Application Authorization Memorandum

Each organization submitting a project must complete this form.

TO: Salmon Recovery Funding Board (SRFB)
PO Box 40917
Olympia, Washington 98504-0917

THROUGH: **Snohomish County Surface Water Management**
(lead entity name)

FROM: **King County Department of Natural Resources and Parks**
(applicant name)

Through the lead entity identified above, the SRFB is hereby requested to consider this application for financial assistance for the Salmon Recovery project(s) described below and to grant funding from such State and Federal sources as may be available. This application is prepared with knowledge of and in compliance with SRFB's policies and procedures. Further, we agree to cooperate with the SRFB by furnishing such additional information as may be necessary to execute a SRFB Project Agreement and to adhere to all appropriate state and federal statutes governing grant monies under the Project Agreement. We are aware that the grant, if approved, is paid on a reimbursement basis. We agree that all application materials, including photos, slides, site drawings, maps, etc., become the property of IAC/SRFB and may be used by IAC/SRFB for education, information, or other non-commercial purposes in publications, presentations or on the IAC/SRFB web site.

Project Name(s): Raging River Preston Reach Restoration/Acquisition
(Attach list Tolt River San Souci Reach Acquisition
if necessary) Camp Gilead Off-Channel Reconnection

_____

_____

_____

I/we certify that to the best of our knowledge, the data in this application is true and correct. In addition, I/we certify that the matching resources identified in the grant are committed to the above project. I/we acknowledge responsibility for supporting all non-cash commitments and donations should they not materialize.

Authorized Representative: _____
(signature) *(date)*

Printed Name and Title: Mark Isaacson, Water and Land Resources Division Director

1. General Application Information
(ENTER ON PRISM TAB 1)

Project Name **Raging River Preston Reach Restoration/Acquisition**

Project Type (check one)

- ○ **Restoration only** (In-stream Habitat)
- ◄◄ **Combined** (acquisition and restoration)

2. Applicant / Organization Information
(ENTER ON PRISM TAB 1 – SEARCH FOR ORGANIZATION)

Organization Name **King County Dept. of Natural Resources & Parks**

Organization Type (check one)

○ City/Town	◄◄ County	○ Private Landowner
○ Conservation District	○ Native American Tribe	○ Non-profit Organization
○ RFEG	○ Special Purpose District	○ State Agency

Organization Address

Address 201 S. Jackson Street, Suite 600

City/Town Seattle

State, Zip WA 98104

Telephone #206-296-6519 FAX # 206-296-0192

Internet e-mail address: kirk.anderson@metrokc.gov Website URL dnr.metrokc.gov/wlr/index.htm

3. Project Contact Information
Complete one for each contact.
(ENTER ON PRISM TAB 1 – SEARCH FOR PERSON)

◄◄ Mr. ○ Ms. Title

First Name Kirk Last Name Anderson

◄◄ Primary Contact OR ○ Alternate Contact

Contact Mailing Address

Address 201 S. Jackson Street, Suite 600 Work Telephone # 206-296-1948

City/Town Seattle FAX # 206-296-0192

State, Zip WA 98104 Internet e-mail address kirk.anderson@metrokc.gov

4b. Goal and Objective and Measurements
In-Stream Habitat (Combination projects only)

Select <u>one</u> goal and <u>one</u> objective that best fits your project and respond all to the measurements for that goal and objective.

(ENTER GOAL AND OBJECTIVE ON PRISM TAB 2; SAVE, THEN ENTER MEASUREMENT RESPONSES ON PRISM TAB 6)

Goal:	**The goal of the project is to protect and restore channel meander migration patterns.** **Objective:** The objective of the project is to protect and restore the flood plain meander functions, sediment transport functions, dissipation, and water storage.	
Measurement:	Amount of estuarine/freshwater area created? [Acres of artificial estuary proposed for creation and actually created from an area not formerly saline.]	__0.2_____ Acres
Measurement:	Amount of estuarine/freshwater area of invasive species treated? [The acreage of invasive species proposed for treatment and actually treated in an estuary. A treatment may only be for a portion of an estuary such as removal of Spartina.]	___0.4___ Acres
Measurement:	Amount of estuarine/freshwater area treated? [Acres of estuary proposed for treatment and actually treated. Note: Include creation of estuarine wetlands.]	__13__ Acres
Measurement:	Average stream width, in feet, upstream of barrier [Report the average width of the stream upstream from the barrier.]	___5___ Average width in feet
Measurement:	Length of stream bank protected through land acquisition/easement/lease. (If both sides, add lengths).	___0.2__ Miles
Measurement:	Length of stream section treated (one side only)	__0.15__ Miles
Measurement:	Percent rearing habitat opened up? [Report the percent of rearing habitat that is being opened up as a result of this project.]	__200__% Rearing
Measurement:	Percent spawning habitat opened up? [Report the percent of spawning habitat that is being opened up as a result of this project.]	__75__% Spawning

5. Short Description of Project

Describe project, what will be done, and what the anticipated benefits will be in 1500 characters or less.

(ENTER ON PRISM TAB 2)

NOTE: Many audiences, including the SRFB, SRFB's Review Panel, media, legislators, and the public who may inquire about your project use this description. Provide as clear, succinct and descriptive an overview of your project as possible – many will read these 1-2 paragraphs!

The description should state what is proposed. Identify the specific problems that will be addressed by this project, and why it is important to do at this time. Describe how, and to what extent, the project will protect, restore or address salmon habitat. Describe the general location, geographic scope, and targeted species/stock. This short description should be the summary of the detailed proposal set out under Evaluation Proposal, with particular emphasis on questions I-IV.

The database limits this space to 1500 characters (including spaces); any excess text will be deleted.

In 1964, a levee was constructed along the Raging River, just downstream of the community of Preston. The levee disconnected the river from 7 acres of floodplain and confined it to a narrow, straight alignment. Prior to levee construction, the reach experienced frequent channel migration. Historic aerial photos show two distinct complex channel formations in 1937 and 1960. Since the 1960s, the channel has maintained a simple alignment. Specific impacts to aquatic habitat conditions include:

- Elimination of side channels, reducing spawning, rearing and refuge habitat
- Reduction in pool area, reducing rearing habitat
- Elimination of mature riparian vegetation, reducing LWD delivery, shading, and cover and
- An increase in substrate particle size resulting in reduced spawning area.

This project will restore habitat by removing the levee. The county now owns the property surrounded by the levee and has removed all structures. Boulders will be placed at the fringe of the floodplain to protect the toe of the county road. The boulders are designed to provide roughness that will reduce the water velocity, preventing the river from scouring the slope. The resulting restoration of river processes will lead to the reestablishment of prime spawning and rearing habitat in the reach. To augment the benefits of the project, the proposal includes purchase of a portion of the adjoining 10-acre property, allowing natural processes to unfold upon an additional 7 acres of floodplain.

6. Summary of Funding Request and Match Contribution

Remember to update this section whenever changes are made to your cost estimates.
(ENTER ON PRISM TAB 3)

TOTAL PROJECT COST (A + B)
(Sponsor Match & SRFB Contribution) $ 812,115

A. Sponsor Match Contribution (15% minimum is required for match)

Appropriation/Cash	$ 70,115
Bonds - Council	$
Bonds - Voter	$
Cash Donations	$
Conservation Futures	$ 152,000
Donations	
Donated Equipment	$
Donated Labor	$
Donated Land	$
Donated Materials	$
Donated Property Interest	$
Force Account	
Force Acct - Equipment	$
Force Acct - Labor	$
Force Acct - Material	$
Grants*	
Grant - Federal	$ 170,000
Grant - Local	$ 100,000
Grant - Private	$
Grant - State	$

Total Sponsor Match Contribution $ 492,115
15% Minimum Match Required of A. TOTAL PROJECT COST

B. SRFB Contribution (grant request) $ 320,000
$5,000 Minimum Request

***Note, be sure to identify the name and type of any matching grant in the Application Questionnaire Section.**

Note: The Total Project Cost must equal the totals from the following Cost Estimate Sections.

7. Property Acquisition Cost Estimate

ACQUISITION includes the purchase of land in fee title, or lesser interests such as conservation easements or other property rights. Conservation easements must be in perpetuity. The acquisition policy is set out in Manual #3, located on IAC Web Page http://www.iac.wa.gov/srfb/docs.htm. Use this form for combination (acquisition and restoration) projects only. **(ENTER ON PRISM TAB 4)**

	Property	Property	Property	Total Properties
Property Name – Camp Terry	*3324079034*			Leave shaded
Date to be Acquired	*9/30/2006*			areas blank
Acreage to be Acquired	*7.5*			*7.5*
VALUE DETERMINATION TYPE	**(Check one for each property)**			
Appraised/reviewed value	⑤	⑤	⑤	
Estimate of value	◀◀	⑤	⑤	
Letter of opinion	⑤	⑤	⑤	
PURCHASE TYPE	**(Check one for each property)**			
Fee ownership (land/improvements)	◀◀	⑤	⑤	
Less than fee ownership	⑤	⑤	⑤	
ACQUISITION COST ITEMS	**(Complete all that apply)**			
Applicable taxes				
Appraisal and review	*$4,000*			*$4,000*
Baseline inventory				
Closing	*$1,000*			*$1,000*
Demolition	*$25,000*			*$25,000*
Easement – access				
Easement – conservation				
Easement – other				
Easement – trail				
Fencing				
Hazardous substances assessment	*$300*			*$300*
Improvements & structures				
Land	*$250,000*			*$250,000*
Noxious weed control	*$4,000*			*$4,000*
Recording fees	*$100*			*$100*
Relocation				
Rights – agriculture				
Rights – development				
Rights – mineral				
Rights – timber				
Rights – water				
Signing	*$800*			*$800*
Survey	*$5,000*			*$5,000*
Title reports/insurance	*$1,000*			*$1,000*
Wetland delineation				
Column Sub-Total	*$291,200*			*$291,200*
Admin Costs (5% of Sub-Total)	*$14,560*			*$14,560*
TOTAL ACQUISITION COSTS	*$305,760*			*$305,760*

8. Restoration Cost Estimate
In-Stream Habitat

IN-STREAM HABITAT includes those freshwater items that affect or enhance fish habitat below the ordinary high water mark of the water body. Items include work conducted on or next to the channel, bed, bank, and floodplain by adding or removing rocks, gravel, or woody debris. Other items necessary to complete the project may include livestock fencing, water conveyance, and plant removal and control.

Item	Unit	Qty.	Total Cost	Description Needed	Description (60 characters max.)
Bank stabilization	Linear ft			Describe	
Carcass placement	Linear ft			Describe	
Channel connectivity	Linear ft			Optional	
Channel reconfiguration	Linear ft			Describe	
Complex log jams	Each			Optional	
Deflectors/barbs	Each	8	$100,000	Optional	Boulder complexes to add floodplain roughness
Dike removal/setback	Linear ft	1300	$175,500	Optional	Remove 6500 cy and 3 culverts
Livestock fencing	Linear ft			Material	
Log control (weir)	Each			Optional	
Off-channel habitat	Acres			Describe	
Permits	Lump sum		$10,000	Optional	Grading permit fee
Plant removal/control	Acres	0.5	$12,000	Optional	Grub/dispose of knotweed, incl. roots
Riparian plant installation	Sq ft	80,000	$16,000	Describe	Soil amendment, weed control fabric, vole cages, labor, equipment
Riparian plant materials	Each	2000	$14,000	Describe species	Red alder, black cottonwood, willow, red osier dogwood, cedar, spruce
Rock control (weir)	Each			Optional	
Roughened channel	Linear ft			Describe	
Signage	Each			Describe	
Site maintenance	Lump sum		$14,000	Describe	10 days of crew time over 2 yrs
Spawning gravel placement	Sq yds			Optional	
Wetland restoration	Acres			Describe	
Woody debris placement	Each	32	$20,000	Describe	Add to boulder complexes to increase habitat value
Sales Tax			**$31,760**		
Sub-Total			**$393,260**		
Architecture, Engineering, & Admin. (30% of Sub-Total)			**$113,095**		
TOTAL COSTS			**$506,355**		

9. Application Questionnaire

All applicants must answer the following questions.
(ENTER ON PRISM TAB 8)

Cost Efficiencies

For any grants listed in the Summary of Funding Request and Match Contribution Section, are there any restrictions on the use of these grant funds? When and how long will the grant funds be available to this project?

NOAA and KCD grant funds are for construction of the floodplain reconnection project. The only restriction is a limitation on the amount that can be paid for overhead. The King Conservation District grant limits overhead charges to 25% of the total amount for salaries and benefits. The NOAA grant does not cover any overhead expenses. The funds are available through 2006.

The Conservation Futures grant has the endorsement of the Citizen's Oversight Committee, which will be forwarded to the Executive and Council for approval as part of the 2006 budget process. Use of the funds is for acquisition of open space and confers a set of restrictions on future use of the property. The restrictions are entirely consistent with the goals of the Salmon Recovery Funding Program. The funds will be available through 2007.

Describe the type of donated labor (skilled and unskilled), donated equipment, and donated materials that will be used for this project, identified in the Summary of Funding Request and Match Contribution Section.

Land Ownership

What type of landowner currently owns the property? (Federal, Local, Private, State or Tribal.)

King County owns the two parcels on which the levee sits (332407-9033 and 332407-9032). The Seattle YMCA owns the adjacent property that King County proposes acquiring as part of the project.

What is the current land use of the site, and its history? Describe past human uses and salmon habitat functions.

The proposed acquisition site is a summer day camp owned by the YMCA. The site hosts a house, a bathroom facility, 8 small A-frame shelters, and a climbing rock. 6.4 acres of the 10.3 acre site is forested floodplain. Most of the use is concentrated in a 2 acre area out of the floodplain. A small stream flows across the property and provides spawning habitat for chum and coho and rearing habitat for coho. The presence of the levee on the downstream parcel impairs fish passage and reduces the productivity of the stream. The King County property is a vacant parcel with deed restrictions preventing the construction of any new structures in the floodplain. The County purchased the property with Federal Emergency Management Agency flood hazard mitigation funding and removed all structures from the site. In the 1960s, the county and the landowner shared the cost of constructing a levee around the property to reduce flood impacts. Prior to construction of the levee, the river migrated freely across its floodplain in this location. Historic aerial photos show several channel locations over the past 70 years. The pre-levee channel configurations had greater channel area and diversity, which resulted in greater habitat quantity and quality for salmonids.

Worksite Location Data

What are the geographic coordinates of the work site(s) (in degrees, minutes and seconds)? [If you do not have them, you may leave this question blank.]
What is the township/range/section of the work site(s)? T24N, R07E, S33
In what county(s) is the work site(s) located? In what city, if applicable? King County
In what Water Resource Inventory Area(s) (WRIA) is the work site located? (Provide WRIA name and WRIA number.) Snohomish River Basin, WRIA 07
Is the work site on a stream and/or other waterbody? If yes, name the stream and/or waterbody. If the stream is a tributary of a larger stream, also name the larger stream. If you know the river mile, list it here. The project is located at roughly RM 4 of the Raging River, a tributary of the Snoqualmie River.
Is your work site(s) located within estuarine or saltwater habitat? If so, name it. How close is it to fresh water systems? Name any other estuary or habitat adjacent to this site.
Is the work site(s) located within a park, wildlife refuge, natural area preserve, or other recreation or habitat site? If yes, name the area. The site is a county-owned property with deed restrictions against placing any new structures in the floodplain. The County manages the site for natural floodplain functions. The additional property will also be managed for natural floodplain functions.

9b. Application Questionnaire

Combination restoration and acquisition projects must answer the following question.

Will the property proposed for acquisition involve future restoration? If yes, explain how and when restoration will occur. The property proposed for acquisition has a few structures that need to be removed. Once the levee removal is complete, we anticipate that the ponded area on the property will decrease. Where the water recedes, we will replant the floodplain with native species (primarily alder and cottonwood) to prevent noxious weeds from occupying the site. Otherwise the site is in good condition and the bank is natural (no bank armoring), so we anticipate no other restoration activities.

9c. Application Questionnaire

Non-profit organizations must answer the following questions.

Is your organization registered as a non-profit with the Washington Secretary of State? If so, what is your Unified Business Identifier (UBI) number?

What date was your organization created?
How long has your organization been involved in salmon and habitat conservation?

10. Work Site Information

(ENTER ON PRISM TAB 9)

Driving Directions (provide directions that will enable staff to locate the project):

From Seattle, take I-90 East to exit 22 (Preston/Fall City exit). Turn left at the end of the off ramp. Cross over I-90 and turn right at the next intersection. Take Preston-Fall City Road through Preston. Just past the speed limit 45 sign, pull off the road to the right on the wide shoulder.

Current Landowner(s) of the site (name and address). Remember to complete the Landowner Willingness Form.

King County Department of Natural Resources and Parks
201 South Jackson Street, Suite 600
Seattle, WA 98104-3855

11. Permits

Check the appropriate boxes to indicate required and/or anticipated permits.
General permit information can be obtained at the Dept. of Ecology Permit Assistance Center 1-800-917-0043 or on their Internet site http://www.ecy.wa.gov/programs/sea/pac/index.html.
(ENTER ON PRISM TAB 10)

Permits	Comments Regarding Permit Status
☗ Aquatic Lands Use Authorization *(Dept of Natural Resources)*	
☗ Building Permit *(City/County)*	
◂◂ Clear & Grade Permit *(City/County)*	Will submit application November 2005. Expect to receive by May 2006
☗ Cultural Assessment [Section 106] *(CTED-OAHP)*	
◂◂ Dredge/Fill Permit [Section 10/404 or 404] (*US Army Corps of Engineers)*	Will submit application November 2005. Expect to receive by May 2006
◂◂ Endangered Species Act Compliance [ESA] *(US Fish & Wildlife/NMFS)*	Consultation will take place through Army Corps of Engineers in the course of obtaining 404 permit

● Forest Practices Application [Forest & Fish] (*Dept of Natural Resources)*	
● Health Permit *(Dept of Health/County)*	
◄◄ Hydraulics Project Approval [HPA] *(Dept of Fish & Wildlife)*	Will submit application November 2005. Expect to receive by May 2006
● NEPA *(Federal Agencies)*	
◄◄ SEPA *(Local or State Agencies)*	Will complete SEPA by end of October 2005
◄◄ Shoreline Permit *(City/County)*	Will submit application November 2005. Expect to receive by May 2006
◄◄ Water Quality Certification [Section 401] *(County/Dept of Ecology)*	Will submit application November 2005. Expect to receive by May 2006
● Water Rights/Well Drilling Permit *(Dept of Ecology)*	
● Other Required Permits (identify)	
● None – No permits Required	

12. Salmonid Species Information

Identify one or more targeted Salmonid species (directly on-site, indirectly downstream or within the rearing/migration corridor) whose habitat conditions you are attempting to improve or protect. Select one Primary Species. (ENTER ON PRISM TAB 11)

Salmonid Species	**Species Targeted** (select as many as apply)	**Primary Species** (select only one)
Bull Trout	●	●
Chinook	◄◄	◄◄
Chum	◄◄	●
Coho	◄◄	●
Cutthroat	◄◄	●
Pink	◄◄	●
Sockeye	●	●
Steelhead	◄◄	●

13a. Habitat Factors Addressed

Identify one or more Habitat Factors being addressed by this Project and select one Primary Factor.

For definitions of Habitat Factors, see Manual 18b, Appendix B.

(ENTER ON PRISM TAB 11)

Habitat Factors	Project Addresses (select as many as apply)	Primary Factor (select only one)
1. Biological Processes	●	●
2. Channel Conditions	◀◀	◀◀
3. Estuarine and Near-shore Habitat	●	●
4. Floodplain Conditions	◀◀	●
5. Lake Habitat	●	●
6. Loss of Access to Spawning and Rearing Habitat	◀◀	●
7. Riparian Conditions	◀◀	●
8. Streambed Sediment Conditions	◀◀	●
9. Water Quality	●	●
10. Water Quantity	●	●

13b. Species/Habitat Factors Information Sources

For Species Information provide the source and indicate if the species listed are directly on-site at some point in their life stage (i.e. SaSI, WDFW Stream Catalog, Stream Survey/Field Observation, Limiting Factors Distribution Maps).

For Habitat Factors Information list the study/report and date identifying the habitat factors for your project (i.e. SaSI, limiting factors analysis, watershed analysis, other assessments or studies).

(ENTER ON PRISM TAB 11)

Study Name	Author	Date
Snohomish River Basin Salmon Conservation Plan	Snohomish Basin Salmon Recovery Forum	July 2004
Salmonid Habitat Limiting Factors Analysis- Snohomish River Watershed	Washington State Conservation Commission	December 2002
Raging River Watershed Analysis	Washington State Department of Natural Resources	2001
WDF Stream Catalog	Washington Department of Fisheries	1975

14. Evaluation Proposal
In-Stream Habitat

Applicants must respond to the following items. The local citizen and technical advisory groups will use the evaluation proposal to evaluate your project. Applicants should contact their lead entity for additional information that may be required.

Up to eight pages may be submitted for each project evaluation proposal.

(SUBMIT INFORMATION VIA PRISM ATTACHMENT PROCESS OR ON PAPER)

I. BACKGROUND

Describe the fish resources, the current habitat conditions, and other current and historic factors important to understanding this project. Be specific—avoid general statements. When possible, document your sources of information by citing specific studies and reports.

The Raging River provides habitat for chinook, coho, chum, and pink salmon and steelhead/rainbow and cutthroat trout (*WDF Stream Catalogue*, 1975, p. 1103, *Raging River Watershed Analysis*, 2001, Appendix F, p. F-8). Chinook utilize the lower 7 miles of the mainstem Raging River for spawning. The highest spawning densities occur in the lower depositional reach, RM 0.2 – 0.5, with patches of spawning habitat occurring in upstream reaches where the local gradient lessens and the floodplain widens, encouraging deposition of spawning sized sediment. These depositional areas were also the focus of levee building efforts of the mid 20th century. As a result, the most productive habitats for Chinook salmon in the Raging River have been dramatically altered.

In spite of the loss of habitat quantity and quality, the Raging River continues to be a major contributor to the Snoqualmie Fall Chinook run, providing spawning habitat for roughly 18% of the run over the 1997-2002 time period. Because of this level of productivity, the WRIA Recovery Forum categorized the Raging River as a Mainstem Primary Restoration basin. The Mainstem Primary Restoration designation is one of the highest priority areas, along with Estuary and Nearshore habitats, for habitat protection and restoration actions in the Snohomish River Basin.

The proposed project takes place in one of the upstream reaches that provides spawning habitat for Chinook and Steelhead. The gradient is relatively low (about 1.1% versus 1.5 – 1.8% just upstream and downstream) and the floodplain widens significantly. The severe channel migration hazard area is 40% - 60% wider through the reach than the severe hazard areas upstream and downstream. Aerial photos from 1936 and 1960 show two different complex channel formations in the reach. Construction of a levee in the heart of the reach has disconnected a large portion of the important floodplain and channel migration area once available to the river. By removing the levee, the floodplain functions will resume, increasing the amount of spawning habitat and creating important rearing habitat in close proximity to high density spawning. An immediate benefit of the project will be the improved connection between the Raging River and the tributary stream that flows through the floodplain in this reach. Fish access is impaired as a result of plugged culverts at either end of the levee. Removal of the levee will result in greater access to spawning habitat for coho and chum salmon. It could also be an important habitat for juvenile Chinook that are looking for rearing habitat.

II. PROBLEM STATEMENT

State the nature, source, and extent of the problem that this project will address and help solve. Address the primary causes of the problem, not just the symptoms. When possible, document your sources of information by citing specific studies and reports.

Recommended restoration actions for the Raging River include reconnecting off-channel habitats through levee removals or setbacks and restoring shoreline/riparian conditions (*Snohomish River Basin Interim Salmon Habitat Protection and Restoration Strategy*, pp. 15-16). The Preston reach of the Raging River is one of the areas that has been unnaturally constrained by the placement of a levee in the floodplain. The levee confines the river, disrupting the natural channel migration and overbank flooding processes that create and maintain complex, diverse habitats along Puget Sound lowland rivers. The levee also substantially alters sediment routing through this reach. The system's response to the constraint has been a narrowing and steepening of the channel and coarsening of the bed, reducing the suitability of the reach for spawning. The levee also prevents the river from creating side channels in this location. 1936 and 1964 aerial photos of the site show two distinct side channel configurations that formed in this reach in response to flood events before the levee was built.

Removing the levee, including the toe rock, will restore interaction between the river and 7 acres of floodplain disconnected from the river. The project will also eliminate the effect of the levee on the surrounding parcels. By acquiring the upstream 10-acre site in conjunction with the restoration project, we will insure that the benefits of the project can be maximized over the extent of the reach.

Riparian conditions will improve as a result of the removal of the large rock armoring the bank. Native vegetation will be planted along the river. With the bank armoring removed, the bank conditions will become more natural over time, providing greater habitat value and restoring natural processes such as large woody debris delivery.

III. PROJECT OBJECTIVES

List the project's objectives. Objectives are statements of specific outcomes that typically can be measured or quantified over time. Objectives are more specific than goals (visions of the desired future condition) and less specific than tasks (the specific steps that would be taken to accomplish each of the objectives). For example, the objectives of an in-stream habitat project might be to increase channel complexity, to provide cover, to capture sediment, to reduce erosion, to create pools, and to reconnect side-channels or floodplain. Explain how achieving the objectives will address and help solve the problem identified in II above.

Objective 1. Restore floodplain connectivity – floodplain area behind the existing levee will be inundated by Raging River flood waters at the 2-5 year event interval.

Objective 2. Restore channel morphology and sediment routing

A. Channel will respond to low frequency events (approximately 20-year event and larger) by creating side-channels or shifting the main channel to existing side-channels.
B. Increase channel length through the reach and decrease channel gradient
C. Decrease average bedload particle size in the reach
D. Increase pool area in the reach

Objective 3. Restore quality of riparian area

A. Increase percentage of bank distance providing overhanging vegetation over channel (>5 feet)
B. Reduce/eliminate riparian area dominated by invasive plant species
C. Increase area of floodplain in full canopy closure conditions

Objective 4. Improve LWD recruitment potential

A. Increase number of large trees (alive and downed) in floodplain
B. Increase length of forested bank susceptible to scour/channel migration

Achieving the above objectives will increase the ability of the river to create and maintain spawning and rearing habitat area and will increase the quality/productivity of the available habitat. This will result in increased ability to support salmonid stocks that use the Raging River basin.

IV. PROJECT APPROACH

ω Briefly describe the geographic setting of the project (marine nearshore, estuary, main stem, tributary, etc) and the life cycle stage(s) affected.

The project area is at River Mile 4 of the Raging River, one of the larger tributaries of the Snoqualmie River. This portion of the Raging River is generally steep and confined in a narrow floodplain. Pockets of high quality spawning and rearing habitat exist, generally coinciding with locations where the floodplain widens, creating small depositional areas where woody debris and gravel accumulate, forming side channels and increasing channel complexity.

ω List the individuals and methods used to identify the project and its location.

This project was identified by the King County WRIA 7 salmon recovery technical staff and developed by a team of King County Capital Projects staff. The project was initially selected in response to the conclusions of the Initial Snohomish River Basin Chinook Salmon Conservation/ Recovery Technical Work Plan (Snohomish County, 1999), which identified channel modifications such as levees and dikes as a major cause of salmonid decline in the basin. Subsequent Chinook salmon recovery planning has continued to stress the importance of removing levees and dikes (Snohomish Basin Recovery Forum, 2004, p. 10-25). The project site is county-owned and the ratio of floodplain area to be recovered to the current floodplain area (excluding the main channel area) is very high (more than 3:1). Furthermore, the floodplain habitat behind the levee is high quality and would provide excellent riparian/floodplain habitat immediately upon completion of the project. This location consistently supports spawning chinook salmon and other salmonid species. It lies at the upstream extent of a reach that has been identified by King County's Waterways 2000 Program as a remaining high quality habitat reach. The Waterways Program was a county effort to identify its best remaining aquatic habitats. The Waterways effort selected this reach due to the fish use in the reach, the high degree of public ownership, and the width, maturity, and diversity of the riparian buffer.

ω Describe the consequences of not conducting this project at this time. For acquisition projects, also describe the current level and imminence of risk to habitat.

The levee at this site presently locks aquatic habitat conditions in a degraded state and disconnects potential off-channel habitat. Consequently the site supports fewer redds than its potential and, more importantly, does not provide pool, off-channel, and edge habitat critical for juvenile refuge and short term rearing in their migration to the estuary. The consequence of not doing the project is similar to the consequence of not repairing a blocked culvert. As long as fish cannot make use of the habitat, its contribution to the run size will not be realized. A rough estimate is that spawning area would increase 75%. This is derived from the prediction that the river will add a main channel riffle habitat unit as it achieves greater sinuosity and that the side channel would have some riffle habitat suitable for Chinook spawning. Rearing area would increase dramatically, probably about 200%. Rearing area would be created in the main channel by the formation of pools, where there is currently only run and riffle, and in side channel pools.

Acquisition of the neighboring property is a significant opportunity at this time. The YMCA is considering selling the property and moving to a different site. The property is zoned RA 2.5 and is 10 acres, which means a new owner could add 3 more houses to the site. The Preston area is just off I-90, making it a very desirable location for residential development. Three new houses were constructed on other parcels in the reach since 2000, encroaching upon the floodplain from the opposite side of the river. While regulations provide protection for the river, it is always possible to obtain variances, particularly for single family residences.

ω If project includes an acquisition element, then briefly describe the extent to which habitat to be acquired is currently fully functioning and/or needs restoration; the timeframe in which responses or improvements in habitat functioning are expected; and the continuity of the proposed acquisition with other protected or functioning habitat in the reach.

The habitat conditions on the proposed acquisition site are good. Most of the floodplain area is in mature mixed forest conditions. The river bank has not been leveed or armored. The banks experience moderate rates of erosion, providing a source of large woody debris. There are remnant floodplain channels and several hundred feet of tributary stream. The stream is presently ponded behind the levee. After construction, the ponded area will decrease. We are not

concerned about this change because pool area in the floodplain is not limiting. Beaver are very active upstream and downstream of the levee, creating ample pool habitat. The primary concern is access to the habitat, which is hampered by blocked culverts at the upstream and downstream ends of the levee on the downstream property. Intensive use of the site is concentrated in the portion of the property that has the least direct contribution to habitat conditions. The only apparent restoration needs are the removal of structures and the revegetation of the area that has been converted to an open field. These actions can be completed within a year of the acquisition date.

ω Describe the project design and how it will be implemented.

- Explain how the project's cost estimates were determined.

  Cost-estimates were completed by the design team engineer based on plans developed to the 70% design level. The costs are derived from known unit costs for materials, equipment, and labor, based on similar recent projects in King County.

- Describe other approaches and opportunities that were considered to achieve the project's objectives.

  The primary impediment to achieving the goals of this project is the presence of the levee. Without removing the levee, we cannot restore the channel characteristics most suitable for salmonids. The design team considered reducing the amount of levee material removed to save some cost. This would have a similar effect to allowing the river to breach the levee on its own. The design team felt this option was not preferable because it would leave the levee toe material in place. Levee toe material is generally the largest and most intrusive element of the levee construction process. Remnant toe material would constrain channel migration and the development of natural bank conditions.

  The design team also considered a more traditional approach to protecting the Preston Fall City Road. Rather than placing the boulder complexes at the toe of the slope, this alternative would have involved constructing a traditional large rock revetment. This would provide greater protection for the road at greater cost and greater impact to habitat. The team did not consider the risk to the road great enough to merit the additional cost.

  List project partners. When appropriate, include a letter from each participating partner briefly outlining its role and contribution to the project. (See Section 15 for a sample format.)

  NOAA Community Based Restoration Program grant - $170,000

  King Conservation District grant via the Snoqualmie Watershed Forum - $100,000

  Salmon Recovery Funding Board - $116,850 grant for design work

- List all landowner names. Include a signed form from each landowner acknowledging their property is proposed for SRFB funding consideration. (See Section 16 for a sample format.)

  King County Department of Natural Resources and Parks

  YMCA -Seattle

- Describe the long-term stewardship and maintenance obligations of the project. Projects should be consistent with habitat forming processes in the watershed, requiring reduced up-keep and long-term maintenance over time.

  This project is designed to have minimal long-term maintenance obligations. The underlying philosophy of the project is to restore natural processes in the reach and then to allow those natural processes to create the habitat structure that will provide the critical functions that support salmon populations. Successful fulfillment of our short term maintenance obligations (i.e., replanting the floodplain to restore the

critical element of mature riparian forest) will help insure that the elements are in place for the system to self-organize in a manner that produces the habitat outcomes we seek.

When known, identify the staff, consultants, and subcontractors that will be designing and implementing the project, including their names, qualifications, roles and responsibilities. If not yet known, describe the selection process.

Staff involved in project design:

Doug Chin, P.E., Sr. Engineer – Project management and engineering

John Bethel, Earth Scientist – Geomorphology

Arny Stonkus, Sr. Ecologist – Fish habitat and permitting

Each of the project team members has at least 10 years of experiences designing and constructing restoration projects in Puget Sound lowland stream systems. At least one representative from the team will remain with the project through construction. Construction will be done by county crews if the project is below our threshold for going to contract. County crews have constructed many Department of Natural Resources' stream and river bank restoration projects over the years.

V. TASKS AND TIME SCHEDULE

List and describe the major tasks and time schedule you will use to complete the project. Describe your experience managing this type of project.

The levee removal project is currently at 70% design and ready to proceed to SEPA. Remaining tasks and timeline for completion are:

Design - 70%	April 2005
90% (permit submittal)	October 2005
Final Design	December 2005
SEPA	August 2005 – October 2005
Permitting	October 2005 – June 2006
Project Construction	July - September 2006
Planting	November 2006 - February 2007
Maintenance and monitoring	May 2007 – December 2010

The acquisition portion of the project can proceed on its own schedule. Tasks and timeline for completion are:

Order title reports and appraisal	March 2006
Receive appraisal and complete review	May 2006
Send Purchase and Sale Agreement	June 2006
Closing	August 2006
Remove structures	December 2006
Complete planting	February 2007

King County DNRP regularly constructs projects of this scale. Successful past projects include the Lower Griffin Creek Restoration Project and the Frew Side Channel Restoration (Tolt River).

VI. CONSTRAINTS AND UNCERTAINTIES

State any known constraints or uncertainties that may hinder successful completion of the project. Identify any possible problems, delays, or unanticipated expenses associated with project implementation. Explain how you will address these constraints.

The Raging River Preston Reach project is far enough in the design process that we have eliminated much of the uncertainty regarding possible problems, delays, and unanticipated

expenses associated with project implementation. One issue that always creates some uncertainty is archeological resources. We do not anticipate encountering any archeological artifacts in the course of completing this project because our excavation will be restricted to materials that have been in situ less than 50 years. However, when working in environments that have high fish use, either presently or historically, the potential to encounter artifacts is always there. To address the issue, the county works with an archeological consultant to assist in identifying possible artifacts and working with interested parties, particularly the Snoqualmie Tribe, to develop a construction plan that provides protection for cultural resources.

15. Project Partner Contribution Form

Project Partner:

Partner Address:

Contact Person

Mr. Ms. Title

First Name: Last Name:

Contact Mailing Address:

Contact E-Mail Address:

Description of contribution to project:

Estimated value to be contributed: $_____

_____ _____

Partner's signature **Date**

16. Landowner Willingness Form

Landowner Information:

Name of Landowner: YMCA of Greater Seattle

Landowner Contact Information:

Mr. Ms. Title

First Name: Christy Last Name: Lueders

Contact Mailing Address: 909 4th Avenue
Seattle, WA 98104

Contact E-Mail Address: CLueders@SeattleYMCA.org

Property Address or Location: 31114 SE 85th Place
Preston, WA 98050

I certify that **YMCA of Greater Seattle** is the legal owner of property described in this grant application to the Salmon Recovery Funding Board (SRFB). I am aware the project is being proposed on said property. My signature authorizes the applicant listed below to seek funding for project implementation, however, does not represent authorization of project implementation.
(landowner or organization)

_____ _____
Landowner Signature **Date**

Project Applicant Information

Project Name: Raging River Preston Reach Acquisition/Restoration

Project Applicant Contact Information:

Mr. Ms. Title

First Name: Kirk Last Name: Anderson

Contact Mailing Address: 201 South Jackson Street, Suite 600
Seattle, WA 98104

Contact E-Mail Address: kirk.anderson@metrokc.gov

Lead Entity Organization: Snohomish County Surface Water Management