

**INTERAGENCY AGREEMENT  
BETWEEN  
WASHINGTON STATE  
RECREATION AND CONSERVATION OFFICE  
AND  
WASHINGTON STATE  
DEPARTMENT OF FISH AND WILDLIFE**

**PARTIES TO THE AGREEMENT**

This Interagency Agreement is made and entered into by and between the Washington State Recreation and Conservation Office, hereinafter referred to as "RCO", and Washington State Department of Fish and Wildlife, hereinafter referred to as "WDFW", pursuant to the authority granted by Chapter 39.34 RCW.

**PURPOSE**

The purpose of the Lower Satsop River Streambank Erosion Reduction Demonstration Project is to conduct a pilot project to evaluate and demonstrate the effectiveness of "relic channel reopening" as an additional riverbank protection approach/tool. The Lower Satsop River Streambank Erosion Reduction Demonstration Project will consist of excavation of a high flow channel near the confluence of the Satsop River with the Chehalis River to reduce velocities within the main channel during erosive flows. The overflow channel is located at the site of a historic channel.

Project timeline is:

- Permit Package submittal -- July 2016
- Complete Final Design -- August 2016
- Permits in Hand and Contracting -- September 2016
- Excavate High Flow Channel -- October 2016

**PERIOD OF PERFORMANCE**

This Agreement shall become effective **July 11, 2016** or once fully signed, whichever is later, and will expire on **June 30, 2017**, except as clarified in this term below and/or unless terminated sooner or extended as provided herein.

Funding for this project is appropriated through June 30, 2017. This agreement may be extended to include work in FY 2017 as needed and if funding is available.

**STATEMENT OF WORK**

WDFW shall provide the following services to RCO related to flood hazard reduction in the Chehalis Basin and in support of the Chehalis River Basin Flood Authority:

See Attachment A - Updated 2015-17 Small Projects Recruitment Form (Lower Satsop River Streambank Erosion Reduction Demonstration Project, dated June 7, 2016).

**COMPENSATION**

RCO shall reimburse WDFW, an amount not to exceed One Hundred Fifty Thousand Dollars (\$150,000), including any applicable tax and indirect costs, for the performance of all things necessary for, or incidental to, the work as set forth in this Agreement.

Allowable costs shall include costs incurred by WDFW from the first date of the Agreement period until the Agreement is terminated or expires as provided herein, but in no event shall allowable costs exceed the maximum amount of the Agreement. Costs allowable under this Agreement are based on the following agreed budget.

<b>CATEGORY</b>	<b>DOLLARS</b>
Salaries and Wages	\$9,500
Goods and Services	\$500
Construction Contracts	\$140,000
<b>TOTAL</b>	<b>\$150,000</b>

WDFW, shall be allowed to move amounts not to exceed ten percent of any object or expenditure total between objects. However, no change or transfer can be made that would have the effect of increasing the total budget. Budget changes in excess of this ten percent may be made only upon the written approval of both parties to this Agreement.

#### **BILLING AND PAYMENT**

RCO will pay WDFW upon acceptance of service provided and receipt and approval of a properly completed invoice, which shall be submitted not more frequently than monthly to RCO's representative as designated in the Administration section below.

The invoice shall describe and document, to RCO's satisfaction, a description of the work performed, staff charges, any travel costs, indirect cost calculations, and fees. WDFW shall also include adequate supporting documentation and include a reference to RCO Interagency Agreement Number 16-2182. If expenses are invoiced, WDFW shall provide a detailed breakdown of each type.

Payment shall be considered timely if made by RCO within thirty (30) calendar days after receipt of the properly completed invoice. Payment shall be sent to the address designated by WDFW.

RCO may, in its sole discretion, terminate the contract or withhold payments claimed by WDFW for services rendered if WDFW fails to satisfactorily comply with any term or condition of this contract.

No payment in advance or in anticipation of services or supplies to be provided under this contract shall be made by RCO.

#### **ADMINISTRATION**

The following individuals are designated as representatives of the respective parties. The representatives shall be responsible for the administration of this Agreement and for coordinating and monitoring performance under this Agreement. In the event such representatives are changed, the party making the change shall notify the other party.

WDFW's representative shall be Jeff Hugdahl, 600 Capitol Way North, Olympia, WA 98501, 360-902-2230, [Jeffrey.Hugdahl@dfw.wa.gov](mailto:Jeffrey.Hugdahl@dfw.wa.gov) or his successor.

RCO's representative shall be Scott Robinson, PO Box 40917, Olympia, WA 98504-0917, 360-902-0207, [scott.robinson@rco.wa.gov](mailto:scott.robinson@rco.wa.gov) or his successor.

**DISPUTES**

Disputes arising under this Agreement shall be resolved by a panel consisting of one representative from RCO, one representative from WDFW, and a mutually agreed upon third party. The dispute panel shall thereafter decide the dispute with the majority prevailing. Neither party shall have recourse to the courts unless there is a showing of noncompliance or waiver of this section.

**TERMINATION**

Either party may terminate this Agreement upon thirty (30) days written notice to the other party. In the event of termination of this Agreement, the terminating party shall be liable only for performance rendered prior to the effective date of termination.

**CHANGES, MODIFICATIONS AND AMENDMENTS**

This Agreement may be waived, changed, modified, or amended only by written agreement executed by both parties hereto.

**EXECUTION**

We, the undersigned, agree to the terms of the foregoing Agreement.

**STATE OF WASHINGTON  
DEPARTMENT OF FISH AND WILDLIFE**

  
\_\_\_\_\_  
Jeff Hugdahl, Contracts and Purchasing Manager

8/16/16  
\_\_\_\_\_  
Date

**STATE OF WASHINGTON  
RECREATION AND CONSERVATION OFFICE**

  
\_\_\_\_\_  
Scott Robinson, Deputy Director

8/19/16  
\_\_\_\_\_  
Date

RECEIVED  
AUG 18 2016  
WA STATE  
RECREATION AND CONSERVATION OFFICE



## 2015-17 Small Projects Recruitment Form

### "Additional Local Flood relief Projects" (for 2015-17 biennium)

#### Chehalis River Basin Flood Relief

**What are small projects?** -- In general, small projects are those projects that provide predominantly localized benefit, are capable of being completed within the funding cycle, are supported by the jurisdiction within which the project is proposed, and are vetted and advanced through the Chehalis River Basin Flood Authority's Chehalis Basin Projects Committee.

**What are additional local flood relief projects?** -- Additional local flood relief projects are small projects seeking to utilize surplus 2015-17 small project monies as a result of other small projects coming in under budget, being re-scoped or otherwise resulting in surplus resources. Additional local flood relief projects, like small projects are to be completed within the funding cycle, supported by the jurisdiction within which the project is proposed, and vetted and advanced through the Chehalis River Basin Flood Authority's Chehalis Basin Projects Committee.

#### Instructions:

- a. Please submit additional local flood relief project requests (via this form) to Scott Boettcher ([scottb@sbgh-partners.com](mailto:scottb@sbgh-partners.com)) no later than 5:00 p.m. April 1, 2016.
- b. Please submit individual project request forms for each project in your jurisdiction, even those projects previously or partially funded in the past.
- c. Note: Parts III and IV below [marked by "(\*\*)"] will be scored as part of the Chehalis Basin Projects Committee's review and evaluation. Part I and II will not be scored.

<b>Part I General</b>	
1. <b>Date:</b>	June 7, 2016
2. <b>Project Name:</b>	Lower Satsop River Streambank Erosion Reduction-Construction
3. <b>Project Location</b> -- Please identify the location of the project as precisely as possible, preferable with latitude/longitude coordinates.	Confluence of Satsop River and the Chehalis River (see attached, Sheet 1)
4. <b>Project Contact</b> -- Please identify who will be	Michelle Cramer

  
**CHEHALIS  
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responsible for overseeing and managing the project (i.e., name, email, telephone number, etc.).	Washington Department of Fish and Wildlife 600 Capitol Way North Olympia, WA 98501 360.902.2610 michelle.cramer@dfw.wa.gov
<b>5. Lead Organization</b> -- Please identify the lead organization, agency, entity, etc. responsible for this project. Please identify key partners responsible for assisting in the delivery or implementation of the project.	Washington Department of Fish and Wildlife (WDFW), lead agency  Grays Harbor Conservation District (GHCD), key partner
<b>Part II</b> <b>Description, Timing and Cost</b>	
<b>6. Project Description</b> -- Please describe the project, what it is intended to accomplish, and the benefits that will accrue and to whom.	<p>Washington Department of Fish and Wildlife has been working with landowners in the lower Satsop River to develop a project to protect agricultural soils from bank erosion (see attached Satsop River Bank Erosion Photos, Figures 1 and 2). We used engineering studies, hydrodynamic modeling and analysis to develop alternatives and vetted these with stakeholders and regulatory agencies. Our proposal attempts to balance habitat restoration and loss of agricultural terrace soils from accelerated bank erosion exacerbated by artificial channel confinement by Keys Road and channel revetments. We have selected a preferred alternative and have prepared design and permit materials. Our preferred alternative includes excavation of a high flow channel near the confluence with the Chehalis River (see attached, Sheet 1) to reduce velocities within the main channel during erosive flows (see attached, Sheet 3). The overflow channel is located at the site of a historic channel (see attached, Satsop River Overflow Channel Photos, Figures 1-4). A complete project will also include floodplain restoration work upstream at the gravel pits on WDFW property (Sheet 1, future phase – not in this proposal).</p> <p>Grays Harbor Conservation District (GHCD) will formally join WDFW as project partner for the construction of the project. The lower Satsop River is an agricultural community such that GHCD's experience in on-the-ground conservation through technical assistance, construction and education is key to address local community needs.</p>
<b>7. Project Timeline</b> -- Please describe the overall	Permit Package submittal: July 2016

  
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<p>timeline for completion of the project as well any interim stages or phases.</p>	<p>Complete Final Design: August 2016          Permits in Hand and Contracting: September 2016          Excavate High Flow Channel: October 2016</p>
<p>8. <b>Project Cost and Funding</b> -- What is the cost of this project? What are the on-going maintenance and operation requirements? Is it clear who will be responsible for on-going maintenance and operations costs?</p>	<p>Excavate a high flow channel at the site of a historic channel to reduce velocities at eroding sites along the lower right bank of the river that are eroding rapidly.          Cost estimate: \$150,000          Match (DOE): \$75,000          Funding request: \$75,000</p> <p>There will be no need for ongoing maintenance and operation.</p>
<p>9. <b>Other Funding</b> -- Please explain the extent to which other funding sources or funding partners are available.</p>	<p>WDFW has received funding through the Chehalis Restoration and Protection Grants to complete final design and permitting for all elements of the lower Satsop River project. In addition, DOE has indicated that up to \$75,000 may be available for construction of the overflow channel.</p>
<p><b>Part III (**)</b>  <b>Completion and Doability by June 30, 2017</b></p>	
<p>10. <b>Project Completion</b> -- Does the funding requested complete (or substantially complete) a project that has already been started? If so, please explain.</p>	<p>Yes. In 2012, the Chehalis River Basin Flood Authority funded the "Satsop River Floodplain Restoration" project to study removing the rip rap revetment on WDFW land and develop 25+ alternatives for floodplain restoration and bank erosion reduction. Analysis indicated that rip rap removal as a stand-alone project would not meet the project's floodplain restoration and bank protection goals. In 2014, the Chehalis River Basin Flood Authority funded the "Lower Satsop River Floodplain Restoration Project, Phase 2" to restore natural fluvial processes and floodplain connectivity along the lower Satsop River to reduce bank erosion, preserve agricultural soils, and improve fish and wildlife habitat. The Chehalis Restoration and Protection Projects recently awarded funding to WDFW to complete final designs and permits.</p>
<p>11. <b>Project Doable</b> -- Can this project or the stage/phase for which funding is sought be completed by June 30, 2017? Does the project face problem areas that could impact its doability and timeline, e.g., permitting or regulatory unknowns.</p>	<p>We will have 100% design plans completed by summer 2016. We have been working with landowners and stakeholders in both community meetings and individual/small group meetings to develop these plans since 2014. In addition, we have discussed permitting with regulatory agencies and will submit permit applications by July 2016. We will be shovel-ready for the overflow channel by late September/ early October 2016.</p>

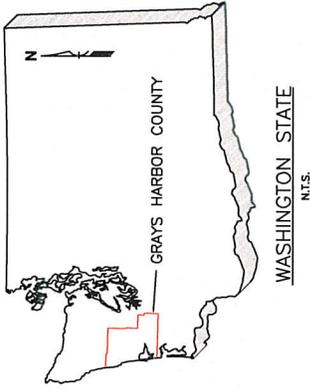
	<p>The construction of the high flow channel will be done above the OHWM and outside the in-water work window. There is a possibility in-water work will be needed for the construction of the high flow channel in which case, we will request a time extension to complete during the in-water work windows. Although we have been working with regulatory agencies on development of the project, it is possible that permitting will delay project implementation. Given the recent changes at the proposed high flow channel location, the amount of work proposed is minimal and may be more easily permitted than previously indicated.</p>
<p>12. <b>Project Impacts</b> -- Please identify how any project impacts will be mitigated and if that mitigation will be accomplished by June 30, 2017?</p>	<p>We expect mitigation requirements to be identified through the permitting phase. Wetland delineation has been completed for the proposed project and we have been meeting with regulatory agencies for over 2 years as the project elements develop. The proposed high flow channel may impact forested wetlands and may require mitigation and monitoring.</p>
<p><b>Part IV (**)</b> <b>Benefits Stated and Quantified</b></p>	
<p>13. <b>Emergency Response</b> -- Please explain how this project enhances our ability to respond in a flood emergency (e.g., does it keep critical access roads, transportation facilities, etc. open and functional.)</p>	<p>The focus of this project is to protect prime agricultural soils from active bank erosion along the right-bank caused primarily by Keys Road which is located in the channel migration zone. Keys Road periodically floods and is closed to emergency response vehicles. Constructing an overflow channel will alleviate right-bank erosion while a long-term strategy is developed, potentially including a feasibility study to relocate Keys Road so critical access for emergency response is not closed due to flooding.</p>
<p>14. <b>Essential Infrastructure Protection</b> -- Please explain how this project protects essential infrastructure (as well the risks or consequences of not acting this funding cycle).</p>	<p>While this project does not directly protect infrastructure, the river frequently floods Keys Road and results in repetitive road closures. Keys Road was constructed through several abandoned channels of the Satsop River and it's only a matter of time before the river captures an abandoned channel and threatens/destroys parts of Keys Road. The construction of Keys Road has reduced the channel migration corridor and forced the channel to migrate to the west and erode prime agricultural soils.</p>
<p>15. <b>Public Health, Safety and Welfare</b> -- Please explain how this project protects public health, safety and welfare.</p>	<p>By constructing the high flow channel there will be a reduction of velocities and flow depths along the actively eroding agricultural streambanks of the lower Satsop River.</p>

  
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<p><b>16. Residential, Commercial and/or Agricultural Protection</b> -- Please explain how this project protects residential, commercial and/or agricultural interests and communities and the benefits of acting (or consequences of not acting) this funding cycle. Consider factors like number of structures at risk, number of people at risk, historic frequency of flood damage, magnitude of benefit to be gained for the cost, etc.).</p>	<p>The Satsop River is actively migrating at the location of the proposed overflow channel. Based on 2D hydraulic modeling and geomorphology, the channel will continue to migrate an average of 35 feet per year which would erode into the relic channel within 5 years. Excavating the overflow channel will accelerate this natural process and alleviate continued bank erosion along the right bank rather than experiencing 5 more years of extensive bank erosion.</p> <p>If the project is not funded, additional loss of agricultural soils will continue; the river has migrated 600 feet from 2009-2016 along the lower right bank near the confluence with the Chehalis River. This is a significant amount of soil loss and the rate of erosion has been exacerbated by the construction of Keys Road within the Channel Migration Corridor.</p>
<p><b>17. Other Project Impacts</b> -- Please explain how this project impacts or is potentially impacted by another project.</p>	<p>Providing a high flow channel to alleviate the velocities and flow depths along the right bank will reduce the rate of erosion and basically buy time until a more comprehensive approach, such as relocating Keys Road and addressing the chronic sources of sediment from upstream sources, can be developed. Without action, additional bank hardening will continue along the river corridor (often resulting in additional erosion to neighboring properties) as well as continued loss of agricultural lands. Funding opportunities are being sought to develop this comprehensive approach.</p>
<p><b>18. Anything Else</b> -- Please feel free to offer any additional information (e.g., photos, maps, drawings, etc.) that would be helpful to better understand the scope, timeline and benefits of this project.</p>	<p>The partnership with the Grays Harbor Conservation District is very important to meeting the goals of the overall project. Please contact Mike Nordin of the Grays Harbor Conservation District at 360-208-4451 if you have additional questions about this aspect of the project.</p>



Vertical Datum  
NAVD 88



WASHINGTON STATE  
N.T.S.

**Sheet Index**

- 1 Cover Sheet
- 2 High Flow Channel Plan View
- 3 High Flow Channel Plan View (20 Scale)
- 4 High Flow Channel Profile & Sections
- 5 Pond Area - Existing Conditions
- 6 Pond Area - Plan View Phase 1
- 7 Pond Area - Plan View Phase 2

**Survey Disclaimer**  
This is not a boundary survey. Elevations shown are based on an assumed datum. Topographic information was gathered under direction of the engineer for the sole purpose of design and construction of this project. Property lines, easements, and right of way locations displayed are approximate based on information obtained from recorded documents, for reference purposes only.

**Directions to Site**  
Site is South of Highway 12 on Keys Road along the Satsop River. For Pond Area access use entrance through WDFW gate at the west side of Keys Road. For High Flow Channel access enter Staging area shown above.

**Lower Satsop River Habitat Restoration**  
**Biological Monitoring and Final Design**  
**Cover Sheet**

Date: 1-7-16  
Sheet: 1 of 7

**SCALE VERIFICATION**  
0 1 INCH  
BAR MEASURES ONE INCH  
DRAWINGS  
Scale: 1" = 50'

PROJECT NO.: 830000  
DESIGNED BY: M. C. Clark  
CHECKED BY: D. Smith  
DRAWN BY: J. K. Gowen  
FILE: 830000 Channel Area Cover Sheet.dwg



SYN	DATE	BY	REVISION DESCRIPTION

**STATE OF WASHINGTON**  
**DEPARTMENT OF FISH & WILDLIFE**  
**HABITAT PROGRAM**



Vertical Datum  
NAVD 88

NORTH



HEARST

High Flow Channel Plan View

SCALE: 1" = 100'



STATE OF WASHINGTON  
DEPARTMENT OF FISH & WILDLIFE  
HABITAT PROGRAM

SYM	DATE	BY	REVISION DESCRIPTION



PROJECT NO.: J24200X  
DESIGNED BY: J. Cochran  
CHECKED BY: D. Small  
DRAWN BY: J. Cochran  
FILE: 62383 Channel Area.dwg

SCALE VERIFICATION  
0 1 INCH  
BAR MEASURES ONE  
HORIZONTAL  
DRAWING  
SCALE: 1" = 100'

Lower Satsop River Habitat Restoration  
Biological Monitoring  
and Final Design  
High Flow Channel Plan View

Date: 1-7-16  
Sheet: 2 of 7



High Flow Channel Plan View  
Scale: 1" = 20'



STATE OF WASHINGTON  
DEPARTMENT OF FISH & WILDLIFE  
HABITAT PROGRAM

SYM	DATE	BY	REVISION DESCRIPTION



PROJECT NO.: 03XXXX  
DESIGNED BY: M. Connor  
CHECKED BY: D. Smith  
DRAWN BY: K. Connor  
FILE: 030303ChannelPlanView.dwg

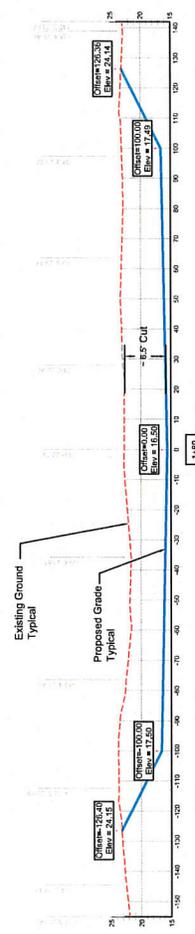
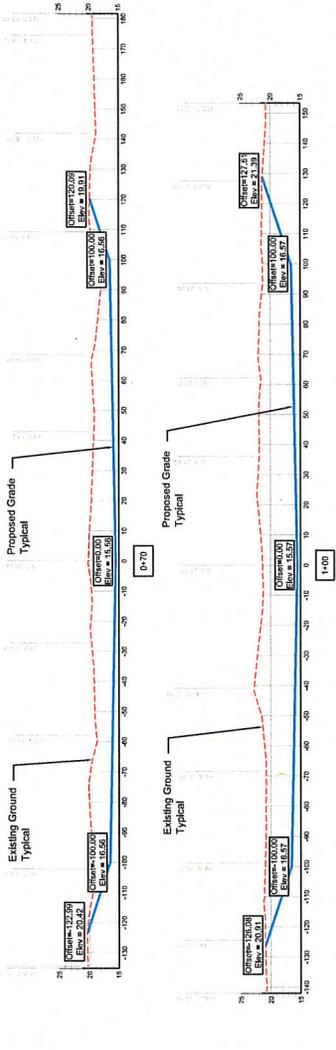
SCALE VERIFICATION  
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DRAWINGS  
INCH ON ORIGINAL  
DRAWINGS  
Scale: 1" = 20'

Lower Satsop River Habitat Restoration  
Biological Monitoring  
and Final Design  
High Flow Channel Plan View

Date: 1-7-16  
Sheet: 3 of 7

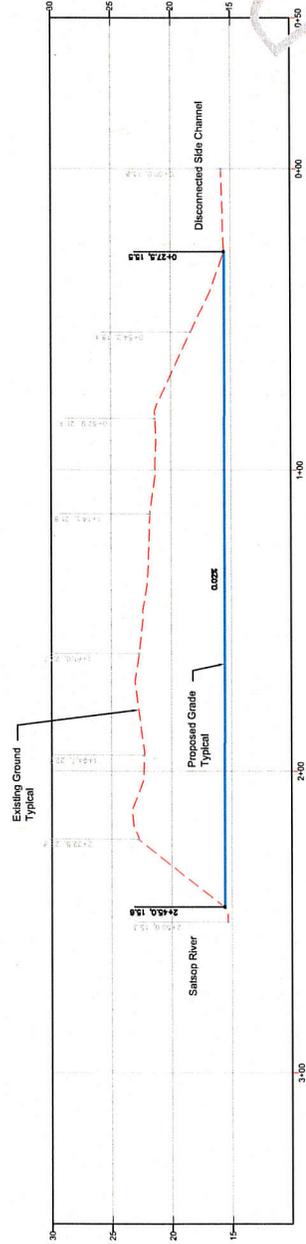


Vertical Datum  
NAVD 88



High Flow Channel Sections

Scale: 1" = 20' Horiz., 1" = 10' Vert.



High Flow Channel Profile

Scale: 1" = 20' Horiz., 1" = 20' Vert.



STATE OF WASHINGTON  
DEPARTMENT OF FISH & WILDLIFE  
HABITAT PROGRAM

SYM.	DATE	BY	REVISION DESCRIPTION



PROJECT NO. 220002  
DESIGNED BY: M. Crane  
CHECKED BY: D. Smith  
DRAWN BY: K. Condit  
FILE: 220002010002.dwg



Lower Satsop River Habitat Restoration  
Biological Monitoring  
and Final Design  
High Flow Channel Profile and Sections

Date: 1-7-16  
Sheet: 4 of 7

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## Satsop River Bank Erosion Photos



Figure 1. Eroding Bank looking upstream along right-bank of Satsop River, August 2015



Figure 2. Eroding Bank looking upstream along right-bank of Satsop River, November 2014

## Satsop River Overflow Channel Photos



Figure 1. Overflow channel entrance-looking upstream, February 2016



Figure 2. Overflow channel entrance, February 2016



Figure 3. Overflow channel-looking south into the channel, December 2015



Figure 4. Overflow channel path-Looking south into channel pathway. Note fine sediment deposition from recent overbank flood flow, February 2016