



State of Washington
REPORT OF EXAMINATION
FOR WATER RIGHT CHANGE

Added or Changed Point of Withdrawal/Diversion

PRIORITY DATE	WATER RIGHT NUMBER
September 14, 1970	CS2-00142

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
WA DEPT. OF FISH AND WILDLIFE (HUMPTULIPS HATCHERY) 600 CAPITOL WAY N. C/O REAL ESTATE OLYMPIA, WA, 98506	HUMPTULIPS SALMON HATCHERY 1704 KIRKPATRICK RD HUMPTULIPS, WA, 98552

Total Quantity Authorized for Withdrawal or Diversion		
DIVERSION RATE	UNITS	ANNUAL QUANTITY (AC-FT/YR)
30 (non-consumptive)	CFS	21,717.5

Purpose						
PURPOSE	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Fish Propagation	30		CFS	21,717.5		01/01-12/31

Source Location			
COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Grays Harbor	Humptulips River	North Bay	22
Grays Harbor	Stevens Creek	Humptulips River	22

SOURCE	PARCEL	TOWNSHIP	RANGE	SECTION	QQ Q	LATITUDE	LONGITUDE
S01- Humptulips River	201112430010	20	11W	12	SE SE	47.2315	-123.9851
S02- Stevens Creek (proposed)	201112430010	20	11W	12	SW SE	47.2329	-123.9875

Datum: NAD83/WGS84

Place of Use (See Attached Map)
PARCELS (NOT LISTED FOR SERVICE AREAS)
201112430010
LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE
That portion of the SE quarter of Section 12, T.20N., R.11 W.W.M., described as follows: Beginning at a point which lies North 89°48'58" east 1337.70 feet from the South quarter corner of said Section 12, which point is also the SE corner of the SW ¼ of the SE ¼ of said Section 12; thence North 45°30'12" West 938.36 feet to the center of the SW ¼ of the SE ¼ said Section 12; thence North 00°02'30" West 659.81

feet to the center of the North line of the SW ¼ of the SE ¼ of said Section 12; thence South 89°44'44" West 169.19 feet to a point 500 feet East at right angles to the N-S centerline of said Section 12; thence parallel with the N-S centerline North 00°03'28" W 407.59 feet to the South right of way line of county road number 104; thence along said right of way line 234.16 feet on a curve to the right having an angle of 43°34'16" and a radius of 307.92 feet and a length of 234.16 feet and a cord bearing North 88°42'48" E 228.58 feet; thence continuing along said Right-of-Way line North 20°29'56" East 9.42 feet; thence South 72°24'04" East 363.64 feet; thence South 62°25'04" E 293.72 feet; thence, leaving said county road number 104 Right-of-Way, South 00°01'31" East 171.87 feet to the center of the SE ¼ of said Section 12; thence North 89°44'44" East 469.22 feet to a point 200 feet west of the N-S centerline of the SE ¼ SE ¼ of Section 12; thence South 00°00'31" East 660.51 feet; thence South 59°36'10" East 231.90 feet to the ordinary high water on the right bank of the Humptulips River; thence Southwesterly along said line of ordinary high water 900 feet to the South line of said Section 12; thence South 89°48'58" West along the South line of said Section 12 56 feet to the point of beginning. Excepting a tract of land conveyed to the State of Washington by a deed dated August 15, 1915, and recorded in Book 129 of Deeds, page 51, in the records of Grays Harbor County containing 3 acres more or less. The so described tract contains 31.6 acres more or less.

Proposed Works

S01- Humptulips River: 9 pumps with a combined capacity of 31.2 cfs (average 1,550 gpm).

S02 – Stevens Creek: 2 electric pumps capable of discharging 3.56 cfs and 8.35 cfs, for a total diversion rate of 11.91 cfs. A third pump with 8.4 cfs capacity is proposed which will allow a total diversion rate of 20 cfs. The fish screen is designed with a 20 cfs transmitting capacity. Bypass reach is roughly 50-feet long.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Started	Completed	December 31, 2025

Measurement of Water Use

How often must water use be measured?	Monthly
How often must water use data be reported to Ecology?	Annually (Jan 31)
What volume should be reported?	Total Annual Volume (ac-ft)
What rate should be reported?	Annual Peak Rate of Diversion (cfs), Average Rate of Diversion

Provisions

Measurements, Monitoring, Metering and Reporting

An approved measuring device must be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173.

Progress on placing the water to full use consistent with the development schedule shall be reported every five years (i.e., by December 31 of 2020, 2025 and 2030).

Department of Ecology personnel, upon presentation of proper credentials, must have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.

WAC 173-173 describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements.

Department of Fish and Wildlife Requirement(s)

The intake(s) must be screened in accordance with Department of Fish and Wildlife screening criteria (pursuant to RCW 77.57.010, RCW 77.57.070, and RCW 77.57.040). Contact the Department of Fish and Wildlife, 600 Capitol Way N, Olympia, WA 98501-1091. Attention: Habitat Program, Phone: (360) 902-2534 if you have questions about screening criteria. <http://www.wdfw.wa.gov/reg/regions.htm>

No dam or weir may be constructed in connection with this diversion.

Proof of Appropriation

The water right holder must file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the superseding permit. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

Easement and Right-of-Way

The water source and/or water transmission facilities are not wholly located upon land owned by the applicant. Issuance of a water right change authorization by this department does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.

Water Use Efficiency

Use of water under this authorization will be contingent upon the water right holder's maintenance of efficient water delivery systems and use of up-to-date water conservation practices consistent with established regulation requirements and facility capabilities.

Proof of Appropriation

The water right holder must file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the superseding permit. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

Schedule and Inspections

Department of Ecology personnel, upon presentation of proper credentials, will have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Findings of Facts

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that water is available

from the source in question; that there will be no impairment of existing rights; that the purpose of use is beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. CS2-00142, subject to existing rights and the provisions specified above.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

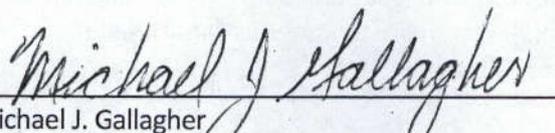
To appeal you must do the following within 30 days of the date of receipt of the Order:

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	Department of Ecology Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel RD SW, Ste 301 Tumwater, WA 98501	Pollution Control Hearings Board PO Box 40903 Olympia, WA 98504-0903

Signed at Olympia, Washington, this 21st day of May, 2015.


 Michael J. Gallagher
 Water Resources Program/Southwest Region
 Department of Ecology

INVESTIGATOR'S REPORT
 Water Right Control Number CS2-00142
 Washington Department of Fish and Wildlife

BACKGROUND

Description and Purpose of Proposed Change

Application for Change/Transfer of Water Right CS2-00142 was filed by Phil Crane, representing Washington Department of Fish and Wildlife, on June 13, 2013. This application requested to add a point of diversion to a new diversion to Surface Water Certificate (SWC) S2-00142.

This report serves as the written findings of fact concerning Water Right Application Number CS2-00142.

EXISTING Water Right Attributes

Water Right Owner:	Washington Department of Fish and Wildlife
Priority Date:	September 14, 1970
Place of Use	That portion of the SE quarter of Section 12, T.20N., R.11 W.W.M., described as follows: Beginning at a point which lies North 89°48'58" east 1337.70 feet from the South quarter corner of said Section 12, which point is also the SE corner of the SW ¼ of the SE ¼ of said Section 12; thence North 45°30'12" West 938.36 feet to the center of the SW ¼ of the SE ¼ said Section 12; thence North 00°02'30" West 659.81 feet to the center of the North line of the SW ¼ of the SE ¼ of said Section 12; thence South 89°44'44" West 169.19 feet to a point 500 feet East at right angles to the N-S centerline of said Section 12; thence parallel with the N-S centerline North 00° 03' 28" W 407.59 feet to the South right of way line of county road number 104; thence along said right of way line 234.16 feet on a curve to the right having an angle of 43°34'16" and a radius of 307.92 feet and a length of 234.16 feet and a cord bearing North 88°42'48" E 228.58 feet; thence continuing along said Right-of-Way line North 20°29'56" East 9.42 feet; thence South 72°24'04" East 363.64 feet; thence South 62°25'04" E 293.72 feet; thence, leaving said county road number 104 Right-of-Way, South 00°01'31" East 171.87 feet to the center of the SE ¼ of said Section 12; thence North 89° 44'44" East 469.22 feet to a point 200 feet west of the N-S centerline of the SE ¼ SE ¼ of Section 12; thence South 00°00'31" East 660.51 feet; thence South 59°36'10" East 231.90 feet to the ordinary high water on the right bank of the Humptulips River; thence Southwesterly along said line of ordinary high water 900 feet to the South line of said Section 12; thence South 89°48'58" West along the South line of said Section 12 56 feet to the point of beginning. Excepting a tract of land conveyed to the State of Washington by a deed dated August 15, 1915, and recorded in Book 129 of Deeds, page 51, in the records of Grays Harbor County containing 3 acres more or less. The so described tract contains 31.6 acres more or less.

County	Waterbody	Tributary To	WRIA
Grays Harbor	Humptulips River	North Bay	22

Purpose	Rate	Unit	Ac-ft/yr	Begin Season	End Season
Fish Propagation (non-consumptive)	30	CFS	21,717.5	01/01	12/31

Source Name	Parcel	Twp	Rng	Sec	QQ Q	Latitude	Longitude
S01 – Humptulips River	201112430010	20N	11W	12	SE SE	47.2315	-123.9851

Datum: NAD83

CFS = Cubic Feet per Second; Ac-ft/yr = Acre-feet per year; Sec. = Section; QQ Q = Quarter-quarter of a section; WRIA = Water Resource Inventory Area;

REQUESTED Water Right Attributes

Applicant Name:	Washington Department of Fish and Wildlife
Date of Application:	June 13, 2013
Place of Use	Same

County	Waterbody	Tributary To	WRIA
Grays Harbor	Humptulips River (S01)	North Bay	22
Grays Harbor	Stevens Creek (S02)	Humptulips River	22

Purpose	Rate	Unit	Ac-ft/yr	Begin Season	End Season
Fish Propagation (non-consumptive)	30	CFS	21,717.5	01/01	12/31

Source Name	Parcel	Twp	Rng	Sec	QQ Q	Latitude	Longitude
S01 - Humptulips River	201112430010	20N	11W	12	SE SE	47.2315	-123.9851
S02 – Stevens Creek	201112430010	20N	11W	12	SW SE	47.2329	-123.9875

Datum: NAD83/WGS84

CFS = Cubic Feet per Second; Ac-ft/yr = Acre-feet per year; Sec. = Section; QQ Q = Quarter-quarter of a section; WRIA = Water Resource Inventory Area;

Legal Requirements for Requested Change**Public Notice**

RCW 90.03.280 requires that notice of a water right application be published once a week, for two consecutive weeks, in a newspaper of general circulation in the county or counties where the water is to be stored, diverted and used. Notice of this application was published in *The Daily World* on September 23, 2014 and September 30, 2014. No comments were received.

Consultation with the Department of Fish and Wildlife

The Department must give notice to the Department of Fish and Wildlife of applications to divert, withdraw, or store water. The Applicant is the Washington Department of Fish and Wildlife for fish propagation purposed. Diversion of water will be conducted according to Washington Department of Fish and Wildlife best management practices.

Consultation with the Quinault Indian Tribe

The Department of Fish and Wildlife informed the Quinault Indian Tribe of details of this water right change.

State Environmental Policy Act (SEPA)

A SEPA determination evaluates if a proposed withdrawal will cause significant adverse environmental impacts. A SEPA threshold determination is required for:

- 1) Surface water applications for more than 1 cubic feet per second (cfs). For agricultural irrigation, the threshold increases to 50 cfs, if the project isn't receiving public subsidies.
- 2) Groundwater applications requesting more than 2,250 gpm.
- 3) Projects with several water right applications where the combined withdrawals meet the conditions listed above.
- 4) Projects subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA).
- 5) Applications that are part of several exempt actions that collectively trigger SEPA under WAC 197-11-305.

This water right application is not categorically exempt from SEPA because it is a surface water right for more than 1 cfs. The Washington Department of Fish and Wildlife issued a Determination of Nonsignificance on December 12, 2013 after reviewing the SEPA Checklist prepared for this project. No comments were received following issuance of the DNS.

Water Resources Statutes and Case Law

RCW 90.03.380(1) states that a water right that has been put to beneficial use may be changed. The point of diversion, place of use, and purpose of use may be changed if it would not result in harm or injury to other water rights. The Washington Supreme Court has held that Ecology, when processing an application for change to a water right, is required to make a tentative determination of extent and validity of the claim or right. This is necessary to establish whether the claim or right is eligible for change. *R.D. Merrill v. PCHB* and *Okanogan Wilderness League v. Town of Twisp*.

INVESTIGATION

The material reviewed in support of this application included the following:

- The State Surface Water Code, administrative rules, and policies.
- Department of Ecology's Water Right Tracking System (WRTS) database.
- Topographic and local area maps.
- Information submitted with the application.
- Notes from a site visit on February 26, 2015.

Project Description and Location

The Humptulips River Hatchery (Hatchery), owned and operated by the Washington Department of Fish and Wildlife (WDFW), is situated at the confluence of the Humptulips River (River Mile 22.5) and Stevens Creek. The Hatchery has operated as a state salmon and steelhead hatchery since 1976 and is a significant contributor to recreational, tribal, and commercial fisheries. The primary water source for the Hatchery is from a diversion in the Humptulips River.

See Attachment #1

Each fall, fish originating from the hatchery become stranded when adult salmon migrate past the collection facility located near the mouth of Stevens Creek. This straying occurs because juvenile fish

are imprinted on Humptulips River water and not water from Stevens Creek. These hatchery fish swim upstream into the upper Humptulips watershed and spawn with native stocks.

WDFW submitted water right change application (CS2-00142C) to add a point of diversion to Water Right Certificate S2-00142C to allow diversion from Stevens Creek in an effort to reduce spawning of Hatchery origin fish with native stocks.

Site Visit

A site visit was conducted on March 2, 2015 by Chris Pitre of Golder Associates Inc. to verify site details and construction status. WDFW staff was present to discuss Hatchery operations, including Larry Peck, Jeremy Parker and Ken Isaksson.

At the time of the site visit, construction new diversion structure in Stevens Creek was complete. The diversion was operating successfully and water was being returned to Stevens Creek roughly 50 feet downstream of the diversion. Impact to flows in Stevens Creek was negligible.

This diversion was equipped with 2 electric pumps capable of discharging 3.56 cfs and 8.35 cfs, for a combined total of 11.91 cfs. Infrastructure was in place to allow for installation of a third pump with 8.4 cfs capacity, which would allow a total diversion rate of approximately 20 cfs. The fish screen is designed with a 20 cfs transmitting capacity.

The Humptulips River diversion was outfitted with nine electric pumps. According to the pump ratings dated March 18, 2012, the pumps are capable of producing approximately 31.2 cfs (average 1,550 gallons per minute [gpm]).

The Humptulips River diversion is also associated with SWC S2-21186 which authorizes a diversion rate of 15 cfs.

History of Water Use

Construction was completed for the Humptulips River Hatchery in 1974 and it has operated nearly continuously as a State Salmon Hatchery since 1976. Fish production has varied over the years as a function of fishery management objectives and policy (e.g., the Genetic Habitat Management Plan) and climate and streamflow conditions.

Water use from the Humptulips River has been approximately 30 cfs in early spring and is greater in high return years under both SWC S2-00142 and S2-21186.

Proposed Use

Change application CS2-00142 requests to add a diversion from Stevens Creek to reduce spawning of Hatchery origin fish with native stocks. WDFW proposes to reduce straying of hatchery fish by imprinting juvenile fish with Stevens Creek water. According to WDFW, imprinting juveniles with water from Stevens Creek should inhibit hatchery fish from straying higher into the Humptulips Watershed and cross-breeding with native stocks.

Other Rights Appurtenant to the Place of Use

Two other water rights and one claim are associated with the place of use, are owned by the Washington Department of Fish and Wildlife, and are used at the Humptulips Hatchery.

- Certificate S2-21186 authorizes diversion of 15 cfs from the same Humptulips River diversion as the subject application.
- Certificate S2-01068 authorizes diversion of 2 cfs of from Hatchery Creek (tributary to Stevens Creek) for incubation facilities.
- Groundwater Claim 000440CL for domestic supply to the hatchery facility.

Impairment Considerations

An instream flow rule set for Water Resources Inventory Area 22 (Lower Chehalis) establishes minimum instream flows for the Humptulips River with a priority date of March 10, 1976.

The existing point of diversion is located on the Humptulips River approximately 200 feet upstream of the confluence with Stevens Creek. Water diverted from the Humptulips River is passed through the hatchery and returned to Stevens Creek, roughly 500 feet upstream of the confluence of Stevens Creek and the Humptulips River, thereby creating a 200 foot bypass reach.

The proposed change involves adding a point of diversion on Stevens Creek. This will reduce the amount of being water diverted from the Humptulips River. Up to 20 cfs will be diverted from Stevens Creek where the bypass reach is only 50-feet long. Since the bypass reach on Stevens Creek is so short, impacts will be negligible. The proposed change will reduce impacts on the Humptulips River.

Conclusions

In accordance with Chapters 90.03 and 90.44 RCW, I find that:

- SWC S2-00142 is in good standing and available for change.
- Fish propagation is a beneficial use.
- The proposed change of point of diversion will not impair existing rights.
- Approval of the requested changes will not enlarge the original right conveyed by SWC 00142, subject to the provisions specified above.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that this request for a water right be approved in the amounts and within the limitations listed below and subject to the provisions listed above.

Purpose of Use and Authorized Quantities

The amount of water recommended is a maximum limit and the water user may only use that amount of water within the specified limit that is reasonable and beneficial:

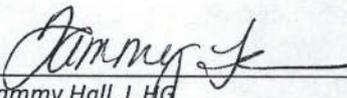
- 30.0 cfs, 21,717.5 ac-ft per year, year round use.
- Non- consumptive.
- For fish propagation purposes.

Points of Diversion

- S01 – Humptulips River: SE ¼, SE ¼, Section 12, Township 20 North, Range 11 E .W.M.
- S02 – Stevens Creek: SW ¼, SE ¼, Section 12, Township 20 North, Range 11 E .W.M.

Place of Use

- See legal description on page 1.



Tammy Hall, L.HG

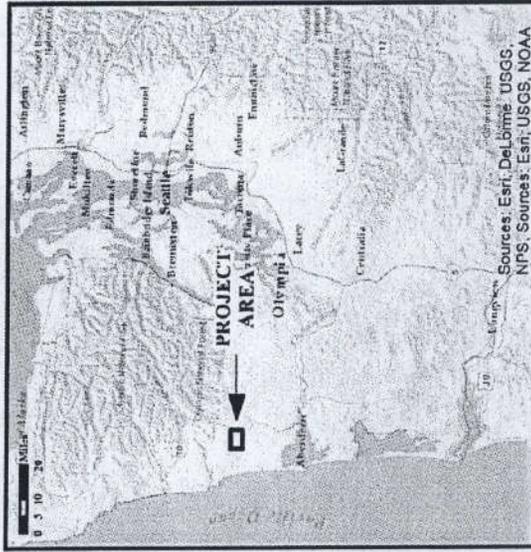
5/21/2015

Date

If you need this publication in an alternate format, please call Water Resources Program at (360) 407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

ATTACHMENT 1

WA Dept. of Fish & Wildlife (Humpatuius Hatchery)
 CS2-00142
 Sec. 12, T20N/R11W
 WRIA 22 - Grays Harbor



Sources: Esri, Delorme, USGS, NPS, Sources: Esri, USGS, NOAA

Basemap - ESRI Terrain

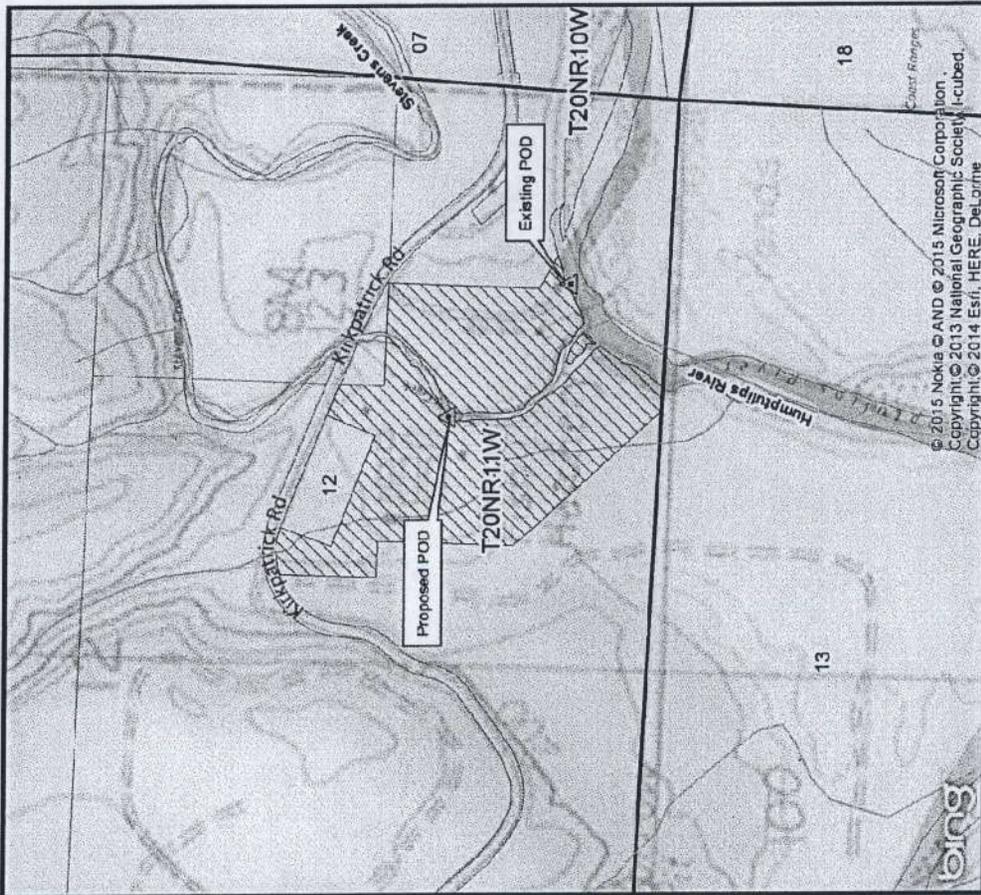
Legend

- POINT OF DIVERSION (POD)
- PLACE OF USE.
- SECTIONS
- PARCELS

Comments:

Place of use, points of withdrawal/diversion are as defined on the cover sheet under the heading, 'LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED.'

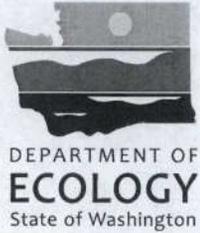
Map Created 4/16/2012



© 2015 Nokia AND © 2015 Microsoft Corporation.
 Copyright © 2013 National Geographic Society. I-cubed.
 Copyright © 2014 Esri, HERE, DeLorme

Basemap - ESRI US Topo, Bing Roads





Water Resources Program Complete Construction Notice

For Ecology Use
(Date Stamp)

RECEIVED

MAY 08 2015

WATER RIGHT FILE NO.

CS2-00142

WA State Department
of Ecology (SWRO)

PART 1 - CONSTRUCTION NOTICE

Check one

- Construction is complete.**
A water system capable of delivering the quantities specified on the change authorization is complete and an approved measuring device has been installed. If an alternative measuring method is proposed, it must be approved by Ecology prior to filing this notice.
Date construction was completed: February 2015
- Construction of the water system is NOT complete.** You must request an extension if you intend to pursue this project. Refer to the enclosed information sheet: *Extensions for Water Right Permits and Change Authorizations.*
- I am no longer interested in pursuing this project. Please cancel this permit.**

PART 2 - CONSTRUCTION DETAILS

Describe in detail construction completed to date. Include the status of development of diversion/withdrawal facilities, pump installation, conveyance system, and measuring device installation. If applicable, describe progress made on securing permits needed to complete construction. Attach copies of well reports, project maps(s) showing exact source locations, diagrams or other construction-related documents not previously submitted.

IN 2014 WDFW initiated construction of a new surface water intake on STEVENS CREEK to support fish propagation at Humptulips Hatchery. Intake consists of a concrete slab and walls with slotted stainless steel screens, 27 feet long x 5 feet tall. The screening designed to comply with Federal & STATE requirements for juvenile fish screens and passage. Intake currently equipped with two pumps - capable of 3750 and 1600 gpm respectively. The supply line is equipped with a flow meter to accurately measure instantaneous flows. The new intake includes compressor and controls for automatic screen cleaning system housed in an 18' x 18' wood support building.

PART 3 – SIGNATURES

Name of Water Right Holder or Authorized Representative

WA. STATE DEPT. FISH & WILDLIFE

Authorized Representative Name

RAY BERG

Mailing Address

600 CAPITAL WAY NORTH

City

OLYMPIA

State

WA

Zip

98501

Home Phone

Cell Phone

Office Phone

Email Address

360
902-8395

Ray.Berg@dfw.gov

I certify that I am the holder of the above water right or the approved representative. The information contained in this form is true and accurate to the best of my knowledge.

Ray Berg

Signature

5-7-2015
Date

Water Right Holder

Authorized Representative

PART 4 – SEND YOUR COMPLETED FORM TO ECOLOGY

Submit this form to:

Northwest Regional Office

3190 – 160th Avenue SE
Bellevue, WA 98008-5452
(425) 649-7000

Central Regional Office

15 W Yakima Ave, Ste. 200
Yakima, WA 98902
(509) 575-2490

Eastern Regional Office

4601 North Monroe Street
Spokane, WA 99205-1295
(509) 329-3400

Southwest Regional Office

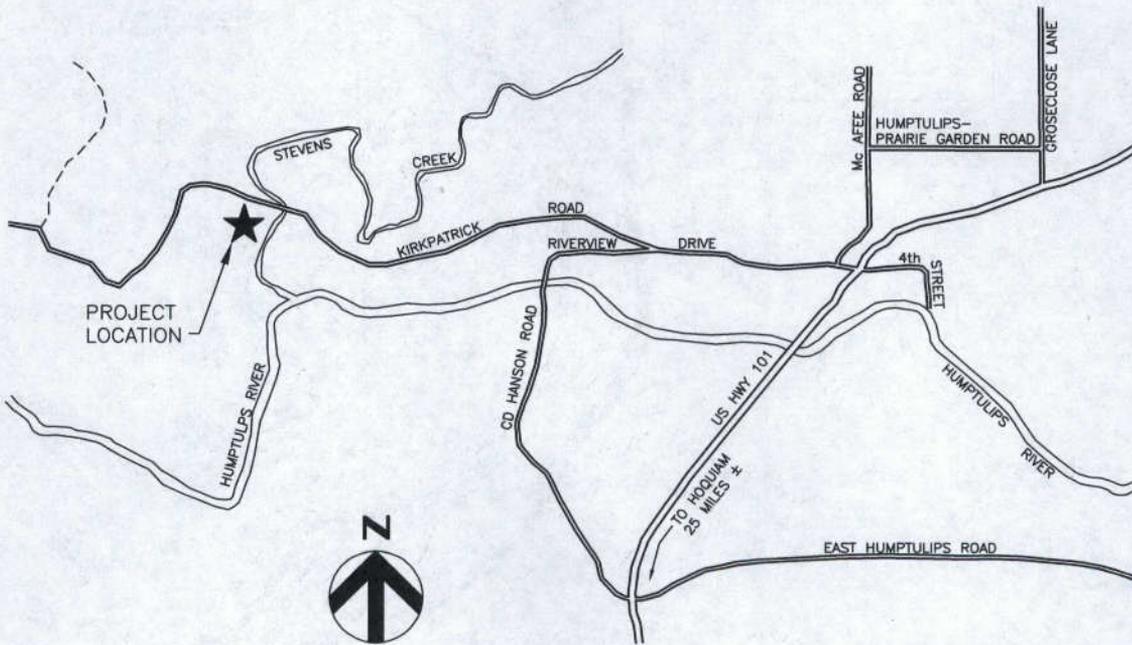
PO Box 47775
Olympia, WA 98504-7775
(360) 407-6300



PROJECT LOCATION

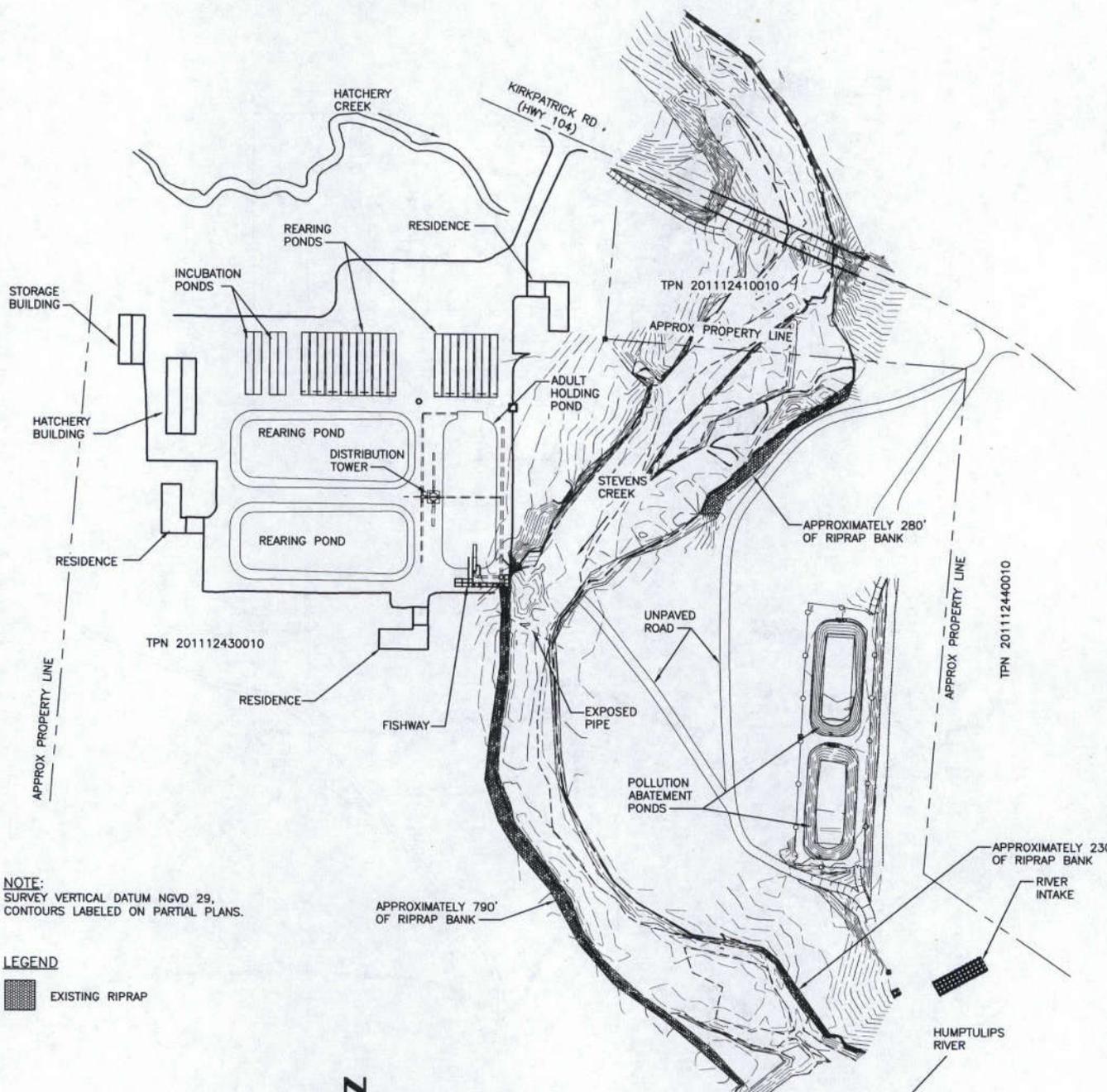


STATE MAP
NO SCALE



VICINITY MAP
NO SCALE
SEC 12, T20N, R11W

PURPOSE: HUMPTULIPS HATCHERY SCREENED INTAKE SUPPLY	WASHINGTON DEPT. of FISH & WILDLIFE 600 CAPITOL WAY N. OLYMPIA, WA 98501-1091	PROPOSED: STEVENS CREEK INTAKE
DATUM: <u>NGVD 29</u> ADJACENT PROPERTY OWNER: 1. <u>GRAYS HARBOR AUDUBON SOCIETY</u> 2. <u>GRAYS HARBOR COUNTY</u> ENG. PROJECT NO. _____	REFERENCE NO. _____ SITE: <u>HUMPTULIPS FISH HATCHERY</u> ADDRESS: <u>1704 KIRKPATRICK RD</u> <u>HUMPTULIPS, WA 98665</u>	IN: <u>STEVENS CREEK</u> NEAR: <u>HUMPTULIPS</u> COUNTY OF: <u>GRAYS</u> STATE: <u>WA</u> PORTION OF: <u>SEC 12, T20, R11</u> DATE: <u>10/24/2013</u> SHEET <u>1</u> OF <u>10</u>



NOTE:
 SURVEY VERTICAL DATUM NGVD 29,
 CONTOURS LABELED ON PARTIAL PLANS.

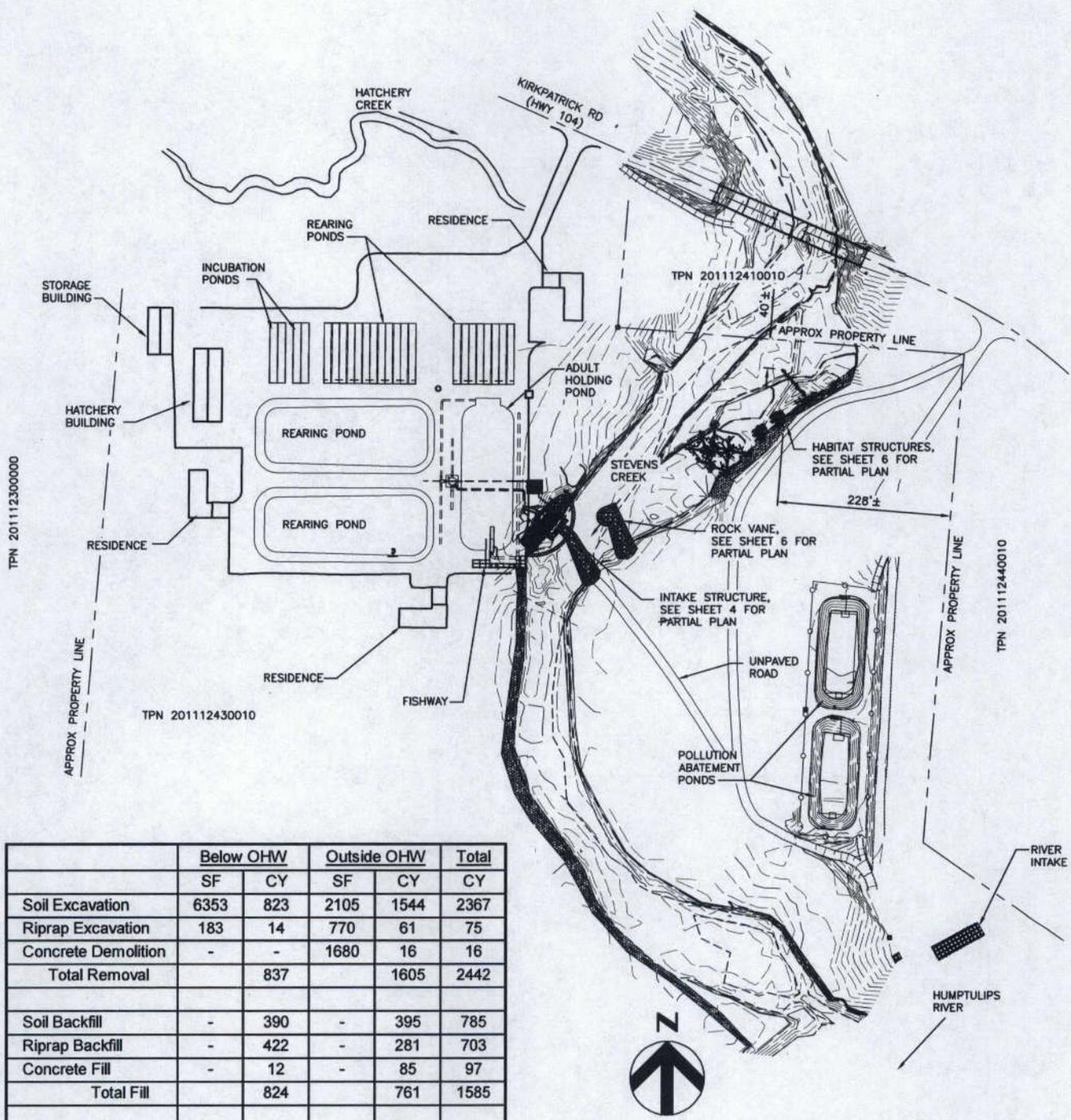
LEGEND
 EXISTING RIPRAP



EXISTING SITE PLAN
 SCALE: 1" = 200'

REFERENCE NO.	
APPLICANT:	WASHINGTON DEPT. of FISH & WILDLIFE
	HUMPTULIPS FISH HATCHERY STEVENS CREEK INTAKE
AT:	HUMPTULIPS, WA, WASHINGTON
DATE:	10/24/2013 SHEET 2 OF 10

ENG. PROJECT NO. _____



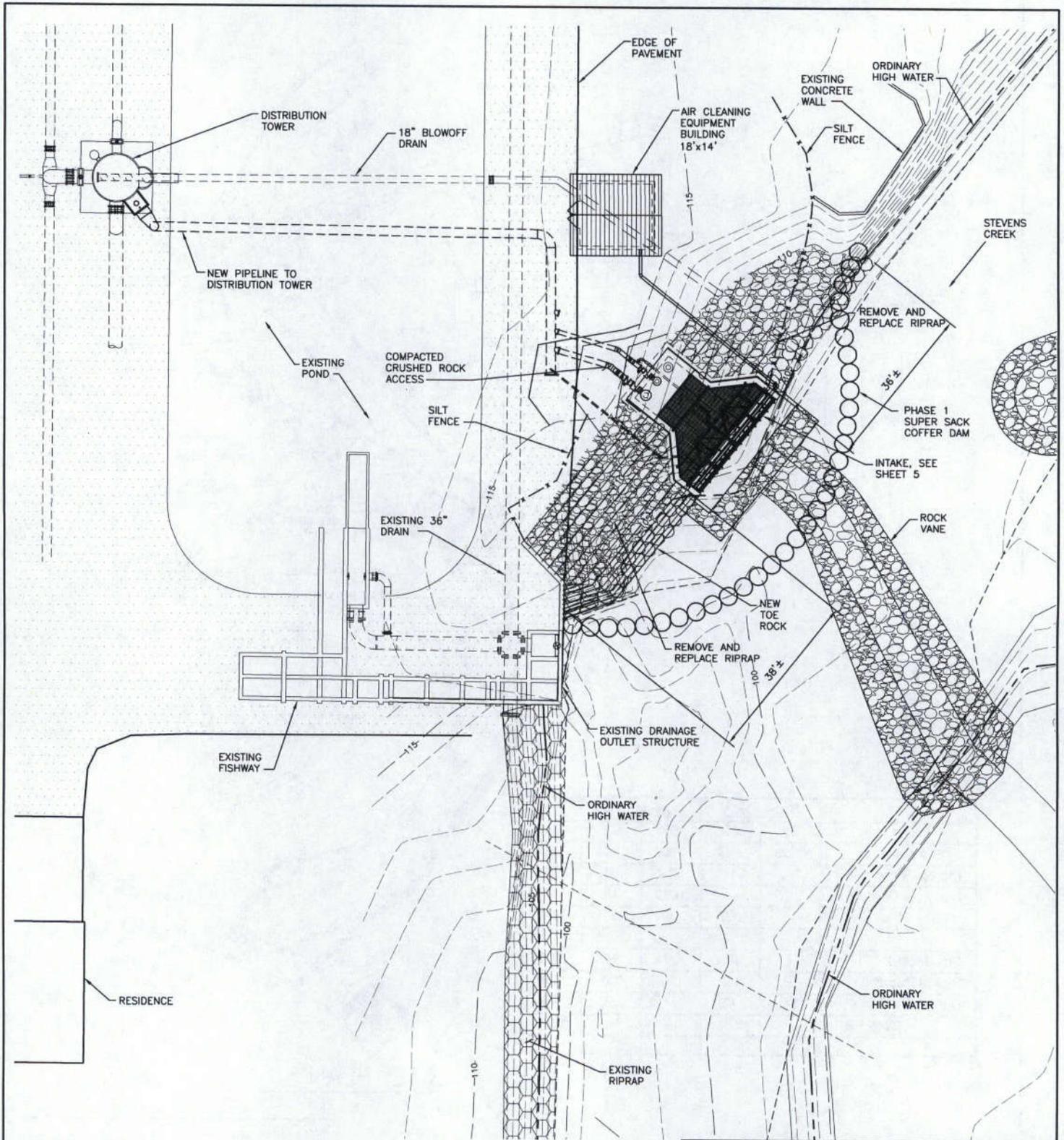
	Below OHW		Outside OHW		Total
	SF	CY	SF	CY	CY
Soil Excavation	6353	823	2105	1544	2367
Riprap Excavation	183	14	770	61	75
Concrete Demolition	-	-	1680	16	16
Total Removal		837		1605	2442
Soil Backfill	-	390	-	395	785
Riprap Backfill	-	422	-	281	703
Concrete Fill	-	12	-	85	97
Total Fill		824		761	1585

SITE PLAN

SCALE: 1" = 200'

REFERENCE NO. _____
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE
HUMPTULIPS FISH HATCHERY STEVENS CREEK INTAKE
AT: <u>HUMPTULIPS, WA</u> , WASHINGTON
DATE: <u>10/24/2013</u> SHEET <u>3</u> OF <u>10</u>

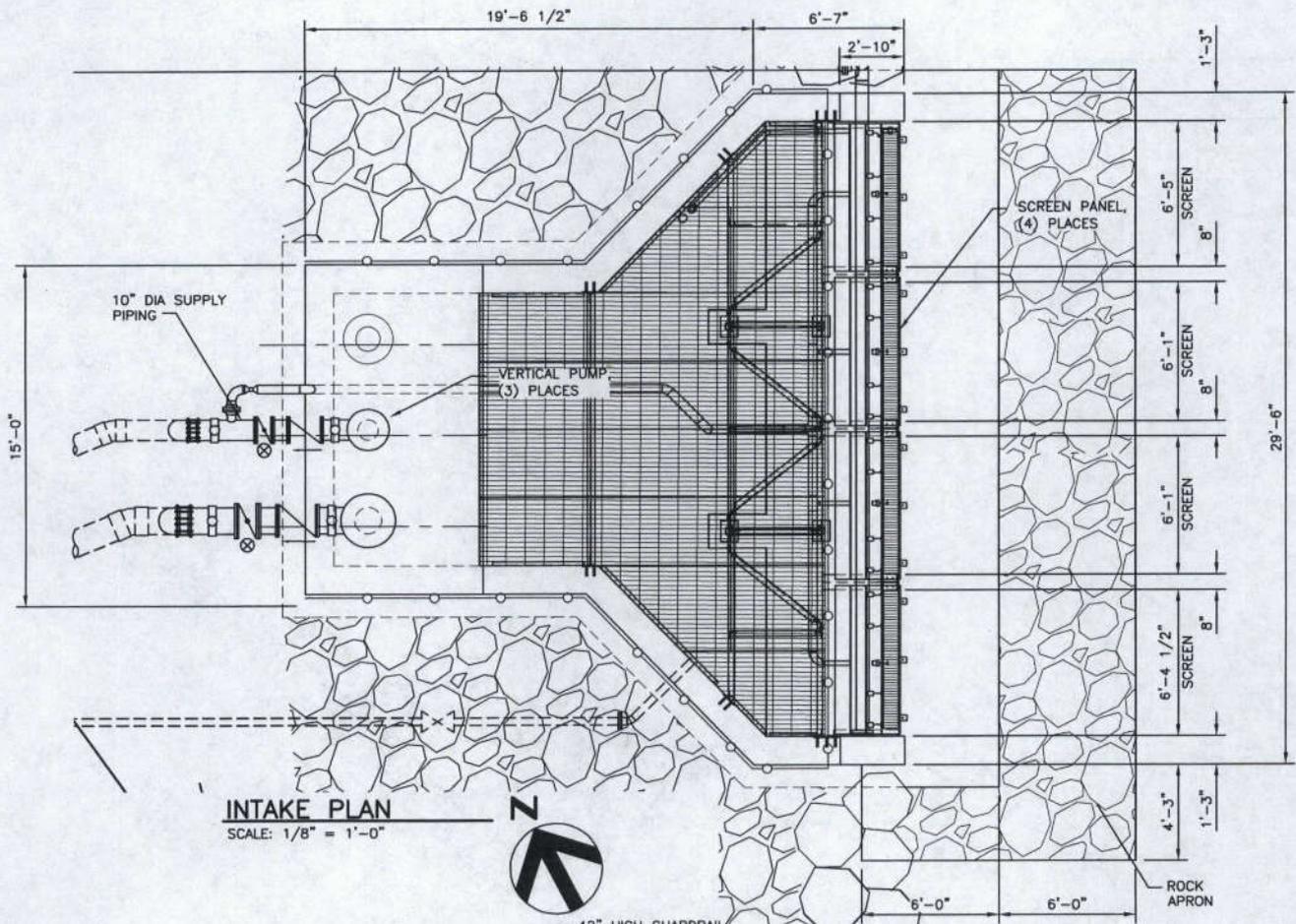
ENG. PROJECT NO. _____



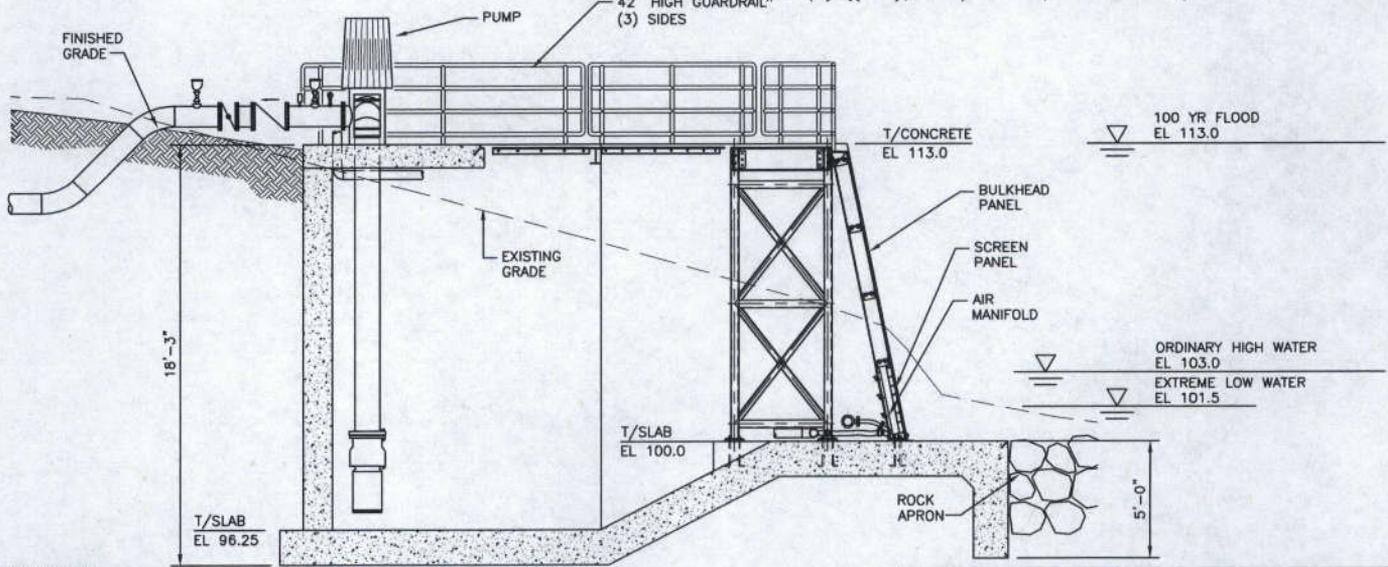
PARTIAL PLAN
SCALE: 1" = 30'

ENG. PROJECT NO. _____

REFERENCE NO.	_____
APPLICANT:	WASHINGTON DEPT. of FISH & WILDLIFE
	HUMPTULIPS FISH HATCHERY
	STEVENS CREEK INTAKE
AT:	HUMPTULIPS, WA _____, WASHINGTON
DATE:	10/24/2013 SHEET 4 OF 10



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



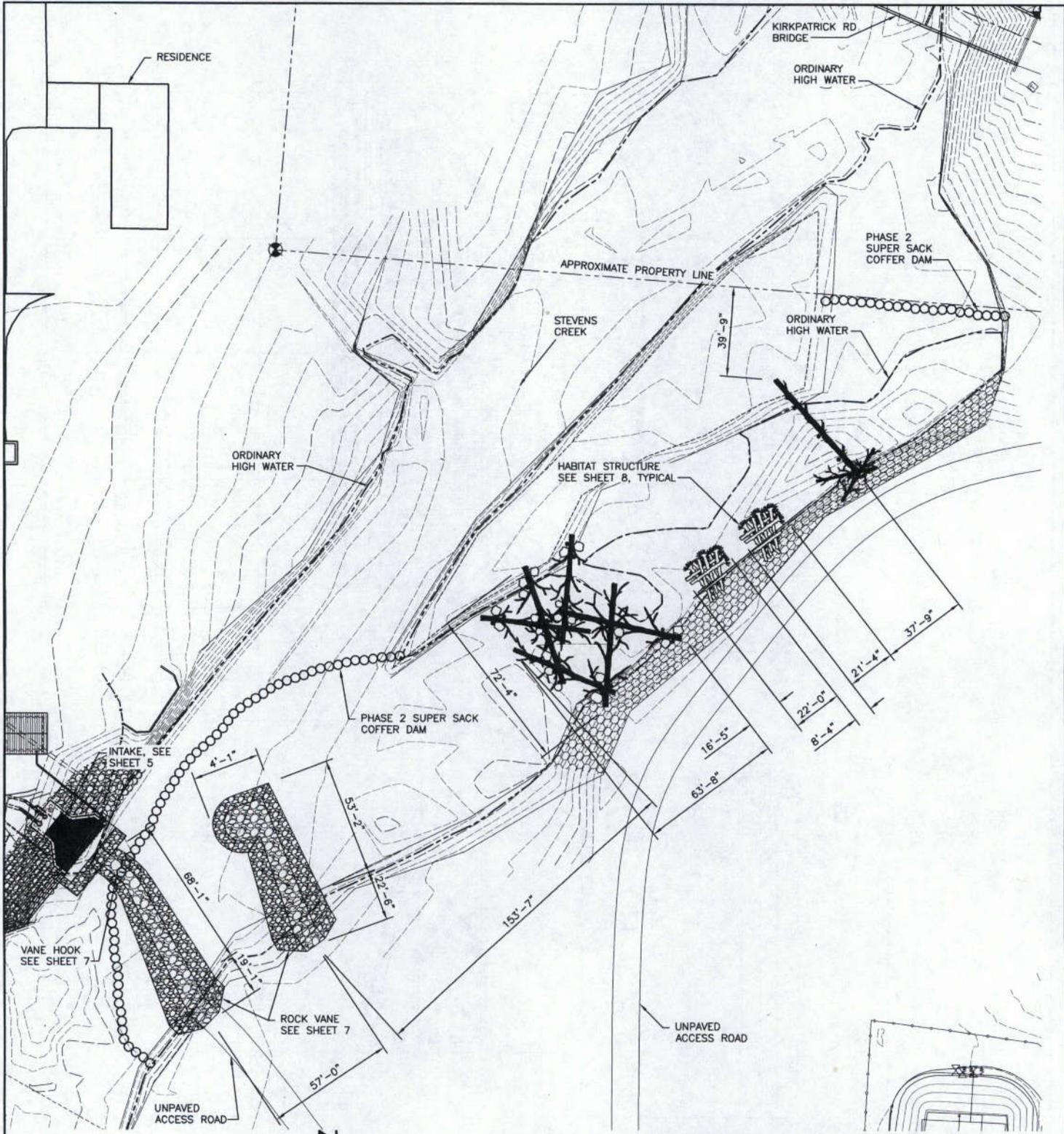
INTAKE SECTION
SCALE: 1/8" = 1'-0"

SCREEN CRITERIA

WITHDRAWAL AT EXTREME LOW WATER - 3.5 CFS
 WITHDRAWAL AT ORDINARY HIGH WATER - 20.0 CFS
 APPROACH VELOCITY - 0.4 FEET/SECOND
 SCREEN SHALL BE TYPE 304 STAINLESS
 STEEL 1.75 PROFILE BAR WITH BARS
 PERPENDICULAR TO FLOW

REFERENCE NO. _____
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE HUMPTULIPS FISH HATCHERY STEVENS CREEK INTAKE
AT: HUMPTULIPS, WA _____, WASHINGTON
DATE: 05/06/2013 SHEET 5 OF 10

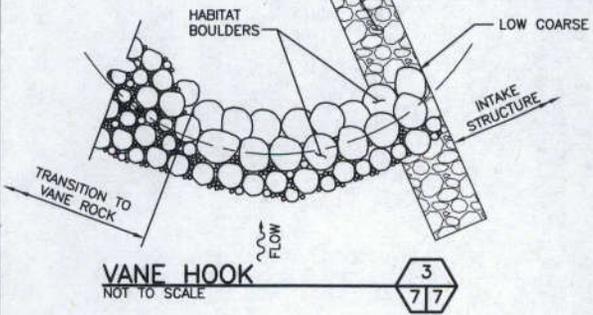
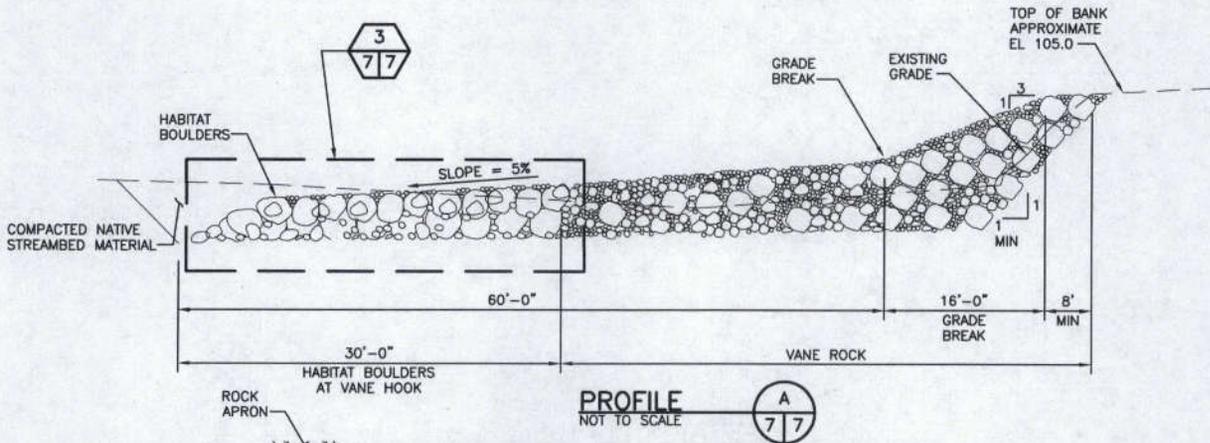
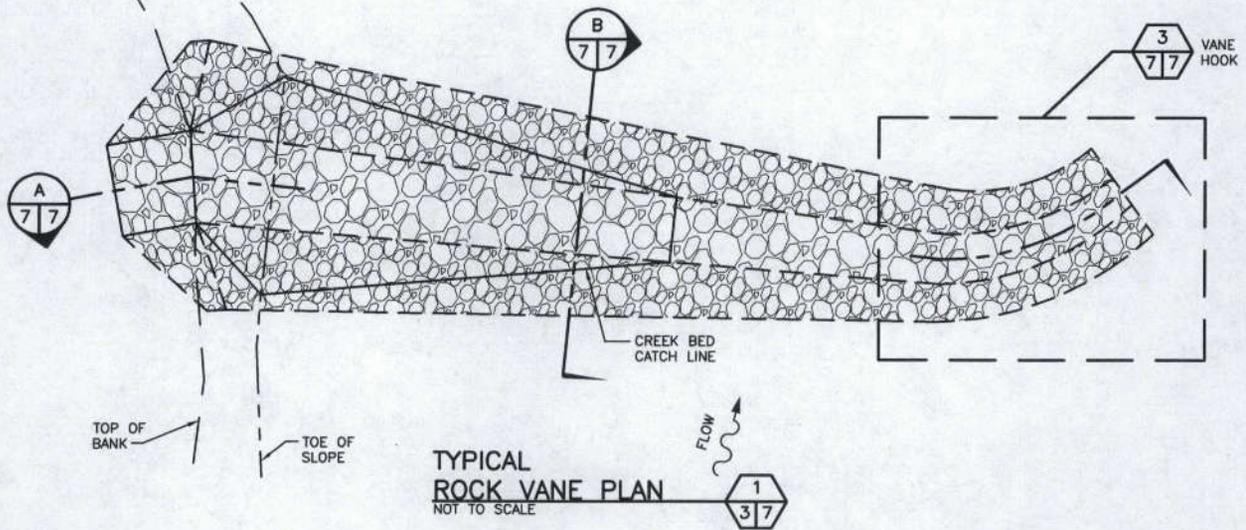
ENG. PROJECT NO. _____



PARTIAL PLAN
SCALE: 1" = 60'

REFERENCE NO.
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE
HUMPTULIPS FISH HATCHERY STEVENS CREEK INTAKE
AT: HUMPTULIPS, WA _____, WASHINGTON
DATE: 10/24/2013 SHEET 6 OF 10

ENG. PROJECT NO. _____

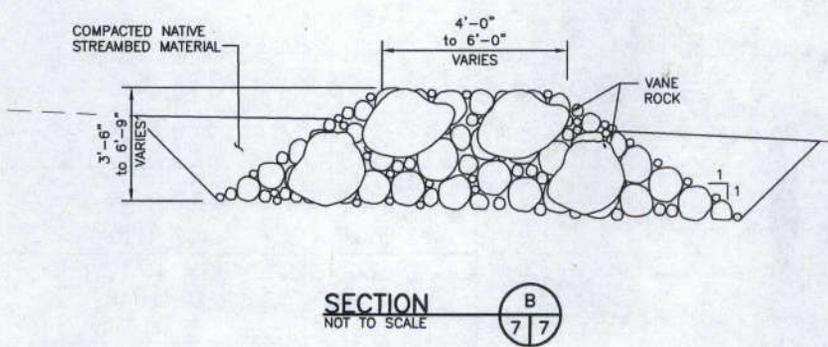


NOTE:
DRILL HOLES INTO HABITAT BOULDERS AND EPOXY U-SHAPED #5 REBAR.

LEGEND

ROCK VANE	
MEDIAL DIAMETER	% PASSING
28-INCH	100
18-INCH	84
10-INCH	50
4-INCH	30

- HABITAT BOULDER 36-48 INCHES
- TOP OF BANK
- TOE OF SLOPE
- BURIED FEATURE



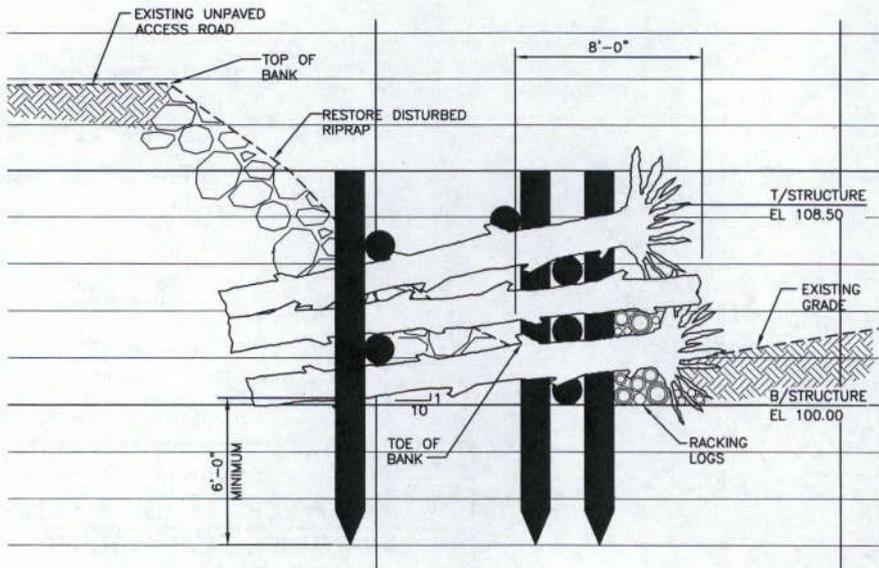
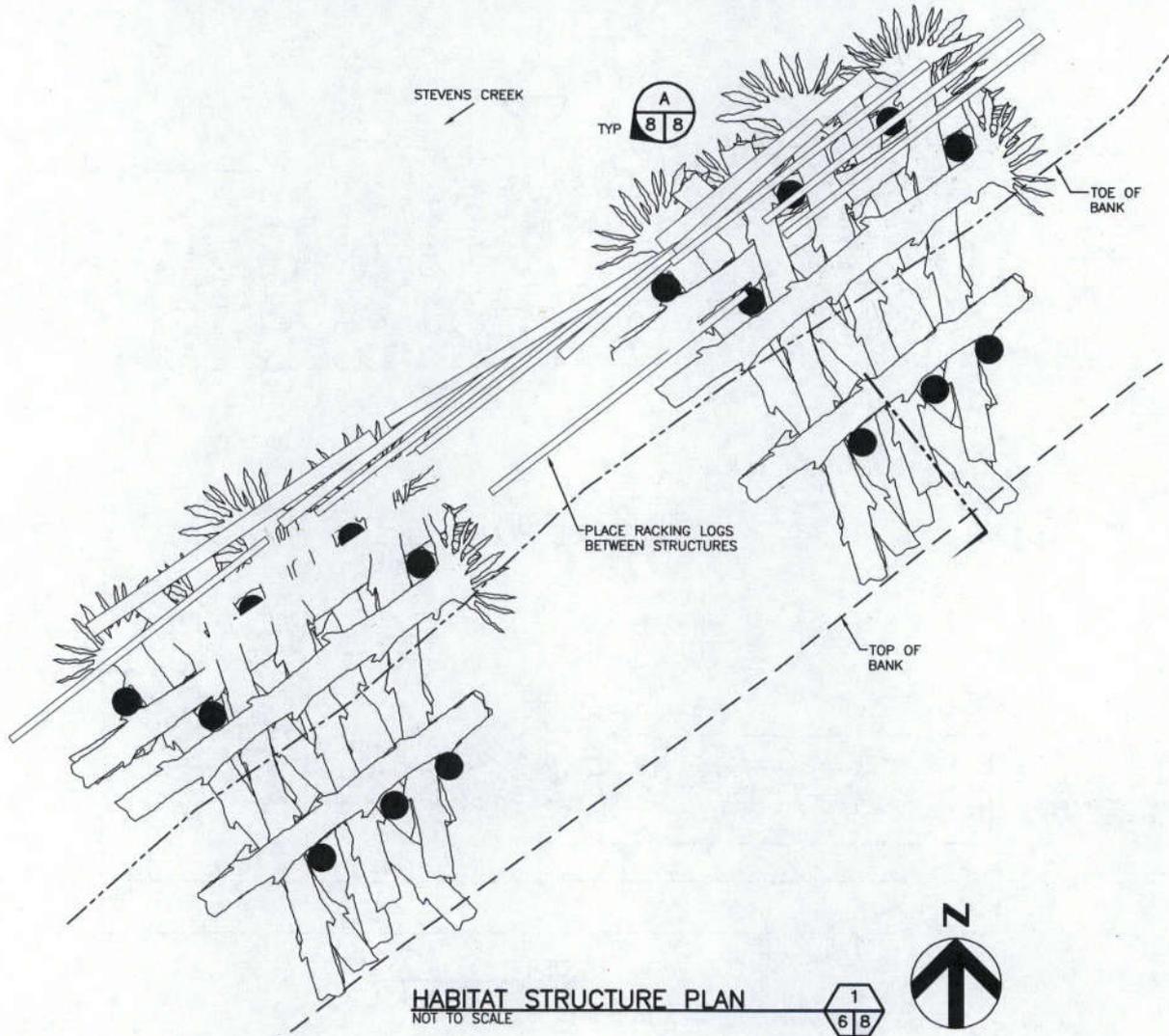
REFERENCE NO. _____

APPLICANT:
WASHINGTON DEPT. of FISH & WILDLIFE
HUMPTULIPS FISH HATCHERY
STEVENS CREEK INTAKE

AT: HUMPTULIPS, WA _____, WASHINGTON

DATE: 05/06/2013 SHEET 7 OF 10

ENG. PROJECT NO. _____



ENG. PROJECT NO. _____

REFERENCE NO.	_____
APPLICANT:	WASHINGTON DEPT. of FISH & WILDLIFE
	HUMPTULIPS FISH HATCHERY
	STEVENS CREEK INTAKE
AT:	HUMPTULIPS, WA _____, WASHINGTON
DATE:	10/24/2013 SHEET 8 OF 10

MATERIALS:

A. ROCK VANES:

1. VANE ROCK SHALL CONSIST OF A WELL GRADED MATRIX OF HARD, DURABLE, ANGULAR ROCK WITH A MINIMUM SPECIFIC GRAVITY OF 2.6 WHICH CONFORMS TO THE FOLLOWING GRADATION:

MEDIAL DIAMETER	% PASSING
28-INCH	100
18-INCH	84
10-INCH	50
4-INCH	30

B. HABITAT BOULDERS:

1. HABITAT BOULDERS SHALL CONSIST OF HARD, DURABLE ROUNDED TO SUB-ANGULAR STONE MEETING THE REQUIREMENTS OF 2012 WSDOT 9-03.11(4) FOR THE "FOUR-MAN" CLASSIFICATION. THE BREADTH AND THICKNESS OF ANY STONE SHALL NOT BE LESS THAN ONE-THIRD ITS LENGTH. THE MEDIAL DIAMETER OF ALL STONES SHALL RANGE FROM 36 TO 48 INCHES.

C. ROOT WADS AND LOGS:

1. TREES USED AS ROOT WADS, LOGS, AND PILINGS MUST BE SOUND, FREE OF CRACKS AND SPLITS AND FREE FROM SIGNIFICANT DECAY. EXISTING TREES TO BE USED AS ROOT WADS AND FOOTER LOGS MAY BE IDENTIFIED BY THE CONTRACTOR AND WDFW AND MARKED FOR SUCH USE. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADDITIONAL MATERIALS, IF SUCH ROOT WADS AND FOOTER LOGS ARE NOT AVAILABLE ON SITE AND ALREADY DESIGNATED FOR REMOVAL.
2. ROOT WADS SHALL HAVE A LENGTH OF TREE TRUNK WITH THE ROOT MASS ATTACHED. THE ROOT MASS SHOULD BE OF SUBSTANTIAL SIZE AND A MIN OF 30 FEET OF THE TRUNK MUST BE ATTACHED TO PROVIDE FOR ADEQUATE ANCHORING. THE ROOT MASS SHOULD EXCEED FOUR FEET IN DIAMETER. IN SOME INSTANCES, MULTIPLE ROOT WADS CAN BE INSTALLED TOGETHER TO PROVIDE THE NECESSARY MASS. ALL HABITAT LOGS AND ROOT WAD LOGS SHALL HAVE A DIAMETER GREATER THAN TWENTY-FOUR INCHES (24").
3. PILINGS SHALL BE A MIN OF 12 FEET LONG, HAVE A DIAMETER OF 12 TO 18 INCHES, AND BE FREE OF BRANCHES. ONE END IS TRIMMED TO A SHARP POINT.
4. TREES USED FOR ROOT WADS, HABITAT LOGS, AND PILINGS CAN CONSIST OF ANY SPECIES THAT PROVIDES A DENSE, FLATTENED ROOT MASS. TREES WITH PRIMARILY A DEEP TAP ROOT ARE NOT GENERALLY SUITABLE FOR ROOT WADS. COTTONWOODS SHALL NOT BE USED.

CONSTRUCTION METHODS:

A. PREPARATION:

1. CONTRACTOR SHALL COORDINATE WITH WDFW PRIOR TO THE REMOVAL OF ANY TREES OR CLEARING OF ANY BRUSH.
2. REMOVE TREES, DEBRIS, ORGANIC MATERIAL, DELETERIOUS MATTER AND RIP RAP FROM PROJECT AREA AS NECESSARY TO INSTALL ROCK VANE AND ROOT WAD STRUCTURES.
3. OVER-EXCAVATE STREAMBED AND BANK MATERIAL AS REQUIRED TO RECEIVE ROCK AND ROOT WAD STRUCTURES.
4. STOCKPILE ALL RE-USABLE MATERIALS AT THE DIRECTION OF WDFW. CONTRACTOR SHALL SALVAGE ALL ROCKS FOR REUSE WHICH MEET SPECIFICATIONS FOR HEAVY LOOSE RIP RAP AND ALL BOULDERS. REMOVE UNUSABLE MATERIAL COMPLETELY FROM SITE.

B. ROCK ANCHORS:

1. WHERE INDICATED ON THE PLANS, SECURE LOGS TO THREE-MAN HABITAT BOULDERS AS FOLLOWS:
 - a. PLACE TWO HABITAT BOULDERS ADJACENT TO THE ROOT WAD JUST UPSTREAM OF THE ROOT MASS.
 - b. DRILL HOLES IN THE HABITAT BOULDERS WITH A GAS OR PNEUMATIC DRILL TO A MIN. DEPTH OF 6 INCHES. HOLES MUST BE CLEAN OF ALL DUST, DEBRIS, OIL AND SOAP AFTER DRILLING.
 - c. INSERT U-SHAPED #5 REBAR AND EPOXY INTO HOLES SEVERAL TIMES TO DISPENSE AND COMPLETELY MIX EPOXY AND ELIMINATE AIR POCKETS.
 - d. EPOXY RESIN SYSTEMS SHALL MEET THE REQUIREMENTS OF ASTM C881, TYPE IV GRADE 3. TEST STRENGTH OF BOND AFTER MINIMUM CURE TIME RECOMMENDED BY THE EPOXY MANUFACTURER.

C. LOG ANCHORS:

1. WHERE INDICATED ON THE PLANS, SECURE LOGS TOGETHER AS FOLLOWS:
 - a. PROVIDE THREE WRAPS OF 5/8" DIAMETER GALVANIZED, NON-GREASED WIRE ROPE AROUND LOGS. SECURE WIRE ROPE WITH THREE SS WIRE CLAMPS AND TRIM TAG ENDS TO 12 INCHES.

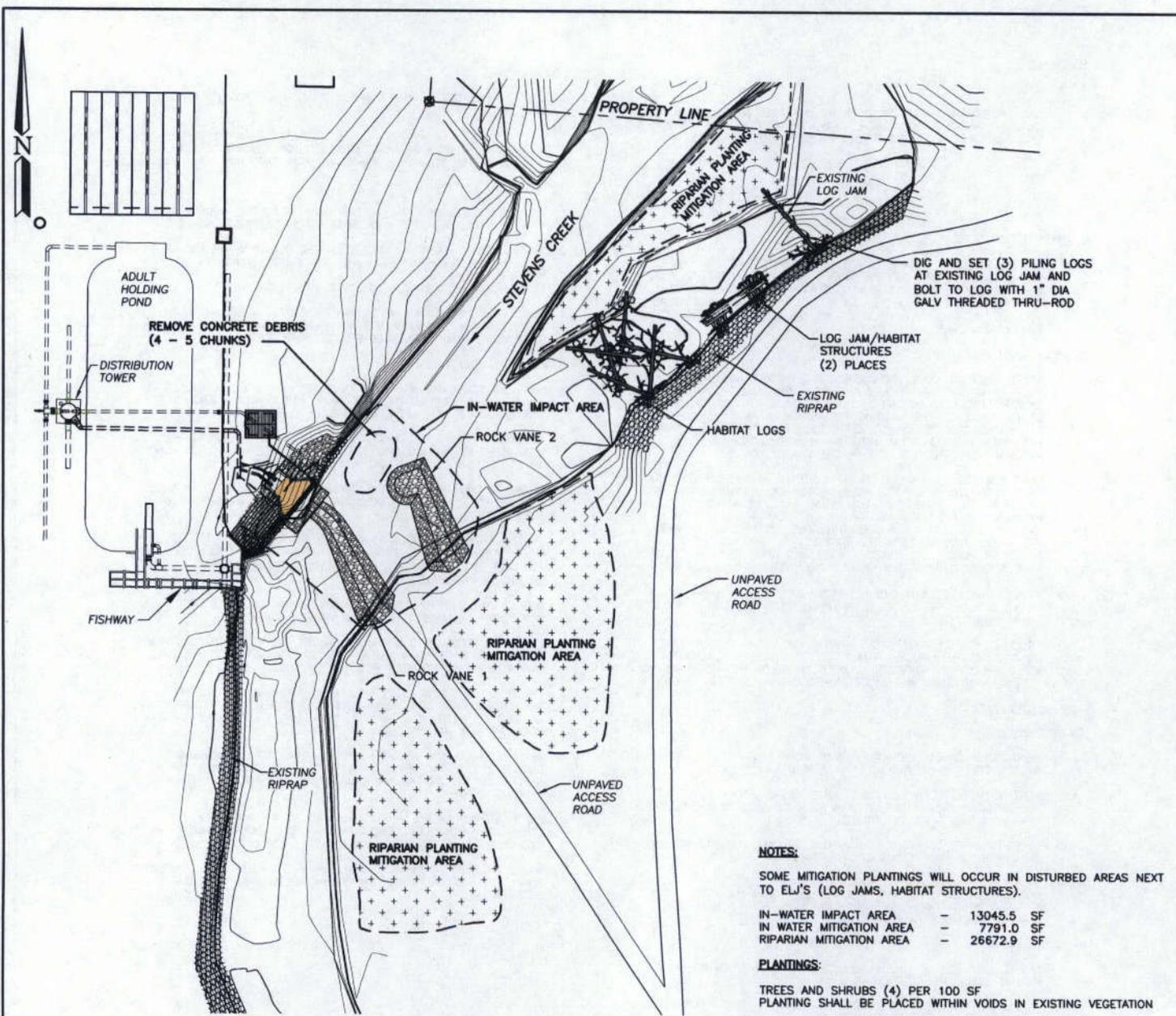
D. ROCK VANES:

1. EXCAVATE STREAMBED AND STREAM BANK RECEIVING HABITAT LOGS, HABITAT BOULDERS, AND ROCK MATRIX TO REQUIRED SUBGRADE.
2. INSTALL THREE HABITAT LOGS UNDER THE DIRECTION OF ENGINEER AND ANCHOR THEM IN PLACE WITH THREE ROCK ANCHORS.
3. PLACE VANE ROCK MATRIX TO LIMITS SHOWN ON THE DRAWINGS.
4. HAND PLACE ROCKS AS NECESSARY TO OBTAIN A WELL-GRADED DISTRIBUTION OF MATERIAL. DO NOT PLACE STONE BY ANY METHOD THAT WOULD CAUSE PARTICLE SIZE SEGREGATION.

E. LOG HABITAT STRUCTURES:

1. MODULAR ROOT WAD HABITAT STRUCTURES SHALL BE COMPOSED OF THREE TREES WITH INTACT ROOT WADS, ONE BOULDER ANCHOR, THREE PILINGS, WIRE ROPE AND MISCELLANEOUS HARDWARE.
2. BEGINNING FROM THE DOWNSTREAM END OF THE PROJECT AREA, CREATE AN EXCAVATION INTO THE EXISTING STREAM BANK TO BURY A 12 FT SECTION OF EACH LOG HABITAT STRUCTURE.
3. EXCAVATE TRENCHES INTO THE STREAMBED AND BANK AT AN ANGLE AND LENGTH THAT WILL ACCOMMODATE THE ROOT MASSES OF EACH STRUCTURE.
4. TO THE EXTENT POSSIBLE, PLACE THE ROOT WADS WHERE THE MAJORITY OF THE ROOT MASS IS BELOW THE BANK FULL ELEVATION BUT ARE EXPOSED ABOVE THE EXISTING STREAMBED BY AT LEAST 1/2 THE ROOT WAD DIAMETER.
5. ONE OF THE TWO ROOT WADS IS PLACED ON TOP OF THE DOWNSTREAM ADJACENT ROOT WAD HABITAT STRUCTURE.
6. AFTER THE STRUCTURE IS PLACED IN THE CORRECT POSITION, PLACE A BOULDER ANCHOR ON THE UPSTREAM ORIENTED ROOT WAD MASS WHICH EXTENDS FURTHEST INTO THE STREAM.
7. PLACE UP TO THREE ADDITIONAL PILING ANCHORS AS DIRECTED BY THE ENGINEER. IF SOIL CONDITIONS DO NOT ALLOW FOR THE DRIVING OF WOODEN PILES TO A MINIMUM DEPTH OF 5 FEET, ONE ADDITIONAL ROCK ANCHOR MAY BE USED.
8. AFTER INSTALLATION OF EACH HABITAT STRUCTURE, LOW AREAS, DIVOTS, INTERSTITIAL SPACES, AND BANKS ARE FILLED WITH NATIVE STREAMBED AND STREAM BANK MATERIALS AND RESTORED BACK TO EXISTING GRADE.
11. ALL RESTORED NATIVE MATERIALS SHALL BE MECHANICALLY COMPACTED WITH BLOWS FROM AN EXCAVATOR BUCKET AND/OR AN EXCAVATOR-MOUNTED VIBRATORY PLATE AS DIRECTED BY WDFW.
12. AREAS OF EXISTING RIP RAP SHALL BE RESTORED WITH A TWO TO THREE FOOT LAYER OF RIP RAP SALVAGED DURING INITIAL SITE PREPARATION.

REFERENCE NO. _____
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE HUMPTULIPS FISH HATCHERY STEVENS CREEK INTAKE
AT: HUMPTULIPS, WA _____, WASHINGTON
DATE: 10/24/2013 SHEET 9 OF 10

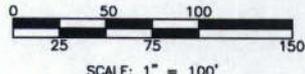


NOTES:
 SOME MITIGATION PLANTINGS WILL OCCUR IN DISTURBED AREAS NEXT TO ELJ'S (LOG JAMS, HABITAT STRUCTURES).
 IN-WATER IMPACT AREA - 13045.5 SF
 IN WATER MITIGATION AREA - 7791.0 SF
 RIPARIAN MITIGATION AREA - 26672.9 SF

PLANTINGS:
 TREES AND SHRUBS (4) PER 100 SF
 PLANTING SHALL BE PLACED WITHIN VOIDS IN EXISTING VEGETATION

MITIGATION SITE PLAN

SCALE: 1" = 100'



PLANTING SCHEDULE

RIPARIAN MITIGATION AREAS COMBINED

COMMON NAME	SCIENTIFIC NAME	QUANTITY	SIZE
TREES			
SITKA SPRUCE	<i>Picea sitchensis</i>	100	2 GAL
DOUGLAS FIR	<i>Pseudotsuga menziesii</i>	100	2 GAL
RED ALDER	<i>Alnus rubra</i>	100	1 GAL
SHRUBS			
RED-OSIER DOGWOOD	<i>Cornus stolonifera</i>	100	1 GAL
PACIFIC NINEBARK	<i>Physocarpus capitatus</i>	100	1 GAL
WILLOW SPECIES	<i>Salix spp.</i>	370	STAKES
RED HUCKLEBERRY	<i>Vaccinium parvifolium</i>	100	1 GAL
OCEAN SPRAY	<i>Holodiscus discolor</i>	100	1 GAL

REFERENCE NUMBER:
 APPLICANT NAME:
 WASHINGTON DEPT. of FISH & WILDLIFE
 PROPOSED PROJECT:
 MITIGATION SITE PLAN AND PLANTINGS
 LOCATION: HUMPTULIPS HATCHERY
 SHEET 10 OF 10 DATE: 10/04/2013