

**BEFORE THE WATER RESOURCES DEPARTMENT  
OF THE  
STATE OF OREGON**

In the Matter of Transfer Application  
T-12837, Josephine County

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**REVISED**

PRELIMINARY DETERMINATION  
PROPOSING APPROVAL OF A  
CHANGE IN POINT OF DIVERSION, A  
CHANGE IN PLACE OF USE, AND A  
CHANGE IN CHARACTER OF USE

**Authority**

Oregon Revised Statutes (ORS) 540.505 to 540.580 establish the process in which a water right holder may submit a request to transfer the point of diversion, place of use, or character of use authorized under an existing water right. Oregon Administrative Rules (OAR) Chapter 690, Division 380 implement the statutes and provides the Department's procedures and criteria for evaluating transfer applications.

**Applicant**

ANDREAS AND CAROLE BLECH  
1867 WILLIAMS HIGHWAY #260  
GRANTS PASS, OR 97527

**Findings of Fact**

1. On February 5, 2018, ANDREAS AND CAROLE BLECH filed an application to change the point of diversion, place of use, and the character of use under Certificate 3943. The Department assigned the application number T-12837.
2. Notice of the application for transfer was published on February 13, 2018, pursuant to OAR 690-380-4000. Twenty four comments were timely filed in response to the notice. The issues raised by the comments included:
  - a) The proposed application has the potential to injure nearby domestic wells and downstream water rights;
  - b) Land use approval has not been granted and does not meet criteria for approval;
  - c) The proposed use will impair or be detrimental to the public interest;

Pursuant to OAR 690-380-4030, any person may file a protest or standing statement within 30 days after the last date of publication of notice of this preliminary determination.
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- d) The proposed use will be wasteful, uneconomic, impracticable, or unreasonable to the use of water;
  - e) There will be a negative impact on the creek, creating a diminished quality of life;
  - f) Limited water availability already exists;
  - g) Evidence of use is insufficient and does not meet the minimum requirements; and
  - h) There is a potential for contamination (sediment pollution) from the mining operation.
3. Not all the issues raised by the commenters address the criteria for review of a water right transfer as per OAR 690-380-4010 and approval of a transfer application under OAR 690-380-5000. Some of the comments described in Finding of Fact (FOF) 2 raise public interest issues. Under Oregon Law, water right transfers are not subject to a public interest review. Rather, the statutory basis for approving a water right transfer application is relatively narrow and confined to the department finding or determining:
- a) The water right proposed for transfer is a water use subject to transfer;
  - b) The portion of the water right proposed for transfer is not cancelled due to forfeiture for non-use pursuant to ORS 540.610;
  - c) The proposed transfer would not result in enlargement of the water right proposed for transfer; and
  - d) The proposed transfer would not result in injury to other water rights.
4. On April 19, 2018, the Department mailed a copy of the draft Preliminary Determination proposing to deny Transfer Application T-12837 to the applicants. The draft Preliminary Determination cover letter set forth a deadline of May 21, 2018, for the applicants to respond. On April 25, 2018, the agent for the applicant requested that the Department proceed with the application and seek a recommendation from the Oregon Department of Fish and Wildlife as to whether the Department should consent to the injury of instream water right, Certificate 72697, pursuant to OAR 690-380-4030, and provided the necessary information to demonstrate that the applicant is authorized to pursue the transfer. The applicant also requested that the completion date be extended to October 1, 2023.
5. On April 25, 2018, the applicant's agent submitted a request to pursue consent to injury from ODFW, pursuant to OAR 690-380-5050.
6. On June 14, 2018, the Department issued a Preliminary Determination proposing to deny Transfer T-12837 and mailed a copy to the applicant. The Department also submitted a request to pursue consent to injury to ODFW. Additionally, notice of the Preliminary Determination for the transfer application was published on the Department's weekly notice on June 19, 2018, and in the Grants Pass Daily Courier newspaper on June 20 and 27, 2018 pursuant to ORS 540.520 and OAR 690-380-4020.

7. On July 19, 2018, the Department received a timely protest from Schwabe, Williamson, and Wyatt on behalf of the applicant.
8. On July 26, 2018, the Department received a timely protest and a Request for Standing from WaterWatch of Oregon, Inc.
9. On December 20, 2019, a recommendation for OWRD to consent to injury to instream water right Certificate 72697 was received from ODFW. ODFW recommends that OWRD consent to the injury with the following conditions:
  - a. The permittee (transfer applicant) comply with terms of the associated Mitigation Proposal to minimize detrimental impacts to fish, wildlife, and/or their habitat. ODFW understands that the mitigation and following conditions will be fully incorporated into the requirements of the new certificate and may only be altered by written mutual agreement of all parties. ODFW recommends:
    - i) Regulation of the use and/or possible cancellation of the certificate if the required mitigation is not maintained. This recommendation to consent to injury is contingent upon: implementation of the mitigation measures outlined in the attached Mitigation Plan prior to diversion of water.
  - b. As required by ORS 509.585, the permittee (transfer applicant) shall not construct, operate, or maintain any dam or artificial obstruction to fish passage without obtaining approval from the Oregon Department of Fish and Wildlife (ODFW). The permittee is hereby directed to contact an ODFW Fish Passage Coordinator **prior to construction** of any in-channel obstruction or **prior to diversion** of water that may create an artificial obstruction due to low flow.
  - c. The permittee (transfer applicant) shall install, maintain, and operate fish screening on the new point of diversion consistent with current ODFW standards. Fish screening is to prevent fish from entering the proposed diversion. The required screen is to be in place and functional, and approved in writing by ODFW **prior to diversion** of water. The permittee is hereby directed to contact the ODFW Fish Screening Coordinator prior to diversion of water.
  - d. If the riparian area is disturbed in the process of *developing the new point of diversion*, the permittee (transfer applicant) shall be responsible for restoration and enhancement of such riparian area in accordance with the Oregon Department of Fish and Wildlife's Fish and Wildlife Habitat Mitigation Policy OAR 635-415. **Prior to development of the new point of diversion**, the permittee shall submit, to the Oregon Water Resources Department, a Riparian Mitigation Plan approved in writing by ODFW unless ODFW provides documentation that riparian mitigation is not necessary. The permittee shall maintain the riparian area for the life of the permit and subsequent certificate per the approved Riparian Mitigation Plan. If ODFW determines the riparian area is not being maintained, and is unsuccessful in working with the water user to fulfill the obligation, ODFW may request that OWRD regulate

the use of water until OWRD receives notification from ODFW that the mitigation is sufficient. The permittee is hereby directed to contact the local ODFW Fish Biologist prior to development of the new point of diversion.

- e. Construction must occur during the established in-water work period (June 15 to September 15) unless otherwise approved by ODFW.
- f. Site-specific condition(s): Riparian plantings in Mitigation Action 4 must be maintained to ensure a minimum 80% survival five years post-implementation.

10. The right to be transferred is as follows:

**Certificate:** 3943 in the name of CHARLES W. & WELTHA L. KIRK  
(perfected under Permit S-4128)  
**Use:** IRRIGATION of 65.0 ACRES  
**Priority Date:** JUNE 23, 1919  
**Rate:** 0.81 CUBIC FOOT PER SECOND  
**Source:** GRAVE CREEK, a tributary of ROGUE RIVER

**Authorized Place of Use:**

IRRIGATION					
Twp	Rng	Mer	Sec	Q-Q	Acres
34 S	5 W	WM	7	SE SE	15.0
34 S	5 W	WM	8	NE SW	10.0
34 S	5 W	WM	8	NW SW	5.0
34 S	5 W	WM	8	SW SW	10.0
34 S	5 W	WM	8	SE SW	25.0
TOTAL					65.0

11. Certificate 3943 does not describe the location of the point of diversion, however information is available from the applicant indicating that the point of diversion is located as follows:

Twp	Rng	Mer	Sec	Q-Q	Measured Distances
34 S	5 W	WM	8	NE SW	EXISTING POD - 2475 FEET NORTH AND 2574 FEET EAST FROM THE SW CORNER OF SECTION 8

12. Certificate 3943 does not specify the irrigation season. However, the Rogue River Decree establishes, "That the irrigation season commences subsequent to the 1st of April of each year, and terminates before the 1st of November of each year." Therefore the irrigation season is limited from April 1 to October 31 of each year.

13. Transfer Application T-12837 proposes to move the authorized point of diversion approximately 560 feet upstream to:

Twp	Rng	Mer	Sec	Q-Q	Measured Distances
34 S	5 W	WM	8	NW SE	PROPOSED POD - 2630 FEET NORTH AND 2230 FEET WEST FROM THE SE CORNER OF SECTION 8

14. Transfer Application T-12837 proposes to change the place of use of 1.0 acre of irrigation to:

IRRIGATION					
Twp	Rng	Mer	Sec	Q-Q	Acres
34 S	5 W	WM	8	SW SW	1.0

15. Transfer Application T-12837 proposes to change the character of use of the remaining 64.0 acres of irrigation to mining uses.

16. Transfer Application T-12837 also proposes to change the place of use of the right to:

MINING USES					
Twp	Rng	Mer	Sec	Q-Q	
34 S	5 W	WM	7	NE SE	
34 S	5 W	WM	7	SE SE	
34 S	5 W	WM	8	NE SW	
34 S	5 W	WM	8	NW SW	
34 S	5 W	WM	8	SW SW	
34 S	5 W	WM	8	SE SW	
34 S	5 W	WM	8	NW SE	

17. The Oregon Department of Fish and Wildlife (ODFW) has determined that a fish screen is necessary at the new point of diversion to prevent fish from entering the diversion and that the diversion is not currently equipped with an appropriate fish screen. This diversion may be eligible for screening cost-share funds.

18. Certificate 3943 does not specify a total quantity of water to be diverted annually for irrigation; however, ORS 540.610 states “beneficial use shall be the basis, the measure and the limit of all rights to the use of water in this state.”

19. The rate of diversion for the change in character of use from irrigation to the proposed mining use shall be limited to 0.80 cubic foot per second and shall be further limited to a total volume diverted of 288.0 acre feet (64.0 acres x 4.5 acre feet per acre) during the season of use, being April 1 to October 31.

20. The rate of diversion for the irrigation of 1.0 acre is limited to 0.01 cubic foot per second and shall be further limited to a total volume of 4.5 acre feet during the irrigation season, being April 1 to October 31.

***Transfer Review Criteria [OAR 690-380-4010(2)]***

21. Water has been used within the last five years according to the terms and conditions of the right. There is no information in the record that would demonstrate that the right is subject to forfeiture under ORS 540.610.
22. A diversion structure and ditch sufficient to use the full amount of water allowed under the existing right were present within the five-year period prior to submittal of Transfer Application T-12837.

23. The proposed changes, as conditioned, would not result in enlargement of the rights.
24. An instream water right, Certificate 72697, exists for the reach of the river in which the authorized point of diversion would be moved upstream, and the streamflow within the reach are frequently below the levels allocated under the instream water right. Thus, the instream water right would be injured as a result of the proposed change in point of diversion.
25. All other application requirements are met.

### **Determination and Proposed Action**

Based on the recommendations of the Oregon Department of Fish and Wildlife, the Department consents to the injury of the instream water right evidenced by Certificate 72697. The changes in point of diversion, place of use, and character of use proposed in Transfer Application T-12837 appears to be consistent with the requirements of ORS 540.505 to 540.580 and OAR 690-380-5000. If protests are not filed pursuant to OAR 690-380-4030, the transfer application will be approved.

*If Transfer Application T-12837 is approved, the final order will include the following:*

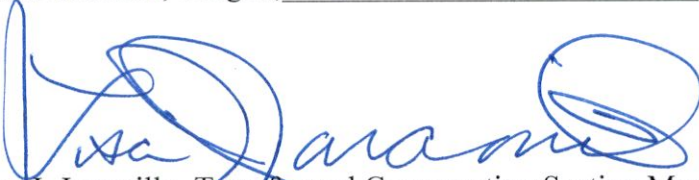
1. *The changes in point of diversion, place of use, and character of use proposed in Transfer Application T-12837 are approved.*
2. *The right to the use of the water is restricted to beneficial use at the place of use described, and is subject to all other conditions and limitations contained in Certificate 3943 and any related decree.*
3. *Water right Certificate 3943 is cancelled. A new certificate will be issued describing that portion of the right not affected by this transfer.*
4. *The quantity of water diverted at the new point of diversion, shall not exceed the quantity of water lawfully available at the original point of diversion.*
5. *Water use measurement conditions:*
  - a. *Before water use may begin under this order, the water user shall install a totalizing flow meter, or, with prior approval of the Director, another suitable measuring device, at each point of diversion (new and existing).*
  - b. *The water user shall maintain the meter or measuring device in good working order.*
  - c. *The water user shall allow the Watermaster access to the meter or measuring devices; provided however, where the meter or measuring devices are located within a private structure, the Watermaster shall request access upon reasonable notice.*
6. *The permittee (transfer applicant) comply with terms of the associated Mitigation Proposal to minimize detrimental impacts to fish, wildlife, and/or their habitat. ODFW understands*

*that the mitigation and following conditions will be fully incorporated into the requirements of the new certificate and may only be altered by written mutual agreement of all parties.*

- a. Regulation of the use and/or possible cancellation of the certificate if the required mitigation is not maintained. This recommendation to consent to injury is contingent upon: implementation of the mitigation measures outlined in the attached Mitigation Plan prior to diversion of water.*
- 7. Prior to diverting water, the water user shall install a fish screening and/or by-pass device, as appropriate, at the new point of diversion consistent with the Oregon Department of Fish and Wildlife's (ODFW) design and construction standards. Prior to installation, the water user shall obtain written approval from ODFW that the required screen and/or by-pass device meets ODFW's criteria. Prior to submitting a Claim of Beneficial Use, the water user must obtain written approval from ODFW that the required screening and/or by-pass device was installed to the state's criteria. The water user shall maintain and operate the fish screen and/or by-pass device, as appropriate, at the point of diversion consistent with ODFW's operational and maintenance standards.*
- 8. Prior to development of the new point of diversion, the permittee shall submit, to the Oregon Water Resources Department, a Riparian Mitigation Plan approved in writing by ODFW unless ODFW provides documentation that riparian mitigation is not necessary. The permittee shall maintain the riparian area for the life of the permit and subsequent certificate per the approved Riparian Mitigation Plan. The permittee is hereby directed to contact the local ODFW Fish Biologist prior to development of the new point of diversion.*
- 9. Construction must occur during the established in-water work period (June 15 to September 15) unless otherwise approved by ODFW.*
- 10. Riparian plantings in Mitigation Action 4 must be maintained to ensure a minimum 80% survival five years post-implementation.*
- 11. The former place of use of the transferred right shall no longer receive water under the right.*
- 12. The rate of diversion for the change in character of use from irrigation to the proposed mining use shall be limited to 0.80 cubic foot per second and shall be further limited to a total volume diverted of 288.0 acre feet (64.0 acres x 4.5 acre feet per acre) during the season of use, being April 1 to October 31.*
- 13. The rate of diversion for the irrigation of 1.0 acre is limited to 0.01 cubic foot per second and shall be further limited to a total volume of 4.5 acre feet during the irrigation season, being April 1 to October 31.*
- 14. Full beneficial use of the water shall be made, consistent with the terms of this order, on or before **October 1, 2023**. A Claim of Beneficial Use prepared by a Certified Water Right Examiner shall be submitted by the applicant to the Department within one year after the deadline for completion of the changes and full beneficial use of the water.*

15. *After satisfactory proof of beneficial use is received, a new certificate confirming the right transferred will be issued.*

Dated at Salem, Oregon, MAY 21 2020.



Lisa J. Jaramillo, Transfer and Conservation Section Manager, for  
THOMAS M BYLER, DIRECTOR  
Oregon Water Resources Department

This revised Preliminary Determination was prepared by Corey Courchane. If you have questions about the information in this document, you may reach me at 503-986-0825 or [corey.a.courchane@oregon.gov](mailto:corey.a.courchane@oregon.gov)

*Protests should be addressed to the attention of Water Rights Division, Water Resources Department, 725 Summer St. NE, Suite A, Salem, OR 97301-1266.*

**IMPORTANT:** Due to COVID-19, the Department's office is closed to walk-in services. The Department encourages the submission of protests by U.S. mail. Please consider mailing early to ensure the Department receives the protest by the deadline specified above.

**Notice Regarding Service Members:** Active duty service members have a right to stay proceedings under the federal Service Members Civil Relief Act, 50 U.S.C. App. §§501-597b. You may contact the Oregon State Bar or the Oregon Military Department for more information. The toll-free telephone number for the Oregon State Bar is: 1 (800) 452-8260. The toll-free telephone number of the Oregon Military Department is: 1 (800) 452-7500. The Internet address for the United States Armed Forces Legal Assistance Legal Services Locator website is: <http://legalassistance.law.af.mil>





# Oregon

Kate Brown, Governor

**Water Resources Department**

725 Summer St NE, Suite A

Salem, OR 97301

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May 21, 2020

ANDREAS AND CAROLE BLECH  
1867 WILLIAMS HIGHWAY #260  
GRANTS PASS, OR 97527

SUBJECT: Water Right Transfer Application T-12837

Please find enclosed the revised Preliminary Determination indicating that, based on the information available, the Department intends to approve application T-12837. This document is an intermediate step in the approval process; water may not be used legally as proposed in the transfer application until a Final Order has been issued by the Department. Please read this entire letter carefully to determine your responsibility for additional action.

A public notice is being published in the Department's weekly publication and in the Grants Pass Daily Courier newspaper, simultaneously with issuance of the Preliminary Determination. The notice initiates a period in which any person may file either a protest opposing the decision proposed by the Department in the Preliminary Determination or a standing statement supporting the Department's decision. The protest period will end 30 days after the last date of newspaper publication.

If no protest is filed, the Department will issue a Final Order consistent with the revised Preliminary Determination. You should receive a copy of the Final Order about 30 days after the close of the protest period.

If a protest is filed, the application may be referred to a contested case proceeding. A contested case provides an opportunity for the proponents and opponents of the decision proposed in the Preliminary Determination to present information and arguments supporting their position in a quasi-judicial proceeding.

**IMPORTANT:** Due to COVID-19, the Department's office is closed to walk-in services. The Department encourages the submission of protests by U.S. mail. Please consider mailing early to ensure the Department receives the protest by the deadline specified above.

Please do not hesitate to contact me, at [corey.a.courchane@oregon.gov](mailto:corey.a.courchane@oregon.gov) or (503) 986-0825, if I may be of assistance.

Sincerely,

Corey Courchane  
Transfer Specialist  
Transfer and Conservation Section

cc: Transfer Application file 12837

Jake Johnstone, District 14 Watermaster (*via e-mail*)  
Shonee Langford, Agent for the applicant (*via e-mail*)  
Elizabeth Howard, Agent for the applicant (*via e-mail*)  
Steve Bruce, CWRE #439 (*via e-mail*)  
Confederated Tribes of Siletz (*via e-mail*)  
Confederated Tribes of Grand Ronde, (*via e-mail*)  
Cow Creek band of Umpqua tribe of Indians, (*via e-mail*)

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## Injury

On January 18, 2018, landowners Andreas and Carol Blech (Applicants or Blech) filed a transfer application with the Oregon Water Resources Department (OWRD) to move the point of diversion for Certificate 3943 upstream approximately 560 feet (see attached map outlining the diversion point locations). Certificate 3943 authorizes the use of up to 0.81 cubic feet per second (cfs) of Grave Creek between April 1 and November 1. OWRD has preliminarily determined that the transfer will be denied unless the Oregon Department of Fish and Wildlife (ODFW) consents to injury to instream water right Certificate 72697, which is partially located within the 560 foot reach between the present point of diversion and proposed point of diversion (the “injured reach”).

## Mitigation Thresholds

ODFW has classified the habitat within the injured reach as Habitat Category 3 under its *Fish and Wildlife Habitat Mitigation Policy*. Category 3 is essential habitat for fish and wildlife or important habitat that is limited on a physiographic province or on a site-specific basis. If impacts are unavoidable, ODFW requires **in-kind, in-proximity replacement** of impacted habitat and **no net loss of habitat quantity or quality**. In addition, the OWRD transfer statute requires a **net benefit** to the resource.

This Mitigation Plan will address these thresholds for mitigation in light of the following criteria developed in conjunction with ODFW:

A) In-kind Habitat in Need of Replacement:

- Habitat Structure: small boulders and cobble, large woody debris (LWD), minimal refuge
- Habitat Function: primarily juvenile rearing, adult and juvenile migration

B) Habitat Quantity and Quality in Need of Replacement:

- Habitat Quantity: 560 feet; 0.81 cfs
- Habitat Quality: marginal, lacks complexity

C) Months of Impact: April – November

D) In-proximity location: the geographic boundaries of the Middle Rogue / Applegate rivers coho salmon population.

## Baseline Conditions

The Applicant worked in conjunction with ODFW to determine habitat and current conditions within the injured reach.

### I. Fish Use and Habitat Needs

As identified by ODFW, the injured reach provides primarily **rearing habitat** for juvenile coho, summer steelhead, and Pacific lamprey during April – November.

**Salmonid Rearing Habitat:** In general, juvenile salmonids require a variety of habitats during each season of their freshwater rearing phase. During the summer, the quantities of pool habitat is important for providing suitable territories that are available. In addition, deep water pools with hyporheic flows is important for providing cool refugia during low summer flows. During the winter, juvenile salmon require habitats with low water velocities such as side channels, backwaters, beaver ponds, deep pools, and pools formed by large woody debris and root wads. Streamside (riparian) vegetation also plays an important role in regulating the temperature in rearing streams in addition to acting as habitat for terrestrial insects and a source of leaf litter utilized by stream invertebrates. Both factors act to increase the food available to juvenile salmon rearing in streams.

**Habitat Baseline:** Rearing habitat within the injured reach currently consists of a primarily straightened channel lacking instream habitat complexity. Small boulders and cobble are the primary substrate. There is very little large wood or other structurally complex habitats. Flood plain connectivity is limited due to high incised banks. There is a lateral scour pool within the injured reach according to ODFW, which provides some rearing habitat for juvenile salmonids. There is limited spawning habitat within the injured reach. It is highly likely that juvenile salmonids (more specifically coho salmon) occur year-round, and that adult salmonids migrate through this reach October through May, depending on stream flow.

Furthermore, there are very few areas within the injured reach that provide areas of low velocity and fine substrates for Pacific Lamprey ammocoetes.

## II. ODFW Habitat Quality Assessment

ODFW has determined that the injured reach is of **moderate habitat quality** and is primarily utilized for juvenile rearing by juvenile coho, summer steelhead, and Pacific lamprey.

### **Mitigation Plan**

The Applicant will replace the habitat that is being lost prior to or concurrent with the diversion of water at the new point of diversion through a combination of instream and restoration measures. Identified measures will address and fully mitigate for impacts that ODFW has identified within the injured reach. The habitat created will provide greater habitat structure and function within an area equal to or greater than the injured reach (approximately 560 feet).

Applicant's mitigation measures target enhancement of instream complexity via: 1) placement of large wood and habitat structures; 2) backfilling existing "Coyote Hole" depressions within the flood plain; 3) removing and restoring the existing diversion point (push-up dam and diversion channel); and 4) increasing native plant cover within the riparian area. The enhanced habitat will occur within Grave Creek and encompass a minimum of 560 feet. The following describes identified mitigation measures:

### 1. Placement of Large Wood and Habitat Structures:

Large wood jams comprised of root wads, logs, and whole trees with root wads will be installed at four designated locations along the impact area and in strategic downstream locations to create more structural complexity. Logs will be keyed into existing riparian trees and/or anchored using large boulders as ballast. Restoration will be targeted along the northern side of the stream in order to utilize the best location for debris jams.

Four large wood debris jams comprised of five to six pieces of large wood (18-22 inches diameter at breast height (DBH)) will be installed along the injured reach. Logs will be keyed into existing riparian trees, stream substrates or anchored into place using large boulders as ballast. Boulders will be effective at reducing the downstream movement of wood when other anchor points are limited. Conifer logs will be removed from upland portions of the property with the rootwad still attached and placed instream. Keyed in logs will be at least one and one-half times (1.5X) the bank full width. Logs will be installed using ground-based equipment (excavator and/or by cable) with the rootwad being placed within the active channel. Large wood structures will be monitored as outlined in the Mitigation Monitoring section below. Conceptual plans are attached and included with this plan.

Riparian setbacks (as required by the County, DOGAMI, or other agency) will provide ongoing protection of the maturing riparian habitat. The protected riparian habitat will be allowed to mature and fall into Grave Creek so as to naturally contribute future large wood habitat beyond the life span of the habitat structures.

### 2. Backfilling Existing "Coyote Hole" Depressions Within the Floodplain

Two existing depressions (Coyote Holes) within the floodplain will be backfilled and sealed with fine sediments to reduce potential for fish stranding. One depression is located beyond the ordinary high water (OHW) but is within the floodplain; the second is located within the OHW. Fish salvage operations will occur if water is present within the Coyote Holes at the time of operation (the likelihood of fish presence is low).

### 3. Restoring the Existing Diversion Point (Pushup Dam Location and Diversion Channel)

The earthen pushup dam at the current point of diversion (POD) will be removed and the existing intake channel will be contoured to prevent juvenile fish stranding during high flow events. Approximately ten cubic yards of cobbles, gravels, sands and fine substrates will be contoured throughout this zone.

### 4. Increasing Native Plant Cover within the Riparian Area

Identified restoration actions will be followed by: removal of invasive vegetation and installation of native riparian plants within disturbed areas and in areas where existing vegetation is sparse. Plantings will be in addition to those identified as mitigation to fulfill County, DOGAMI, or other agency requirements.

Installation of native trees and shrubs would create a diverse and structural riparian plant community that would increase forage, shelter and resting areas for small mammals, birds and related wildlife. Planting native trees and shrubs will also increase food chain support, primary production, thermoregulation of existing water features, and nutrient uptake. Table 1 outlines target species for plantings. Exhibit 1 (attached) depicts approximate riparian planting zones.

Table 1 – Target species for riparian planting and restoration.

Common Name / Scientific Name	Container Size	Quantity
Oregon ash ( <i>Fraxinus latifolia</i> )	Bareroot	50
Big-leaf maple ( <i>Acer macrophyllum</i> )	Bareroot	50
Oregon black oak ( <i>Quercus kelloggii</i> )	Bareroot	20
Ponderosa pine ( <i>Pinus ponderosa</i> )	Bareroot	75
Incense cedar ( <i>Calocedrus decurrens</i> )	Bareroot	75
Big-leaf maple ( <i>Acer macrophyllum</i> )	1 gallon	20
Arroyo willow ( <i>Salix exigua</i> )	Stakes	100

Prescribed quantities of trees, shrubs, and plugs are to consist of healthy stock; plants will be inspected and approved by a qualified landscape consultant prior to installation. Bareroot and stake materials will then be installed within target habitat zones using trowels and/or shovels. Woody materials will be installed in clusters of five (5) to ten (10) individuals at ten (10) to fifteen (15) foot offsets. During plant installation, a qualified landscape consultant will make periodic site inspections to ensure the planting plans are adequately implemented.

5. Additional Floodplain Protections

The area within the floodplain not covered by existing requirements for riparian protection (identified by the blue arrow in the Figure 1 below) will be protected in the same manner as other riparian buffers within the project area.

Figure 1 – Additional area identified for riparian protection.





## 6. Onsite Inspection

ODFW will be invited onsite following implementation to evaluate compliance with terms and conditions of this consent to injury mitigation plan and any associated workplans (photos will be taken pre implementation, during implementation, and post implementation to document onsite work). This evaluation may be counted toward the annual mitigation follow-up per the monitoring section below.

## Net Benefit Analysis

Identified measures will address and fully mitigate the impacts identified by ODFW to the injured reach. The habitat created will provide greater habitat structure and more flood plain connectivity within an area equal to or greater than the injured reach. The following increases are anticipated:

### A) In-kind Habitat Replaced:

#### • Habitat Structure:

- The addition of large wood and increase in flood plain connectivity provides for more complex habitat than that currently existing in the injured reach.
- The enhanced riparian area will result in increased shade in Grave Creek over time and improved floodplain habitat, providing improved structure within the injured reach.

#### • Habitat Function:

- The addition of large wood and complexity to the stream channel will provided better habitat than is currently provided in the injured reach.



- The enhanced riparian area will provide better function than the riparian area in the injured reach.

#### B) Habitat Quantity and Quality Replaced:

##### • Habitat Quantity:

- The addition of large wood and complexity to the stream channel will provide better habitat quantity than what is currently provided in the injured reach.
- The enhanced riparian area provides habitat of greater quantity.

##### • Habitat Quality:

- The addition of large wood and complexity to the stream channel will provide better habitat quality than is currently available in the injured reach.
- The enhanced riparian area provides habitat of greater quality.

#### C) Months:

- The improved instream habitat is accessible beyond the period of impact (year round).
- The pushup dam location is now accessible during all flows.
- The enhanced riparian area will be protected by a riparian setback (50 feet). In addition, all riparian protections will allow for an increase in shade and naturally occurring large wood debris to enter the system in the future.

#### D) Location of Mitigation:

The location of the mitigation is consistent with location requirements identified under the Mitigation Policy (i.e., within the geographic boundaries of the Middle Rogue / Applegate rivers coho salmon population). It is located within and immediately adjacent to the injured reach.

### Monitoring

Within ninety days of completion of mitigation construction, the Applicant will prepare a report to establish baseline conditions for future monitoring reports. The construction report will include construction diagrams and photograph documentation as necessary to document final as-built conditions of the mitigation effort. This report will also discuss grading and any other variations (if any) from the Mitigation Plan.

Annual monitoring site visits will occur to evaluate the success of the mitigation and to identify corrective measures necessary to meet mitigation goals. Monitoring reports will be submitted annually for the first 5 years, then every 5 years for a total time period of 25 years, to ODFW (ODFW Rogue District Fish Biologist, 1495 East Gregory Road, Central Point, Oregon 97502). Each report will include narrative, supporting data and photographs to document the progress of the mitigation.

Monitoring reports will include data necessary to document compliance with authorized mitigation conditions and success in meeting the goals outlined within this plan. Each report will include plant survival data, community composition, aerial images outlining riparian setback and showing riparian vegetation on the length of the property each year (if available), hydrologic data (or observations), assessment of log-jam condition (photo points of each logjam/woody

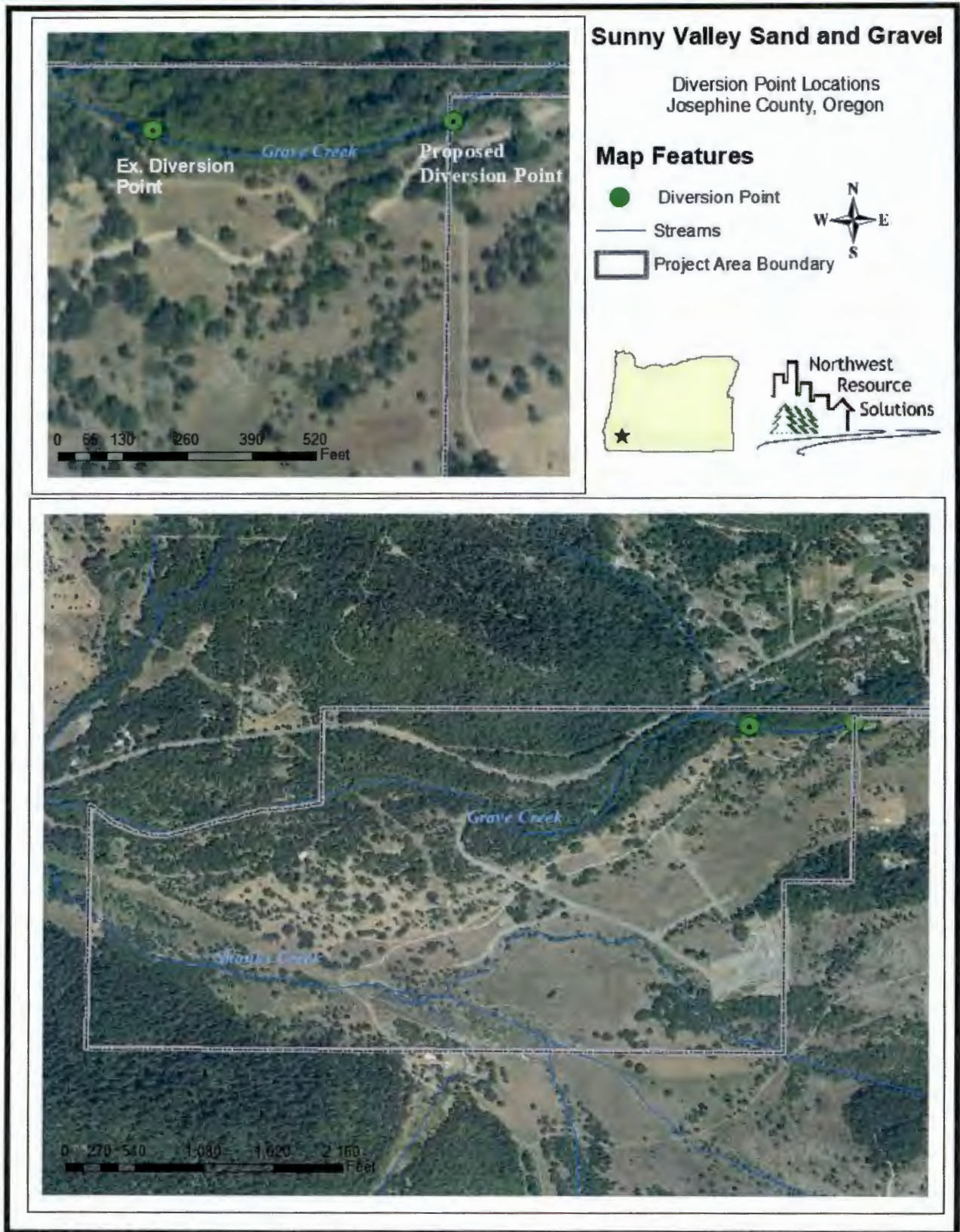
debris site and documentation of repairs to wood sites and new input from riparian set back). and other related information to describe the evolution of the mitigation. Recommendations for maintenance and corrective actions will also be outlined. The monitoring reports will include a comparison of the plant densities, diversity of native species, percent aerial cover of non-native species and related factors. Several plots will be established to adequately represent the mitigation area.

Riparian planting success will be measured by annual stem count. Photographs will also be taken from designated photo locations to document on-site conditions for progress and comparative purposes. Finally, monitoring reports will document specific problems in meeting the performance goals and prescribe corrective measures.

### **Determination**

This mitigation plan provides in-kind, in-proximity replacement of impacted habitat and no net loss of habitat quantity or quality. The mitigation measures will also increase habitat structure and function by providing instream complexity and refuge habitat, access to the flood plain, reduced probability of stranding, and improved riparian conditions. Identified measures will increase the habitat quality and quantity within Grave Creek. Overall these measures will improve the existing baseline conditions and provide a net benefit.

In addition, because the 560 feet of enhanced habitat provides benefits to impacted species during the times when these species would utilize the area and within the geographic boundaries of the Middle Rogue/Applegate Rivers (coho salmon population), and the beneficial impacts will increase over time, the plan yields a net benefit to the resource.





**Photo 1** – Existing diversion location showing remnant cobbles from pushup dam. Potential passage barrier during low flows.



**Photo 2** – Existing diversion channel and potential stranding hazard located south of the pushup dam location. Notice the non-native blackberry and lack of vegetation within the riparian area.



**Photo 3** –Channel area located up stream of the current pushup dam location. Notice the non-native blackberry and lack of vegetation, and limited number of large conifer within the riparian area.

**Large Wood Placement Conceptual Designs  
Sunny Valley Sand and Gravel  
Grave Creek, Tributary to Rogue River  
Josephine County, Oregon**

**Site 1:** N42° 37.778' W123° 19.048'

**Active Channel Width:** 42 feet

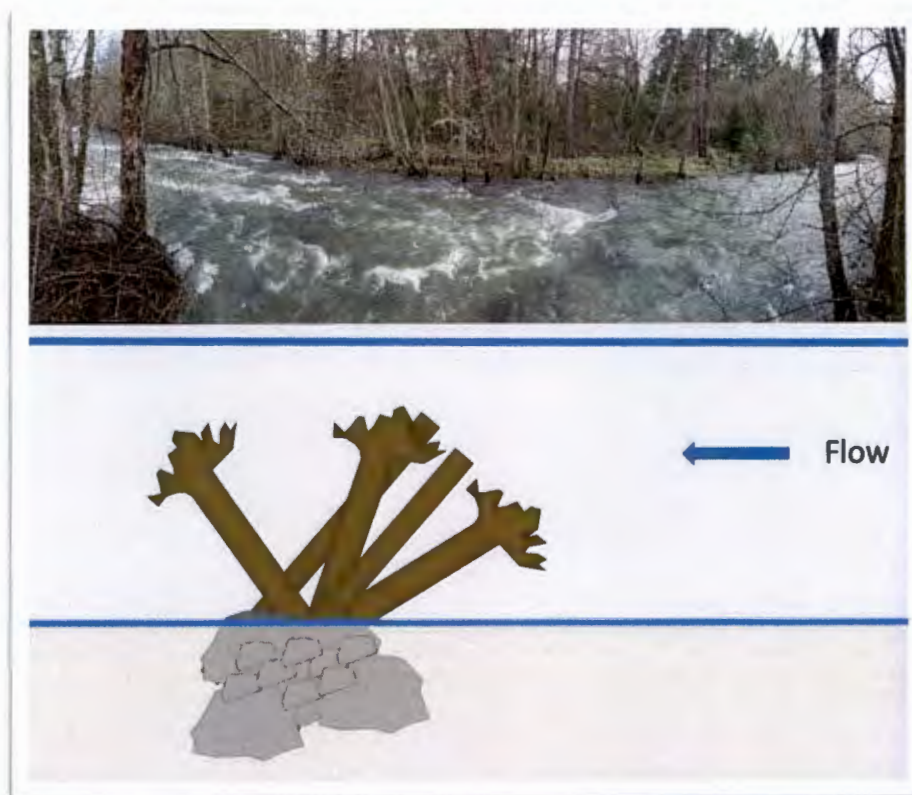
**No. Pieces of wood:** 5 (3 key pieces with attached rootward)

**Diameter of key pieces:** 18-22 inches

**Minimum Length of key pieces:** 63 feet or 1.5 ACW

**Site notes:** The site is dominated by small hardwoods < 6 inches DBH with very few standing conifers. Slope is less than 2 percent over 150 feet. No flows were measured at the time of survey. Key logs will require ballast to maintain location over time due to lack of large standing tree. The stream segment is cobble dominated. There is limited floodplain connectivity. All restoration will be conducted from the South side of the stream due to access and potential challenges with neighboring landowners.

**Methods:** Excavator and cable/crane placement will be required. Logs will be ballast with boulders, partially buried in slope, and the slope will be recontoured and planted. The site will function as barbs instead of full spanning structure.



**Site 2:** N42° 37.770' W123° 19.096'

**Active Channel Width:** 67 feet

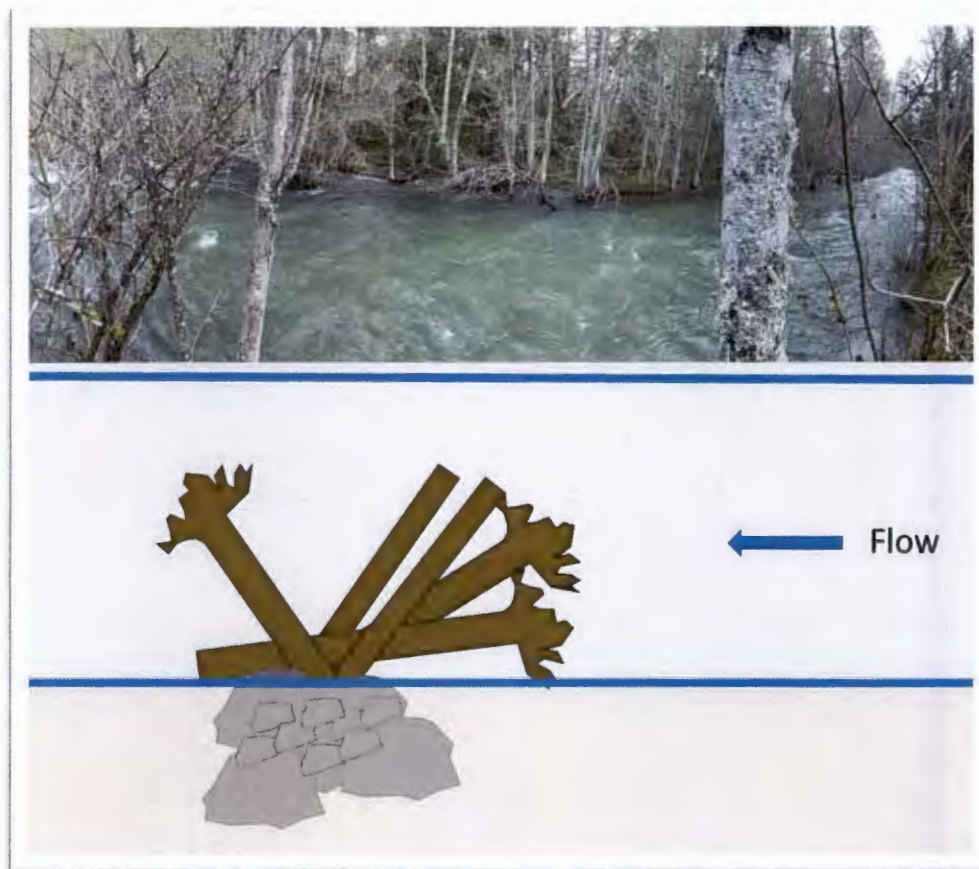
**No. Pieces of wood:** 5 (3 key pieces with attached rootward)

**Diameter of key pieces:** 18-22 inches

**Minimum Length of key pieces:** 100 feet or 1.5 ACW

**Site notes:** Like site 1, this site is also dominated by small hardwoods < 6 inches DBH with very few standing conifers. Slope is less than 2 percent over 150 feet. No flows were measured at the time of survey. Key logs will require ballast to maintain location over time due to lack of large standing tree. The stream segment is cobble dominated. There is limited floodplain connectivity. All restoration will be conducted from the South side of the stream due to access and neighboring landowners.

**Methods:** Excavator and cable/crane placement will be required. Logs will be ballast with boulders, partially buried in slope, and the slope will be recontoured and planted. The site will function as barbs instead of full spanning structure.





**Site 3:** N42° 37.773' W123° 19.149'

**Active Channel Width:** 56 feet

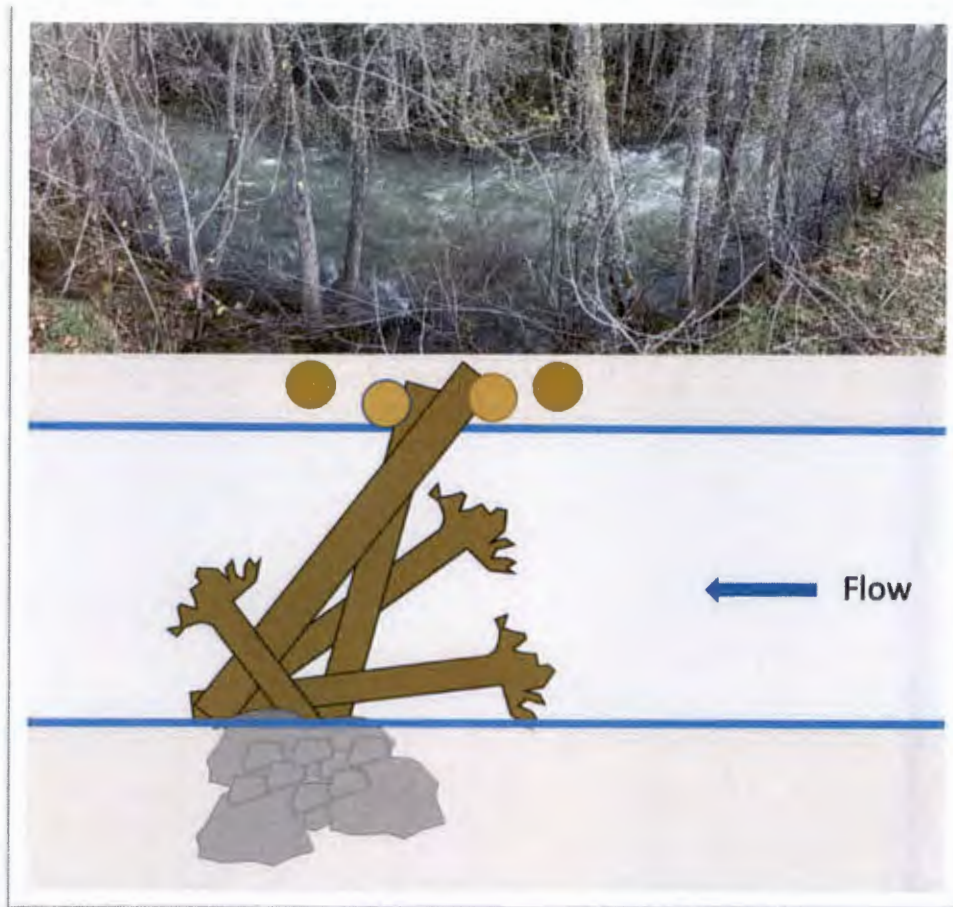
**No. Pieces of wood:** 5 (3 key pieces with attached rootward)

**Diameter of key pieces:** 18-22 inches

**Minimum Length of key pieces:** 84 feet or 1.5 ACW

**Site notes:** The south side of the site is dominated by small hardwoods < 6 inches DBH with very few standing conifers. The north side of the site contains some large conifers which could be used to key in logs from the north side of the stream. Slope is less than 2 percent over 150 feet. No flows were measured at the time of survey. Key logs will require ballast along the southern portion of the site to maintain location over time due to lack of large standing trees. The banks on the south side are steep and removal of material and contouring of the slope will be required to ensure secure placement of key logs. The stream segment is cobble dominated. There is limited floodplain connectivity. All restoration will be conducted from the South side of the stream. A crane/cable machine will be used to set logs on the north side of the stream.

**Methods:** Excavator and cable/crane placement will be required. Logs will be ballast with boulders, partially buried in slope on the south side of the stream, and the slope will be recontoured and planted. The site will function as a full spanning structure.



**Site 4:** 42° 37' 46.9956", - 123° 19' 10.6356"

**Active Channel Width:** 49 feet

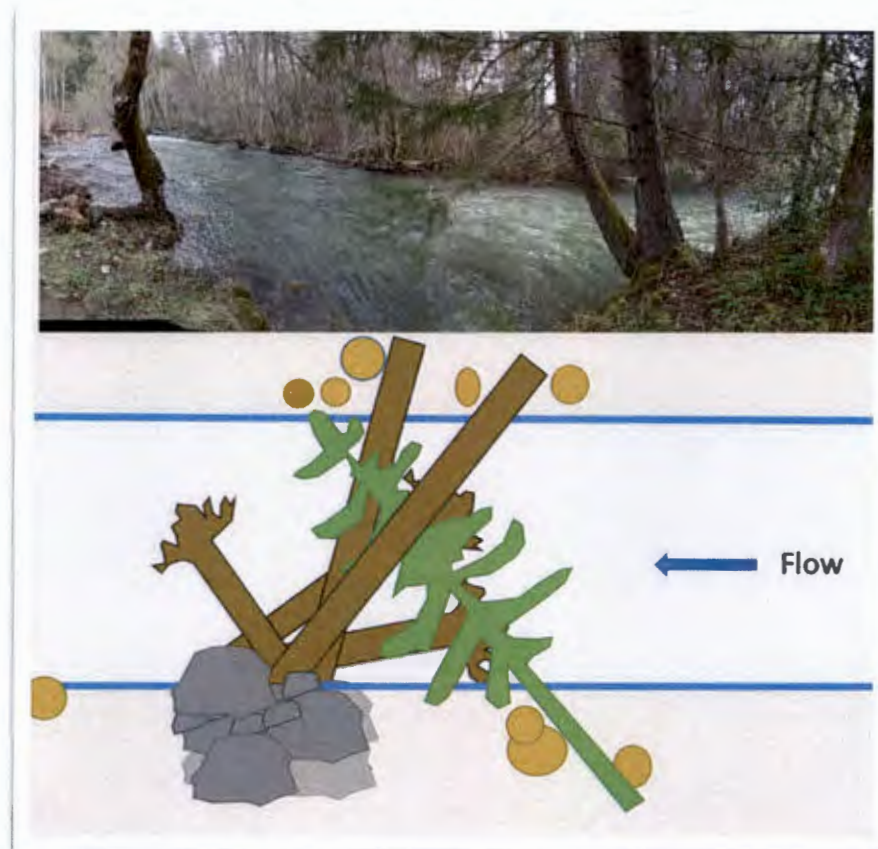
**No. Pieces of wood:** 6 (3 key pieces with attached rootward), 1 whole tree with branches

**Diameter of key pieces:** 18-22 inches

**Minimum Length of key pieces:** 73 feet or 1.5 ACW

**Site notes:** The south side of the site is open with one larger conifer and a larger hardwood (> 10 inches dbh) which could be used for keying in portions of the structure. The north side of the site is dominated by smaller hardwoods < 6 inches; however, there are a few larger conifers which could be used to key in logs from the north side of the stream. Slope is less than 1 percent over 150 feet. No flows were measured at the time of survey (flows are dramatically less at this site than in sites 1-3). Key logs will require ballast along the southern portion of the site to maintain location over time due to lack of large standing trees. The banks on the south side are gradual and excavation and contouring of the slope will not be required to ensure secure placement of key logs; however, boulder ballasts will be required. The stream segment is cobble dominated. There is some floodplain connectivity at higher flows on the north and south sides of the stream. All restoration will be conducted from the South side of the stream. A crane/cable machine will be used to set logs on the north side of the stream.

**Methods:** Excavator and cable/crane placement will be required. Logs will be ballast with boulders, partially buried in slope on the south side of the stream, and the slope will be recontoured and planted. The site will function as a full spanning structure.



**Disclaimer:** These sites designs are conceptual and may require additional field work to finalize and verify the exact placement of wood and materials. In addition, due to the channel dynamics, flow/hydrology considerations, downstream infrastructure, and potential issues with neighboring landowners, it is recommended that the final plans be fully engineered.

