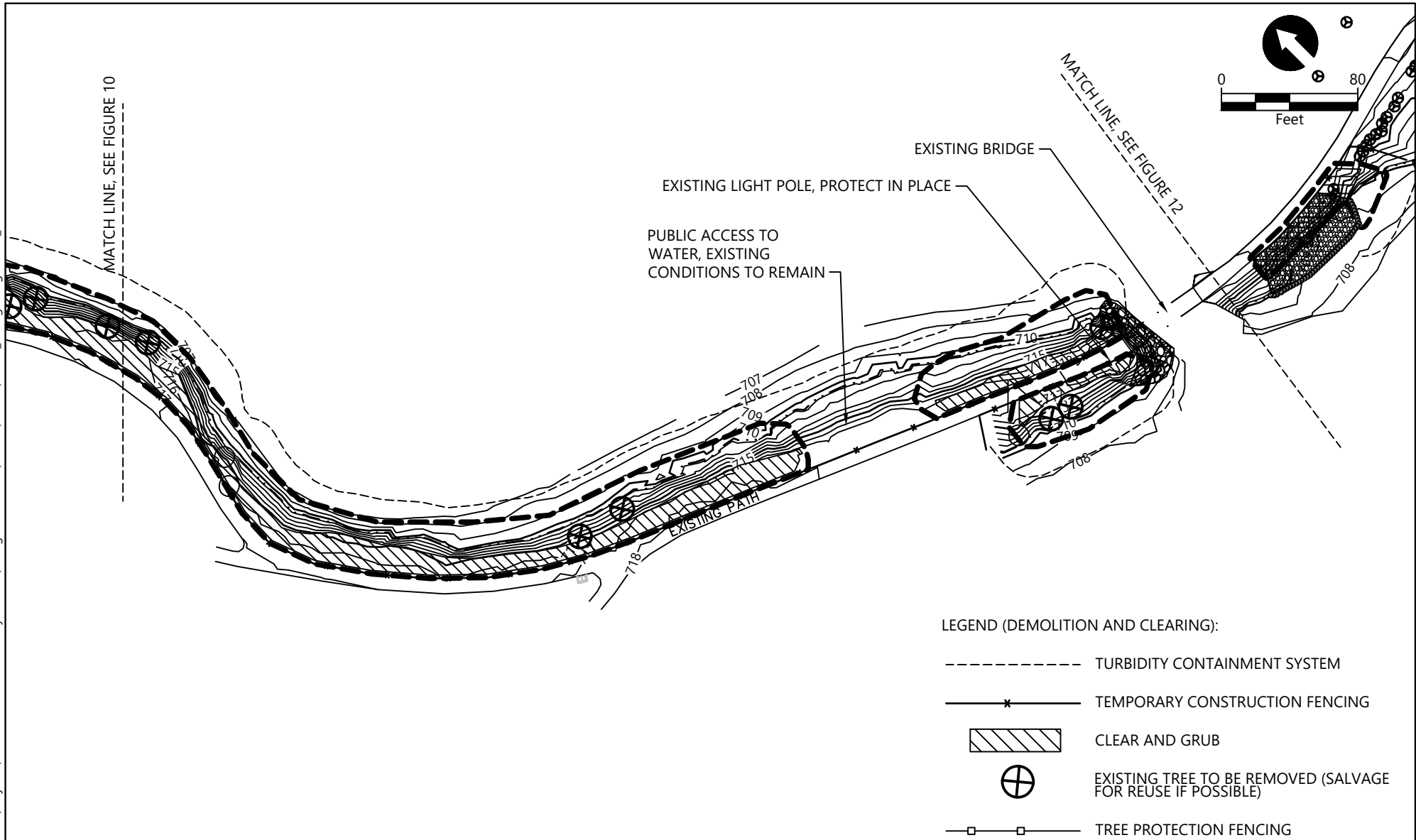
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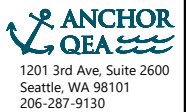
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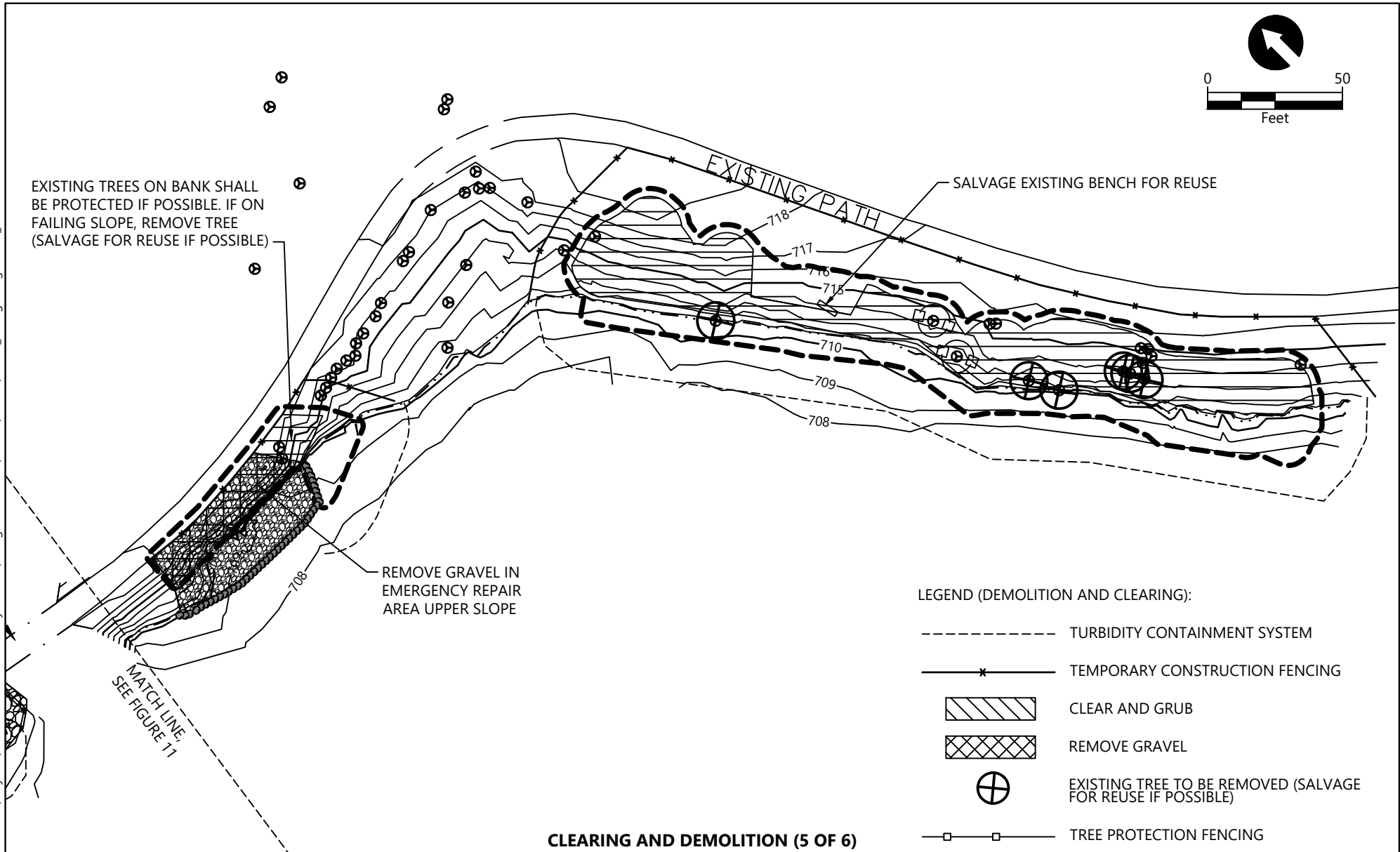
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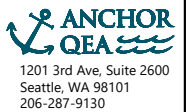
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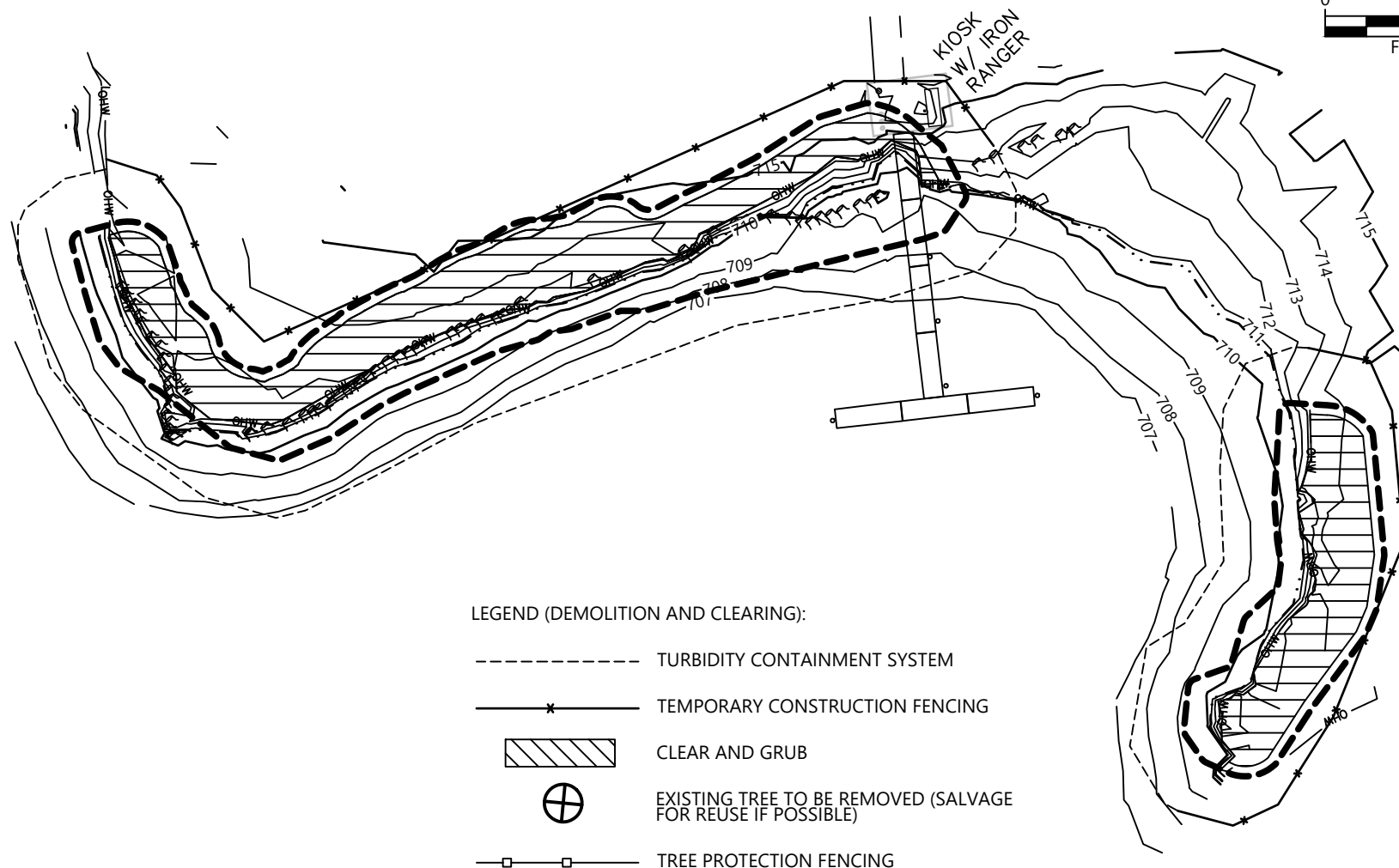
IN: COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON

DATE: NOVEMBER 2022





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LEGEND (DEMOLITION AND CLEARING):

- TURBIDITY CONTAINMENT SYSTEM
- x — TEMPORARY CONSTRUCTION FENCING
-  CLEAR AND GRUB
-  EXISTING TREE TO BE REMOVED (SALVAGE FOR REUSE IF POSSIBLE)
- □ — TREE PROTECTION FENCING

CLEARING AND DEMOLITION (6 OF 6)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843ADJACENT PROPERTY OWNERS:
1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC

NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION

PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83
VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)LATITUDE: 47.7077
LONGITUDE: -120.1958
S-T-R: 29-27N-23EIN: COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON

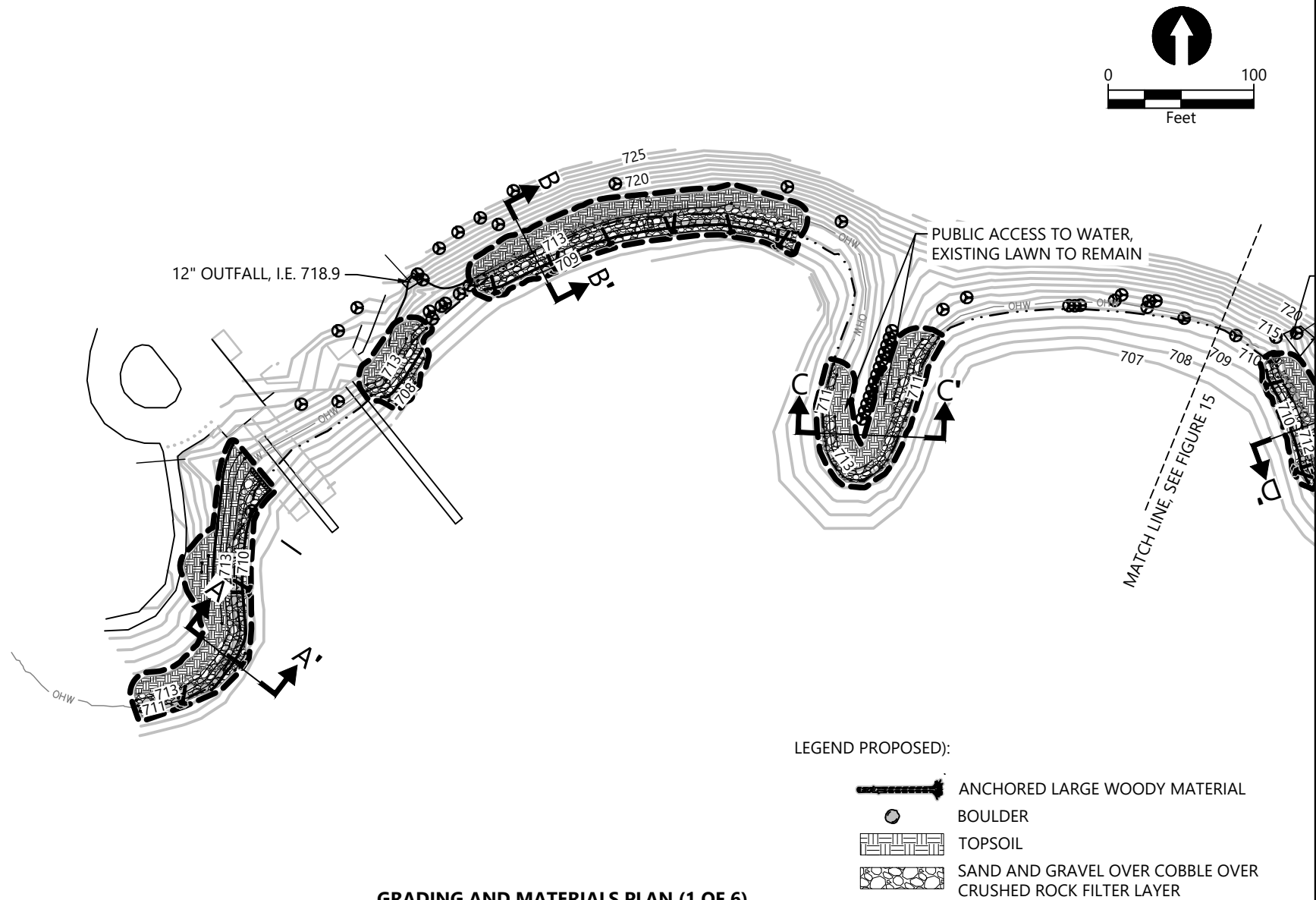
DATE: NOVEMBER 2022



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206-287-9130

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PAGE: 13 OF 5



GRADING AND MATERIALS PLAN (1 OF 6)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:
1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC

NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION

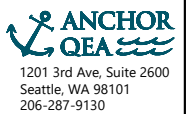
PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83
VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)

LATITUDE: 47.7077
LONGITUDE: -120.1958
S-T-R: 29-27N-23E

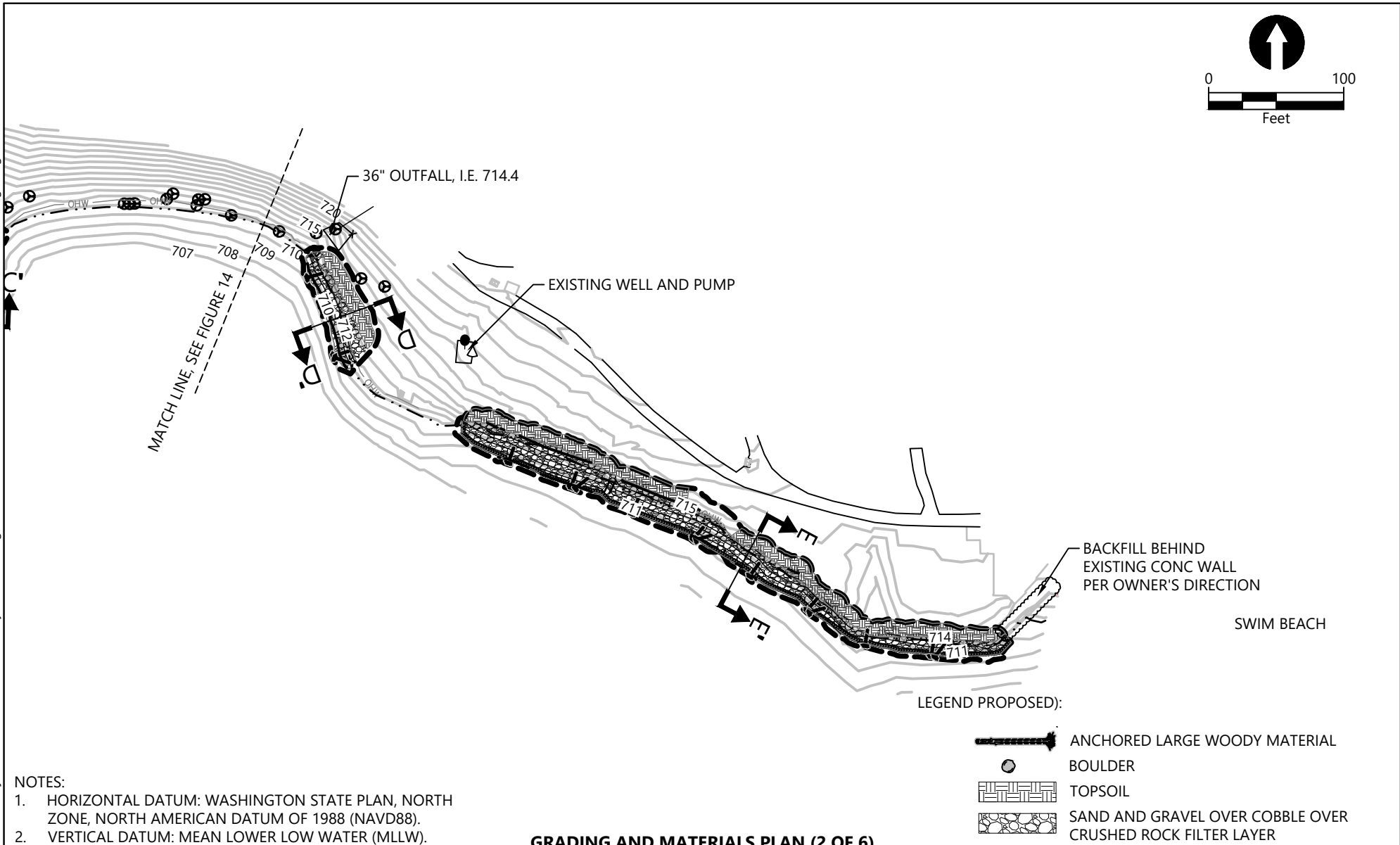
IN: COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON

DATE: NOVEMBER 2022



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NOTES:

1. HORIZONTAL DATUM: WASHINGTON STATE PLAN, NORTH ZONE, NORTH AMERICAN DATUM OF 1988 (NAVD88).
2. VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW).

GRADING AND MATERIALS PLAN (2 OF 6)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:

- 1 - CHELAN COUNTY PUD
- 2 - AFC RANCH LLC

NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION

PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83

VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)

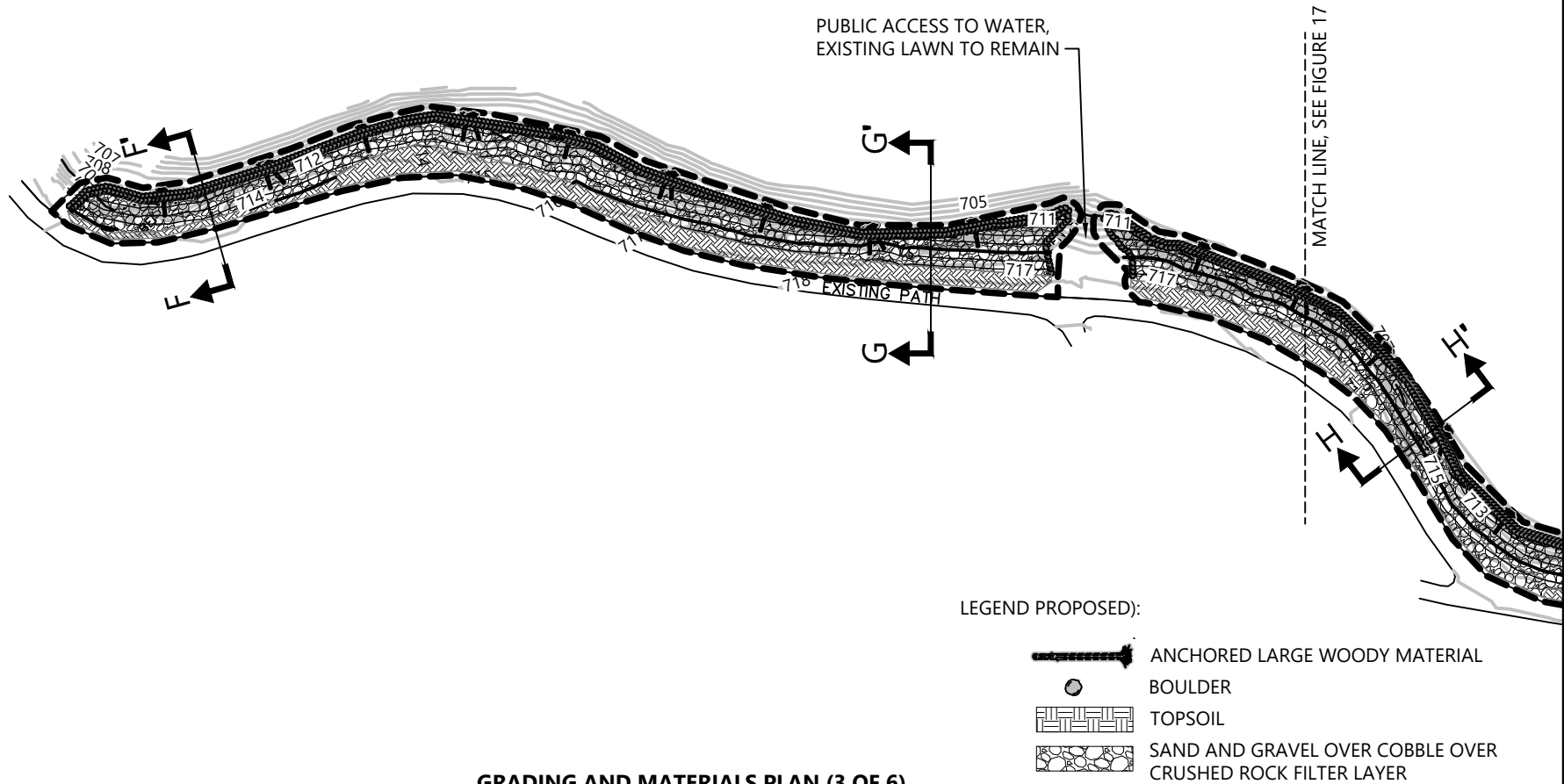
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LONGITUDE: -120.1958
S-T-R: 29-27N-23EIN: COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON

DATE: NOVEMBER 2022

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PAGE: 15 OF 5



GRADING AND MATERIALS PLAN (3 OF 6)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:
1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC

NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION

PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83
VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)

LATITUDE: 47.7077
LONGITUDE: -120.1958
S-T-R: 29-27N-23E

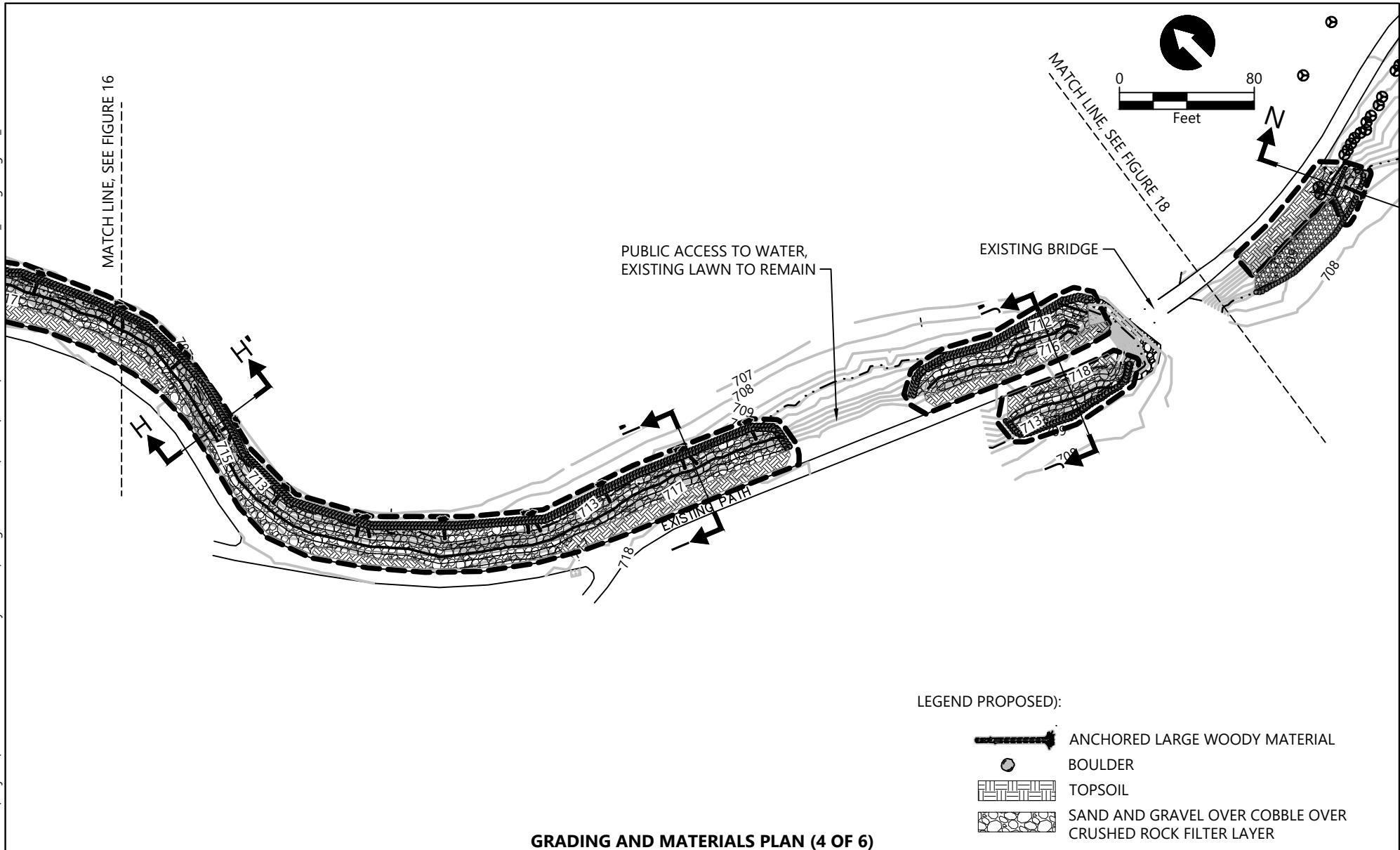
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NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON

DATE: NOVEMBER 2022

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GRADING AND MATERIALS PLAN (4 OF 6)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:
1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC




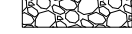
NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION

PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83
VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)

LEGEND PROPOSED):

-  ANCHORED LARGE WOODY MATERIAL
-  BOULDER
-  TOPSOIL
-  SAND AND GRAVEL OVER COBBLE OVER
CRUSHED ROCK FILTER LAYER

LATITUDE: 47.7077
LONGITUDE: -120.1958
S-T-R: 29-27N-23E

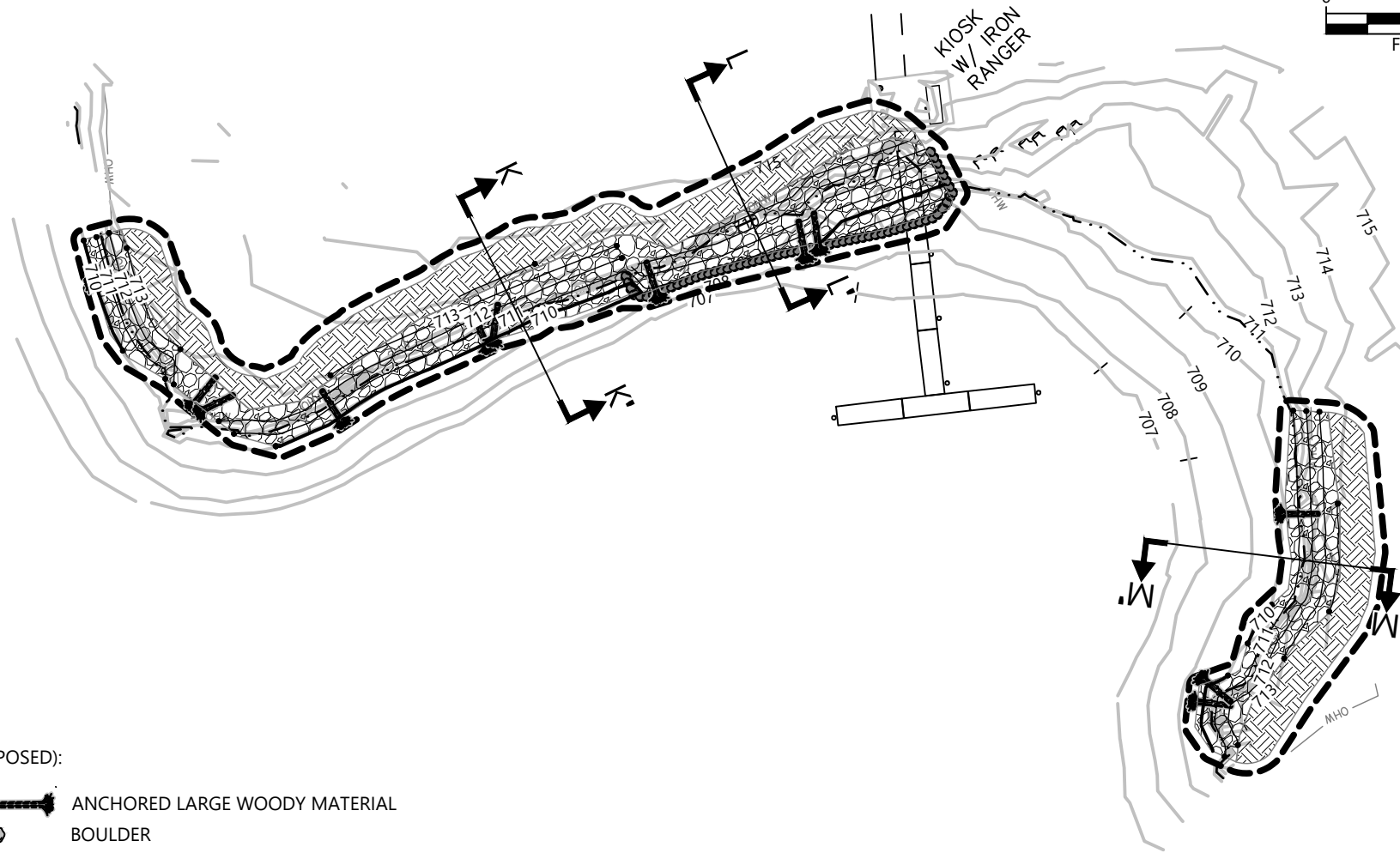
IN: COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON

DATE: NOVEMBER 2022

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GRADING AND MATERIALS PLAN (6 OF 6)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:
1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC

NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION

PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83
VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)

LATITUDE: 47.7077
LONGITUDE: -120.1958
S-T-R: 29-27N-23E

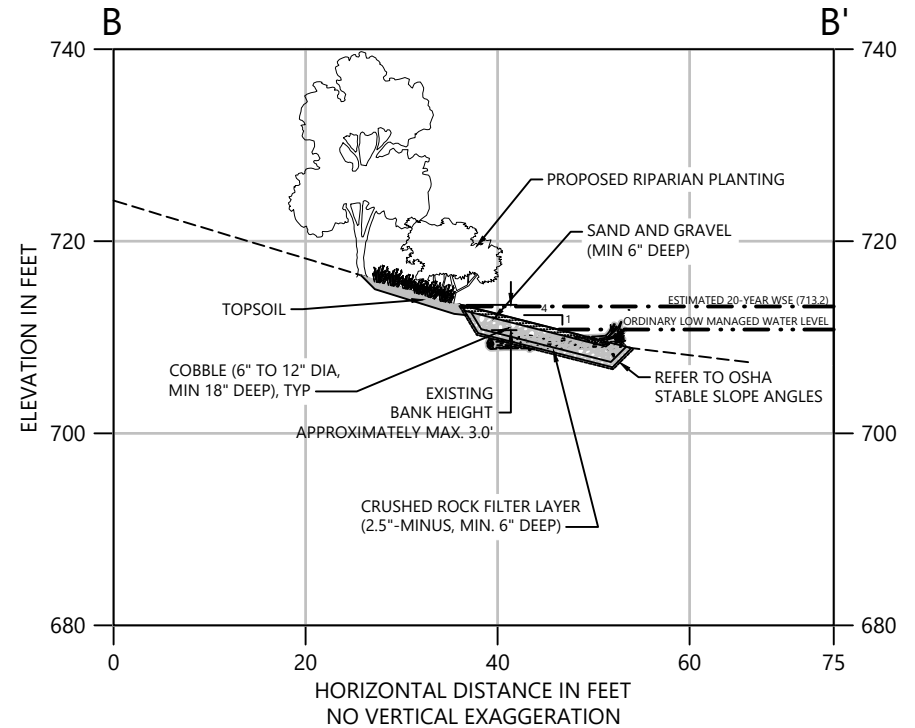
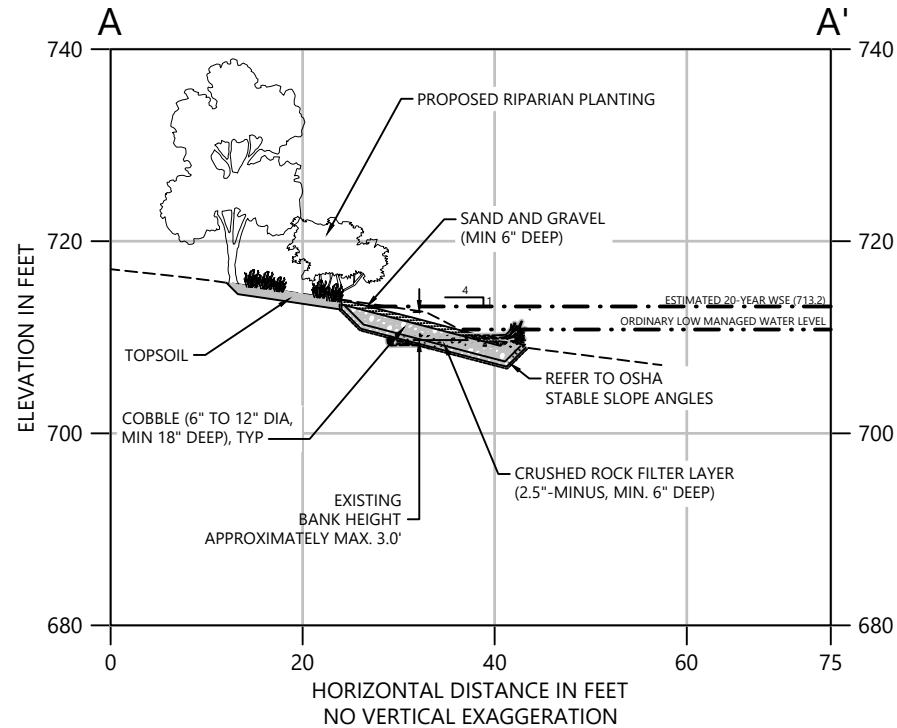
IN: COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON

DATE: NOVEMBER 2022

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LEGEND:

--- EXISTING GRADE

— DESIGN GRADE

- - - - - GEOTEXTILE

SAND AND GRAVEL

GRAVEL COBBLE

CRUSHED ROCK FILTER LAYER

TOPSOIL

LARGE WOODY MATERIAL

LARGE BOULDERS, 30" TO 36" IN DIAMETER

SMALL BOULDERS, 24" TO 30" IN DIAMETER

ESTIMATED 20-YEAR WSE (713.2' NAVD 88)/ORDINARY HIGH WATER MARK (OHWM, VARIES. SOURCE: CHELAN PUD TOPOGRAPHIC SURVEY)

FLAT POOL-NO FLOW (710.8' NAVD 88) LARGE WOODY MATERIAL

GRADING AND MATERIALS CROSS SECTIONS (1 OF 9)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:

1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC

NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION

PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83

VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)

LATITUDE: 47.7077

LONGITUDE: -120.1958

S-T-R: 29-27N-23E

IN: COLUMBIA RIVER

NEAR/AT: ENTIAT

COUNTY: DOUGLAS

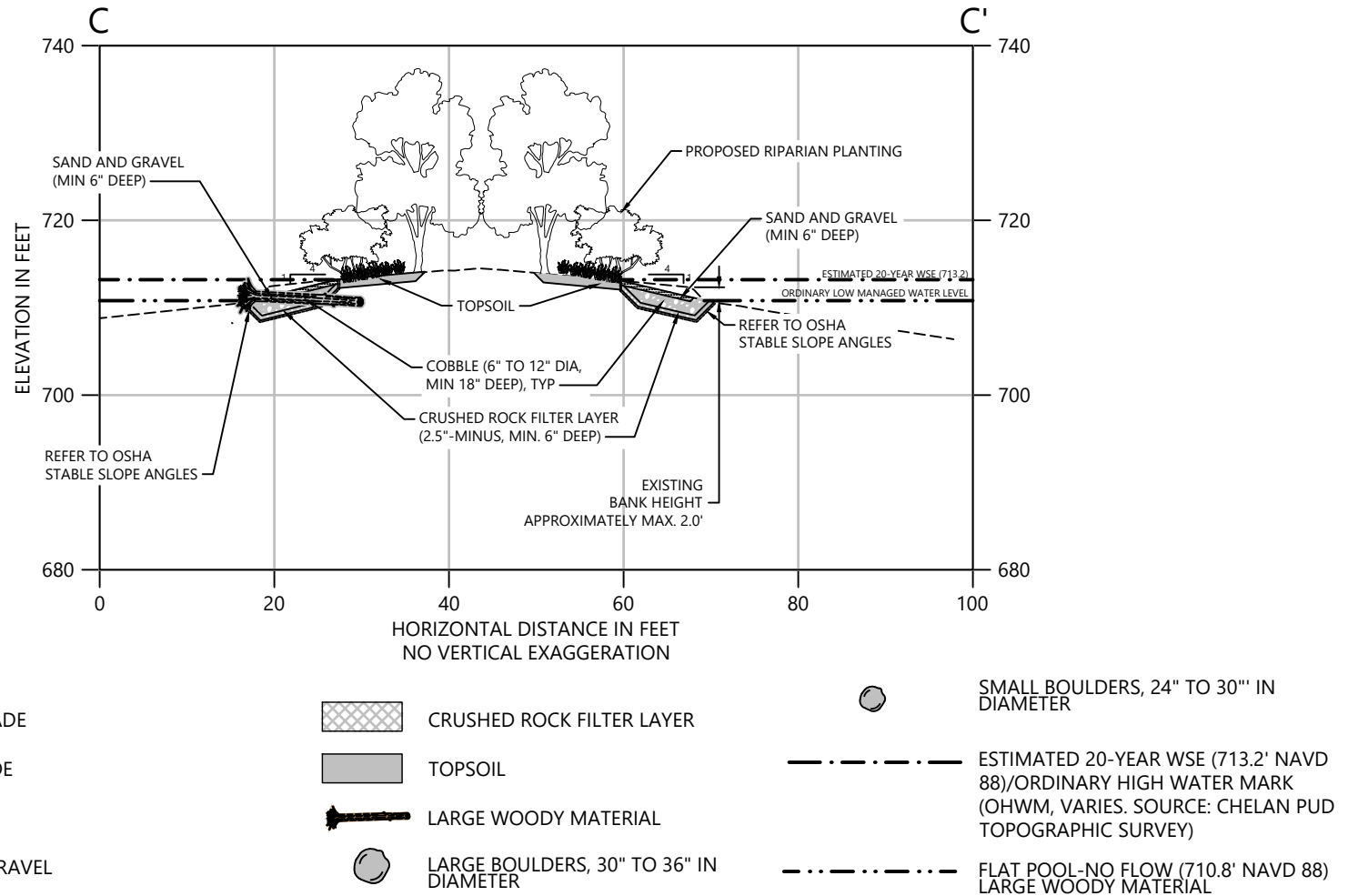
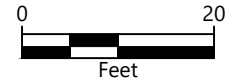
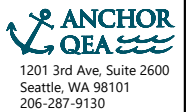
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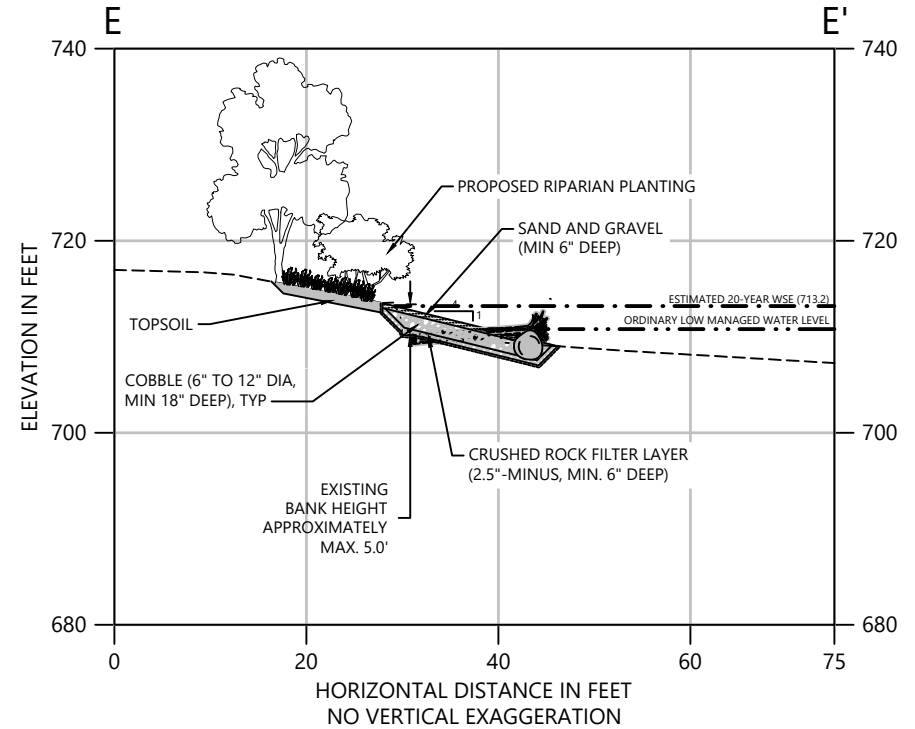
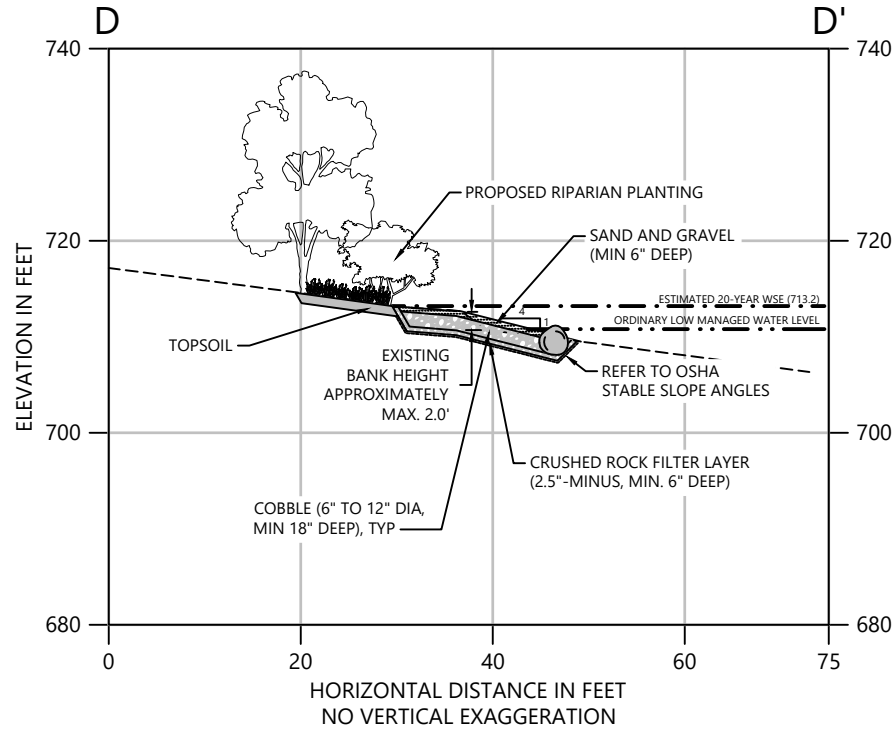
DATE: NOVEMBER 2022

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PAGE: 20 OF 5

**REFERENCE #:** X**APPLICANT:** CHELAN COUNTY PUD NO. 1**LOCATION:** 1 S DAROGA PARK LANE,
ORONDO, WA 98843**ADJACENT PROPERTY OWNERS:**1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC**NAME:** DAROGA STATE PARK BANK STABILIZATION**PROPOSED:** PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION**PURPOSE:** BANK STABILIZATION, IMPROVE ACCESS**HORIZONTAL DATUM:** WASHINGTON STATE PLANE, NORTH ZONE, NAD83**VERTICAL DATUM:** MEAN LOWER LOW WATER (MLLW)**LATITUDE:** 47.7077
LONGITUDE: -120.1958
S-T-R: 29-27N-23E**IN:** COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON**DATE:** NOVEMBER 2022**NWS-2023-739**



LEGEND:

- - - - - EXISTING GRADE

————— DESIGN GRADE

- - - - - GEOTEXTILE

SAND AND GRAVEL

GRAVEL COBBLE

CRUSHED ROCK FILTER LAYER

TOPSOIL

LARGE WOODY MATERIAL

LARGE BOULDERS, 30" TO 36" IN DIAMETER

SMALL BOULDERS, 24" TO 30" IN DIAMETER

ESTIMATED 20-YEAR WSE (713.2' NAVD 88)/ORDINARY HIGH WATER MARK (OHWM, VARIES. SOURCE: CHELAN PUD TOPOGRAPHIC SURVEY)

FLAT POOL-NO FLOW (710.8' NAVD 88) LARGE WOODY MATERIAL

GRADING AND MATERIALS CROSS SECTIONS (3 OF 9)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:

1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC

NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION

PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83

VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)

LATITUDE: 47.7077

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S-T-R: 29-27N-23E

IN: COLUMBIA RIVER

NEAR/AT: ENTIAT

COUNTY: DOUGLAS

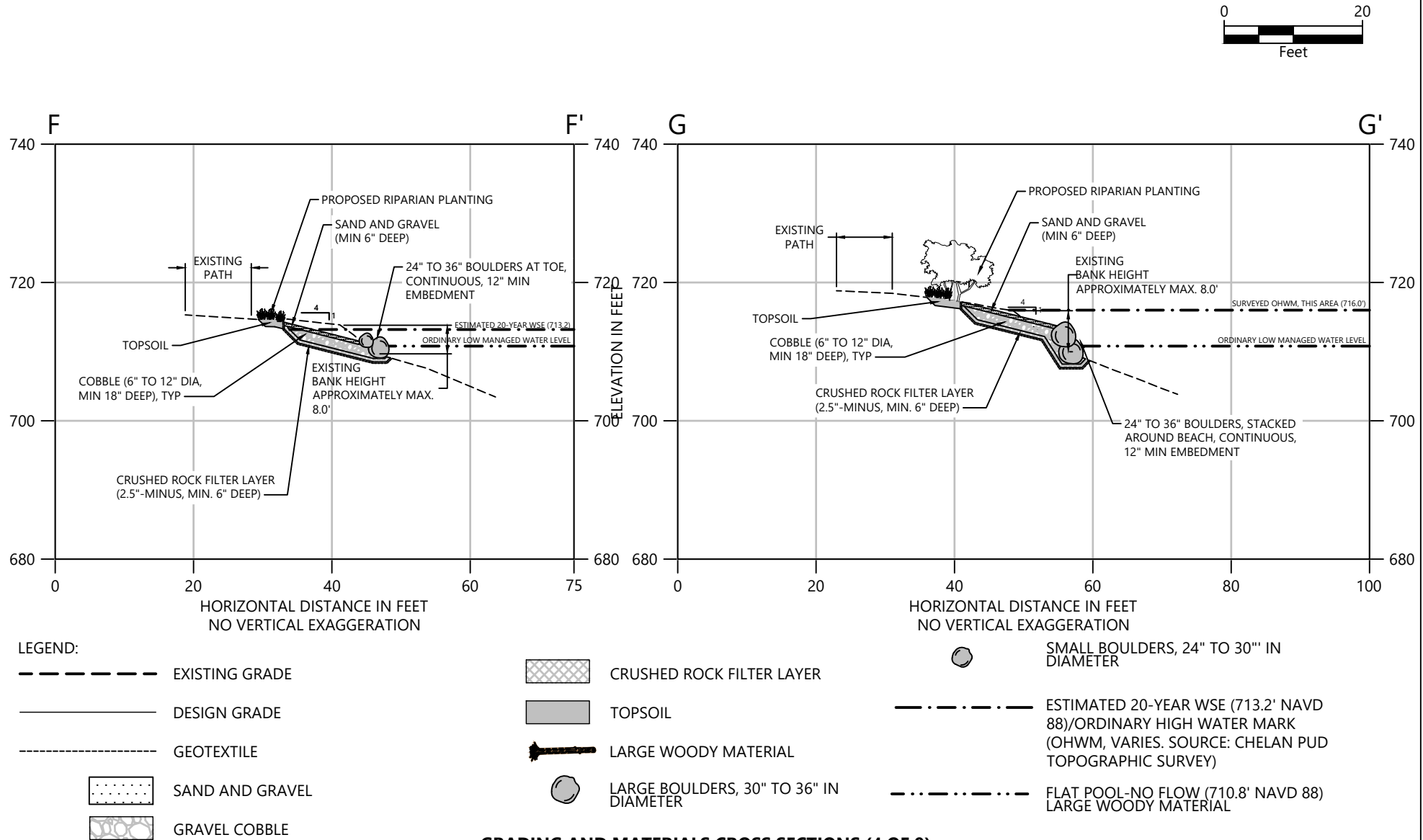
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DATE: NOVEMBER 2022

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PAGE: 22 OF 55



GRADING AND MATERIALS CROSS SECTIONS (4 OF 9)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:
1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC

NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION

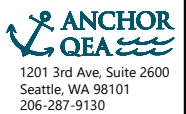
PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83
VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)

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S-T-R: 29-27N-23E

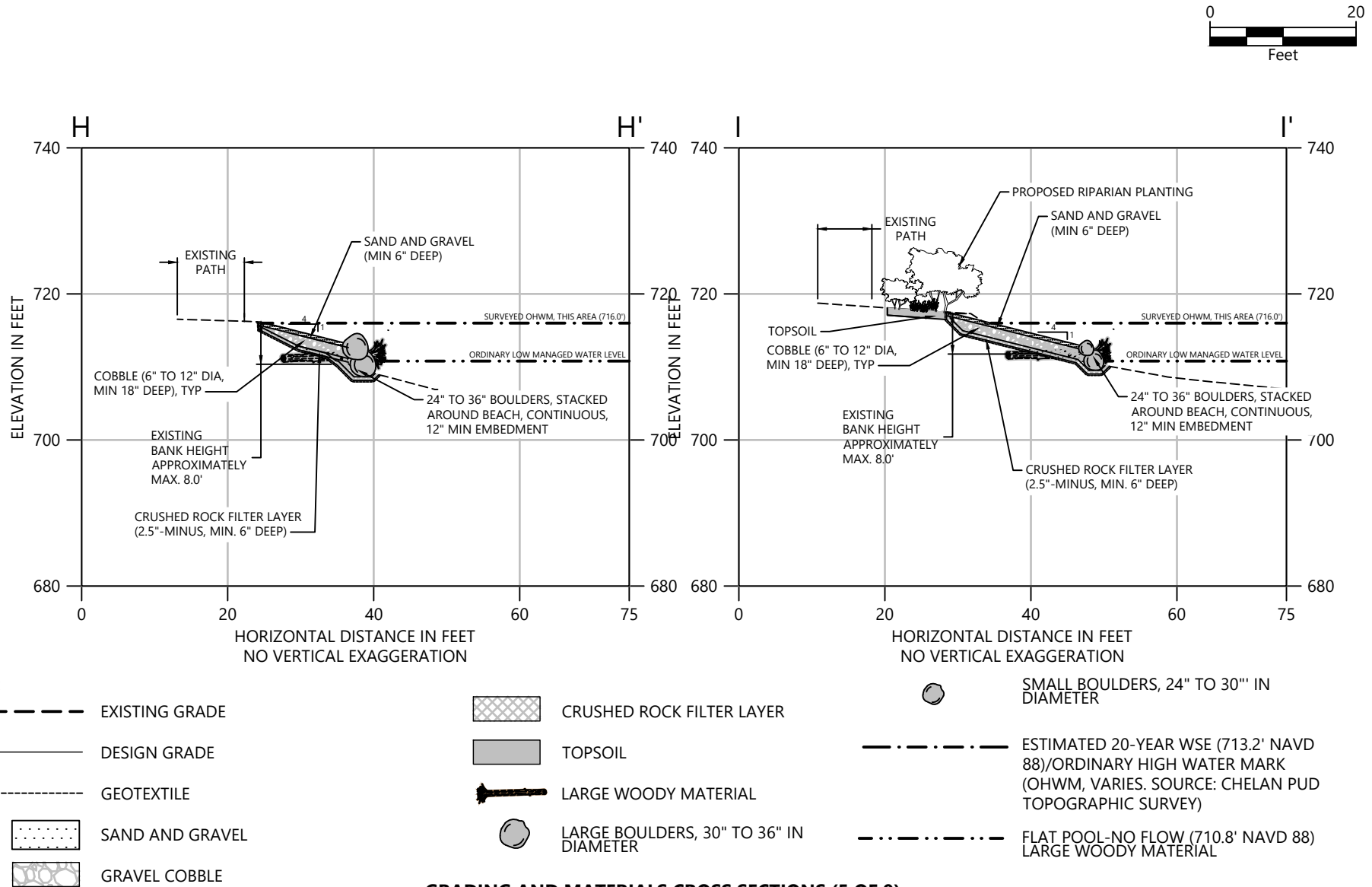
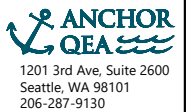
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COUNTY: DOUGLAS
STATE: WASHINGTON

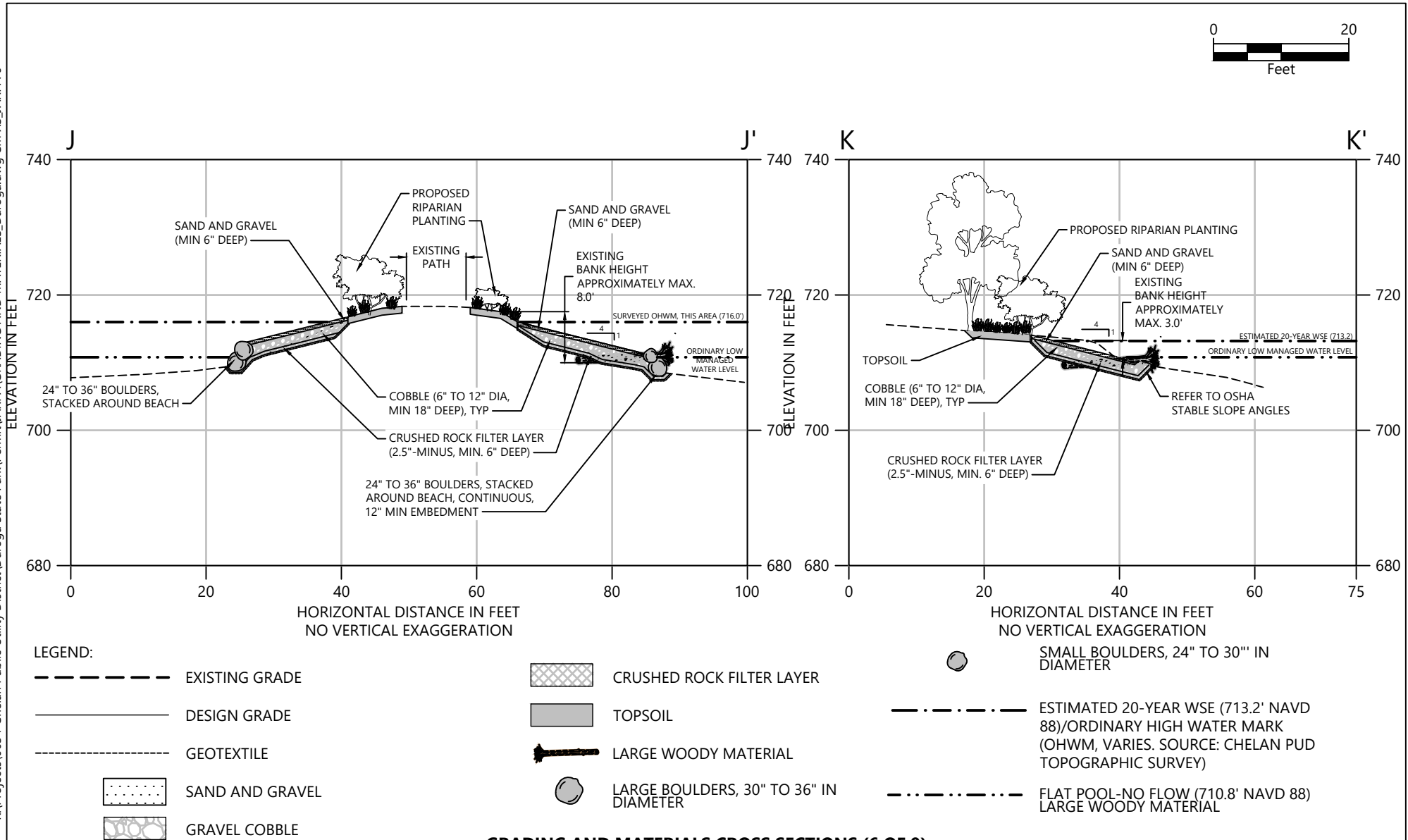
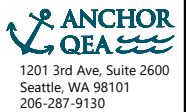
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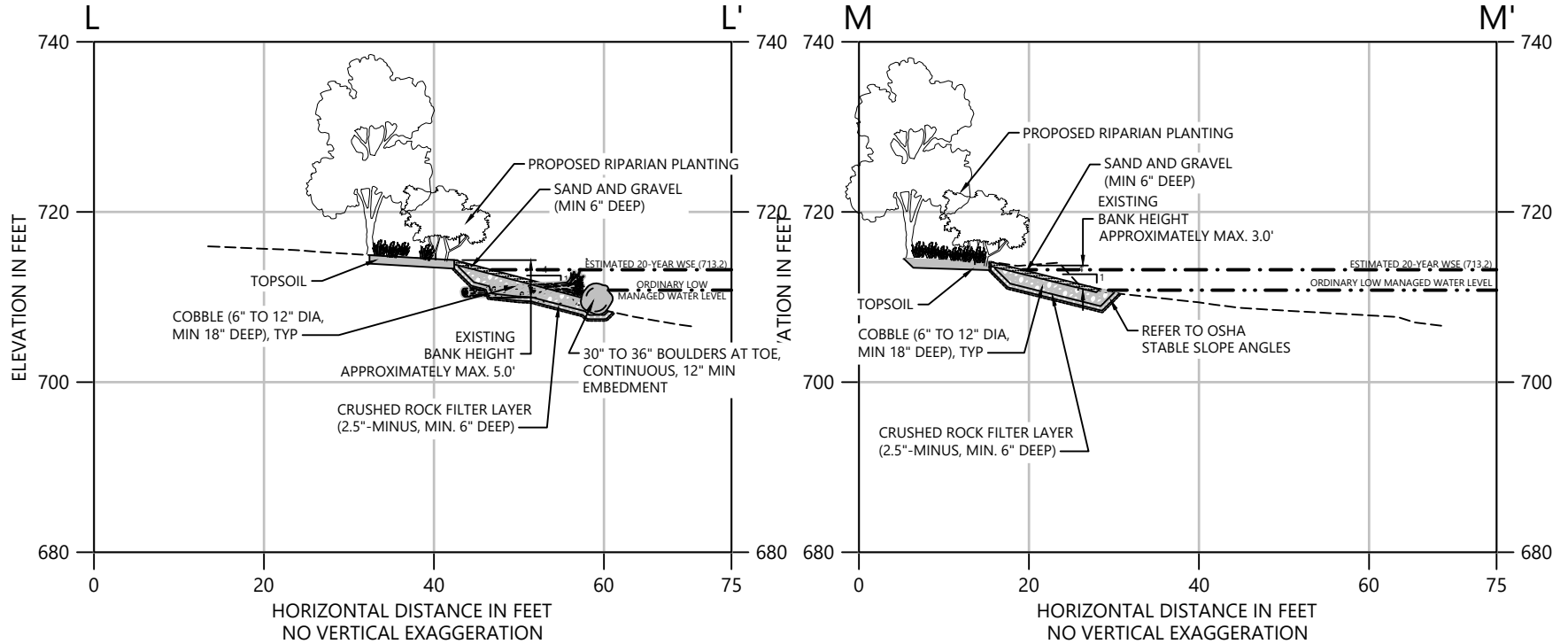
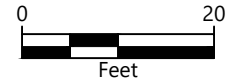


NWS-2023-739

PAGE: 23 OF 55

**GRADING AND MATERIALS CROSS SECTIONS (5 OF 9)****REFERENCE #:** X**APPLICANT:** CHELAN COUNTY PUD NO. 1**LOCATION:** 1 S DAROGA PARK LANE,
ORONDO, WA 98843**ADJACENT PROPERTY OWNERS:**
1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC**NAME:** DAROGA STATE PARK BANK STABILIZATION**PROPOSED:** PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
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VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)**LATITUDE:** 47.7077
LONGITUDE: -120.1958
S-T-R: 29-27N-23E**IN:** COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON**DATE:** NOVEMBER 2022**NWS-2023-739****PAGE:** 24 OF 55

**REFERENCE #:** X**APPLICANT:** CHELAN COUNTY PUD NO. 1**LOCATION:** 1 S DAROGA PARK LANE,
ORONDO, WA 98843**ADJACENT PROPERTY OWNERS:**
1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC**NAME:** DAROGA STATE PARK BANK STABILIZATION**PROPOSED:** PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
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VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)**LATITUDE:** 47.7077
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S-T-R: 29-27N-23E**IN:** COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON**DATE:** NOVEMBER 2022**NWS-2023-739****PAGE:** 25 OF 55



LEGEND:

--- EXISTING GRADE

— DESIGN GRADE

- - - - - GEOTEXTILE

SAND AND GRAVEL

GRAVEL COBBLE

CRUSHED ROCK FILTER LAYER

TOPSOIL

LARGE WOODY MATERIAL

LARGE BOULDERS, 30" TO 36" IN DIAMETER

SMALL BOULDERS, 24" TO 30" IN DIAMETER

ESTIMATED 20-YEAR WSE (713.2' NAVD 88)/ORDINARY HIGH WATER MARK (OHWM, VARIES. SOURCE: CHELAN PUD TOPOGRAPHIC SURVEY)

FLAT POOL-NO FLOW (710.8' NAVD 88) LARGE WOODY MATERIAL

GRADING AND MATERIALS CROSS SECTIONS (7 OF 9)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:

1 - CHELAN COUNTY PUD
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NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION

PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83

VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)

LATITUDE: 47.7077

LONGITUDE: -120.1958

S-T-R: 29-27N-23E

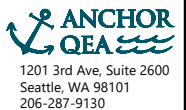
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NEAR/AT: ENTIAT

COUNTY: DOUGLAS

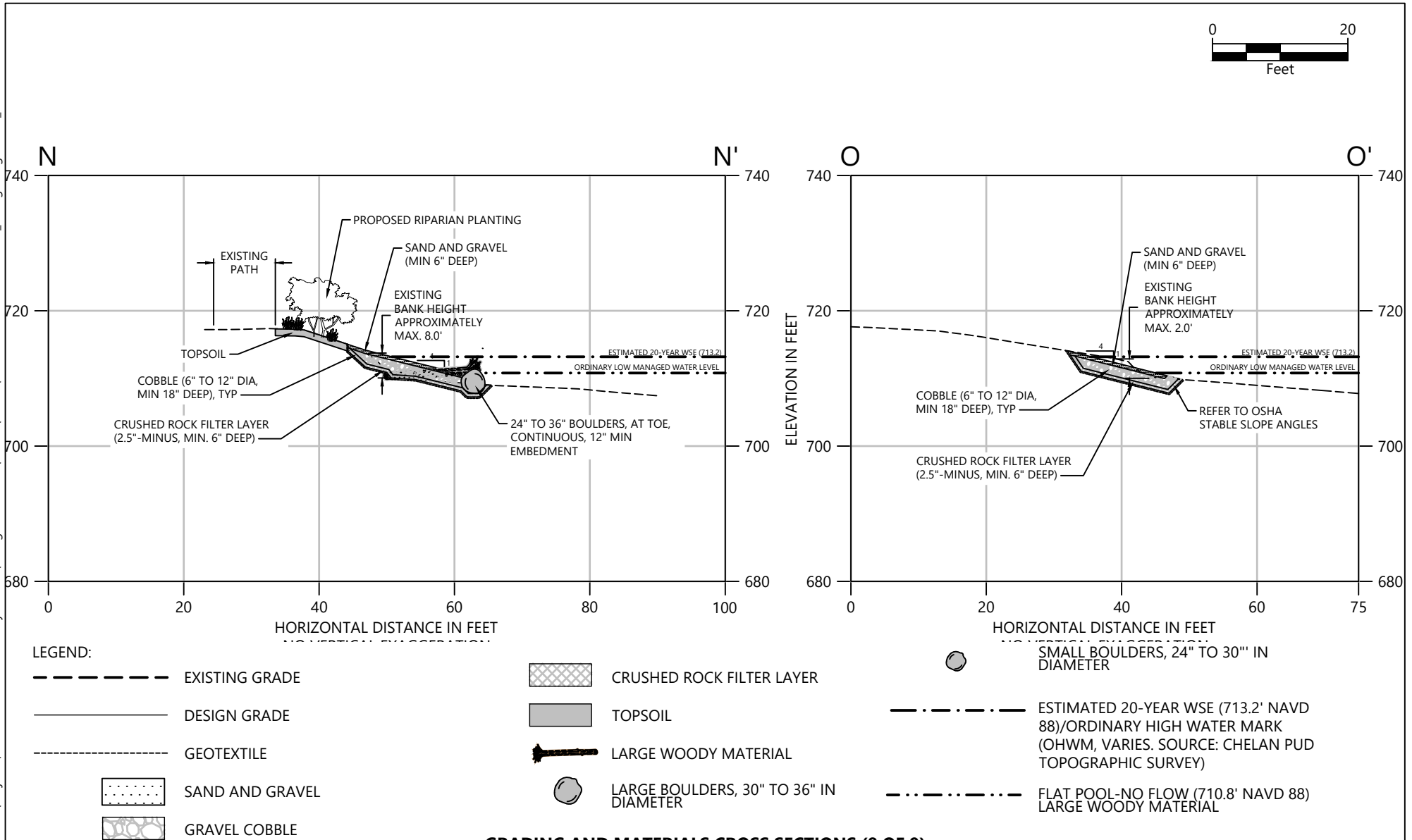
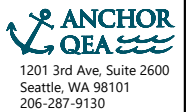
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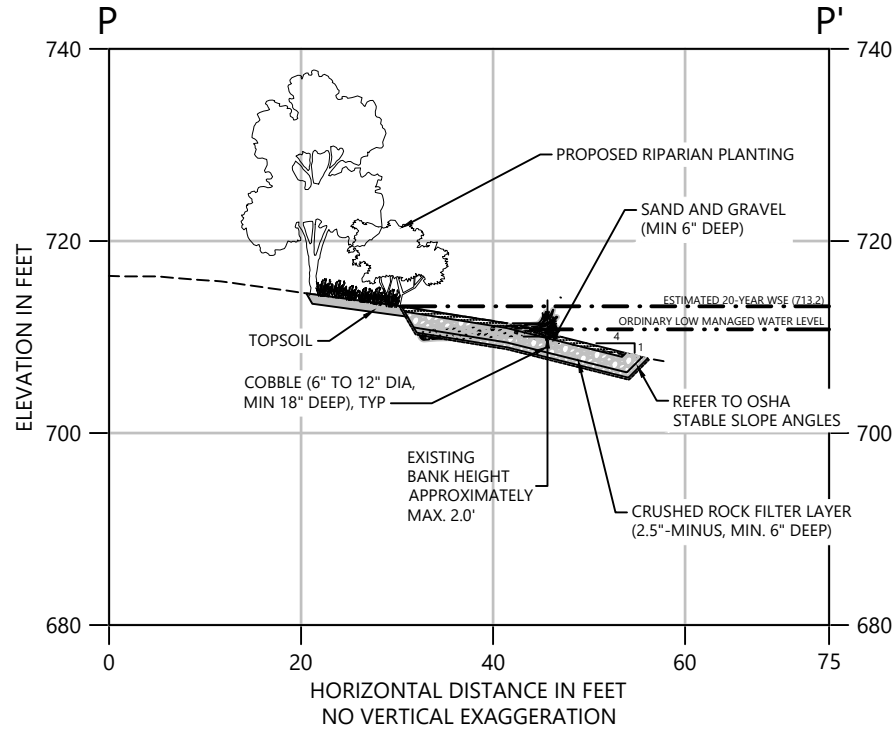
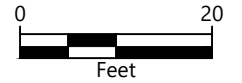
DATE: NOVEMBER 2022



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PAGE: 26 OF 55

**REFERENCE #:** X**APPLICANT:** CHELAN COUNTY PUD NO. 1**LOCATION:** 1 S DAROGA PARK LANE,
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S-T-R: 29-27N-23E**IN:** COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON**DATE:** NOVEMBER 2022**NWS-2023-739****PAGE:** 27 OF 55



LEGEND:

--- EXISTING GRADE

— DESIGN GRADE

- - - - - GEOTEXTILE

SAND AND GRAVEL

GRAVEL COBBLE

CRUSHED ROCK FILTER LAYER

TOPSOIL

LARGE WOODY MATERIAL

LARGE BOULDERS, 30" TO 36" IN DIAMETER

SMALL BOULDERS, 24" TO 30" IN DIAMETER

- . - . - . ESTIMATED 20-YEAR WSE (713.2' NAVD 88)/ORDINARY HIGH WATER MARK (OHWM, VARIES. SOURCE: CHELAN PUD TOPOGRAPHIC SURVEY)

- - - - - FLAT POOL-NO FLOW (710.8' NAVD 88) LARGE WOODY MATERIAL

GRADING AND MATERIALS CROSS SECTIONS (9 OF 9)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:

1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC

NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL, PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN VEGETATION

PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

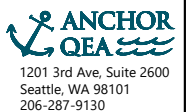
HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83

VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)

LATITUDE: 47.7077
LONGITUDE: -120.1958
S-T-R: 29-27N-23E

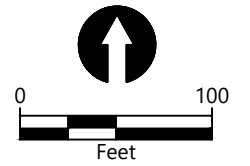
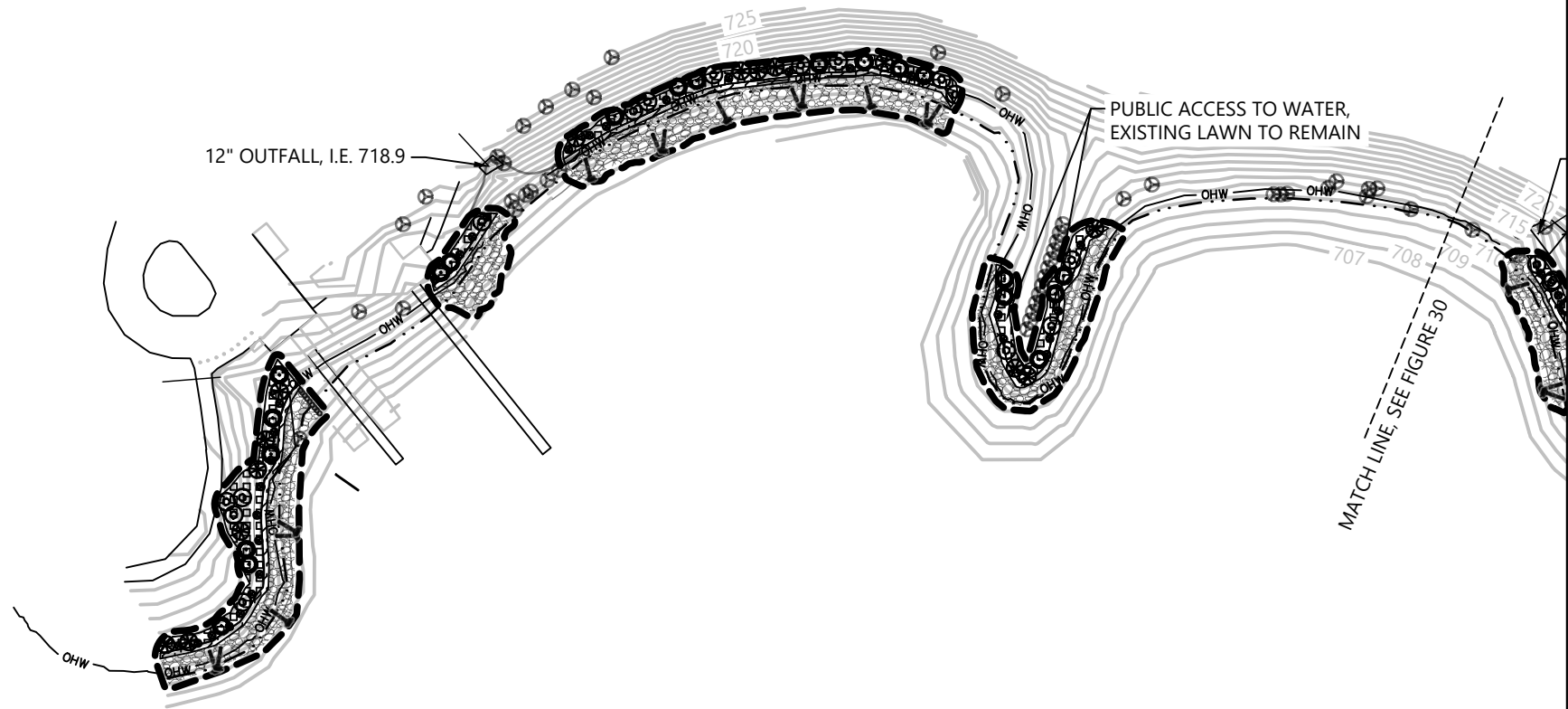
IN: COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON

DATE: NOVEMBER 2022



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- NOTES:
- SEE FIGURE 35 FOR PLANTING SCHEDULE.

PLANTING PLAN (1 OF 6)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:
1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC

NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION

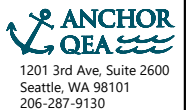
PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83
VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)

LATITUDE: 47.7077
LONGITUDE: -120.1958
S-T-R: 29-27N-23E

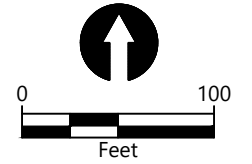
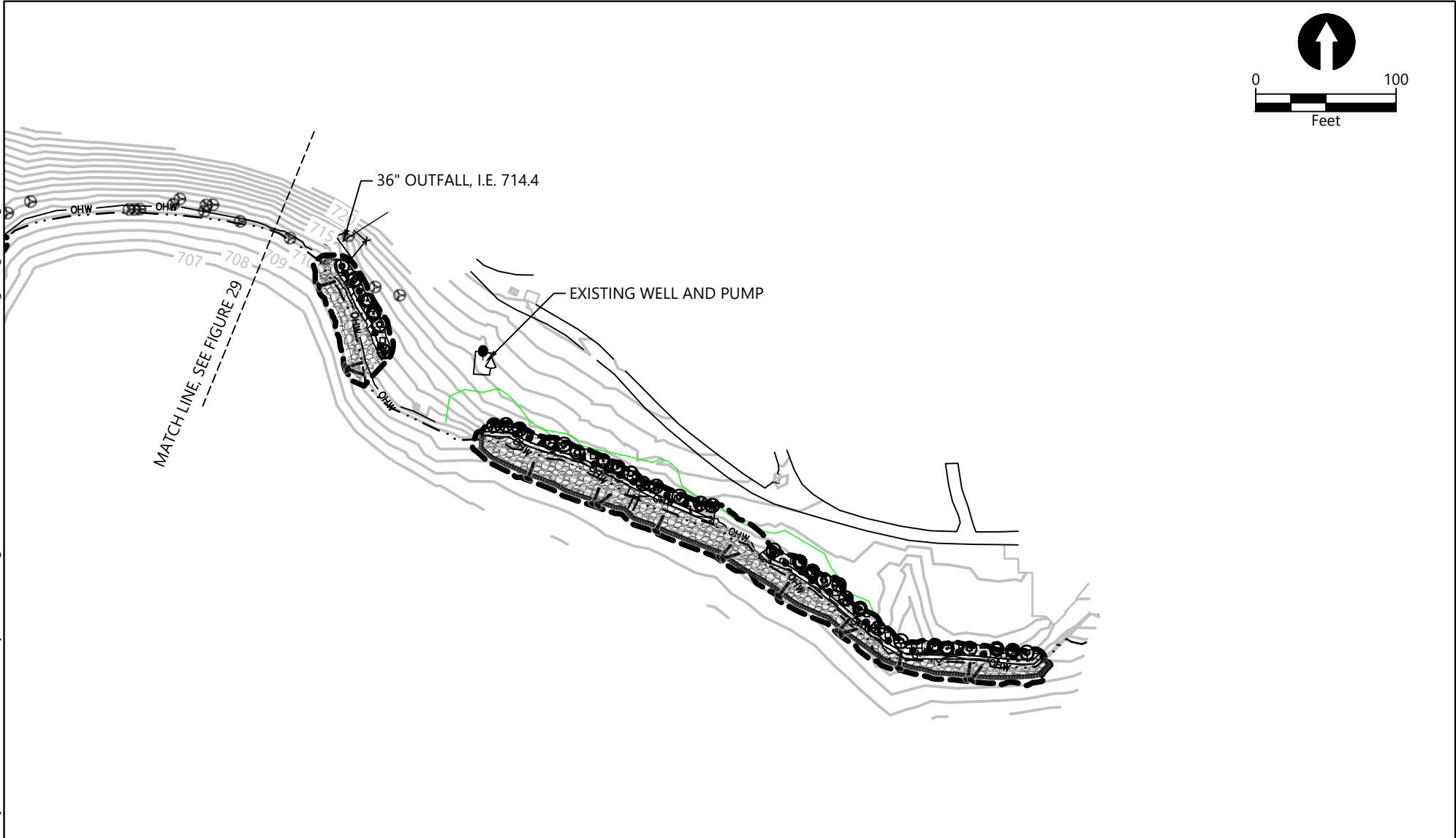
IN: COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON

DATE: NOVEMBER 2022



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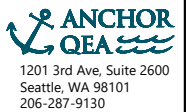
PAGE: 29 OF 55



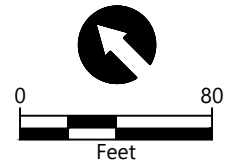
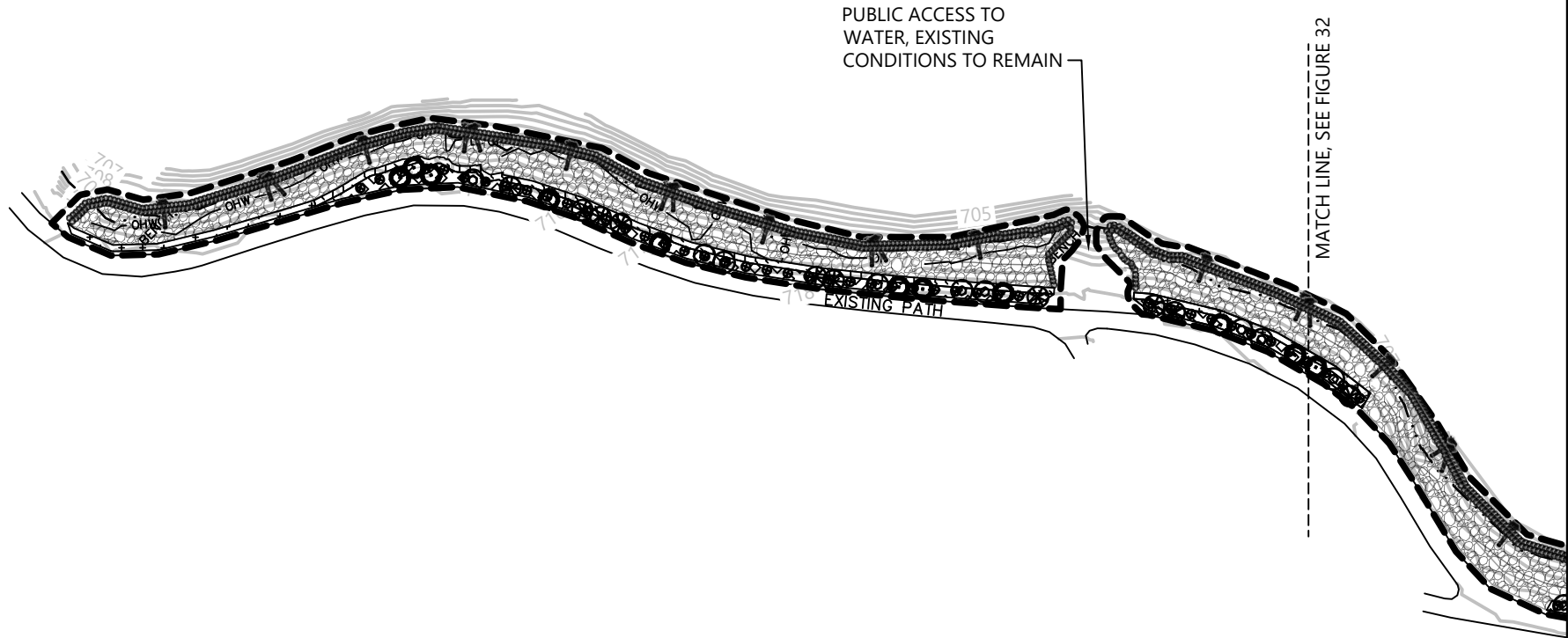
- NOTES:
- SEE FIGURE 35 FOR PLANTING SCHEDULE.

PLANTING PLAN (2 OF 6)

<p>REFERENCE #: X</p> <p>APPLICANT: CHELAN COUNTY PUD NO. 1</p> <p>LOCATION: 1 S DAROGA PARK LANE, ORONDO, WA 98843</p> <p>ADJACENT PROPERTY OWNERS: 1 - CHELAN COUNTY PUD 2 - AFC RANCH LLC</p>	<p>NAME: DAROGA STATE PARK BANK STABILIZATION</p> <p>PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL, PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN VEGETATION</p> <p>PURPOSE: BANK STABILIZATION, IMPROVE ACCESS</p> <p>HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83 VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)</p>	<p>LATITUDE: 47.7077 LONGITUDE: -120.1958 S-T-R: 29-27N-23E</p> <p>IN: COLUMBIA RIVER NEAR/AT: ENTIAT COUNTY: DOUGLAS STATE: WASHINGTON</p> <p>DATE: NOVEMBER 2022</p>
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- NOTES:
- SEE FIGURE 35 FOR PLANTING SCHEDULE.

PLANTING PLAN (3 OF 6)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:
1 - CHELAN COUNTY PUD
2 - AFC RANCH LLC

NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
PLACEMENT OF LARGE WOODY DEBRIS, INSTALL NATIVE RIPARIAN
VEGETATION

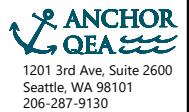
PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83
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LATITUDE: 47.7077
LONGITUDE: -120.1958
S-T-R: 29-27N-23E

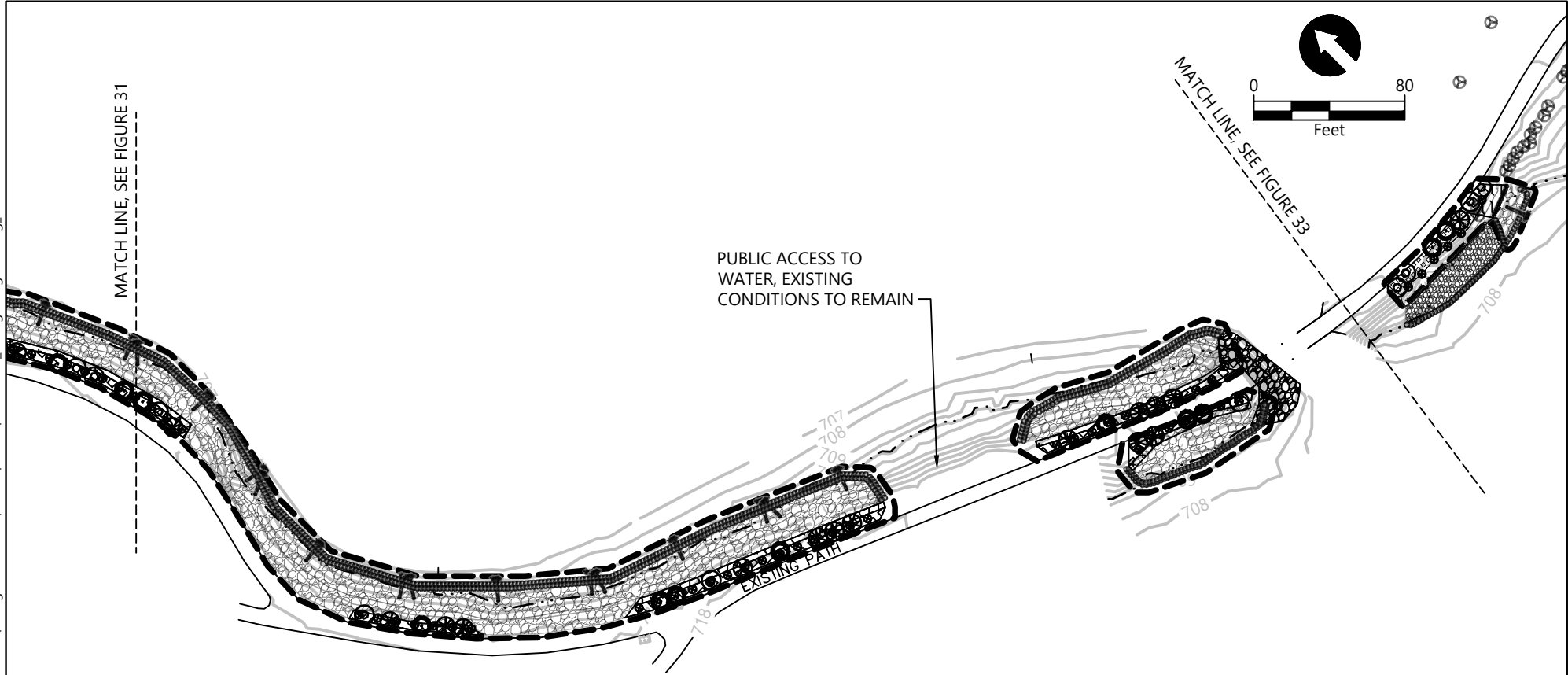
IN: COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON

DATE: NOVEMBER 2022



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- NOTES:
- SEE FIGURE 35 FOR PLANTING SCHEDULE.

PLANTING PLAN (4 OF 6)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:
1 - CHELAN COUNTY PUD
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NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
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VEGETATION

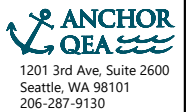
PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83
VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW)

LATITUDE: 47.7077
LONGITUDE: -120.1958
S-T-R: 29-27N-23E

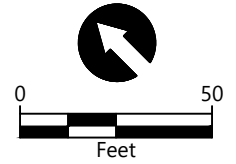
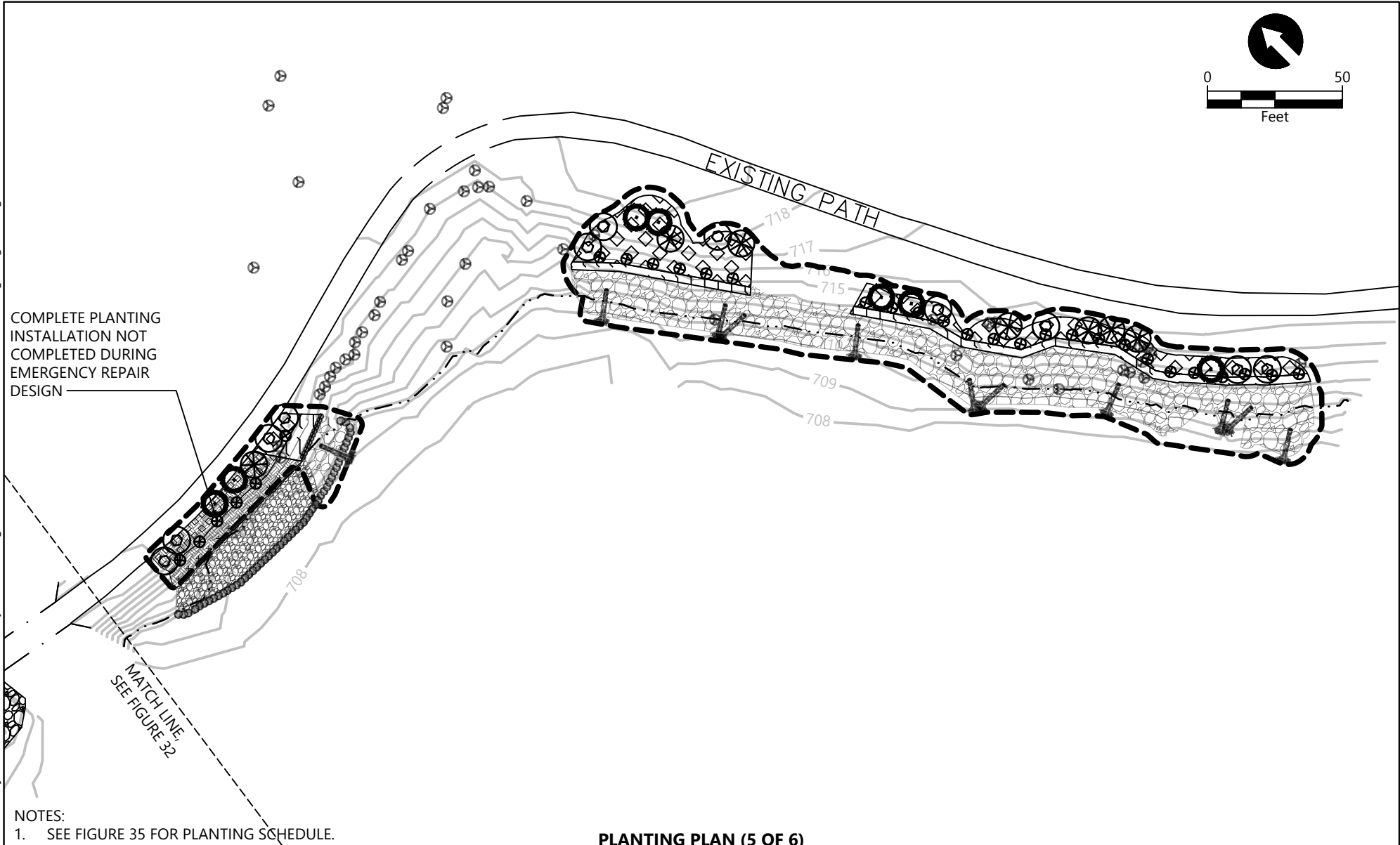
IN: COLUMBIA RIVER
NEAR/AT: ENTIAT
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STATE: WASHINGTON

DATE: NOVEMBER 2022



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PLANTING PLAN (5 OF 6)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:
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NAME: DAROGA STATE PARK BANK STABILIZATION

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VEGETATION

PURPOSE: BANK STABILIZATION, IMPROVE ACCESS

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S-T-R: 29-27N-23E

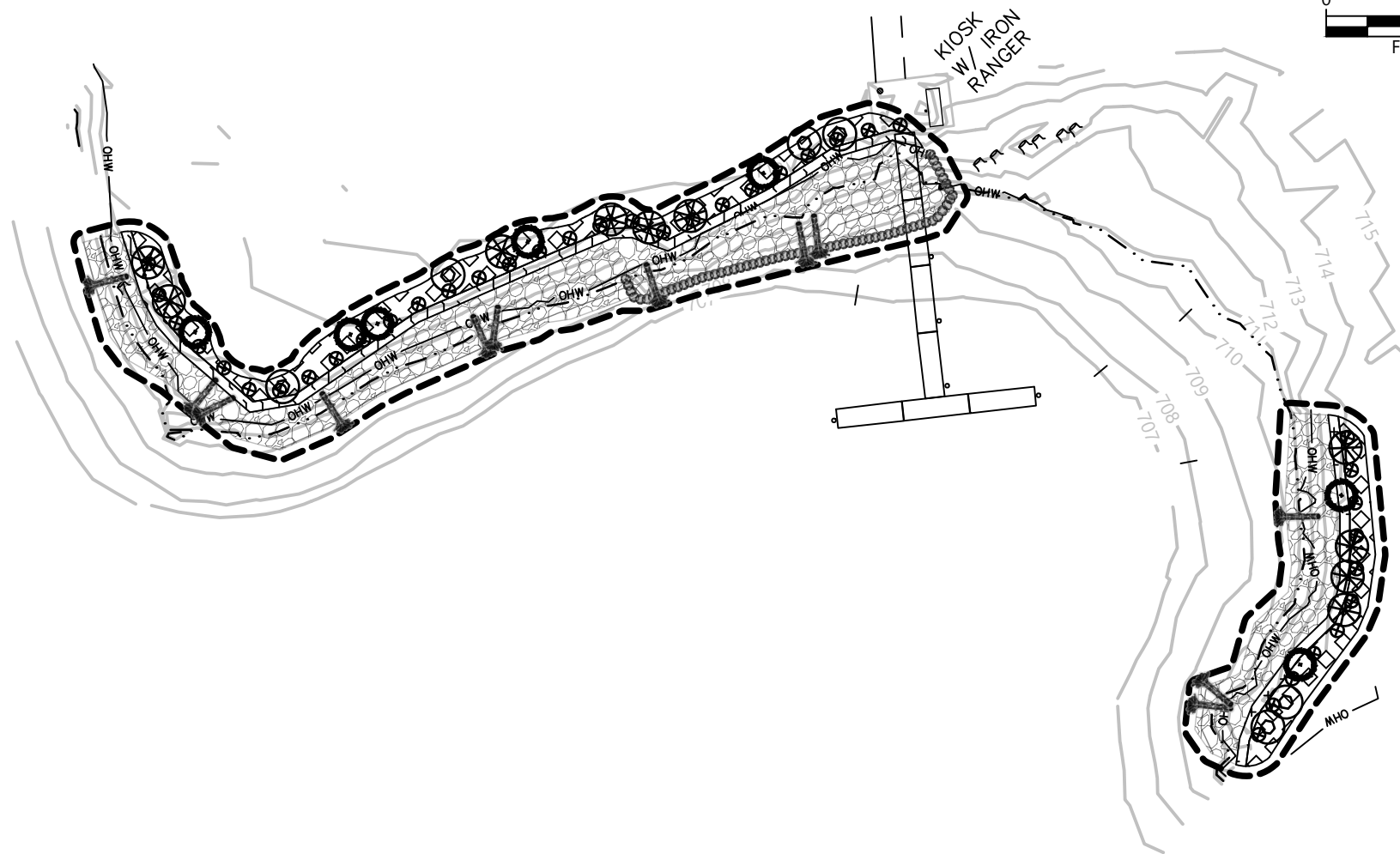
IN: COLUMBIA RIVER
NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON

DATE: NOVEMBER 2022



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NOTES:

- SEE FIGURE 35 FOR PLANTING SCHEDULE.

PLANTING PLAN (6 OF 6)

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843

ADJACENT PROPERTY OWNERS:

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NEAR/AT: ENTIAT
COUNTY: DOUGLAS
STATE: WASHINGTON

DATE: NOVEMBER 2022



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PLANTING SCHEDULE

X X	RIPARIAN AND OVERBANK ZONE A				QTY.	NOTE
	Cornus sericea	Red-osier Dogwood	Live Stake	2' O.C.	415	EQUAL MIX OF SPECIES
	Salix exigua	Narrow-leaved Willow	Live Stake	2' O.C.	415	
	Salix scouleriana	Scouler Willow	Live Stake	2' O.C.	415	
Z	RIPARIAN AND OVERBANK ZONE B					NOTE
	Cornus sericea	Red-osier Dogwood	Live Stake	2' O.C.	415	EQUAL MIX OF SPECIES
	Salix drummondiana	Drummond Willow	Live Stake	2' O.C.	415	
	Spirea douglasii	Douglas Hawthorne	Live Stake	2' O.C.	415	
O	RIPARIAN TREES				QTY.	NOTE
	Alnus incana	Mountain Alder	6-8'	As Shown	69	N/A
	Betula occidentalis	Water Birch	6-8'	As Shown	61	
	Pinus ponderosa	Ponderosa Pine	6-8'	As Shown	69	
	Populus trichocarpa	Black Cottonwood	Poles	10' O.C.	227	
□ □ □	UPPER RIPARIAN SHRUBS				QTY.	NOTE
	Amelanchier alnifolia	Saskatoon Serviceberry	1 Gal.	5' O.C.	110	EQUAL MIX OF SPECIES
	Holodiscus discolor	Oceanspray	1 Gal.	5' O.C.	110	
	Philadelphus lewisii	Lewis's Mock Orange	1 Gal.	5' O.C.	110	
	Prunus virginiana	Choke Cherry	1 Gal.	5' O.C.	110	
	Ribes aureum	Golden currant	1 Gal.	5' O.C.	110	
	Sambucus caerulea	Blue Elderberry	1 Gal.	5' O.C.	110	
	Spirea douglasii	Douglas' Spirea	1 Gal.	5' O.C.	110	
	Symphoricarpos albus	Snowberry	1 Gal.	5' O.C.	110	

PLANTING SCHEDULE

REFERENCE #: X

APPLICANT: CHELAN COUNTY PUD NO. 1

LOCATION: 1 S DAROGA PARK LANE,
ORONDO, WA 98843ADJACENT PROPERTY OWNERS:
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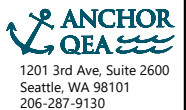
NAME: DAROGA STATE PARK BANK STABILIZATION

PROPOSED: PLACEMENT OF RIVER COBBLES, SAND, AND GRAVEL, CUT AND FILL,
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