



# PARKS & PUBLIC WORKS COUNCIL COMMITTEE & COMMITTEE OF THE WHOLE HYBRID MEETING

Tuesday, April 16, 2024, at 5:00 PM

Snoqualmie City Hall, 38624 SE River Street & Zoom

## COMMITTEE MEMBERS

Chair: Ethan Benson

Councilmembers: Bryan Holloway and Catherine Cotton

*This meeting will be conducted in person and remotely using teleconferencing technology provided by Zoom.*

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- 4) Please confirm that your audio works prior to participating.

## CALL TO ORDER & ROLL CALL

## AGENDA APPROVAL

## PUBLIC COMMENTS

## MINUTES

1. [Approval of minutes dated April 2, 2024.](#)

## AGENDA BILLS

2. **AB24-048:** 2023 Stormwater and Urban Forestry Annual Report
3. **AB24-046:** Task Order 38 Amendment with Northwest Hydraulic Consultants (NHC) for Sandy Cove Bank Stabilization.

## DISCUSSION

4. Community Center Expansion Update
5. Home Demolition - 7702 Railroad Ave SE
6. Director Reports:
  - a. Staffing
  - b. Project status

## ADJOURNMENT



**PARKS & PUBLIC WORKS COUNCIL COMMITTEE &  
COMMITTEE OF THE WHOLE  
HYBRID MEETING MINUTES  
APRIL 2, 2024**

*This meeting was conducted in person and remotely using teleconferencing technology provided by Zoom.*

**CALL TO ORDER**

Chair Ethan Benson called the meeting to order at 5:00 pm.

**Committee Members:** Councilmembers Ethan Benson, Bryan Holloway, and Catherine Cotton.

Mayor Katherine Ross was also present.

**City Staff:**

Michael Chambless, City Administrator; Deana Dean, City Clerk; Patrick Fry, Project Engineer; and Jimmie Betts, IT Support.

**AGENDA APPROVAL** – The agenda was amended to include an update on the Splashpad at Community Park; and then unanimously approved.

**PUBLIC COMMENTS** – There were no public comments.

**MINUTES**

1. The minutes from the March 19, 2024, were approved as presented.

**AGENDA BILLS** – There were no agenda bills.

**DISCUSSION:**

2. National Pollution Discharge Elimination System (NPDES) requirements and update provided by Patrick Fry, Project Engineer. Topics included NPDES stormwater permit, 2023 stormwater highlights, operations and maintenance, pond maintenance, swale maintenance, and source control program. Discussion and questions followed.
3. Commission vs Citizen Advisory Member discussion. Mike Chambless, City Administration, introduced this item. Suggestions include downgrading the Parks and Events Commission to one citizen advisory non-voting member on the Parks & Public Works Committee, de-commission the commission, or suspend the commission and ask them to attend the Parks and Public Works Committee to provide input. Questions and discussion followed. Staff will discuss this with the Parks and Events Commissioners at the next Parks and Events Commission meeting.

4. Add-On: Splashpad at Community Park: Patrick Fry provided an update indicating construction broke ground last week with a target of July 1<sup>st</sup> opening date. The bathroom is open and accessible. There will be multiple staff certified to operate the splashpad when it opens. Discussion followed.

**ADJOURNMENT** - The meeting was adjourned at 5:37 pm.

DRAFT

*Minutes taken by Deana Dean, City Clerk.  
Recorded meeting audio is available on the City website after the meeting.  
Minutes approved at the \_\_\_\_\_, 2024, Parks & Public Works Committee Meeting.*



# BUSINESS OF THE CITY COUNCIL CITY OF SNOQUALMIE

**AB24-048**  
**April 22, 2024**  
**Committee Report**

Item 2.

## AGENDA BILL INFORMATION

<b>TITLE:</b>	<b>AB24-048:</b> 2023 Stormwater and Urban Forestry Annual Report	<input checked="" type="checkbox"/> Discussion Only <input type="checkbox"/> Action Needed: <input type="checkbox"/> Motion <input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution
<b>PROPOSED ACTION:</b>	N/A	

<b>REVIEW:</b>	Department Director	Jeff Hamlin	4/10/2024
	Finance	n/a	Click or tap to enter a date.
	Legal	n/a	Click or tap to enter a date.
	City Administrator	Mike Chambless	4/10/2024

<b>DEPARTMENT:</b>	Parks & Public Works		
<b>STAFF:</b>	Philip Bennett, Stormwater & Urban Forestry Superintendent		
<b>COMMITTEE:</b>	Parks & Public Works	<b>COMMITTEE DATE:</b> April 16, 2024	
<b>EXHIBITS:</b>	1. 2023 Stormwater and Urban Forestry Annual Report		

<b>AMOUNT OF EXPENDITURE</b>	\$ n/a
<b>AMOUNT BUDGETED</b>	\$ n/a
<b>APPROPRIATION REQUESTED</b>	\$ n/a

## SUMMARY

### INTRODUCTION:

This report provides a summary of the operations of the Stormwater and Urban Forestry Division of Public Works for 2023.

### LEGISLATIVE HISTORY

From 2021 onwards, an Urban Forestry Annual Report has been provided to Parks & Public Works Committee, and to Council. In 2023, the City created a new combined division within the Parks & Public Works Department – the Stormwater & Urban Forestry Division. This report provides information on the operations of this newly-formed division within the calendar year of 2023.

## BACKGROUND

The City maintains stormwater infrastructure to meet NPDES (National Pollution Discharge Elimination System) permit requirements. These requirements protect the waters of the United States (WOTUS) from pollution nationwide.

As demonstrated by the [Snoqualmie Natural Infrastructure Assessment 2020](#) The City's urban forest provides a series of measurable benefits, the most significant of which is reducing stormwater runoff, as well as improving water quality through filtration.

## ANALYSIS

The report summarizes the work of the Stormwater & Urban Forestry division in 2023. It includes details on maintenance of stormwater assets including catch basins, pipes, vaults, detention ponds, bioswales and trees. Additionally, the report summarizes the activities of the Green Snoqualmie Partnership, a volunteer and partner-based program with the mission "to engage the community in creating and caring for healthy natural areas and forested open spaces in the city to protect Snoqualmie's heritage and valuable natural resources for current and future generations to enjoy."

## NEXT STEPS

This report will be presented to Council on 4/22/2024

## PROPOSED ACTION

City of Snoqualmie

# 2023 Stormwater and Urban Forestry Report



Philip Bennett, Stormwater and Urban Forestry Superintendent



# Acknowledgements

Thanks to the elected officials, city staff, program partners, and citizens who maintain and contribute to the City's Stormwater and Urban Forestry Infrastructure.

Mayor Katherine Ross

City Council

Mayor Pro-tem, Bryan Holloway

Ethan Benson  
Rob Wotton  
Catherine (Cat) Cotton

Louis Washington  
Cara Christensen  
Jolyon Johnson

## City Staff

Mike Chambless, City Administrator

Jeff Hamlin, Parks and Public Works Director

Andrew Vining, Project Engineer

Patrick Fry, Project Engineer

Gail Folkins, Communications Specialist

Jason Battles, Stormwater & Urban Forestry Maintenance Tech III

Christine Iverson Stinson, Stormwater & Urban Forestry Maintenance Tech II

Kevin Halbert, Stormwater & Urban Forestry Maintenance Tech II

Kyle Markwardt, Stormwater and Urban Forestry Maintenance Tech II

Brendon Ecker, GIS Analyst

## Program and Community Partners



# Introduction

In 2023 a new division - the Stormwater and Urban Forestry Division - was created by the City Council within the Parks and Public Works Department. This division is comprised of 5 full-time staff, plus additional assistance from engineering and communications staff.



## Stormwater and Urban Forestry

### Assets Maintained:

45 stormwater detention ponds

3200 catch basins

Several miles of stormwater pipes

15 stormwater bioswales

8 stormwater vaults

The North High Flow Bypass line

10,000 Street and Park Trees

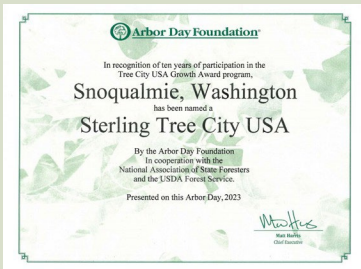
335 Forest Management Units

1149 acres of open space containing  $\approx$  181,950 trees

12+ miles of trails



# Tree City USA



In 2023, Snoqualmie recertified as a Tree City USA for the 14th consecutive year and received its 10th Growth Award. The Tree City USA designation is attained by meeting four standards for running an urban forestry program. The Tree City USA Growth Award is for communities that demonstrate higher levels of tree care and community engagement.

Additionally, Snoqualmie was recognized in 2023 for achieving 10 consecutive years of growth awards and achieved “Sterling Community” status.

## City Receives Growth Award

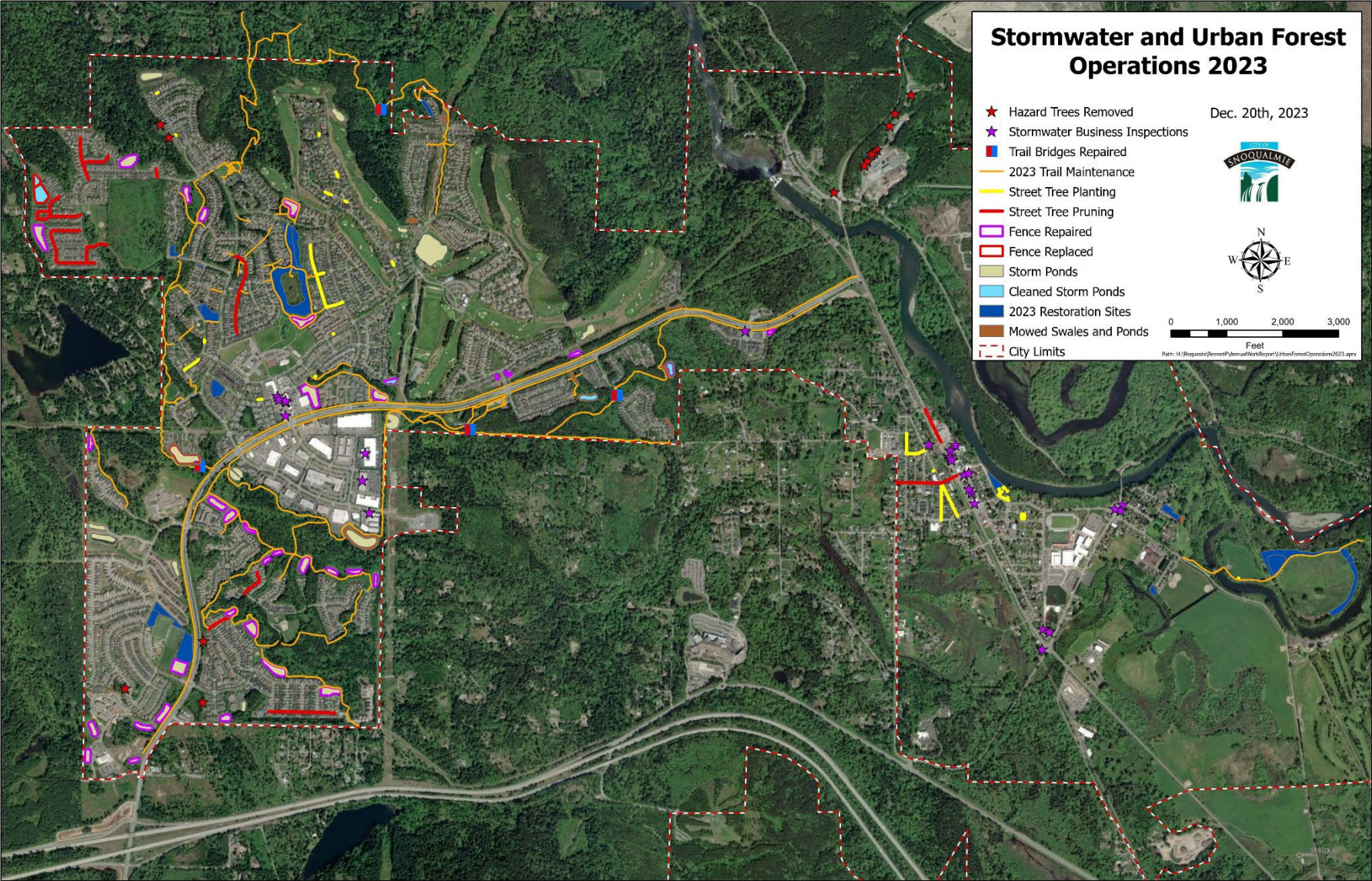
Snoqualmie received a Growth Award in 2023 for staff attaining professional credentials (technician Kyle Markwardt became an ISA Certified Arborist); for completing a proactive annual tree risk survey, and for generating an annual report for the previous year’s activities.



Arbor Day Celebration in Riverview Park - April 22, 2023



# 2023 Operations Map



# Project Highlight: Autumn Street Tree Replacement

In 2020, the City established a new CIP (Capital Improvement Plan) program: The Urban Forestry Improvement Program. This program was designed to replace street trees that are not performing due to poor site conditions. These poor site conditions and inadequate soils caused dozens of trees to fail in windstorms during the winter of 2022-2023, as shown below.

In total, 126 trees were replaced along Autumn Ave, O'Neil St, Pratt St, Cottonwood Drive, and other streets on Snoqualmie Ridge.

This project prevents future infrastructure damage and adds decades to the working life of the new trees compared to the old.

**Autumn Ave Urban Forestry Improvements Project Resident Fact Sheet**

**Project Description:**  
The project is part of the City-wide Urban Forestry Improvement Program which intends to provide residents with a healthy set of street trees. Healthy trees are an important part of our community and provide many benefits, including shade, air quality, and aesthetic value. The project will replace trees that are not performing due to poor site conditions and inadequate soils.

**Project Location:**  
The project will replace trees along Autumn Ave from 127th St to 130th St, and Pratt St to 130th St.

**Urban Forestry Improvement Program Background:**  
Snoqualmie Ridge is a residential area that has experienced a high number of tree failures in recent years. The City has identified a need to improve the health and safety of street trees in the area. The Urban Forestry Improvement Program was established to address this need and to provide residents with a healthy set of street trees.

**Construction Timeline:**  
Aug 2023: City will remove existing trees.  
Sept - Oct 2023: Construction will remove old trees and install new trees.  
Nov 2023: Construction will complete and City will install new trees.

**Frequently Asked Questions:**  
Will the project affect my property? The project will be completed during the winter months and will not affect your property. The City will provide advance notice of the project and will ensure that the project is completed in a timely manner.

**More info or questions:**  
Phil Bevilacqua, Urban Forestry & Sustainable Infrastructure | 425.763.4452 | jbevil@snoco.wa.gov

City of Snoqualmie | 39524 130th Street | PO Box 557 | Snoqualmie, WA 98296  
info@snoco.wa.gov | 425.763.4452



Failed tree on Autumn Ave. from December 2022 windstorm



Left: Installation of new topsoil on Autumn Ave.  
Right: New planting - Forest green oak.



# Project Highlight: Storm-water System Maintenance

In 2023 our team performed extensive inspections and maintenance on the City's stormwater system, and met all NPDES (National Pollutant Discharge Elimination System) permit requirements.

Catchbasins inspected: 1510

Catchbasins cleaned: 237

Illicit Discharge Detection and Elimination Inspections (IDDE) 362

Ponds cleaned: 5

Ponds mowed: 8

Vaults cleaned: 8

Bioswales maintained: 8

Pond fences replaced: 2

Pond Fence Repairs: Replaced 224 posts and 19,187 linear ft (3.64 miles) of rails.



## Woody Creek Pond Before and After Cleaning



## Forest Street Vault Before and After Cleaning

Forest St. Vault Before and After Cleaning



Gala Ct. bioswale Before and After Mowing



# Program Highlight: Green Snoqualmie Partnership

As part of our forest management program, the Green Snoqualmie Partnership engages resident volunteers, agencies, businesses and non-profits to control invasive species and plant native trees and shrubs on City Forestland.



## 2023 Impacts

**52.8 Acres** in restoration

*Work accomplished by volunteers and crews since 2016*

**893 Hours** volunteered

*18 separate volunteer events held, \$33,603 in volunteer value*

**2,420 Plants** installed

*1,467 trees planted in Snoqualmie's forests*

**16 Active Forest Stewards**

*Leading events in 2023*

**\$94,000** in partner funding

*From non-profit and corporate partners.*

**Thank you** to the volunteers, organizations, neighborhood associations, businesses, youth groups and City staff that support the **Green Snoqualmie Partnership** and allowed us to have a successful year in restoring Snoqualmie's forestland.

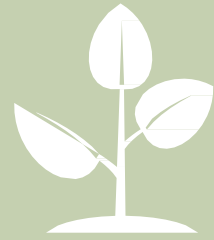


The Green Snoqualmie Partnership envisions a city with healthy forests that provide high value habitat for wildlife and access for residents and visitors to experience nature, supported by an aware and engaged community that is working together to restore and care for these lands.

[www.GreenSnoqualmie.org](http://www.GreenSnoqualmie.org)



# Green Snoqualmie Events 2023



# Trail System Maintenance

In 2023, we focused on repair and replacement of trail bridges and boardwalks. This included:

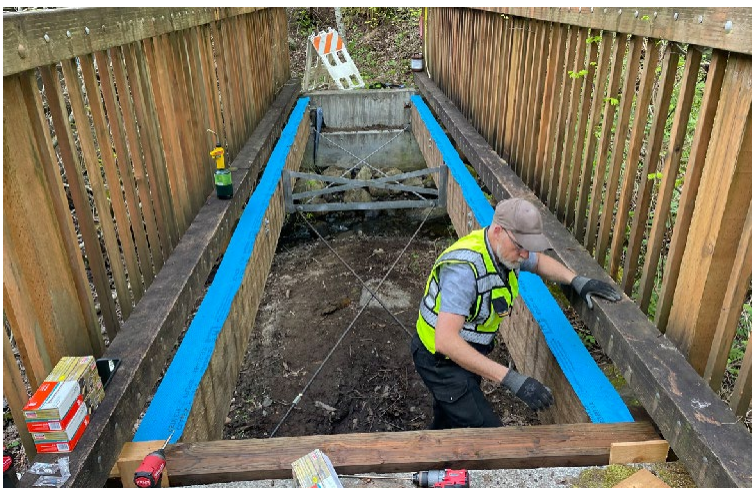
- One entire boardwalk replacement
- Two entire bridge deck replacements
- Two other bridge repairs
- One safety rail replacement



Steller Boardwalk Replaced



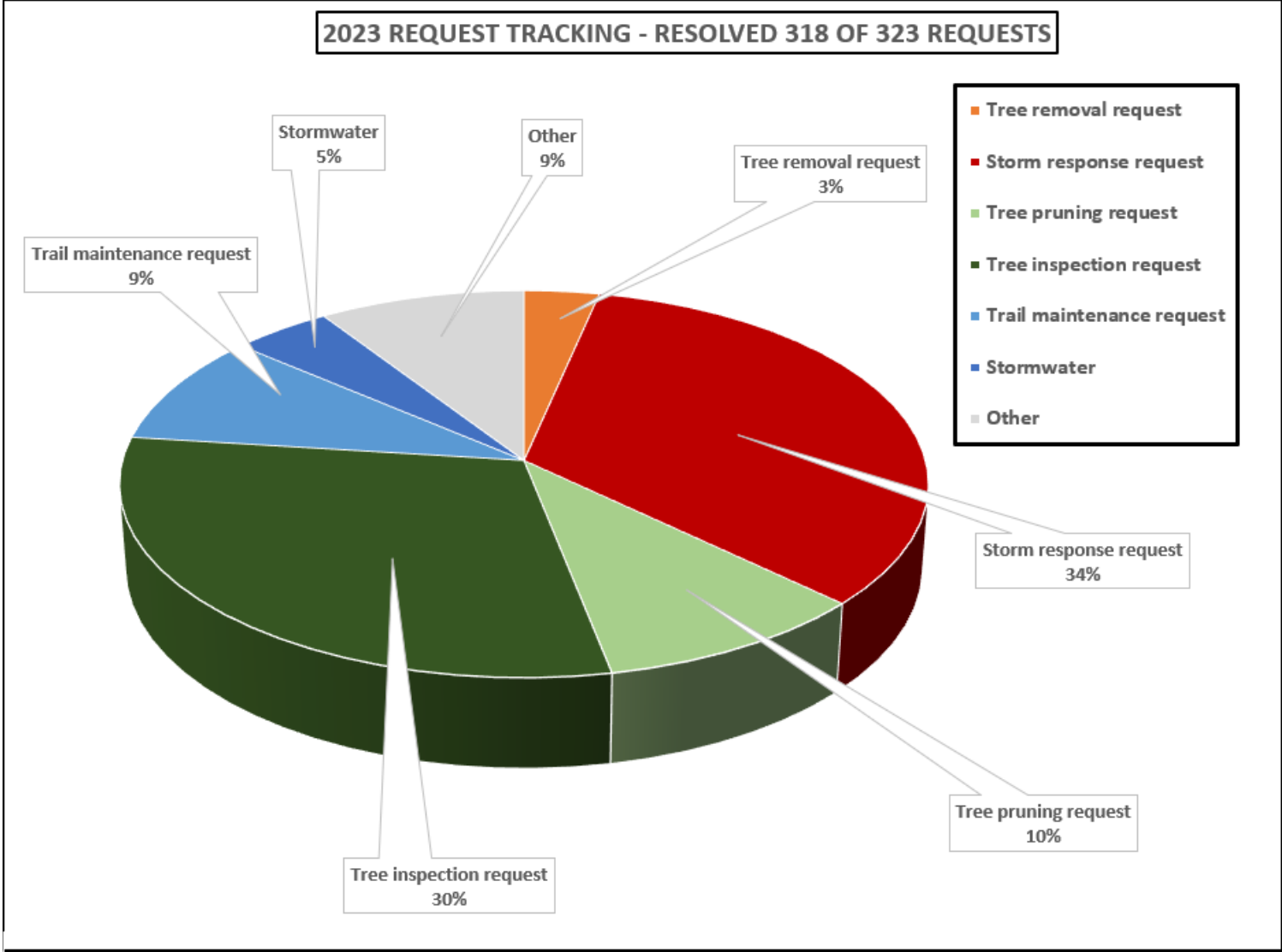
Deep Creek Bridge Partially (left) and Fully (above) Replaced



Orchard Bridge Under Repair (left) and Fully Replaced (right)



# Response to Resident Requests in 2023



# Conclusion and Thank You

The accomplishments detailed in this report represent the efforts of hundreds of people. Thank you to the staff team, contractors, and the citizen volunteers who helped us maintain the City's gray and green stormwater infrastructure in 2023.





# BUSINESS OF THE CITY COUNCIL CITY OF SNOQUALMIE

**AB24-046**  
**April 22, 2024**  
**Committee Report**

Item 3.

## AGENDA BILL INFORMATION

<b>TITLE:</b>	<b>AB24-046:</b> Task Order 38 Amendment with Northwest Hydraulic Consultants (NHC) for Sandy Cove Bank Stabilization.	<input type="checkbox"/> Discussion Only <input checked="" type="checkbox"/> Action Needed:
<b>PROPOSED ACTION:</b>	Approve amendments 1.2 and 1.3 to Task Order 38 with NHC	<input checked="" type="checkbox"/> Motion <input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution

<b>REVIEW:</b>	Department Director	Jeff Hamlin	4/10/2024
	Finance	Janna Walker	4/8/2024
	Legal	David Linehan	Click or tap to enter a date.
	City Administrator	Mike Chambless	Click or tap to enter a date.

<b>DEPARTMENT:</b>	Parks & Public Works		
<b>STAFF:</b>	Dylan Gamble, CIP Manager		
<b>COMMITTEE:</b>	Parks & Public Works	<b>COMMITTEE DATE:</b> April 16, 2024	
<b>EXHIBITS:</b>	<ol style="list-style-type: none"> <li>1. Task Order 38 Amendment Agreement</li> <li>2. Exhibit A (1.2)</li> <li>3. Exhibit B (1.3)</li> <li>4. Original On-Call Contract</li> <li>5. Task Order 38</li> <li>6. Task Order 38 Amendment #1</li> <li>7. Contract Cover Sheet (incomplete)</li> <li>8. CIP Sheet</li> </ol>		

<b>AMOUNT OF EXPENDITURE</b>	\$ 506,237
<b>AMOUNT BUDGETED</b>	\$ 3,618,000
<b>APPROPRIATION REQUESTED</b>	\$ 0

## SUMMARY

**INTRODUCTION**

The Preliminary Design and permitting budget for the Sandy Cove Riverbank Stabilization project is nearly expended. This agenda bill provides for the final design, bid support, and construction management for the remaining project.

## LEGISLATIVE HISTORY

Original Task Order approved January 29<sup>th</sup>, 2019. Amendment 1 was approved in July 18<sup>th</sup> 2022 to rescope the design effort to include permitting requirements. Bidding, construction, and project management for phase 1 of construction were included in amendment 1. 60% designs, and initiation of permitting, were also completed within the original contract and amendment 1.

## BACKGROUND

The Sandy Cove bank stabilization project phase 1 project (CIP #STM19003CIP Sandy Cove Park Riverbank Restoration and Outfall Project) will be constructed to protect the riverbank in Sandy Cove Park from erosion due to migration of the Snoqualmie River. The Project will stabilize the eroding bank and reduce the risks to the park, River Street, adjacent properties, and the existing stormwater infrastructure.

The initial phase, Phase 1, of the Sandy Cove Stabilization project was completed in the Summer of 2023 and included initial shoreline stabilization to halt further bank erosion over the winter of 2023-2024 while design and permitting are completed for phase 2. Sandy Cove has had significant erosion while permitting and designs for the revetment has been underway. Concerns that additional erosion could impact the designs or permitting of the revetment necessitated an immediate bank stabilization. The majority of the phase 1 work was designed to be incorporated into the final phase 2 of the revetment. Phase 1 work consisted of a new bank made of a washed gravel fill covered by a coir blanket. On the lower portion of the bank between riparian vegetation and the riverbank the coir blanket will be protected by an additional layer of sandbags and supersacks made of a coir fabric. The upper portion of the bank, up to the existing park grade was planted with native grasses.

## ANALYSIS

A continuation of the Phase 2 scope of work is needed to continue the federal, state, and local permitting process for the bank protection and restoration project at Sandy Cove Park. NHC prepared and submitted a Joint Aquatic Resources Permitting Application (JARPA) for a Nationwide Permit (NWP) in January 2024 following the work completed in 2023.

At this time the scope of work for the remaining design, construction management, and bidding cannot be completed with the remaining contract budget. The design phase(s) for the Sandy Cove Bank Stabilization have had significant redesigns, additional alternative analysis(s), and a very extended permitting and review process. This, in addition to dividing the construction in 2 phases, has reduced the contract budget of the combined scope and budget for this project. While dividing the initial construction, phase 1, from the total project increased the number of bidding, construction management, and construction costs it also locked in and solidified the permitting process for State and Federal agencies. This smaller and more emergency based construction effort has given the permitting process more momentum, a sense of 'wrapping up', and better relationships to agencies, that has made the next set of permitting simplified.

The additional scope of work, and costs, can be reviewed as two separate amendments (1.2 and 1.3). Amendment 1.2 is the scope of work to complete the final designs, complete the permitting process with State and Federal agencies, prepare be involved in bidding and responses, and some design level construction management. Amendment 1.3 is the scope of work for construction management, environmental impacts monitoring (A common example is turbidity monitoring), and permit compliance during construction. Dividing the scope of work into two separate amendments allowed staff to streamline the required work and remove unnecessary scope. As part of both amendments several subconsultant bids were reviewed to find the best qualified and most appropriately priced. Staff reviewed hourly work quotes and reduced scoping hours to

reduce cost of contract. Several reduction efforts were emphasized to control scope and cost while retaining the ability to complete the remaining work without additional contract amendments.

### BUDGET IMPACTS

Administration recommends approving amendments 1.2 and 1.3 of Task Order 38 with NHC in the amount of \$506,237 to Complete Design, bid support, and conduct construction management for phase 2 of the Sandy Cove Park Riverbank Restoration and Outfall Project. The City incorporated this project in the 2023-2028 Capital Improvement Plan (CIP) (See Exhibit #8). The 2023-24 Amended Budget appropriates \$3,618,000 for this project in the Utilities Capital Fund (#417), with a life-of-project budget of \$5,919,364. Currently \$824,629 has been spent in the current biennium and \$110,550 is encumbered for contracts within the project, leaving \$2,682,820 for new contracts. If the proposed amendments are approved, the available budget for the current biennium would be \$2,176,583. Therefore, sufficient appropriation exists within the 2023-24 Biennial Budget (Utilities Capital Fund #417) to fund the contract.

#### Sand Cove Bank Stabilization

	Life-of-Project Budget <i>(Multiple Bienniums)</i>	2023-2024 Biennial Budget
<b>Beginning Budget</b>	\$ 5,919,364	\$ 3,618,000
<b>Expenditures</b>	\$ (1,333,389)	\$ (824,629)
<b>Outstanding Contract Value</b> <i>(Previously Approved)</i>	\$ (110,550)	\$ (110,550)
<b>Current Available Budget</b>	\$ 4,475,424	\$ 2,682,820
<b>Value of this Amendment (AB24-046)</b>	\$ (506,237)	\$ (506,237)
<b>Available Budget after AB24-046</b>	\$ 3,969,187	\$ 2,176,583

### NEXT STEPS

Next steps include completion of the final design and permitting effort in preparation for Summer 2024 bid advertisement.

### PROPOSED ACTION

Move to approve the amendments 1.2 and 1.3 with Northwest Hydraulic Consultants Task Order 38 Sandy Cove Bank Stabilization, and authorize the Mayor to sign.

CITY OF SNOQUALMIE  
 AGREEMENT FOR CONSULTANT SERVICES  
 Amendments Nos. 1.2 and 1.3 to NHC Task Order 38  
 Sandy Cove Park Bank Protection and Restoration (Phase 2) Final Design and Construction  
 Management

WHEREAS, on January 23, 2017, Northwest Hydraulic Consultants, Inc. (“NHC”) entered into an Agreement with the City of Snoqualmie (“City”), which provides for NHC to perform unspecified professional services in hydraulics, hydrology, and related fields on an on-call basis, with specific work items to be identified in subsequent Task Orders (“Prime Agreement”).

WHEREAS, on January 28, 2019, the City entered into Task Order No. 38 under the Prime Agreement for the Sandy Cove Park Bank Protection and Restoration – Phase 2 project; and

WHEREAS, section 2.3.6 of the Prime Agreement allows the Parties to expand the Scope of Work of a particular Task Order by adding Extra Work described in a written supplement to the Task Order; and

WHEREAS, on September 20, 2022, the City amended Task Order 38 for to NHC complete the Sandy Cover Bank Stabilization design and permitting effort, including updating design drawings, resubmitting permit applications, and completing a Conditional Letter of Map Revision (CLOMR); and

WHEREAS, the City has requested that NHC complete the Sandy Cover Bank Stabilization design and permitting effort and provide construction management services; and

WHEREAS, NHC has the resources and capability to perform this work and has provided scopes of work and hour and fee estimates for such Extra Work;

NOW, THEREFORE, the parties herein do mutually agree as follows:

**Section 1. Scope of Work Amended.** Section 1 (“Scope of Work”) of the January 28, 2019 Task Order No. 38, as amended by Amendment No. 1 dated July 18, 2022, is hereby amended as follows:

- A. Amendment 1.2 to add the additional tasks set forth in “Sandy Cove Park Bank Protection and Restoration - Phase 2 Rescoping” dated March 12, 2024, attached hereto as **Exhibit A** and incorporated herein by this reference.
- B. Amendment 1.3 to add the additional tasks set forth in “Sandy Cove Park Bank Protection and Restoration – Phase 2 Rescoping” dated March 5, 2024, attached hereto as **Exhibit B** and incorporated herein by this reference.

**Section 2. Period of Service Amended.** Section 2 (“Period of Service”) of the January December 31, 22 to June 31, 2025.

**Section 3. Compensation Amended.** Section 3 (“Compensation”) of Amendment No. 1 of Task Order No. 38 is hereby amended to increase the total compensation to be paid Consultant for the work from the not to exceed amount of \$935,304 to not to exceed \$1,441,541.

<p>CITY OF SNOQUALMIE, WASHINGTON</p> <p>By: _____ Its: Mayor</p> <p>Date: _____</p>	<p>CONSULTANT – NHC.</p> <p>By: _____</p> <p>Typed/Printed Name: <u>Derek L. Stuart</u></p> <p>Its: <u>Principal</u> _____ _____</p> <p>Date: _____</p>
<p>ATTEST:</p> <p>Deana Dean, City Clerk</p> <p>Date:</p>	
<p>APPROVED AS TO FORM:</p>	

**EXHIBIT A**  
**AMENDMENT 1.2**



**EXHIBIT B**  
**AMENDMENT 1.3**

## Sandy Cove Park Bank Protection and Restoration - Phase 2 Rescoping (Amendment 1.2)

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Prepared by Northwest Hydraulic Consultants Inc.

### Scope of Work

Prepared for City of Snoqualmie

March 12, 2024

## PROJECT DESCRIPTION

The City of Snoqualmie has requested that Northwest Hydraulic Consultants, Inc. (NHC) provide an updated scope of work for Phase 2 of the Sandy Cove Park Bank Restoration Project (NHC, 2014). A continuation of the Phase 2 scope of work is needed to continue the federal, state, and local permitting process for the full bank protection and restoration project at Sandy Cove Park. In December 2022, the city notified NHC that construction of the full bank protection concept would not be funded in 2023 and directed NHC to develop a design for temporary bank protection measures (Phase 1) to be constructed in 2023. Significant out of scope efforts from the previous task order include design, permitting and construction oversight for the Phase 1 temporary bank protection measures, which were successfully completed in Fall 2023.

Additional effort is needed to incorporate stakeholder comments and revise and advance the 60% Design for permitting and bid deliverables.

The primary objectives of the Project will include:

- Resubmit JARPA and continue federal, state and local permitting processes.
- Update the previously submitted 60% design drawings to reflect the approved concepts developed during the Alternatives Analysis and stakeholder consultation process.
- Advance the 60% drawings through the 100% final construction plans, including preparation of construction specification and bid support services, in order to start construction during the summer 2024 season.
- Prepare and submit a No Rise analysis for the proposed bank protection measures.

The following scope of work defines the specific work plan tasks requested by the City. Task numbers have been retained from the previous scope of work.

### Task 5. 60% Design/JARPA Drawings, and Permitting Support

Following Phase 1 construction, a pre-filing request to initiate a new WQC application was filed with Ecology on February 6, 2024, which is currently being processed as an individual Section 401 WQC and reviewed for

March 12, 2024

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consistency with Washington’s Coastal Zone Management Program. Ecology has requested that a new JARPA will need to be submitted for concurrence of Section 401 of the Clean Water Act, in addition to the other information that Ecology requires for WQC. Under this new application process, Ecology will require the following completed applicable information (in the list below) to start review of the Section 401 WQC for this project.

- WQC form or email acknowledge receipt
- Completed, signed, and dated new JARPA
- The latest 60% design with Best Management Practices (BMPs), with construction methodology
- Draft Mitigation Plan
- Wetland Delineation Report and ratings
- Water Quality Monitoring Plan or Water Quality Monitoring and Protection Plan (WQMPP)
- Dewatering Plan (may not be needed depending on construction methodology)
- Revegetation/Restoration Plan
- Erosion and Sediment Control Plan
- SEPA checklist (note: final determination does not need to be complete)
- CZM review needs to be re-initiated by the Corps

NHC will produce a Basis of Design (BOD) Report memorandum (1-3 pages) that presents documentation supporting the project design and summarizing technical analyses developed for the project. The BOD Report will integrate and/or reference technical documentation from the preliminary basis of design report (NHC, 2014), Reach Geomorphic Assessment (2019) and earlier tasks. The BOD report will be updated and expanded as part of subsequent tasks serving as the final design documentation report at the completion of Task 6. The memorandum will be submitted in draft form to the City for review and will be finalized following receipt of comments.

NHC will refine the “preferred” bank protection alternative 3a from the Alternatives Analysis based on the updated hydraulic model output and stakeholder comments received on the conceptual design. The refined alternative (3a) will again target a design that is practical, cost effective, durable and likely to receive approval from the permitting agencies. A preliminary construction cost estimate will be developed, based on the updated 60% design drawings.

NHC’s permitting sub-consultant, 48 North Solutions, will prepare and submit all permits. NHC will support 48 North Solutions with information needed to prepare the environmental permits such as grading quantities. A scope of work for 48 North Solutions embankment is included as Attachment A.

March 12, 2024

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NHC’s Landscape Architecture sub-consultant, Berger, will provide 60% designs for planting and restoration of the park, including public access ramps to the river, park infrastructure, and mitigation planting plans to support the required critical areas mitigation. For the 60% design deliverables, Berger will provide draft construction plans, specifications, and estimates for review by the City. A scope of work for Berger is included as Attachment B.

KPFF, NHC’s civil sub-consultant, will provide bid package assembly support for the draft Division 01 Specifications. The project specifications will be compiled for 60% design submittal as listed in the NHC proposal in PDF format. KPFF will review and provide a comment matrix with proposed corrections for the draft Division 01 Specifications. Recommendations for specification editing, including draft language will be provided based on comments for the City’s use. KPFF’s scope of work and fee is included as Attachment C.

AESI, NHC’s geotechnical sub-consultant, will provide consultation on the 60% design including participation in project meetings, coordination with the design team, review of previous exploration logs and bank protection plan drawings and specifications, numerical slope stability analysis of proposed bank stabilization measures, and supporting documentation. AESI’s scope of work and fee is included as Attachment D.

Stell, NHC’s archaeological sub-consultant will conduct a cultural resources pedestrian survey (required for SEPA review and USACE 404 review). Stell’s scope of work and fee is included as Attachment E.

NHC will incorporate one round of consolidated comments from permitting agencies, stakeholders and the City, make revisions, and develop details for the 60% design, special provisions and quantity estimates. The 60% plans will also be developed in JARPA format (8.5”x11”) to support permitting. Special provisions will be developed assuming the WSDOT Standard Specifications for 2024 unless NHC is otherwise directed by the City. The project QAQC plan, including senior review of all deliverables will be followed throughout the design process.

**Assumptions:**

- NHC will use its standard CAD templates for all drawings, such as borders, titles, and plot files, etc.
- City will provide information on property boundaries (ROW, property lines, easements), Riverwalk Park layout and planting plan in the vicinity of the bank protection project.
- See Design Meeting, Deliverable, and Comment Workflow summary at end of scope of work for commentary of design review and comments. It is assumed that comments on the 60% submittal package will each be returned to NHC within 3 weeks.
- Review comments for the 60% design submittal will be provided to NHC in one set from each stakeholder (i.e. not individual sets of comments from individual staff).
- Time is included for one meeting following the 60% design submittal.
- The City will be responsible to pay any federal, state, or local permitting costs or associated fees.

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- No cultural resources exist at the site. If remains or artifacts are identified, the contract will be amended to include the required expertise.
- Design of the “Upper Bank” above Sandy Cove Park and including the King Street lot is not included in this Task Order.

**Deliverables:**

- Draft and Final 11”x17” 60% design drawings, special provisions, and quantity estimates.
- One draft of JARPA format drawings (8.5” x11”) for construction grant applications.
- A meeting with the City to discuss possible refinements to the 60% embankment design (following Task 5).

**Task 6. Final Design and Embankment Design Documentation**

NHC will develop the 90% and final (100%) construction plans, special provisions and cost estimates (PS&E) by revising the design based on comments provided by the City and adding further details. NHC will attend a design review meeting to discuss final revisions and comments with the City.

KPFF will provide a TESC plan covering both in-water and upland construction and staging areas. The Basis of Design report from Task 5 will be updated to document design methods and summarize analyses added to the design in Task 6.

KPFF will provide bid package assembly support including coordination of specification questions developed by contractors during the bid process for the Division 01 Specifications. KPFF will also assemble the division 1 specifications and specification deliverables. The project specifications will be compiled for 90% and Final design submittals as listed in the NHC proposal in PDF format. KPFF will review and provide a comment matrix with proposed corrections for the Division 01 Specifications. Recommendations for specification editing, including draft language will be provided based on comments for the City’s use. KPFF’s scope of work and fee is included as Attachment C.

NHC’s geotechnical sub-consultant, AESI, will provide consultation on the final design including participation in project meetings, coordination with the design team, review of previous exploration logs and bank protection plan drawings and specifications, numerical slope stability analysis of proposed bank stabilization measures, and supporting documentation. AESI’s scope of work and fee is included as Attachment D.

**Assumptions:**

- City will provide information on property boundaries (ROW, property lines, easements), Riverwalk Park layout and planting plan in the vicinity of the bank protection project,

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- See Design Meeting, Deliverable, and Comment Workflow summary at end of scope of work for commentary of design review and comments. It is assumed that comments on the 90% submittal package will be returned to NHC within 3 weeks.
- Development of a construction traffic control plan is not included as a deliverable for this project.
- Construction inspection and/or support services are not included in this scope of work. The City has requested construction support services be scoped separately.
- NHC will make a final set of revisions based on the final design meeting (1) and one set of comments provided by the County.
- The necessary Division 01 specifications will be provided from the City to NHC and KPFF for KPFF’s use and review.
- Specification Sections provided by the City will be in WSDOT format and will not require formatting over and above compiling the sections into different document types.

**Deliverables:**

- NHC will submit the final design package stamped by a Washington State registered Professional Engineer consisting of plans (PDF), special provisions (MS Word), and engineer’s cost estimate. A basis of design memorandum will be prepared to document design methods and summarize analyses.
- TESC plan for in-water and upland construction and staging areas.
- Meeting with the City to provide an overview of the possible refinements to the final design (occurs during Task 6).

**Task 7. FEMA No-Rise Analysis**

The proposed bank protection project is located within FEMA’s regulatory floodway for the Snoqualmie River. The original Phase 2 scope of work assumed that NHC would develop a Conditional Letter of Map Revision (CLOMR) with the Federal Emergency Management Agency (FEMA) – however, due to the change in scope to focus on the Phase 1 temporary bank protection, the CLOMR effort was put on hold. In order to maintain the timeline for permitting and construction of the full bank protection design in summer 2024, NHC recommends that the CLOMR effort be continued and finalized under a separate scope of work, and that a No-Rise Analysis be submitted for this phase of the project.

**Assumptions:**

- The existing calibrated model developed for the CLOMR will be sufficient for completing the No Rise analysis.

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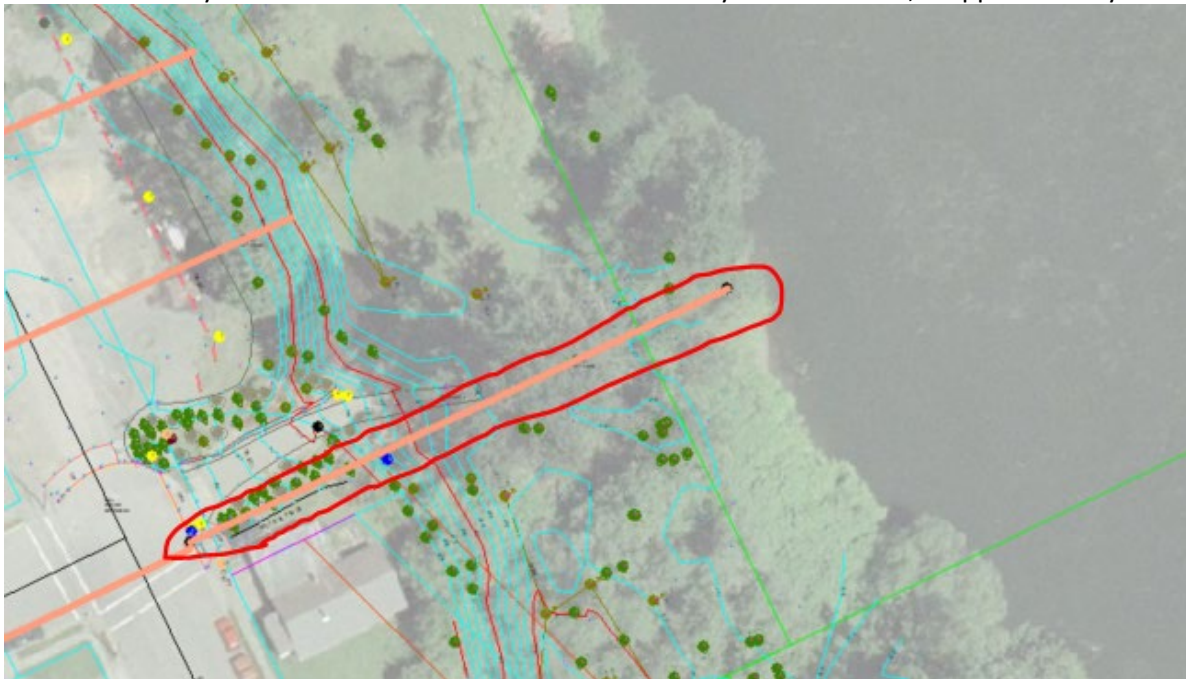
- The 60% Sandy Cove Park proposed design will be sufficient for inclusion in the No Rise submittal.

**Deliverables:**

- Brief memorandum documenting the analysis and results.

**Task 10. King Street Stormwater Outfall 100% Design**

The existing stormwater outfall at King Street and Falls Avenue was found to be undersized as part of the 2015 Snoqualmie Infrastructure Improvement Project (NHC, 2015). The existing outfall pipe, a 15" galvanized pipe circled red in a hybrid of the 2017 KPFF and NHC 2012 surveys shown below, is approximately 260 feet in length.



**Figure 1: King Street Stormwater Outfall Pipe (circled in red)**

Under the original Phase 2 scope of work, NHC developed a 30% design and planning level cost estimate for a new stormwater outfall to the Snoqualmie River at King Street. Based on previous utility locates and survey work at the site, it is expected that the existing storm pipe may be damaged between the nearest catch basin in King Street and the presumed outfall location within the limits of the Sandy Cove Park project. For the revised Phase 2 scope, KPFF will prepare a 100% design, to be included in the Sandy Cove Park construction documents. KPFF will prepare a construction cost estimate and specifications for the storm drain between the outfall and the nearest existing catch basin in King Street. The outfall will be designed and constructed in accordance with the 2016 King County Stormwater Design Manual, as adopted & amended by the City of Snoqualmie.

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NHC and KPFF will attend a design review meeting via phone to discuss final revisions and comments with the City.

**Assumptions:**

- Previous topographic survey of the Sandy Cove/Record Office project areas, completed by KPFF in May 2017, will be sufficient for preparation of the final 100% construction plans.
- The design fee estimate for the King Street outfall design assumes that stormwater modeling and other technical analysis for sizing the outfall pipe previously completed in Phase 2 will be sufficient for preparation of the final 100% construction plans.
- KPFF will include the final (100%) outfall construction plan as up to three (3) sheets in the construction drawing package for Sandy Cove.
- City will provide information on property boundaries (ROW, property lines, easements).
- The gravel parking lot between Sandy Cove Park and the bowling alley will be suitable for construction staging.
- No cultural resources support is included for the stormwater pipe replacement corridor.
- No arborist will be required for the project or one will be provided by the City separately from this Task Order.

**Deliverables:**

- Final (100%) construction plans, specifications, and cost estimates (PS&E) for a new stormwater drainage pipe and outfall to the Snoqualmie River at King Street.

**Task 13. Project Management/Administration and Quality Control**

NHC will keep the City’s project manager informed on project activities through the use of email and phone. Meeting dates will be set well in advance to ensure adequate time to secure commitments from key participants. Monthly invoices will be submitted that are accompanied by a brief progress report. Each progress report will detail the following:

1. Work completed from the Scope in this billing period.
2. Work anticipated for next billing period.
3. Project issues that need to be addressed.
4. Tracking of any work performed outside the original scope.



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### **DESIGN MEETING, DELIVERABLE, and COMMENT WORKFLOW SUMMARY**

1. Sandy Cove Park Embankment 60% Design (Task 5)
  - Update 60% plans (preferred alternative), construction notes, technical special provisions, cost estimate, BOD
    - Submit to stakeholders and 48 North in JARPA format
  - 48 North to submit 60% package for permits
    - Meeting to discuss 60% submittal (Meeting #5)
    - Attended by all stakeholders
  - Receive comments from all stakeholders (including permit agencies) and incorporate in next milestone
2. Sandy Cove Park Embankment 90% Design (Task 6)
  - Develop 90% plans, complete specifications, cost estimate, BOD
    - Submit to stakeholders
  - Meeting to discuss 90% submittal (Meeting #6)
    - Attended by NHC, City
  - Receive comments from City and incorporate in next milestone
3. Final Sandy Cove Park Embankment (100%) Design (Task 6)
  - Develop Final (100%) plans, complete specifications, cost estimate, BOD
    - Submit to City only

### **OTHER DELIVERABLES INDEPENDENT OF DESIGN WORKFLOW**

1. No Rise memorandum to City (Task 7)

### **TIME AND PERFORMANCE**

At a schedule coordinated with City staff following issuance of this Task Order that achieves construction in 2024.



Sandy Cove Park Bank Protection and Restoration - Phase 2 Rescoping

March 12, 2024

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**COST ESTIMATE**

nhc -- Northwest Hydraulic Consultants Inc.								PAGE 1 OF 2
12787 Gateway Drive S. Seattle, WA 98168 Tel. (206) 241-6000 Fax (206) 439-2420			Prepared for: City of Snoqualmie Project: Sandy Cove Park Bank Protection and Restoration (Phase 2) Date: February 16, 2024 Project No.: 2003862 Prepared By: Derek Stuart/ Catherine Billor					
TASK DESCRIPTION	Principal	Principal T3	Staff Scientist	Engineer 1	Engineer 2	Technician/ GIS Analyst	Contract Admin	Totals
	Derek Stuart or Vaughn Collins	Chris Long	Andrew Nelson	Catherine Billor	Laurel Smith or Alex Whitmershaus	Madalyn Ohrt	Diane Nurrich	
3	Hydraulic Modeling Plan and Model Development							\$0
5	Refinement of Preferred Alternative, 60% Design Drawings, and Permitting Support	10		16	120	120	2	\$49,660
6	Final Design and Embankment Design Documentation	24	10	8	216	116	2	\$71,700
7	FEMA No Rise		10		40	80	1	\$24,680
10	King Street Stormwater Outfall 100% Design							\$0
13	Project Management/ Administration and Quality Control	16			60		2	\$16,580
14	Construction Support							\$0
Total Hours and Direct Labor Cost (DL)		50.0	20.0	24.0	436.0	316.0	8.0	7.0
Standard Rate (2024)		\$310.00	\$290.00	\$290.00	\$185.00	\$160.00	\$165.00	\$260.00
<b>TOTAL LABOR COST</b>								\$162,620
<b>Direct Expense Detail</b>								
					Units	Rate		Cost
	Mileage (estimated 3 round trips)				180	\$0.580		\$104
	Reproduction & Communication							
	Survey Equipment (Boat/ RTK GPS/ Eco Sounder)				1	200.00		\$200
							Total Direct	\$304
<b>Subconsultants</b>								
					Sub Fee	Markup		Cost
<b>Base Scope of Work</b>								
	Geotechnical support for Task 1 from AESI				\$10,000			\$10,000
	KPFF (design and bid support)				\$100,400			\$100,400
	Beraer				\$32,450			\$32,450
	48N				\$30,767			\$30,767
	Stell				\$26,642			\$26,642
							Base Scope of Work	\$200,259
<b>Cost Summary</b>								
Total NHC Labor								\$162,620
Total Direct Expenses								\$304
Subconsultants								\$200,259
<b>TOTAL COST (DESIGN SCOPE)</b>								\$363,183
Remaining budget in existing Task Order (as of Jan 31 2024)								\$79,702
<b>TOTAL COST, LESS REMAINING BUDGET IN EXISTING TASK ORDER</b>								\$283,481

February 25, 2024

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## REFERENCES

NHC 1993, Draft interim report, Snoqualmie River flood control project. Prepared for City of Snoqualmie, Snoqualmie, Washington.

NHC 2008, Technical Analysis for FEMA Letter of Map Revision for the Snoqualmie River near the City of Snoqualmie, Washington. May 23, 2008. LOMR became effective February 26, 2010. NHC Project Number 21478.

NHC 2014, Sandy Cove Bank Restoration Project, Final Report, Prepared by Northwest Hydraulic Consultants for the City of Snoqualmie in coordination with Perteet Inc. and Terracon Inc. Review Draft April 2013, Final Draft January 2014. NHC Project Number 200080.

NHC 2017, Infrastructure Improvement Program, Hydrologic and Hydraulic Analysis, Final Report, Prepared by Northwest Hydraulic Consultants for Perteet Inc. on behalf of the City of Snoqualmie. February 2017. NHC Project Number 2001642.



Sandy Cove Park Bank Protection and Restoration - Phase 2 Rescoping

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**Attachment A**

Sub-consultant 48 North Solutions Scope and Fee Estimate for Sandy Cove Park



1275 12<sup>th</sup> Ave NW, Suite 8, Issaquah, Washington, 98027

June 10, 2022

Mr. Derek Stuart, PE,  
Northwest Hydraulics Consultants  
12787 Gateway Drive S.  
Seattle, WA 98168  
[dstuart@nhcweb.com](mailto:dstuart@nhcweb.com)

submitted via email to:

**Re:** Modified Environmental Permitting Support for the City of Snoqualmie's Sandy Cove Bank Stabilization Project (Amendment 1).

Dear Mr. Stuart:

48 North Solutions, Inc. (48 NORTH) is excited to submit this amendment proposal to Northwest Hydraulic Consultants (NHC) to continue to provide permit acquisition services for the proposed Sandy Cove bank stabilization project along the left bank of the Snoqualmie River (the Project), proposed by the City of Snoqualmie (the City).

#### **PART 1: SCOPE OF WORK**

Formal and informal permitting agency consultations with federal, state, and local agencies, as well as external stakeholders is a critical component of the permitting processes in Washington State. Consultation generally involves analysis of a proposed project to determine any potential environmental effects and to develop effective monitoring, mitigation, and adaptive management measures necessary to prevent, minimize and/or mitigate project effects on the environment. Consultation with the agencies for the Project has been initiated and an Alternative Analysis Framework has been conducted at the request of the U.S. Army Corps of Engineers (USACE) to support an Individual Permit (IP) Application. The Washington Departments of Fish and Wildlife (WDFW), Ecology, and Natural Resources (DNR), along with the Snoqualmie Tribe have been consulted on the progress of the design effort. The USACE has changed project managers several times and the Project is currently waiting for the assignment of a new Project Manager. 48 NORTH submitted a draft Mitigation Plan to the USACE on January 30, 2020. It is anticipated that this plan will need to be modified based on the negotiations with the new USACE Project Manager once one is assigned to the project.

As per the direction of the USACE to pursue an IP for this project and the numerous out of scope permitting efforts conducted, per the direction of the USACE and the City, an amendment to the original Sandy Cove Bank Stabilization Project scope is being requested. Additional out of scope work conducted by 48 NORTH, included USACE Emergency Authorization permit planning and the production of a USACE-directed Alternative Analysis Framework study as a component of the IP Permit Application process path identified by the USACE for this project.

This additional scope will include ongoing local permitting, an Ecology Water Quality Certification (WQC) submittal, Coastal Zone Management (CZM) submittal, Hydraulic Project Approval (HPA) submittal, new Joint Aquatic Resource Permit Application (JARPA) submittal to Ecology, DNR submittal for stormwater outfall, and update the Draft Mitigation Plan based on the new USACE Project Manager's comments. The following documentation and permit applications have been completed:

- On January 30, 2020, a JARPA was submitted to the USACE and Ecology with the initial design.
- An Alternative Analysis Framework was completed for the USACE as a condition for the IP permitting process.
- A draft Mitigation Plan with suggested mitigation alternatives and mitigation ratios was completed and submitted to the previous USACE project manager on January 30, 2020.
- All field work has been completed, as well as the Critical Area Report (CAR).
- Several on-site field meetings (pre-application, emergency, etc...) were conducted with the various federal and state permitting agencies (WDFW, DNR, Ecology, USFWS and USACE as well as the Snoqualmie Tribe).

48 NORTH will support NHC and the City with obtaining the environmental permits and the supporting consultations necessary to complete the bank stabilization and stormwater outfall for the Sandy Cove Project. We have broken these efforts into four tasks.

#### Task 1: Permitting, Meetings and Project Management

48 NORTH will continue to engage with the City Planner to develop a local permitting strategy. Local permitting has been delayed while the USACE-directed Alternative Analysis Framework was conducted. As the City is leading this effort, we assume they will be the lead agency for the State Environmental Policy Act (SEPA) review. We anticipate that a standard SEPA Environmental Checklist will likely be required, as opposed to a SEPA Environmental Impact Statement (EIS). The checklist requires governmental agencies to consider the environmental impacts of a proposal before making decisions and helps agencies identify those impacts. The City (as the lead agency) will use this checklist to determine whether the environmental impacts of the proposal are significant. If impacts are not significant, the City will issue a Determination of Non-Significance for this project. 48 NORTH will work closely with the City's Planner to develop the project's SEPA checklist for their review. In addition to developing the SEPA Checklist, 48 NORTH will prepare a Substantial Development Permit and a Flood Improvement Permit. A CAR has been completed and will be submitted to the City with the SEPA checklist.

As part of the design, critical areas such as wetlands, should be avoided where practical. If they cannot be avoided, impacts should be minimized to the greatest extent practical. As part of the CAR, wetland and Ordinary High Water Mark delineations has been conducted to identify these critical areas so to avoid or at least minimize impacts to these areas (see Task 2 for more detail). Wetlands are regulated by the City under the Sensitive Areas Ordinance, Chapter 19.12.180. Other City-related permits that maybe required include clearing and grading permits.

On January 30, 2020, a JARPA was submitted to the USACE and Ecology with the initial design. Upon review of this submittal, the USACE initiated an IP permitting path and requested an Alternative Analysis Framework analysis as part of the IP process. With the completion of this analysis, the JARPA will need to be updated with the new design that is currently being prepared by NHC. Ecology has cancelled its previous permit review and the City is now under the new Ecology guidelines for this latest design

revision. A new submittal to Ecology was initiated on July 16, 2021. The WDFW HPA permit has not been prepared and will be submitted once the new 60% design plans are completed by NHC.

Upon receiving feedback from the new USACE Project Manager, 48 NORTH will update the JARPA and then re-submit it to the various permitting agencies including Ecology, DNR and USACE. The updated JARPA submission to USACE will be to obtain a Standard Permit (e.g., an IP Permit) since the General Permit (e.g., a Nationwide Permit) path was not approved for this project. The updated JARPA will be re-submitted to Ecology for concurrence of Section 401 of the Clean Water Act, in addition to the other information that Ecology requires for WQC (Task 2). Since this project is in King County and requires federal permitting via an IP permit, a CZM Certification is required. The permit application to WDFW, via its online APPS system, is to obtain a HPA for the in-water work component of the project.

*Deliverables:*

48 NORTH will prepare one (1) draft copy of the SEPA Checklist and each permit application in MS Word format for internal review by NHC and/or the City. Upon receipt of one (1) consolidated set of comments, 48 NORTH will then prepare the final SEPA Checklist, and permit applications for submission to the respective agencies. Copies of all applications, as pdfs, will be submitted to NHC for their records. We assume NHC will prepare all JARPA-formatted figures for this submission. 48 NORTH will use the information included in the revised JARPA and upload it onto the WDFW APPS online application system to obtain an HPA.

48 NORTH recognizes the regulatory agencies are involved with multiple projects at any one time. Therefore, once each application is submitted, 48 NORTH will work closely with the respective agencies to support the permitting review process so that it is completed as efficiently as possible. Our aim will be to minimize any lag time during the application review. Throughout the permit review process, 48 NORTH will monitor and engage these agencies via phone calls and/or electronic mail correspondence to receive updates from them and address any concerns that may arise. We will work closely with NHC to address agency comments received and provide any supplemental information to keep the project on schedule.

**Task 2: Ecology Section 401 Water Quality Certification Support**

The January 30, 2020, JARPA was submitted to Ecology for concurrence of Section 401 of the Clean Water Act (CWA). Ecology requested an individual Section 401 WQC for this project since USACE has decided to go with an IP. Since the USACE is requiring an IP for this project, Ecology is requesting an individual Section 401 WQC for this project. Ecology is currently processing this permit application as an individual Section 401 WQC and is reviewing for consistency with Washington's Coastal Zone Management Program.

Since the project was delayed in the Alternatives Analysis Framework process, Ecology determined that the project had not met the requirements of the state's Shoreline Management Act and Water Pollution Control Act and does not have sufficient time to obtain the shoreline permit and Section 401 Water Quality Certification before the deadline of July 13, 2021. Ecology canceled the January 30, 2020, application as the USACE withdrew the project.

The Pre-Filing Meeting Request for Clean Water Act Section 401 WQC was filed and accepted by Ecology on July 16, 2021. This completes the requirement of the Pre-Filing Meeting Request and initiated

the Section 401 WQC permitting process for this project. Ecology has requested that a new JARPA will need to be submitted for concurrence of Section 401 of the Clean Water Act, in addition to the other information listed below that Ecology currently requires for WQC:

- WQ cert form or email acknowledge receipt
- Completed, signed, and dated **new** JARPA application
- 60% design with BMPs, with construction methodology
- Draft Mitigation Plan
- Wetland Delineation Report and ratings
- Water Quality Monitoring Plan or Water Quality Monitoring and Protection Plan (WQMPP)
- Dewatering Plan (**don't check box** if only putting in a curtain)
- Revegetation/Restoration Plan
- Erosion and Sediment Control Plan
- SEPA decision box and **does not need to be completed**
- CZM review needs to be re-initiated. **Corps will send CZM form**

*Under Specific Nationwide conditions and because of EPA rule (NWP 27) not triggering 401 review but triggering 401 is new language for automatic 401. Ecology had discretion before but not now.*

The WQMPP is intended to describe and/or provide specific information on activities that will be performed within and/or over waters of the State. The WQMPP shall include a monitoring schedule for tracking the performance of Best Management Practices (BMPs) used during in-water and over-water work within the project. Upon discussion with the Ecology project manager on June 6, 2022, a final SEPA determination will not be needed for this project application submittal. This is a new permit application requirement modification that is in the process of being adjusted by Ecology (June 2022).

48 NORTH will consult with Ecology on the above requested information and in coordination with NHC, will draft a WQMPP, Dewatering Plan, and a Revegetation/Restoration Plan as per Ecology's request. NHC will draft an Erosion and Sediment Control Plan. Once this information review is complete and approved, Ecology will issue their WQC.

*Deliverables:*

48 NORTH will prepare one (1) draft copy of the WQMPP, Dewatering Plan, and Revegetation/Restoration Plan in MS Word format for internal review by NHC and/or the City. Upon receipt of one (1) consolidated set of comments, 48 NORTH will then prepare the final documents for submittal to Ecology. Copies of all documents, as pdfs, will be submitted to NHC for their records. We assume NHC will prepare all WQMPP, Dewatering Plan, and Revegetation/Restoration Plan figures for this submission. 48 NORTH will draft and submit the above report documentation to Ecology.

**Task 3: Endangered Species Act Consultation**

Section 7 of the Endangered Species Act (ESA) requires federal agencies to ensure actions it authorizes, or permits are not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitats. To meet ESA requirements, agencies review the likely effects of their projects in consultation with the National Marine Fisheries Service (NMFS) and/or U.S. Fish and Wildlife Service (USFWS), commonly referred to as the "Services". The Services share responsibility for administering Section 7 of the ESA. Consultation with the Services may be required if the project requires a federal permit from the USACE, which is considered a federal nexus. Projects that have a federal nexus (i.e.,



receive federal funds, occur on federal lands, or require federal permits or approval) trigger the completion of Section 7 consultation with the Services.

Consultation under ESA would require the City to submit either a letter of “no effect” or request a Biological Assessment (BA) for informal (determination of “may effect, is not likely to adversely affect”), or formal consultation (determination of may affect, is likely to adversely affect”) to the Services. The USACE is responsible for initiating and coordinating the consultation process and obtaining the Services concurrence. 48 NORTH will prepare either a “letter of no effect”, or an abbreviated Biological Evaluation (BE) to address the potential impacts and possible mitigation measures to offset these impacts.

The project is located upstream of Snoqualmie Falls and does not contain any ESA-listed species and/or critical habitat overseen by NMFS but may contain ESA-listed species and/or critical habitat overseen by USFWS. Due to the project’s location above the Snoqualmie Falls, USFWS may request consultation, or BMPs, and a determination of impacts for Northern spotted owl and/or marbled murrelet. NMFS may also request consultation due to the possible impacts to ESA listed species below the falls, due to stormwater and turbidity issues. ESA consultation for the adjacent Record Office Revetement Repair Project did not require consultation with NMFS, so we are assuming there will not be a need for consultation with NMFS for this project.

Consultation requirements with the USFWS may include 1) an assessment of the proposed construction of the streambank stabilization to determine the level of effect on ESA-listed species such as the Northern spotted owl (*Strix occidentalis caurina*) and/or marbled murrelet (*Brachyramphus marmoratus*) or their designated critical habitat, which is found just west of the City in the Middle Fork Snoqualmie River basin), protected by the respective agencies, and 2) preparation of a letter (or report, depending on the level of effect) addressed to USFWS requesting concurrence with the effect determination. The USACE will issue a permit once they receive concurrence from USFWS (amongst other items).

Working through the USACE, 48 NORTH will either meet in person or communicate over the phone with the USFWS to discuss the Proposed Action. Following this, 48 NORTH will prepare the requested documentation (i.e., Letter of No Effect, or abbreviated Biological Evaluation [BE]) summarizing the potential impacts of the Proposed Action on ESA-listed species that may occur within the Project Area. A Letter of No Effect was submitted to the Services for the Record Office Project, and this is anticipated to be documentation of what may be required for this project.

#### *Deliverables:*

48 NORTH will prepare one (1) draft copy of either a Letter of No Effect, or abbreviated BE, in MS Word format for internal review by NHC and/or the City. Upon receipt of one (1) consolidated set of comments, we will then prepare a final document for submission to the USACE.

#### **Task 4: Mitigation Plan**

A draft Mitigation Plan with suggested mitigation alternatives and mitigation ratios was submitted to the previous USACE project manager on January 30, 2020, and consultation regarding finalizing mitigation alternatives and mitigation ratios is anticipated with the new USACE project manager, once assigned. Upon the City agreeing to USACE-approved mitigation alternatives and ratios for impacts, as outlined in the draft Mitigation Plan submitted to the USACE, 48 NORTH will develop a final Mitigation Plan. Future Mitigation Plan cost is only an estimate and may change as impacts and ratios have not yet been determined. Negotiations with the USACE are pending. This final mitigation plan will outline how the

City will compensate for the impacts of the aquatic habitats and increase the net aquatic habitat functions and values at a landscape level. There are wetlands present onsite, but all possible wetland impacts will likely be avoided through the design process and will not be included in the mitigation negotiations with the USACE.

*Deliverables:*

48 NORTH will attend up to four (4) virtual meetings to engage with the USACE in negotiating mitigation alternatives and ratios based on the submitted draft Mitigation Plan. prepare one (1) draft copy of a final Mitigation Plan, in MS Word format for internal review by NHC and/or the City. Upon receipt of one (1) consolidated set of comments, we will then prepare a final document for submission to the USACE.

## PART 2: COST ESTIMATE AND ASSUMPTIONS

48 NORTH's Time & Materials estimate to complete the environmental permitting for the City's proposed Sandy Cove Bank Stabilization Project is \$83,824 (Table 1). This cost estimate is net of any applicable Federal, state, and local sales taxes or fees. 48 NORTH's 2022 labor rates are presented in Table 2. These rates will be valid for the duration of the project. Our cost estimate does not include any payments for other federal, state, or local permitting costs, or other agreements.

### **When costing this estimate, we made the following assumptions:**

- Permitting effort and costs are estimated based on NHC's current draft 60% restoration design concepts and stormwater outfall upgrades identified by City staff.
- Due to the project's location above the Snoqualmie Falls, we do not anticipate consultation with NMFS; however, USFWS may request consultation, or Best Management Practices, and a determination of impacts for Northern spotted owl and/or marbled murrelet. We have costed ESA consultation such as an abbreviated BE that can be later amended to a letter of No Effect upon consultation with USFWS. We have not costed the development of a fully expanded BA.
- The City will be the SEPA lead.
- A SEPA Checklist is sufficient, and the project will not require a SEPA EIS.
- If required by the permitting agencies, a cultural resources report will be completed by a third party and will be provided to 48 NORTH for the permit application submittals.
- A Mitigation Plan for wetland, river, and floodplain impacts is required by the USACE, Ecology and WDFW as well as the City. The negotiation and completion of the draft Mitigation Plan to the USACE has been costed in Task 4. Mitigation Plan cost is only an estimate and may change as impacts and ratios have not yet been determined. Negotiations with the USACE are pending.
- NHC will provide all design figures to support all permit applications.
- To minimize costs and maximize effort, permit tracking will be limited to teleconferences, phone calls, and electronic mail correspondence with regulatory agencies only.

This cost estimate does not include additional agency/stakeholder meetings to address significant changes to the permit submittals and/or agency comments; or substantial project changes that may require modifying the required permits.

**The following additional assumptions were made to reduce anticipated costs and create a range due to current permitting agencies uncertainties. We have included a best-case scenario vs worst case scenario ranges for Tasks 1-4 (see Table 1):**

Task 1: If Corps and other agency permitting occurs without many revisions or surprises, the scope of Task 1 may be reduced. As you are aware, we are on our fourth USACE project manager and the discontinuity is a factor in trying to obtain the Corps permit and coordination with other agencies. Also, if the City Planner develops the SEPA checklist, Substantial Development Permit and a Flood Improvement Permit, the permitting scope for Task 1 may be reduced.

Task 2: The cost range for Ecology permitting may be closer to the upper end since there are a lot of new required application requirements for the Section 401 Certification, including the submittal of a new JARPA to Ecology (see bullet list above).

Task 3: The best-case scenario is if the ESA submittal is a No Effect letter and only minimal USFWS interaction, like Record Office. If NFMS consultation is required due to new regulations, the cost will be on the higher range or even more.

**Table 1:** 48 NORTH’s Time & Materials Cost Estimate Per Task for the Sandy Cove Project Amendment

Task	Cost
Task 1: Permitting, Meetings and Project Management	\$25,050 - \$35,576
Task 2: Ecology Water Quality Certification	\$23,100 - \$32,600
Task 3: ESA Consultation	\$2,100 - \$5,018
Task 4: Mitigation Plan Completion	\$4,200 - \$10,080
ODC and Travel (including 10% markup)	\$550
<b>TOTAL</b>	<b>\$55,000 - \$83,824</b>

**Table 2:** 48 NORTH’s 2022 Professional Rates

Labor Category	Rate/Hour
Principal Scientist	\$163
Senior Scientist	\$150
Environmental Scientist III	\$131
Environmental Scientist II	\$117
Environmental Scientist I	\$101
GIS Analysis	\$131
Technical Editor	\$ 82
Accounts Specialist	\$ 74

**\$30,767 to complete Amendment 2 scope**

Other Direct Costs (out of pocket expenses), Travel, etc. are invoiced at actual plus 10% Rates effective through 12/31/2022

We appreciate the opportunity to submit this proposal and look forward to continuing to support NHC and the City on this project. If you have any questions or would like to discuss this proposal further, please contact Bill Mavros at (206) 637-5442 or via e-mail at [bmavros@48northsolutions.com](mailto:bmavros@48northsolutions.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'BM', followed by a long horizontal flourish.

Bill Mavros, Senior Scientist  
48 North Solutions, Inc.



Sandy Cove Park Bank Protection and Restoration - Phase 2 Rescoping

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February 25, 2024

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**Attachment B**

Sub-consultant Berger's Scope and Fee Estimate

## Fee Estimate Worksheet

Date: 5/16/2022

Project: Sandy Cove Park Lower Bank Stabilization

Rev: 1/22/2024

	Principal AM	Associate	PM JF	LA Staff SS	Admin CG	Total
<b>60% Design</b>						
Project restart (2022 - 2024)	2			4		\$990.00
Virtual team coordination meetings (2)	2			2		\$730.00
City / Agency meetings (2)	2			2		\$730.00
Develop Restoration Planting Plans for lower bank - identify view corridors	2			8		\$1,510.00
Coordinate details for water access	2			8		\$1,510.00
Provide ROM Cost Estimate support to related items	2			6		\$1,250.00
Draft Specification, planting & Site furnishings	4			8	4	\$2,440.00
<b>60% Design Total</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>4</b>	<b>\$9,160.00</b>
<b>90% Design</b>						
Project Management	2		8			\$1,750.00
Virtual team coordination meetings (4)	4		4			\$1,580.00
City / Agency meetings (2)	2		2			\$790.00
Respond to comments (including 1 round permit review)	2			8		\$1,510.00
Finalize Restoration Planting Plans	1			8		\$1,275.00
Finalize details for water access			4	8		\$1,680.00
Provide details for park site furniture	2			8		\$1,510.00
Update ROM Cost Estimate for related items	1		4			\$875.00
Revise landscape specific specifications	2		12		4	\$2,850.00
<b>90% Development Total</b>	<b>16</b>	<b>0</b>	<b>34</b>	<b>32</b>	<b>4</b>	<b>\$13,820.00</b>
<b>100% Design / Bid Administration</b>						
Project Management			6			\$960.00
Virtual team coordination meetings (2)	2		2			\$790.00
Respond to comments	2		4			\$1,110.00
Finalize plans, specification, update Cost Estimate	2			8	4	\$1,970.00
Respond to bidder questions	2		8			\$1,750.00
Provide any required addenda	2		12			\$2,390.00
<b>Bid Administration Total</b>	<b>10</b>	<b>0</b>	<b>32</b>	<b>8</b>	<b>4</b>	<b>\$8,970.00</b>
<b>Project Totals (Berger)</b>	<b>42</b>	<b>0</b>	<b>66</b>	<b>78</b>	<b>12</b>	<b>\$31,950.00</b>
						Reimbursable Expenses (Berger) <b>\$500.00</b>
						<b>Grand Total \$32,450.00</b>



Sandy Cove Park Bank Protection and Restoration - Phase 2 Rescoping

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February 25, 2024

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**Attachment C**

Sub-consultant KPFF's Scope and Fee Estimate

March 7, 2024

Mr. Derek Stuart, PE, Principal  
Northwest Hydraulic Consultants  
12787 Gateway Drive South  
Seattle, WA 98168

Subject: Sandy Cove Park Revetment  
Civil Engineering Fee Proposal (Restart)

Dear Mr. Stuart:

We appreciate the opportunity to continue providing consulting services for the Sandy Cove Park Revetment project.

The project went on hold in January 2023 after submission of 60% design drawings. A fee adjustment is requested for the following changes to the project scope and schedule as discussed and documented in the Schedule and Site Plan provided on Jan 12, 2024.

#### **Resubmit 60% and Extended Schedule**

- Update the 60% drawings and specifications to include the stormwater outfall, water quality vault, and revised revetment design from NHC.
- Resubmit 60% drawings and specifications.
- Attend additional coordination meetings resulting from the 2 month extension of the design schedule.

#### **Schedule Shift to 2024**

- A 10% escalation fee has been added to remaining scope items due to significant salary adjustments that occurred in the last year.

#### **Construction Support Services**

- Participate in construction meetings as required (3 assumed).
- Conduct two site visits, including a final site walk-through and preparation of a punch list.
- Review submittals and respond to requests for information related to the civil design (5- each assumed).



Mr. Derek Stuart  
 March 7, 2024  
 Page 2

The project intends to provide design documents for stream bank stabilization along a portion of the Snoqualmie River near Sandy Cove Park. The City of Snoqualmie (City) will then provide the design documents to potential bidders for pricing, permitting, and construction.

**FEE**

We propose to accomplish the above scope of services on an hourly basis for the following total not-to-exceed (NTE) fee, in accordance with the enclosed fee schedule and Terms and Conditions, which were provided in the original proposal:

<b>Task</b>	<b>Original Fee</b>	<b>Additional Fee</b>	<b>New Total Civil Fee</b>
Meetings	\$ 4,800	\$ 1,000	\$ 5,800
Division 01 Spec Review	\$ 4,000	\$ 500	\$ 4,500
TESC, SWPPP, NOI	\$ 8,000	\$ 1,000	\$ 9,000
Stormwater Outfall	\$ 34,000	\$ 3,000	\$ 37,000
Document Management	\$ 22,600	\$ 4,000	\$ 26,600
Bid Support	\$ 9,500	\$ 1,000	\$ 10,500
Construction Support Services	-	\$ 7,000	\$ 7,000
<b>Total</b>	<b>\$ 82,900</b>	<b>\$ 17,500</b>	<b>\$100,400</b>

Expenses, such as mileage, are included in this fee. We will not exceed the total estimated fee without prior approval.

We look forward to continuing to work with you on this project. If this letter of agreement meets with your approval, please sign below and return one copy for our files. If you have any questions, please contact me at (206) 622-5822.

Sincerely,

Joe Eberhardt, PE  
 Associate

BSM:

Enclosure

2200691

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Northwest Hydraulic Consultants



Sandy Cove Park Bank Protection and Restoration - Phase 2 Rescoping

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February 25, 2024

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**Attachment D**

Sub-consultant AESI's Scope and Fee Estimate



May 9, 2022

Project No. 20220191E001

**CONTRACT AGREEMENT TO ENGAGE THE SERVICES OF  
ASSOCIATED EARTH SCIENCES, INC.  
AS A CONSULTANT AND ADVISOR**

**This agreement has been entered into at**

Associated Earth Sciences, Inc.  
911 5<sup>th</sup> Avenue  
Kirkland, Washington 98033

**on the 9<sup>th</sup> day of May 2022 between**

**Client:** Northwest Hydraulic Consultants  
301 W Holly Street, Suite U3  
Bellingham, Washington 98225

**Attention:** Mr. Derek Stuart

**hereinafter referred to as “Client,” and Associated Earth Sciences, Inc. (AESI), hereinafter referred to as “Geotechnical Consultant,” for mutual consideration as hereinafter set forth:**

**1.0 The description and location of the project on which the Client contracts the Geotechnical Consultant’s services are:**

The subject site is Sandy Cove Park, located at 7970 Falls Avenue East in Snoqualmie, Washington, along the bank of the Snoqualmie River. It our understanding that current plans include the construction of new protection measures to reduce bank erosion along the park shoreline. We understand that the Client has requested that AESI provide design-phase geotechnical consultation in support of the proposed project.

**2.0 Geotechnical Consultant agrees to provide the following services:**

Geotechnical consultation in support of the proposed design. Our services may include participation in project meetings, coordination with the design team, review of previous exploration logs and bank protection plan drawings and specifications, numerical slope stability analysis of proposed bank stabilization measures, or the issuance of supporting documentation for the proposed design, including to address jurisdictional comments.

**3.0 Client confirms that the Geotechnical Consultant has explained the full range of services it offers and the manner in which they could be applied to this project. Client also confirms that they have understood the value and benefit of these services and have of their own accord**

decided upon those identified in paragraph 2.0 above. Client agrees to hold the Geotechnical Consultant harmless for claims of any kind that may arise from any source due to the Geotechnical Consultant’s failure to provide services that Client has specifically not included in the list of services identified in paragraph 2.0 above. Client further agrees to indemnify the Geotechnical Consultant for the cost of defending any such claims and any awards or settlements resulting therefrom.


**4.0 The Client accepts that all services are provided in accordance with the attached Schedule of Charges and General Conditions, which are made a part of this contract by reference. Client further agrees to compensate the Geotechnical Consultant for their services, and to reimburse the Geotechnical Consultant for expenses incurred on Client’s behalf as follows:**

All work will be completed on a time and expense basis (Associate or Senior Principal rate) in accordance with the attached Schedule of Charges and General Conditions. An estimated budget placeholder for the above scope of services is \$10,000. Additional geotechnical consulting, field exploration and testing, or other authorized services that are beyond the proposed scope of work will be performed on a time and materials basis in accordance with our current Schedule of Charges and General Conditions.

Future work may include geotechnical observation services during construction. We can prepare a proposal for these services upon request.

**5.0 The person signing this contract for a business entity attests that they are empowered to act on behalf of the business and agree to the Schedule of Charges and General Conditions attached to this letter. Your signature below will provide acceptance of this proposal, authorizing us to proceed. Please send a signed copy to our Kirkland office address (AESI, 911 5<sup>th</sup> Avenue, Kirkland, Washington 98033).**

The undersigned has reviewed and accepts the attached General Conditions.

  
\_\_\_\_\_  
**ASSOCIATED EARTH SCIENCES, INC.**  
**Kirkland, Washington**  
Bruce L. Blyton, P.E.  
Senior Principal Engineer

\_\_\_\_\_  
Client Date  
Authorized Representative Signature

\_\_\_\_\_  
Client (please print name)

Attachments: Schedule of Charges/General Conditions

**ASSOCIATED EARTH SCIENCES, INC.**  
**SCHEDULE OF CHARGES**

Our compensation will be determined on the basis of time and expenses in accordance with the following schedule unless a lump sum amount is so indicated in the proposal or services agreement. Current rates are as follows:

**Personnel Charges - Engineers, Hydrogeologists, Geologists, and Scientists**

Sr. Principal.....	\$255.00/hour
Principal.....	\$225.00/hour
Sr. Associate .....	\$200.00/hour
Associate .....	\$185.00/hour
Senior .....	\$170.00/hour
Sr. Project .....	\$160.00/hour
Project .....	\$145.00/hour
Sr. Staff .....	\$125.00/hour
Staff .....	\$105.00/hour
Legal Testimony (4 hour minimum) .....	\$400.00/hour

**Personnel Charges - Technicians**

Sr. Field Technician.....	\$115.00/hour
Sr. Field Technician Overtime .....	\$140.00/hour
Technician .....	\$95.00/hour
Technician Overtime.....	\$115.00/hour

**Other Personnel and Disbursement Charges**

Sr. Geographic Information Services (GIS) Analyst.....	\$145.00/hour
Geographic Information Services (GIS) Analyst .....	\$110.00/hour
Drafting and Graphics Specialist.....	\$110.00/hour
Project Assistant.....	\$110.00/hour
Technical Editor .....	\$90.00/hour
Administrative Staff.....	\$75.00/hour
Report Processing and Archiving.....	\$10.00/each
Mileage.....	Federal Reimbursable Rate + 15%
Per Diem.....	To be established on a project basis
Subcontractors and Miscellaneous Expenses.....	cost plus 15%
Water Level Data Logger .....	\$60.00/month
Barometer Data Logger .....	\$40.00/month
Aerial Drone Equipment (certified drone operator charged separately).....	\$200.00/day
Bank/ACH Services or Fee .....	\$25.00/unit [check]

**Laboratory Charges**

Atterberg Limit .....	\$200.00/test
Consolidation .....	\$600.00/test
Constant Head Permeability (ASTM D2434-68) .....	\$450.00/test
Direct Shear .....	\$400.00/3 point test
Ethylene Glycol Test (3 rock minimum).....	\$200.00
Fractured Face Count (AASHTO T-335) .....	\$125.00/test
Hydrometer .....	\$210.00/test
Moisture Content .....	\$25.00/test
Organic Content .....	\$80.00/test
Percent Passing #200 .....	\$105.00/test
Permeability (Falling Head) .....	\$250.00/test
Proctor ASTM D-1557 and ASTM D-698.....	\$255.00/test
Sand Equivalent.....	\$125.00/test
Sieve with Wash #200 .....	\$200.00/test
Specific Gravity + #4 .....	\$125.00/test
Specific Gravity - #4 .....	\$150.00/test
Unit Weight .....	\$80.00/test
Void Ratio.....	\$125.00/test

Other laboratory tests, disbursement charges and equipment rental will be provided on a per job basis.

February 25, 2024

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## **Attachment E**

Sub-consultant Stell's Scope and Fee Estimate



February 7, 2024

Northwest Hydraulic Consultants  
 12787 Gateway Drive South  
 Seattle, WA 98168  
 ATTN: Mr. Derek Stuart P.E., Principal  
[DStuart@nhcweb.com](mailto:DStuart@nhcweb.com)

RE: Scope and Budget ---Phase II Sandy Cove Park Upper Bank Project, Snoqualmie –  
 Cultural Resources Survey

Dear Mr. Stuart:

As a proposed amendment modification to subcontract No. 2003862-2, Stell archaeologists will perform the following tasks to satisfy requirements for the above referenced project as set forth in local King County ordinances and Washington's State Environmental Policy Act (SEPA).

### Scope of Work

**Task 1 – Cultural Resources Survey:** Led by key personnel (resumes attached) for this project, Stell will conduct a systematic field survey to identify previously recorded and/or unrecorded archaeological resources where ground-disturbing activities are expected to take place. Field reconnaissance will include a series of pedestrian transects at varying intervals, depending on terrain and vegetation cover experienced across the project area. Shovel test probes will be excavated to a maximum depth of 100 centimeters across the entire project area approximately 20 meters (65 feet) apart. All sediment excavated from the shovel probes will be hand screened using ¼- inch hardware mesh. A hand auger will be used to determine subsurface deposits deeper than 1 meter and will be used to a maximum depth of 3 meters. New archaeological sites will be mapped, photographed, and recorded on Washington State Archaeological Site Inventory forms. This assessment assumes that no more than one new archaeological site will be identified and recorded during the fieldwork. Previously documented sites within the project area will be relocated, reevaluated for condition, and updated on a Washington State Archaeological Site Inventory Addendum Sheet. The Washington State Historic Inventory Database will be utilized to record the identified historic resources.

**Task 2 – Cultural Resource Monitoring:** Stell will conduct archaeological monitoring during construction activities. Due to the high archaeological probability of the project area, Stell expects that all ground disturbing construction will require archaeological monitoring. Per NHC, it is anticipated that monitoring will take place over the course of approximately eight (8) weeks.

Stell archaeologists will conduct monitoring following federal and state standards and guidelines. Archaeological monitoring will include at least one monitor on site observing ground disturbances. The archaeologist will document the stratigraphic matrix as sediment is being removed, making note of any exposed cultural materials. If any cultural materials are identified, then the archaeologist will collect information to determine the significance of the findings. Daily

6100 219<sup>th</sup> Street SW (STE 480) | Mountlake Terrace, Washington 98043 | 206.717.7010 | [www.stellee.com](http://www.stellee.com)

Certified VOSB | WOSB | MWBE

notes and photographs will be taken and compiled for documentation and submitted to NHC each day. A compilation of daily monitoring reports will be presented as an Appendix to the Cultural Resource Monitoring Report.

All new or previously recorded archaeological sites and isolated finds encountered during construction will be documented using the DAHP's Washington Information System for Architectural and Archaeological Records Data (WISAARD) system. Each site will be evaluated for listing in the NRHP, and recommendations will be provided in the monitoring report. All archaeological resources identified will be immediately reported to NHC.

**Task 3 – Regulatory Compliance and Reporting:** After the completion of the fieldwork, Stell will prepare a technical cultural resources report that meets state and federal standards for reporting as outlined in the guidelines provided by the DAHP. Reporting will be done in compliance with all NEPA, NHPA, and Section 106 review requirements. The technical report will describe survey methodology, summarize, and interpret findings, and provide management recommendations. The report will contain brief geological, prehistoric, and historical contexts for the area, as well as discussion of the fieldwork strategy employed, results, and field conditions. Stell will submit the report to NHC and the DAHP.

Stell will support NHC and the City of Snoqualmie in coordination with DAHP, affected Native American Tribes, and stakeholders. The APE letter will initiate communications related to the planned cultural resources survey and schedule. Stell will attend up to two meetings with project proponents and stakeholders to supply information related to cultural resources services and needs. Stell will coordinate directly with DAHP, with adherence from the City of Snoqualmie to assist with project requirements.

The Time and Materials cost for this scope of work is **\$54,522.06**.

Stell's proposed cost for this project is provided as Attachment 1. The pricing estimate is based on the following assumptions:

- NHC will provide all rights of entries.
- Weather conditions permitting, the cultural resources survey is scheduled to be completed within 7 (seven) weeks from the start date.
- No more than 30 shovel test probes will be excavated to a depth of no more than 100 centimeters (39 inches) below the ground surface.
- No historic buildings/structures over 50 years of age have been identified in the project area and therefore no buildings/structures will be inventoried as part of this assessment.
- Not more than one archaeological site will be recorded during fieldwork.
- Should archaeological testing for NRHP evaluation eligibility and/or data recovery efforts be determined necessary, a new scope and budget will need to be submitted.
- Human remains will not be encountered. If human remains are encountered, the King County Sheriff and Coroner will be immediately contacted. If the remains are determined to be not part of a criminal investigation and anthropological in nature, Washington Department of Archaeology and Historic Preservation forensic anthropologist Guy Tasa will be contacted immediately, as will be the affected Native American tribes.



- The draft technical report will be delivered for review to HNC within 4 weeks after the completion of fieldwork.
- The draft/final technical report will not exceed 30 pages of text (not including appendices) and five figures.
- The report will undergo one cycle of review and comment; NHC will collate all comments into a single list for response by Stell.
- One hard copy of the final report will be delivered to NHC within 1 week after receiving comments on the draft report.
- Stell staff will not require or need to provide project-specific training.
- Stell will provide cultural resources services under a Time and Materials contract.
- The scope and price quote are valid for 60 days from the date of this proposal letter.

Based on the above assumptions, this project is anticipated to take 60 days, plus NHC review time of the draft technical report.

Stell looks forward to the opportunity to support NHC and the City of Snoqualmie. Please contact me at 713.417.5421 or [rkrause@stellee.com](mailto:rkrause@stellee.com) with any questions.

Regards,

*Robert Krause*

Rob Krause, Ph.D.  
Cultural Resources Director

Attachments:

- 1.) Price Estimate
- 2.) Resumes of Key Personnel

**1). Price Estimate**

LABOR CATEGORIES	BASE YEAR	Unit	Task 1: Cultural Resource Survey		Task 2: Cultural Resource Monitoring		Task 3: Regulatory Compliance and Reporting		Summary	
			Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost
Jason Jones/Principal Investigator	\$96.10	HR	24	\$2,306.40	8	\$768.80	24	\$2,306.40	56	\$5,381.60
Nichole Pavodano/Mid. Archaeologist	\$86.80	HR	64	\$5,555.20	280	\$24,304.00	40	\$3,472.00	384	\$33,331.20
Cristina Rodriguez-Franco/Sr. Archaeologist	\$94.22	HR	56	\$5,276.32	24	\$2,261.28	40	\$3,768.80	120	\$11,306.40
GIS Specialist	\$77.50	HR	8	\$620.00	4	\$310.00	16	\$1,240.00	28	\$2,170.00
Editor	\$59.12	HR	8	\$472.96	4	\$236.48	16	\$945.92	28	\$1,655.36
			<b>160</b>	<b>\$14,230.88</b>	<b>320</b>	<b>\$27,880.56</b>	<b>136</b>	<b>\$11,733.12</b>	<b>616</b>	<b>\$53,844.56</b>
TRAVEL & ODC COSTS	Rate	Unit	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
GPS	\$35.00	Day		\$-		\$-	10	\$350.00	10	\$350.00
Mileage	<b>\$0.655</b>	mile		\$-		\$-	500	\$327.50		\$327.50
<b>ODC/Travel Subtotal</b>				\$-		\$-		\$677.50		\$677.50
<b>Total Price</b>				<b>\$14,230.88</b>		<b>\$27,880.56</b>		<b>\$12,410.62</b>		<b>\$54,522.06</b>

Task 2 to be completed under a future scope of work.

\$26,642 to complete Amendment 2 scope

**2). Resumes attached**



## Jason M. Jones

Environmental Compliance Manager / Archaeologist

### EDUCATION

MA, History/Anthropology,  
Eastern Washington  
University, Cheney, WA, 2005

BA, Anthropology, Eastern  
Washington University,  
Cheney, WA, 2003

### REGISTRATIONS/ CERTIFICATIONS

Certified Erosion & Sediment  
Control Lead (CESCL) 2016-  
2020

HAZWOPER 40 hour, 2020

OSHA Oil Spill Clean-up,  
2020

### TRAINING

First Air/CPR/AED  
Certification

Cornell Lab of Ornithology  
Bird Academy Hawk & Raptor  
Identification Training 2020

EPA- The Clean Water Act  
Training 2019

Introduction to Native Plant  
Identification, 2016

DNR-Unstable Slopes  
Training, 2011

### INDUSTRY TENURE

17 Years

### AREAS OF EXPERTISE

Environmental compliance  
inspections (cultural and natural  
resources)

Erosion Control  
BMPs/Plans/Stormwater Prevention

Environmental Oversight – In-  
stream work (culvert installations,  
de-watering and water diversion,  
controls of pollutants, fills, and pH  
modifying sources

Stream Turbidity (Nephelometric  
Turbidity Unit (NTU) monitoring

Biologic resource protection

Noxious weed and fugitive dust  
control

Spill response clean-up

Phase I, II, III archaeological  
surveys and investigations

Human burial recovery

Historic properties inventories

Lithic analysis

Stratigraphic profiling

GIS/GPS data collection

Prehistoric/historic artifact  
analysis/identification

Determinations of adverse effects  
and resource eligibility

Tribal/Agency consultation

Technical Reporting

Public outreach/training

### PROFESSIONAL EXPERIENCE

Mr. Jones has over 17 years of professional cultural resource management experience and over four years of natural resource protection experience. He meets the Secretary of the Interiors Standards for a professional archaeologist and has conducted fieldwork in Washington, California, Oregon, Idaho, Montana, Nevada, North Dakota, Missouri, Illinois, and Newfoundland. He has a current database user agreement with the California, Oregon and Washington State Historic Preservation Offices (SHPO) and he has worked as a crewmember as well as a supervisor on the completion of Phase I, II and III cultural resource field investigations as obligated under Archaeological Resources Protection Act (ARPA), National Historic Preservation Act (NHPA, Section 106 and Section 110), State Environmental Policy Act (SEPA), National Environmental Policy Act (NEPA), Native American Graves Protection and Repatriation Act (NAGPRA) and Washington Executive Order (EO) 05-05 compliance projects. He has participated extensively in consultation with state and federal agencies as well as Pacific Northwest tribal groups. Since 2016 he has been providing environmental compliance and natural resources inspection support on small-scale and large-scale construction projects, including obligations under Section 404 of the Clean Water Act. Jason is currently a Certified Erosion & Sediment Control Lead (CESCL).

### PROJECT EXPERIENCE

**Cultural Resource Services for the Olympic Region 22 Fish Passages Project | Clallam, Jefferson, Mason, and Grays Harbor Counties, WA | Principal Investigator | 2019–Ongoing.** Archaeologist. Stell is on a team of consultants supporting WSDOT for environmental documentation related to the removal of 23 fish barriers and the design and implementation of new fish passages throughout the Olympic Peninsula in Washington State. Stell is conducting background literature and records review of each fish passage location, archaeological survey, and reporting the results per Section 106 of the National Historic Preservation Act of 1966. Stell reviewed preliminary design plans and PHD documents for each culvert location, coordinated with project leads to Identify and map



**Jason M. Jones**

*Environmental Compliance Manager / Archaeologist*

estimated project footprint (temporary and permanent) to be used in the analysis, and established and mapped an estimated APE for each culvert based on project footprint. Pertinent literature on the archaeology, ethnography, and history was reviewed to determine the probability for archaeological resources, traditional cultural properties and historic resources in the study area. Previous cultural resources and geotechnical studies, historic building and structure inventories, ethnographies, local histories, historic maps, in-house records and records held by the Department of Archaeology and Historic Preservation (DAHP) were consulted. Archaeological survey, including pedestrian and subsurface testing will be completed across each fish passage APE. Previously recorded and newly located archaeological resources and historic properties observed will be documented and updated using the Washington Information System for Architectural and Archaeological Records Data (WISAARD) and in coordination with the DAHP. Stell is assisting WSDOT with tribal coordination for each of the fish passage locations to address any cultural resource concerns, including the Jamestown S’Klallam Tribe, Lower Elwha Klallam Tribe, Port Gamble S’Klallam Tribe, Makah Tribe, Puyallup Tribe, Quileute Nation, Quinault Nation, Squaxin Island Tribe, and the Suquamish Tribe.

**Snohomish County PUD, Swamp Creek Switching Station Pole Installation, Snohomish County, Washington 2020.** Mr. Jones served as the Project CESCL during clearing, grading and the installation of power poles related to upgrades to the switching station. All work was being performed to meet environmental guidelines/restrictions set forth by the Washington State Department of Ecology and mandates defined under the Construction Stormwater General Permit.

**Bonneville Power Administration’s HEC Marker Ball Year 1 Project, Idaho, Montana, Oregon, and Washington 2020.** Mr. Jones completed pre-construction reconnaissance over four states to help clear proposed helicopter landing zones for PAR Electric and WINCO. These landing zones were planned for use during emergency marker ball installation and replacement on existing BPA transmission lines. The pre-construction work entailed navigating to select locations using aerial photography, USGS maps and compass. Once on-site, Jason completed a pedestrian survey of the proposed location to make certain that no protected natural resources or cultural resources were overlooked during the desktop review and that no vulnerable resources would be affected by the proposed work. Following the field work, Mr. Jones completed a technical summary document with applicable photographs and environmental protection recommendations for the contractor to consult during their work.

**Raver Substation Expansion Erosion Control Project, King County, Washington 2020.** Mr. Jones acted as a team-member during this erosion control project which necessitated both hand and mechanized broadcast of seed and appropriate fertilizer, hand-raking, mechanized tilling (ATV and bucket spreader) and photographs and documentation of all work completed. Work was completed under contract to BPA to assist them with the control of noxious weeds and limit erosion around the perimeter of their Raver Substation.

**Pacific Power’s Tieton Substation Expansion Project, Yakima County, Washington 2019-2020.**

Mr. Jones was the Environmental Inspector for Rawhide Excavating, Inc. and helped them meet their Stormwater Pollution Prevention Plan (SWPPP) obligations as required for construction by the Department of Ecology State of Washington.

**Bonneville Power Administration’s Lane to Wendson No. 1 Transmission Line Rebuild Project, Lane County, Oregon 2019-2020.** Mr. Jones represented Rogue Line LLC (Rogue) as their Project Environmental Inspector and also acted as the Land Liaison and CESCL. He helped Rogue meet their Project environmental compliance obligations as outlined by BPA in accordance with the Endangered Species Act (ESA), Oregon Department of State Lands (DSL), Oregon Department of Environmental Quality (DEQ) and U.S. Army Corps of Engineers (ACOE) Section 404 permit conditions and Nationwide Permit (NWP) General Conditions. He constructed temporary fencing and signage around sensitive water resources (i.e., protected streams and wetlands) and in areas of the protected marbled murrelet and streaked horned lark, provided oversight of in-stream work to ensure environmental/permit compliance, sought contact with each affected landowner, assisted with seeding and mulching of disturbed areas to support site restoration, and participated in on-site meetings and telephone and email correspondence with representatives of the Project. Work took place over 41 linear miles from Eugene to Florence, Oregon and necessitated daily reporting and weekly SWPPP reporting.



# Cristina Rodriguez-Franco, M.A., RPA

Scientist Archaeology

## EDUCATION

Master's Degree, Archaeology of Death of Memory, University of Chester, UK, 2017

Bachelor's Degree, Anthropology, University of Puerto Rico, 2015

## REGISTRATIONS/CERTIFICATIONS

Register of Professional Archaeologists, #18149, since 2020

PSMJ Project Management

First Aid/AED Training

## PROFESSIONAL AFFILIATIONS

Society for Historical Archaeology

Association of Oregon Archaeologist (AOA)

Association for Washington Archaeologist (AWA)

## PERMITS/LICENSURE

Washington WISAARD Access

Oregon OARRA Access

Permitted Oregon Archaeologist

## STELL TENURE

< 1 Year

## INDUSTRY TENURE

10 Years

## AREAS OF EXPERTISE

Caribbean Archaeology

Mortuary Studies

Colonial Archaeology

## PROFESSIONAL EXPERIENCE

Cristina Rodriguez-Franco obtained her BA from the University of Puerto Rico where she participated in pre-Hispanic and colonial Caribbean Archaeological research throughout her undergraduate career.

Ms. Rodriguez-Franco was head research assistant in a successful three-year community archaeology investigation in the river basin of Manati, Puerto Rico, funded by the National Science Foundation. She then pursued her master's degree at the University of Chester in the UK where she expanded her breadth of knowledge to include both classic and contemporary European mortuary and osteological archaeology studies.

She is a Registered Professional Archaeologist (RPA) with ten years of experience in archaeology. Ms. Rodriguez-Franco's duties have included directing pedestrian survey and testing projects, writing archaeological reports, permits, and proposals, and has experience communicating with multiple Oregon Tribal agencies. She has participated in and supervised cultural resources investigations on the Oregon Coast, Great Basin, Columbia Plateau, the North and Central Coasts of California, Shasta Cascades, and the California Desert. Ms. Rodriguez-Franco has also worked in overseas archaeological projects in Cyprus, Wales, and England.

## PROJECT EXPERIENCE

**State Parks: Latourell Falls, Multnomah County, OR.** Field Director. The project involved monitoring ground disturbance for trail improvements within Guy W. Talbot State Park. Ms. Rodriguez-Franco was responsible for previous archaeological research within government databases such as SHPO and Oregon Archaeological Records Remote Access (OARRA), in-field analysis of findings, and archaeological site report writing.

**Rabe Consulting: Willamette NF Upper Canyon Heritage Survey, Linn County, OR.** Field Director. The project involves the pedestrian survey in approximately 1,033 acres of 97 timber stands for the USDA Forest Service in Canyon Creek and Upper Canyon Creek watershed. Ms. Rodriguez-Franco was responsible for staff coordination with the Sweet Home Ranger District, previous archaeological research within government databases such as SHPO and Oregon Archaeological Records Remote Access (OARRA), pedestrian survey coordination, field analysis of findings, and archaeological site report writing.



**Cristina Rodriguez-Franco, M.A., RPA**  
*Scientist Archaeology*

**Corps of Engineers: Rio Grande de Manati Cultural Resource Survey, Ciales, Puerto Rico.** Crew Chief. NHPA, Section 106 review in response to a federal project with the United States Army Corps of Engineers, Jacksonville District, for the Matai River canalization. The project was in response to Hurricane Maria 2017 flooding in the town of Ciales, which required a review of possible historic properties and archaeological sites. Ms. Rodriguez was responsible for the archaeological and architectural pedestrian survey coordination and execution, community outreach, documentation of built environments, and records research in Puerto Rico's government and educational institutions (SHPO), Insituto Cultura Puertorriquena (ICP). At the end of fieldwork, Ms. Rodriguez was also responsible for document translation from Spanish to English, report writing from collected field results, and determining NRHP eligibility for archaeological sites.

**BLM, Oregon, Coos Ranger District: Oregon BLM Broadband Cultural Surveys, Coos Bay, OR.** Field Director. The project involved a pedestrian survey on 90 miles of road within Coos County for future broadband installation. Ms. Rodriguez was responsible for staff and field coordination, required review of possible historic properties and archaeological site identification, material analysis, recording, and report writing.

**Oregon Department of Forestry: Malheur National Forest Lithic Scatter Recording, Malheur National Forest, OR.** Field Director. The project included a surface survey of 8,600 acres for site updates on six large lithic scatter/site complexes in the Malheur National Forest. Ms. Rodriguez was the field director responsible for crew mobilization and training, surface survey, site recording, subsurface testing, identification and analysis of pre-contact and historic-era contexts, main report writing, coordination with Tribal entities and Forest Service staff.

**King Range National Conservation Area: King Range Class III Survey, Humboldt County, CA.** Crew Chief. For future forest management plans, the project included surveying 3,400 acres within the King Range National Conservation Area. Ms. Rodriguez was responsible for crew coordination, survey execution, on-site analysis of precontact and historical material, NRHP evaluation of sites, and report writing.

**Dryer Partnership: Survey and Site Record for Morrill Creek Bridge Removal and Replacement, Langlois, OR.** Crew Chief. The project includes removing and replacing an existing bridge on Floras Creek Road in Curry County. Ms. Rodriguez was crew chief responsible for crew coordination, subsurface testing and documentation of precontact contexts, infield analysis of material, curation preparation and report writing.

**T Mobile: Longview Campus Tower, Longview, WA.** Field Director. The project involved an archaeological survey and testing for the relocation of cell towers and collocations of telecommunication equipment. Ms. Rodriguez was responsible for field investigation, testing, documentation of built environment and archaeological resources, report writing, and NRHP evaluation.

**US Bureau of Land Management: Burns Cultural Clearance Class III Survey, Harney County, OR.** Crew Chief. The BLM Burns District required a Class III cultural resources inventory and evaluation of approximately 4,412 acres spread across ten units near Burns, Oregon. The Project required the pedestrian survey to identify and evaluate cultural resources.

**Oregon State Parks and Recreation Department: Monitoring Silver Falls State Park, Marion County, OR.** Field Director. The project included the monitoring and testing for the new construction of the North Falls boardwalk and trail in Silver Falls State Park. Ms. Rodriguez was responsible for the survey, testing, and report writing.

**City of North Bend: Ferry Road Park Heritage Management Plan, North Bend, OR.** Field Director. The project included a surface survey and subsurface testing of approximately 15 acres within Ferry Road Park in the City of North Bend, OR. The City of North Bend planned future park improvements within a known archaeological site. Ms. Rodriguez was responsible for crew coordination, pedestrian survey, determining the location of subsurface testing based on records research results and CTCLUSI tribal member input, supervising and performing subsurface testing. After the work was completed, Ms. Rodriguez was solely responsible for organizing and preparing archaeological



**Cristina Rodriguez-Franco, M.A., RPA**  
*Scientist Archaeology*

material for curation, including database creation and statistical analysis of findings. Results created a Heritage Management Report for the City of North Bend.

**Neil Friedman: Sweet Way Monitoring in Port Orford, Curry County, OR.** Crew Chief/Field Director. Testing and monitoring for private residence at Sweet Home. The project involved the archaeological survey and testing within the prehistoric site and Tribal coordination.

**Plumas National Forest: Berry Brush Creek Survey, Plumas National Forest, CA.** Crew Chief. The project included a surface survey of 2,600 acres for site updates on multiple archaeological sites within the Plumas National Forest. Ms. Rodriguez was the Crew Chief responsible for surface survey and site recordings of pre-contact and historic-era contexts, NRHP site evaluations, and report writing.

**US Cellular: 348332 Sun Dome Cell Tower Project, Yakima, WA.** Field Technician. The project included a historic archaeological survey of historic properties within the State Fair Grounds in Yakima, Washington.

**Aspen Environmental Group, LLC: Oak Knoll Class III Survey in Klamath National Forest, OR and CA.** Field Technician. The project included the surface survey of 6,500-6,800 acres to develop a solar energy generating facility for Arica Solar, LLC. Ms. Rodriguez was responsible for surface survey and site record of prehistoric and historic contexts.

**David L. Davis Real Estate: Brandon Ridge Subdivision Survey and Testing, Coos County, OR.** Field Technician. The project included a surface and subsurface survey of 4.97 acres on the eastern bank of the Coquille River in Brandon, Oregon for proposed private development. Ms. Rodriguez was responsible for surface survey and site record of prehistoric and historic contexts.

**Aspen Environmental Group, LLC: Oberon Class III Survey and Site Record, Desert Center, CA.** Field Technician. The project included the surface survey of 6,500-6,800 acres to develop a solar energy generating facility for Arica Solar, LLC. Ms. Rodriguez was responsible for surface survey and site record of prehistoric and historic contexts.

**JUB Engineering, Inc.: Class III Survey for Caldwell Industrial Airport, Caldwell, ID.** Field Technician. The project included the development of an updated Airport Master Plan and Airport Layout Plan of 528 acres. Ms. Rodriguez was responsible for surface survey and site recording.

**Douglas High School: Monitoring in Douglas High School, Winston, OR.** Field Technician. The project required archaeological monitoring of ground disturbance caused by construction and field identification and analysis of precontact and historic materials.

**Tri-Leaf Environmental and Environmental Consultants of America: FCC Section 106 Documentation for Various Cell Towers, OR and WA.** Field Technician. Projects included new installations of cell towers and collocations of telecommunication equipment. Ms. Rodriguez was responsible for field investigation and documentation of the built environment and archaeological resources supporting the proposed telecommunications facilities.

**Cory Vom Baur: Archaeological Predetermination for Everett St. Quadplex, Camas, WA.** Field Technician. The project included the construction of a Quadplex apartments. Ms. Rodriguez was responsible for subsurface testing and identifying archaeological materials in impacted areas.

**Turner Construction Company: Monitoring in Mission College Blvd Project, Santa Clara, CA.** Crew Chief. The project included the archaeological construction monitoring, identification, and documentation of any archaeological materials in impacted areas.





**Cristina Rodriguez-Franco, M.A., RPA**  
*Scientist Archaeology*

**BLM Battle Mountain District: Survey and Site Record in Douglas Canton and Carrant Summit Class III, NV.** Field Technician. The project included surface survey and site record for 1,000 acres for fuel reduction in BLM land. Ms. Rodriguez was responsible for surface survey and documentation.

**BLM Battle Mountain District: Surface Surveys for Applied Archaeological Research, Inc., Woodland, WA.** Field Technician. The project included a surface survey and site record for 1,000 acres for fuel reduction in BLM land. Ms. Rodriguez was responsible for the surface survey and historic and precontact site documentation.

**Applied Archaeological Research, Inc.: Surface Surveys for Applied Archeological Research, Inc., OR and WA.** Field Technician. The project included subsurface testing for apartment complex construction. Ms. Rodriguez was responsible for subsurface testing and documentation of archaeological materials in the proposed area.

**European Credit System for Vocational Education and Training (ECVET): Katalymata Ton Plakoton, Akrotiri, CY.** Field Technician/Unit Leader. Internship sponsored by Grampus Heritage and Placements in Environmental Archaeological and Traditional Skills (PEATS) to further expand knowledge in classical archaeology. The Erasmus internship also provided community archaeology outreach with soldiers from the Royal Air Force (RAF). This project helped RAF personnel transition to and from military life. Ms. Rodriguez was responsible for data recovery, preservation of mosaics, and teaching archaeological basics to RAF participants.

**Alan Brown, MA: Caer Alyn Archaeological Project, Wales, UK.** Field Technician. This project aimed to explore Caer Alyn Hillfort's history with public involvement. Ms. Rodriguez was responsible for cleaning and categorizing archaeological material, unit excavation, and site drawing.

**Natasha Fernandez, MA: El Morro Kitchen Archaeological Project, San Juan, PR.** Field Technician. The project was part of the master's students' thesis to help understand and determine the diet of the fort's occupants during Spanish rule. Sponsored by the University of Puerto Rico. Ms. Rodriguez oversaw excavation, documentation through photography and scale drawings, and soil sample collections.

**Conservation Trust of Puerto Rico, People for Nature: Tracing Our Roots, Manati, PR.** Principal Research Assistant. Three-year investigation to determine the history of occupation along the Manati river basin. Ms. Rodriguez was involved in extensive field surveys on surrounding lands, ethnography, and community archaeology outreach. Ms. Rodriguez was responsible for organizing meetings with collaboration investigators, teaching volunteer workshops, input and analysis of information, creating the database for this investigation, and report writing.

**Nydia Ponton, PhD: Hacienda La Esperanza, Manati, PR.** Field Assistant. This project spanned three years for a PhD student candidate from Temple University. Its goal was to understand landscapes of power and determine the location of the slave quarters. Ms. Rodriguez was responsible for unit excavation, documentation, data input, cataloging of material culture, and the identification of historic ceramics of the 18<sup>th</sup> and 19<sup>th</sup> centuries.

**University of Puerto Rico, Isabel Rivera-Collazo, PhD: Tierras Nuevas, Manati, PR.** Principal Field Assistant. An archaeological field school provided by the University of Puerto Rico. Ms. Rodriguez was responsible for teaching university students archaeological ethics and basic techniques and creating and supervising surface surveys, excavation, and data input.



**Nichole Padovano**  
*Archaeological Field Technician*

**EDUCATION**

Bachelor’s Degree, Anthropology & Psychology, Boston University, 2020  
Global Ocean’s Program, Sea Education Association (SEA) Semester, 2019

**REGISTRATIONS/  
CERTIFICATIONS**

HAZWOPER 40 Hour Certification  
First Aid/CPR/AED  
Asbestos Awareness Training Version 2 Washington 2B

**PROFESSIONAL  
AFFILIATIONS**

Association for Washington Archaeology  
Society for American Archaeology  
U.S Forest Service  
Washington Department of Transportation  
U.S. Department of the Navy  
Puyallup Tribe of Indians

**TRAINING**

ArcGIS

**STELL TENURE**

2 Years

**INDUSTRY TENURE**

2 Years

**AREAS OF EXPERTISE**

Phase I and II archaeological survey and investigation	Precontact/historic-period materials analysis
Database background research (WISAARD, OARRA)	Technical writing (Reports, MIDP/IDP, APE Letter, Site Forms, Site Condition Forms)
Crew lead (Field Maps, Trimble)	

**PROFESSIONAL EXPERIENCE**

Ms. Padovano has over two years of professional experience in archaeological research and cultural resource management, conducting numerous surveys throughout the Pacific Northwest. Their responsibilities include, but are not limited to, site recording, site relocation, technical writing and background research, construction monitoring, client coordination, and cultural resource data collection. Ms. Padovano has experience successfully leading crews in the field and following a project from kick-off through final report submission. They have worked for and with the Washington Department of Transportation, U.S. National Parks Service, U.S. National Forest Service, Washington Department of Fish and Wildlife, the Puyallup Tribe of Indians, and the Duwamish Tribe.

**PROJECT EXPERIENCE**

**SP Cramer & Associates, Inc.: Chewelah A-Z Project, Colville National Forest, WA.** Phase I survey. Conducted site recording and historic-period material analysis. **US Forest Service: Heritage Surveys, Okanogan-Wenatchee NF and CRGNSA, Okanogan-Wenatchee National Forest, WA.** Phases I and II survey. Conducted site recording, lithic analysis, and historic-period material analysis. Created shovel probe logs, photo logs, artifact logs, and organized field notes, and previously recorded sites. Authored reports and background research. **US Forest Service: 2021 Rouge River-Siskiyou National Park Snowy Butte Archaeological Surveys, Snowy-Butte National Forest, OR.** Phases I and II survey. Conducted site recording, site relocation, site mapping on Field Maps, lithic analysis, historic-period material analysis, and detailed record keeping. Created shovel probe logs, photo logs, artifact logs, and organized field notes, and previously recorded sites. **US Forest Service: Umpqua National Forest Archie Creek 2, North Umpqua National Forest, OR.** Phases I and II survey utilizing Field Maps and Trimble. Crew lead site recovery and site relocation; conducted lithic analysis and historic-period material analysis. Lead shovel probe layout, documented field notes. Lead author on report, report letter, and background research



**Nichole Padovano**  
*Archaeological Field Technician*

**Anchor QEA: Lower Duwamish Waterway Shellfish Sampling, Seattle, WA.** Conducted background research. Co-author on the cultural resources report, APE letter, and IDP/MIDP. **US Forest Service: Archie Creek Wildfire North Umpqua Trail Archaeological Survey, Umpqua National Forest, OR.** Phases I and II survey, utilizing Field Maps and Trimble. Crew lead site recovery and site relocation; conducted lithic analysis and historic-period material analysis. Lead shovel probe layout, documented field notes. Lead author on report and background research. **Shannon & Wilson Inc.: 8801 E. Marginal Way–Remedial Excavations Project, Tukwila, WA.** Sonic drill rig soil extraction and trench excavation construction monitoring for cultural resources. Lead author on cultural monitoring report, conducted background research, and in direct communication with client throughout monitoring work and report writing. **Shannon & Wilson Inc.: 8801 E. Marginal Way–South Remedial Excavation, Tukwila, WA.** Sonic drill rig soil extraction and trench excavation construction monitoring. Lead author on cultural monitoring report, conducted background research, and in direct communication with client throughout monitoring work and report writing. **Confluence: Stanwood IS4 92<sup>nd</sup> Ave Drainage Improvements Project, Stanwood, WA.** Wrote the MIDP and updated Appendix A., communicating directly with client. Conducted background research for previously known cultural resources. **PBS Engineering & Environmental: Mojonier Road Reconstruction, College Place, WA.** Drill rig soil extraction construction monitoring for cultural resources. Conducted background research for previously known cultural resources, submitted a monitoring log, organized the photo logs, and co-author for the cultural resources report. **PBS Engineering & Environmental: SR 224 Red Mountain Improvement Project, West Richland, WA.** Phases I and II survey and drill rig soil extraction construction monitoring. Conducted background research for previously known cultural resources and properly documented previously recorded HPI's within the APE while in the field. Submitted weekly monitoring logs, organized the photo logs, and co-author for the cultural resources report. **Weston Solutions, Inc.: Shoreline Repair Project Archaeological Monitoring, Puget Sound Naval Shipyard, Bremerton, WA.** Monitored the excavation of the Naval Base Kitsap Bremerton along the shoreline of Sinclair Inlet for cultural resources. Submitted weekly updates, supporting author on monitoring report and IDP/MIDP. **USDA Forest Service: Willamette CRI, Willamette National Forest, OR.** Phases I and II survey utilizing Field Maps and Trimble. Crew lead site recovery and site relocation; conducted lithic analysis and historic-period material analysis. Lead shovel probe layout and documented field notes. Lead author on report and background research. **South Puget Sound Salmon Enhancement Group: Griffinwood Stables – Griggs Creek Fish Passage Project, Thurston County, WA.** Phase I survey. Logged field notes and conducted background research. Communicated directly with client and supporting author on cultural resources report.

**Jacobs Engineering Group: Elliot West Wet Weather Treatment Station Alternatives Evaluation, Seattle, WA.** Monitored soil disturbing activity (mud rotary drill rig core barrel extractions, sonic drill rig core barrel extractions) for cultural resources. Logged daily field notes and conducted background research. Lead author on report and MIDP/IDP. **DH Environmental, Inc: Archeological Monitoring-Star Forge Demolition Project, Seattle, WA.** Monitored soil disturbing activity for cultural resources, logged daily field notes, and conducted background research. Lead author on monitoring report and MIDP/IDP. **Washington State Department of Transportation: SR 167 Completion General Engineering Consulting (GEC) Services Project, Tacoma, WA.** Monitored soil disturbing activities (excavation, core barrel extractions, spoils) for cultural resources across a 14-year, \$2.69 billion transportation project. Water screened an identified shell midden alongside members of the Puyallup Tribe of Indians. Logged daily field notes, submitted weekly logs. **U.S. Forest Service: BLM Cascade-Siskiyou National Monument Desktop Review.** Desktop literature review. **Washington Department of Fish and Wildlife: L.T. Murray Complex Vantage Hwy Fire 2022.** Phase 1 Survey. Monitored soil disturbances as over 6,000 trees were being planted. Created monitor logs.

## Sandy Cove Park Bank Protection and Restoration - Phase 2 Rescoping (Amendment 1.3)

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Prepared by Northwest Hydraulic Consultants Inc.

### Scope of Work

Prepared for City of Snoqualmie

March 5, 2024

## PROJECT DESCRIPTION

The City of Snoqualmie has requested that Northwest Hydraulic Consultants, Inc. (NHC) provide an updated scope of work for Phase 2 of the Sandy Cove Park Bank Restoration Project (NHC, 2014). A continuation of the Phase 2 scope of work is needed to continue the federal, state, and local permitting process for the full bank protection and restoration project at Sandy Cove Park. In December 2022, the city notified NHC that construction of the full bank protection concept would not be funded in 2023 and directed NHC to develop a design for temporary bank protection measures (Phase 1) to be constructed in 2023. Significant out of scope efforts from the previous task order include design, permitting and construction oversight for the Phase 1 temporary bank protection measures, which were successfully completed in Fall 2023.

A proposed scope of work for design and permitting of the full bank protection design has been submitted under separate cover as Amendment 1.2. This proposed scope of work covers Construction Management/Construction Support work plan tasks requested by the City. Task numbers have been retained from the previous scope of work.

### Task 13. Project Management/Administration and Quality Control

NHC will keep the City's project manager informed on project activities through the use of email and phone. Meeting dates will be set well in advance to ensure adequate time to secure commitments from key participants. Monthly invoices will be submitted that are accompanied by a brief progress report. Each progress report will detail the following:

1. Work completed from the Scope in this billing period.
2. Work anticipated for next billing period.
3. Project issues that need to be addressed.
4. Tracking of any work performed outside the original scope.

### Task 14. Construction Support

NHC and subcontractors will provide construction support and construction management services during the anticipated construction season (Summer 2024). NHC will provide up to 200 hours of on-site construction inspection and supervision to ensure that the design is implemented properly by the contractor.

February 25, 2024

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NHC’s permitting sub-consultant, 48 North Solutions, will coordinate with permitting agencies during construction, including the Army Corps of Engineers (Corps) and Washington State Department of Ecology (Ecology), Washington Department of Fish and Wildlife (WDFW) and Washington Department of Natural Resources (DNR). To meet the requirements of the Ecology 401 Water Quality Permit, 48N will coordinate on site turbidity monitoring and submit the final turbidity monitoring report after in-water work is complete.

Stell, NHC’s cultural resources sub-consultant will conduct archaeological monitoring during construction activities. Due to the high archaeological probability of the project area, Stell expects that all ground disturbing construction will require archaeological monitoring. It is anticipated that monitoring will take place over the course of approximately eight (8) weeks.

KPFF, NHC’s civil sub-consultant, will provide construction management and construction observation services, including:

- Bid Document Review & Bidding Support: KPFF CM will review the bid documents, assist the City with bid reviews and checking contractor references, and respond to bidder questions and issue addenda.
- Construction Management and Team Coordination: KPFF will provide limited construction project management and administration services, including quality assurance, construction observation, project coordination, and document control.
- Contract Administration: KPFF will be the point of contact for NHC, the Contractor, and the Design Team, and will facilitate communications, process submittals, handle change orders and RFIs, and track contract progress and status.
- Site Construction Observation: KPFF will monitor and document the Contractor’s work and activities for compliance with the contract documents and applicable codes, and will evaluate and facilitate corrective action on any issues or problems.
- Project Completion and Closeout: KPFF will facilitate the project completion process by coordinating a punchlist inspection, issuing notice of substantial completion, performing a final inspection, and compiling project closeout documents.

**Assumptions:**

- Phase 2 construction duration will be approximately 20 weeks with approximately 12 hours per week of Construction Observation performed by the CM or an “Inspector”
- Construction of in-water elements is expected to take approximately 8 weeks.

**Deliverables:**

- As outlined in subconsultant scope of work (Attachments A & B).

**TIME AND PERFORMANCE**

1. At a schedule coordinated with City staff following issuance of this Task Order that achieves construction in 2024.



Sandy Cove Park Bank Protection and Restoration - Phase 2 Rescoping

February 25, 2024

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**COST ESTIMATE**

nhc -- Northwest Hydraulic Consultants Inc.								PAGE 1 OF 2
12787 Gateway Drive S. Seattle, WA 98168 Tel. (206) 241-6000 Fax (206) 439-2420			Prepared for: City of Snoqualmie Project: Sandy Cove Park Bank Protection and Restoration (Phase 2) Date: February 16, 2024 Project No.: 2003862 Prepared By: Derek Stuart/ Catherine Billor					
TASK DESCRIPTION	Principal	Principal T3	Staff Scientist	Engineer 1	Engineer 2	Technician/ GIS Analyst	Contract Admin	Totals
	Derek Stuart or Vaughn Collins	Chris Long	Andrew Nelson	Catherine Billor	Laurel Smith or Alex Whitmershaus	Madalyn Ohrt	Diane Nurrich	
3	Hydraulic Modeling Plan and Model Development							\$0
5	Refinement of Preferred Alternative, 60% Design Drawings, and Permitting Support							\$0
6	Final Design and Embankment Design Documentation							\$0
7	FEMA No Rise							\$0
10	King Street Stormwater Outfall 100% Design							\$0
13	Project Management/ Administration and Quality Control							\$3,610
14	Construction Support							\$37,500
<b>Total Hours and Direct Labor Cost (DL)</b>								
	24.0	0.0	0.0	110.0	80.0	0.0	2.0	
<b>Standard Rate (2024)</b>								
	\$310.00	\$290.00	\$290.00	\$185.00	\$160.00	\$165.00	\$260.00	
<b>TOTAL LABOR COST (BASE SCOPE OF WORK ONLY)</b>								\$41,110
<b>Direct Expense Detail</b>								
					Units	Rate		Cost
Mileage (estimated 20 round trips)					1.200	\$0.580		\$696
Reproduction & Communication								
Survey Equipment (Boat/ RTK GPS/ Eco Sounder)						200.00		\$0
							Total Direct	\$696
<b>Subconsultants</b>								
					Sub Fee	Markup		Cost
<b>Base Scope of Work</b>								
Geotechnical support for Task 1 from AESI					\$10,000			\$10,000
KPFF (CM scope)					\$138,070			\$138,070
Berger					\$0			\$0
48N					\$5,000			\$5,000
Stell					\$27,880			\$27,880
							Base Scope of Work	\$180,950
<b>Cost Summary</b>								
Total NHC Labor								\$41,110
Total Direct Expenses								\$696
Subconsultants								\$180,950
<b>TOTAL COST (CM SCOPE)</b>								<b>\$222,756</b>

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## REFERENCES

NHC 1993, Draft interim report, Snoqualmie River flood control project. Prepared for City of Snoqualmie, Snoqualmie, Washington.

NHC 2008, Technical Analysis for FEMA Letter of Map Revision for the Snoqualmie River near the City of Snoqualmie, Washington. May 23, 2008. LOMR became effective February 26, 2010. NHC Project Number 21478.

NHC 2014, Sandy Cove Bank Restoration Project, Final Report, Prepared by Northwest Hydraulic Consultants for the City of Snoqualmie in coordination with Perteet Inc. and Terracon Inc. Review Draft April 2013, Final Draft January 2014. NHC Project Number 200080.

NHC 2017, Infrastructure Improvement Program, Hydrologic and Hydraulic Analysis, Final Report, Prepared by Northwest Hydraulic Consultants for Perteet Inc. on behalf of the City of Snoqualmie. February 2017. NHC Project Number 2001642.





Sandy Cove Park Bank Protection and Restoration - Phase 2 Rescoping

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February 25, 2024

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**Attachment A**

Sub-consultant KPFF Scope and Fee Estimate for Sandy Cove Park Construction Management

February 12, 2024  
Catherine Billor, PE  
Northwest Hydraulic Consultants  
12787 Gateway Drive South  
Seattle, WA 98168

**Re: Sandy Cove Phase II Project  
Construction Administration and Construction Support  
Services Scope and Fee  
KPFF Project No. 10042200691**

Catherine,

KPFF Special Projects is providing this Scope and Fee proposal Construction Project Management services as part of the Sandy Cove Phase II Project. This proposal addresses the project needs for limited design review, bid support, construction administration and construction management services as currently anticipated by KPFF.

~~**Phase 1 – Bid Document Review & Bidding Support**~~

Included in Amendment 1.2 Scope



~~KPFF CM will review and become familiar with the Bid Documents. This will include Division 0 and 1 Specifications, Design Plans and the Engineer’s Estimate of Probable Construction cost. KPFF CM will be available to assist the City with bid reviews and checking contractor references (if requested).~~

**Phase 2 – Construction Management and Team Coordination**

KPFF will provide limited Construction Project Management and Administration services following the award of the construction contract. Generally, this will include providing quality assurance, construction observation, project coordination and document control through construction.

Task 2.1 – Pre-Construction Meeting – KPFF will facilitate a Pre-Construction Meeting including Design Team representatives, NHC, the Construction Contractor, and others as required. KPFF will prepare and distribute the meeting minutes to all attendees and stakeholders.

Task 2.2 – Contract Administration – KPFF will provide Construction Management and Contract Administration and be the point of contact for Northwest Hydraulic Consultants (NHC), the Contractor and the Design Team. KPFF will facilitate communications as required and maintain an accurate record of correspondence. Correspondence will be provided to NHC, the Contractor and Design Team through a web based electronic document management system.

Task 2.3 – Communications and Weekly Progress Meetings – KPFF will prepare an agenda and facilitate weekly construction meetings with NHC, the Contractor and others as required (assuming remote meetings through MS Teams or Zoom). Meetings will allow the Contractor to present schedule updates, discussion of milestone dates, discussion of problems/issues encountered or upcoming, and provide an opportunity for NHC and the Design Team to discuss any concerns. Meeting minutes will be prepared and distributed to NHC, the Contractor, the Design Team and others as required.

Task 2.4 – Submittal Review/Recommendations – KPFF will receive, distribute for review, track, and return to the Contractor all technical submittals required for review by the Engineer of Record in accordance with the Construction Contract. KPFF will utilize a web based electronic document management system for processing submittals, that will also be provided to the Construction Contractor.

Task 2.5 – Changed Conditions/Change Order/RFI – KPFF will review Contractor Requests for Information and design change requests, make initial determination if the Contractor needs to provide further information prior to Design Team review, and/or distribute to the appropriate party for a response. KPFF will also prepare and process construction field authorizations and resultant change orders. KPFF will develop, update, and manage a log of RFIs and their status.

KPFF will track all changes to the approved Contract Documents, coordinate with NHC, negotiate and issue change orders for final approval by the City, along with documentation for the change including summary sheet, independent cost estimate, Contractor’s cost estimate and proposal, and writing a finding of fact.

Task 2.6 – Site Construction Observation – KPFF will provide limited Site Construction Observation. This task will be a collaborative effort that will include the following items:

Monitor and document the Contractor’s work and activities for progress as well as compliance with approved Contract Documents. Complete site reports for project records and coordinate with NHC and the Contractor.

Monitor the Contractor’s quality control processes throughout construction of the project. Observe the technical conduct of construction, including providing day-to-day contact with NHC and the Contractor.

Observe material, workmanship, and construction areas for compliance with the Contract Documents and applicable codes and notify the Contractor of noncompliance. Advise the Engineer of Record and NHC of all non-conforming work observed.

Evaluate and facilitate corrective action on issues which may arise related to the quality and acceptability of material furnished, work performed and rate of progress of work performed by the Contractor.

It is assumed that the Phase 2 construction duration will be approximately 20 weeks with approximately 12 hours per week of Construction Observation performed by the CM or an “Inspector”.

Task 2.7 – On-Site Materials Inspection/Testing – KPFF will coordinate all special inspection and testing utilizing subconsultants under contract to the Prime Consultant and/or the City. KPFF will review the work by the Field Representative(s) and testing laboratories, document and evaluate the results of testing and inform NHC, the Contractor and the Design Team of the results.

KPFF will document and log the locations, dates and results of all special inspections and testing performed by its subconsultants.

Task 2.8 – Contractor Payment Applications – KPFF will prepare and approve progress payment applications, including measurement and verification of quantities and evaluation of percent complete with lump sum items. Assume 5 pay applications at 2hrs per review.

Task 2.9 – Substantial Completion/Final Inspection/Physical Completion – KPFF will facilitate the project completion process by coordinating a punchlist inspection of the work and issuing notice of Substantial Completion. Develop, with assistance from NHC and the Design Team, a written list of remaining deficiencies and provide this list to the Contractor for corrective action.

Upon notification from the Contractor of completion of the punch list items, KPFF will assist NHC in performing a Final Inspection.

Catherine Billor  
February 12, 2024  
Page 3

Task 2.10 – Project Closeout Documentation/Completion Date – KPFF will complete and compile project closeout documents including the final payment voucher, QC reports, inspection reports, permit closeout and Contractor review forms; compile all documentation from the Contractor required by the Contract Documents. Once documentation has been accepted KPFF will provide a written final acceptance/Contract Completion letter to NHC.

#### **SCHEDULE**

This fee estimate is based upon a preliminary construction schedule of 20 weeks (plus 2 weeks of pre-construction support).

#### **ASSUMPTIONS**

The following items are assumed to accomplish the work identified herein:

- Advertising and solicitation of the bids will be by others.
- Special Testing and inspection will be provided by the City (or another party).

#### **FEE**

KPFF proposes to perform the above Scope of Work for an estimated to be **\$142,150** billed on a time and materials basis per Attachment A. An allowance for reimbursable expenses has been included in the Fee Estimate and will be billed at cost, without mark-up.

If after your review of this proposal you have any questions, please contact me at your earliest convenience.

Rob Price, Principal

<b>kpff</b> 1601 5th Avenue, Suite 1300 Seattle, Washington 98101 p (206) 382-0600 f (206) 382-0500	Project: Sandy Cove Park Bank Protection	Date: 2/21	<b>Item 3.</b>
	Location: Snoqualmie, WA	Sheet #:	
	Client: City of Snoqualmie	Job #:	
	By:	Version: 1	

**ATTACHMENT A - Fee Estimate**

	Principal	Project Manager	Senior Engineer	Prof. Engineer	Construction Manager	Resident Engineer	Construction Inspector	Design Engineer	Sr. CAD Technician	CAD Technician	Project Coordinator	Admin.	Total
<b>2024 Rates</b>	\$ 280	\$ 270	\$ 230	\$ 200	\$ 220	\$ 200	\$ 170	\$ 175	\$ 170	\$ 150	\$ 145	\$ 110	
<del>1 - Bid Document Review &amp; Bidding Support</del>	<del>2</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>16</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>\$ 4,080</del>
<del>1.1 Bid Package Preparation, Plans, Specs &amp; Bid Tab</del>	<del></del>	<del></del>	<del></del>	<del></del>	<del>4</del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del>\$ 880</del>
<del>1.2 Assist with response to Bidder Questions &amp; Issue Addenda</del>	<del></del>	<del></del>	<del></del>	<del></del>	<del>4</del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>
<del>1.3 Technical and Programmatic Review of Bids</del>	<del>2</del>	<del></del>	<del></del>	<del></del>	<del>8</del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>
<b>2 - Construction Management and Construction Administration</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>509</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>146</b>	<b>0</b>	<b>\$ 135,390</b>
2.1 Pre-Construction Meeting					2						2		\$ 730
2.2 Contract Administration					80						80		\$ 29,200
2.3 Communications and Progress Meetings					44						44		\$ 16,060
2.4 Submittal Review/Recommendations					80								\$ 17,600
2.5 Changed Conditions/Change Order/RFI					20								\$ 4,400
2.6 Site Construction Observation	8				240								\$ 55,040
2.7 On-Site Materials Inspection/Testing					16						8		\$ 4,680
2.8 Contractor Payment Applications					10								\$ 2,200
2.9 Substantial Competition/Final Inspection/Physical Completion					8								\$ 1,760
2.10 Project Closeout Documentation/Completion Date					9						12		\$ 3,720
<i>Total Hours</i>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>525</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>146</b>	<b>0</b>	
<b>KPFF Labor Subtotal</b>													<b>\$ 135,390</b>
<b>Reimbursable Expenses</b>	Travel - assume 50 miles per trip X 4 trips per week @ \$0.67 per mile												\$ 2,680
<b>Expenses Subtotal</b>													<b>\$ 2,680</b>
<b>TOTAL</b>													<b>\$ 138,070</b>

Include Amend 1.2 Sco



Sandy Cove Park Bank Protection and Restoration - Phase 2 Rescoping

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February 25, 2024

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**Attachment B**

Sub-consultant Stell Scope and Fee Estimate for Sandy Cove Park Construction Management



February 7, 2024

Northwest Hydraulic Consultants  
 12787 Gateway Drive South  
 Seattle, WA 98168  
 ATTN: Mr. Derek Stuart P.E., Principal  
[DStuart@nhcweb.com](mailto:DStuart@nhcweb.com)

RE: Scope and Budget ---Phase II Sandy Cove Park Upper Bank Project, Snoqualmie –  
 Cultural Resources Survey

Dear Mr. Stuart:

As a proposed amendment modification to subcontract No. 2003862-2, Stell archaeologists will perform the following tasks to satisfy requirements for the above referenced project as set forth in local King County ordinances and Washington's State Environmental Policy Act (SEPA).

### Scope of Work

**Task 1 – Cultural Resources Survey:** Led by key personnel (resumes attached) for this project, Stell will conduct a systematic field survey to identify previously recorded and/or unrecorded archaeological resources where ground-disturbing activities are expected to take place. Field reconnaissance will include a series of pedestrian transects at varying intervals, depending on terrain and vegetation cover experienced across the project area. Shovel test probes will be excavated to a maximum depth of 100 centimeters across the entire project area approximately 20 meters (65 feet) apart. All sediment excavated from the shovel probes will be hand screened using ¼- inch hardware mesh. A hand auger will be used to determine subsurface deposits deeper than 1 meter and will be used to a maximum depth of 3 meters. New archaeological sites will be mapped, photographed, and recorded on Washington State Archaeological Site Inventory forms. This assessment assumes that no more than one new archaeological site will be identified and recorded during the fieldwork. Previously documented sites within the project area will be relocated, reevaluated for condition, and updated on a Washington State Archaeological Site Inventory Addendum Sheet. The Washington State Historic Inventory Database will be utilized to record the identified historic resources.

**Task 2 – Cultural Resource Monitoring:** Stell will conduct archaeological monitoring during construction activities. Due to the high archaeological probability of the project area, Stell expects that all ground disturbing construction will require archaeological monitoring. Per NHC, it is anticipated that monitoring will take place over the course of approximately eight (8) weeks.

Stell archaeologists will conduct monitoring following federal and state standards and guidelines. Archaeological monitoring will include at least one monitor on site observing ground disturbances. The archaeologist will document the stratigraphic matrix as sediment is being removed, making note of any exposed cultural materials. If any cultural materials are identified, then the archaeologist will collect information to determine the significance of the findings. Daily

6100 219<sup>th</sup> Street SW (STE 480) | Mountlake Terrace, Washington 98043 | 206.717.7010 | [www.stellee.com](http://www.stellee.com)

Certified VOSB | WOSB | MWBE

notes and photographs will be taken and compiled for documentation and submitted to NHC each day. A compilation of daily monitoring reports will be presented as an Appendix to the Cultural Resource Monitoring Report.

All new or previously recorded archaeological sites and isolated finds encountered during construction will be documented using the DAHP's Washington Information System for Architectural and Archaeological Records Data (WISAARD) system. Each site will be evaluated for listing in the NRHP, and recommendations will be provided in the monitoring report. All archaeological resources identified will be immediately reported to NHC.

**Task 3 – Regulatory Compliance and Reporting:** After the completion of the fieldwork, Stell will prepare a technical cultural resources report that meets state and federal standards for reporting as outlined in the guidelines provided by the DAHP. Reporting will be done in compliance with all NEPA, NHPA, and Section 106 review requirements. The technical report will describe survey methodology, summarize, and interpret findings, and provide management recommendations. The report will contain brief geological, prehistoric, and historical contexts for the area, as well as discussion of the fieldwork strategy employed, results, and field conditions. Stell will submit the report to NHC and the DAHP.

Stell will support NHC and the City of Snoqualmie in coordination with DAHP, affected Native American Tribes, and stakeholders. The APE letter will initiate communications related to the planned cultural resources survey and schedule. Stell will attend up to two meetings with project proponents and stakeholders to supply information related to cultural resources services and needs. Stell will coordinate directly with DAHP, with adherence from the City of Snoqualmie to assist with project requirements.

The Time and Materials cost for this scope of work is **\$54,522.06**.

Stell's proposed cost for this project is provided as Attachment 1. The pricing estimate is based on the following assumptions:

- NHC will provide all rights of entries.
- Weather conditions permitting, the cultural resources survey is scheduled to be completed within 7 (seven) weeks from the start date.
- No more than 30 shovel test probes will be excavated to a depth of no more than 100 centimeters (39 inches) below the ground surface.
- No historic buildings/structures over 50 years of age have been identified in the project area and therefore no buildings/structures will be inventoried as part of this assessment.
- Not more than one archaeological site will be recorded during fieldwork.
- Should archaeological testing for NRHP evaluation eligibility and/or data recovery efforts be determined necessary, a new scope and budget will need to be submitted.
- Human remains will not be encountered. If human remains are encountered, the King County Sheriff and Coroner will be immediately contacted. If the remains are determined to be not part of a criminal investigation and anthropological in nature, Washington Department of Archaeology and Historic Preservation forensic anthropologist Guy Tasa will be contacted immediately, as will be the affected Native American tribes.



- The draft technical report will be delivered for review to HNC within 4 weeks after the completion of fieldwork.
- The draft/final technical report will not exceed 30 pages of text (not including appendices) and five figures.
- The report will undergo one cycle of review and comment; NHC will collate all comments into a single list for response by Stell.
- One hard copy of the final report will be delivered to NHC within 1 week after receiving comments on the draft report.
- Stell staff will not require or need to provide project-specific training.
- Stell will provide cultural resources services under a Time and Materials contract.
- The scope and price quote are valid for 60 days from the date of this proposal letter.

Based on the above assumptions, this project is anticipated to take 60 days, plus NHC review time of the draft technical report.

Stell looks forward to the opportunity to support NHC and the City of Snoqualmie. Please contact me at 713.417.5421 or [rkrause@stellee.com](mailto:rkrause@stellee.com) with any questions.

Regards,

*Robert Krause*

Rob Krause, Ph.D.  
Cultural Resources Director

Attachments:

- 1.) Price Estimate
- 2.) Resumes of Key Personnel

**1). Price Estimate**

LABOR CATEGORIES	BASE YEAR	Unit	Task 1: Cultural Resource Survey		Task 2: Cultural Resource Monitoring		Task 3: Regulatory Compliance and Reporting		Summary	
			Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost
Jason Jones/Principal Investigator	\$96.10	HR	24	\$2,306.40	8	\$768.80	24	\$2,306.40	56	\$5,381.60
Nichole Pavodano/Mid. Archaeologist	\$86.80	HR	64	\$5,555.20	280	\$24,304.00	40	\$3,472.00	384	\$33,331.20
Cristina Rodriguez-Franco/Sr. Archaeologist	\$94.22	HR	56	\$5,276.32	24	\$2,261.28	40	\$3,768.80	120	\$11,306.40
GIS Specialist	\$77.50	HR	8	\$620.00	4	\$310.00	16	\$1,240.00	28	\$2,170.00
Editor	\$59.12	HR	8	\$472.96	4	\$236.48	16	\$945.92	28	\$1,655.36
			<b>160</b>	<b>\$14,230.88</b>	<b>320</b>	<b>\$27,880.56</b>	<b>136</b>	<b>\$11,733.12</b>	<b>616</b>	<b>\$53,844.56</b>
TRAVEL & ODC COSTS	Rate	Unit	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
GPS	\$35.00	Day		\$-		\$-	10	\$350.00	10	\$350.00
Mileage	<b>\$0.655</b>	mile		\$-		\$-	500	\$327.50		\$327.50
<b>ODC/Travel Subtotal</b>				\$-		\$-		\$677.50		\$677.50
<b>Total Price</b>				<b>\$14,230.88</b>		<b>\$27,880.56</b>		<b>\$12,410.62</b>		<b>\$54,522.06</b>

Tasks 1 & 3 - to be completed under Amendment 1.2

\$27,880.56 to complete Amendment 1.3 Scope

**2). Resumes attached**



# Jason M. Jones

Environmental Compliance Manager / Archaeologist

## EDUCATION

MA, History/Anthropology, Eastern Washington University, Cheney, WA, 2005  
BA, Anthropology, Eastern Washington University, Cheney, WA, 2003

## REGISTRATIONS/ CERTIFICATIONS

Certified Erosion & Sediment Control Lead (CESCL) 2016-2020  
HAZWOPER 40 hour, 2020  
OSHA Oil Spill Clean-up, 2020

## TRAINING

First Air/CPR/AED Certification  
Cornell Lab of Ornithology Bird Academy Hawk & Raptor Identification Training 2020  
EPA- The Clean Water Act Training 2019  
Introduction to Native Plant Identification, 2016  
DNR-Unstable Slopes Training, 2011

## INDUSTRY TENURE

17 Years

## AREAS OF EXPERTISE

Environmental compliance inspections (cultural and natural resources)	Phase I, II, III archaeological surveys and investigations
Erosion Control BMPs/Plans/Stormwater Prevention	Human burial recovery
Environmental Oversight – In-stream work (culvert installations, de-watering and water diversion, controls of pollutants, fills, and pH modifying sources)	Historic properties inventories
Stream Turbidity (Nephelometric Turbidity Unit (NTU) monitoring)	Lithic analysis
Biologic resource protection	Stratigraphic profiling
Noxious weed and fugitive dust control	GIS/GPS data collection
Spill response clean-up	Prehistoric/historic artifact analysis/identification
	Determinations of adverse effects and resource eligibility
	Tribal/Agency consultation
	Technical Reporting
	Public outreach/training

## PROFESSIONAL EXPERIENCE

Mr. Jones has over 17 years of professional cultural resource management experience and over four years of natural resource protection experience. He meets the Secretary of the Interiors Standards for a professional archaeologist and has conducted fieldwork in Washington, California, Oregon, Idaho, Montana, Nevada, North Dakota, Missouri, Illinois, and Newfoundland. He has a current database user agreement with the California, Oregon and Washington State Historic Preservation Offices (SHPO) and he has worked as a crewmember as well as a supervisor on the completion of Phase I, II and III cultural resource field investigations as obligated under Archaeological Resources Protection Act (ARPA), National Historic Preservation Act (NHPA, Section 106 and Section 110), State Environmental Policy Act (SEPA), National Environmental Policy Act (NEPA), Native American Graves Protection and Repatriation Act (NAGPRA) and Washington Executive Order (EO) 05-05 compliance projects. He has participated extensively in consultation with state and federal agencies as well as Pacific Northwest tribal groups. Since 2016 he has been providing environmental compliance and natural resources inspection support on small-scale and large-scale construction projects, including obligations under Section 404 of the Clean Water Act. Jason is currently a Certified Erosion & Sediment Control Lead (CESCL).

## PROJECT EXPERIENCE

**Cultural Resource Services for the Olympic Region 22 Fish Passages Project | Clallam, Jefferson, Mason, and Grays Harbor Counties, WA | Principal Investigator | 2019–Ongoing.** Archaeologist. Stell is on a team of consultants supporting WSDOT for environmental documentation related to the removal of 23 fish barriers and the design and implementation of new fish passages throughout the Olympic Peninsula in Washington State. Stell is conducting background literature and records review of each fish passage location, archaeological survey, and reporting the results per Section 106 of the National Historic Preservation Act of 1966. Stell reviewed preliminary design plans and PHD documents for each culvert location, coordinated with project leads to Identify and map



**Jason M. Jones**

*Environmental Compliance Manager / Archaeologist*

estimated project footprint (temporary and permanent) to be used in the analysis, and established and mapped an estimated APE for each culvert based on project footprint. Pertinent literature on the archaeology, ethnography, and history was reviewed to determine the probability for archaeological resources, traditional cultural properties and historic resources in the study area. Previous cultural resources and geotechnical studies, historic building and structure inventories, ethnographies, local histories, historic maps, in-house records and records held by the Department of Archaeology and Historic Preservation (DAHP) were consulted. Archaeological survey, including pedestrian and subsurface testing will be completed across each fish passage APE. Previously recorded and newly located archaeological resources and historic properties observed will be documented and updated using the Washington Information System for Architectural and Archaeological Records Data (WISAARD) and in coordination with the DAHP. Stell is assisting WSDOT with tribal coordination for each of the fish passage locations to address any cultural resource concerns, including the Jamestown S’Klallam Tribe, Lower Elwha Klallam Tribe, Port Gamble S’Klallam Tribe, Makah Tribe, Puyallup Tribe, Quileute Nation, Quinalt Nation, Squaxin Island Tribe, and the Suquamish Tribe.

**Snohomish County PUD, Swamp Creek Switching Station Pole Installation, Snohomish County, Washington 2020.** Mr. Jones served as the Project CESCL during clearing, grading and the installation of power poles related to upgrades to the switching station. All work was being performed to meet environmental guidelines/restrictions set forth by the Washington State Department of Ecology and mandates defined under the Construction Stormwater General Permit.

**Bonneville Power Administration’s HEC Marker Ball Year 1 Project, Idaho, Montana, Oregon, and Washington 2020.** Mr. Jones completed pre-construction reconnaissance over four states to help clear proposed helicopter landing zones for PAR Electric and WINCO. These landing zones were planned for use during emergency marker ball installation and replacement on existing BPA transmission lines. The pre-construction work entailed navigating to select locations using aerial photography, USGS maps and compass. Once on-site, Jason completed a pedestrian survey of the proposed location to make certain that no protected natural resources or cultural resources were overlooked during the desktop review and that no vulnerable resources would be affected by the proposed work. Following the field work, Mr. Jones completed a technical summary document with applicable photographs and environmental protection recommendations for the contractor to consult during their work.

**Raver Substation Expansion Erosion Control Project, King County, Washington 2020.** Mr. Jones acted as a team-member during this erosion control project which necessitated both hand and mechanized broadcast of seed and appropriate fertilizer, hand-raking, mechanized tilling (ATV and bucket spreader) and photographs and documentation of all work completed. Work was completed under contract to BPA to assist them with the control of noxious weeds and limit erosion around the perimeter of their Raver Substation.

**Pacific Power’s Tieton Substation Expansion Project, Yakima County, Washington 2019-2020.**

Mr. Jones was the Environmental Inspector for Rawhide Excavating, Inc. and helped them meet their Stormwater Pollution Prevention Plan (SWPPP) obligations as required for construction by the Department of Ecology State of Washington.

**Bonneville Power Administration’s Lane to Wendson No. 1 Transmission Line Rebuild Project, Lane County, Oregon 2019-2020.** Mr. Jones represented Rogue Line LLC (Rogue) as their Project Environmental Inspector and also acted as the Land Liaison and CESCL. He helped Rogue meet their Project environmental compliance obligations as outlined by BPA in accordance with the Endangered Species Act (ESA), Oregon Department of State Lands (DSL), Oregon Department of Environmental Quality (DEQ) and U.S. Army Corps of Engineers (ACOE) Section 404 permit conditions and Nationwide Permit (NWP) General Conditions. He constructed temporary fencing and signage around sensitive water resources (i.e., protected streams and wetlands) and in areas of the protected marbled murrelet and streaked horned lark, provided oversight of in-stream work to ensure environmental/permit compliance, sought contact with each affected landowner, assisted with seeding and mulching of disturbed areas to support site restoration, and participated in on-site meetings and telephone and email correspondence with representatives of the Project. Work took place over 41 linear miles from Eugene to Florence, Oregon and necessitated daily reporting and weekly SWPPP reporting.



# Cristina Rodriguez-Franco, M.A., RPA

Scientist Archaeology

## EDUCATION

Master's Degree, Archaeology of Death of Memory, University of Chester, UK, 2017

Bachelor's Degree, Anthropology, University of Puerto Rico, 2015

## REGISTRATIONS/ CERTIFICATIONS

Register of Professional Archaeologists, #18149, since 2020

PSMJ Project Management

First Aid/AED Training

## PROFESSIONAL AFFILIATIONS

Society for Historical Archaeology

Association of Oregon Archaeologist (AOA)

Association for Washington Archaeologist (AWA)

## PERMITS/LICENSURE

Washington WISAARD Access

Oregon OARRA Access

Permitted Oregon Archaeologist

## STELL TENURE

< 1 Year

## INDUSTRY TENURE

10 Years

## AREAS OF EXPERTISE

Caribbean Archaeology

Mortuary Studies

Colonial Archaeology

## PROFESSIONAL EXPERIENCE

Cristina Rodriguez-Franco obtained her BA from the University of Puerto Rico where she participated in pre-Hispanic and colonial Caribbean Archaeological research throughout her undergraduate career.

Ms. Rodriguez-Franco was head research assistant in a successful three-year community archaeology investigation in the river basin of Manati, Puerto Rico, funded by the National Science Foundation. She then pursued her master's degree at the University of Chester in the UK where she expanded her breadth of knowledge to include both classic and contemporary European mortuary and osteological archaeology studies.

She is a Registered Professional Archaeologist (RPA) with ten years of experience in archaeology. Ms. Rodriguez-Franco's duties have included directing pedestrian survey and testing projects, writing archaeological reports, permits, and proposals, and has experience communicating with multiple Oregon Tribal agencies. She has participated in and supervised cultural resources investigations on the Oregon Coast, Great Basin, Columbia Plateau, the North and Central Coasts of California, Shasta Cascades, and the California Desert. Ms. Rodriguez-Franco has also worked in overseas archaeological projects in Cyprus, Wales, and England.

## PROJECT EXPERIENCE

**State Parks: Latourell Falls, Multnomah County, OR.** Field Director. The project involved monitoring ground disturbance for trail improvements within Guy W. Talbot State Park. Ms. Rodriguez-Franco was responsible for previous archaeological research within government databases such as SHPO and Oregon Archaeological Records Remote Access (OARRA), in-field analysis of findings, and archaeological site report writing.

**Rabe Consulting: Willamette NF Upper Canyon Heritage Survey, Linn County, OR.** Field Director. The project involves the pedestrian survey in approximately 1,033 acres of 97 timber stands for the USDA Forest Service in Canyon Creek and Upper Canyon Creek watershed. Ms. Rodriguez-Franco was responsible for staff coordination with the Sweet Home Ranger District, previous archaeological research within government databases such as SHPO and Oregon Archaeological Records Remote Access (OARRA), pedestrian survey coordination, field analysis of findings, and archaeological site report writing.



**Cristina Rodriguez-Franco, M.A., RPA**  
*Scientist Archaeology*

**Corps of Engineers: Rio Grande de Manati Cultural Resource Survey, Ciales, Puerto Rico.** Crew Chief. NHPA, Section 106 review in response to a federal project with the United States Army Corps of Engineers, Jacksonville District, for the Matai River canalization. The project was in response to Hurricane Maria 2017 flooding in the town of Ciales, which required a review of possible historic properties and archaeological sites. Ms. Rodriguez was responsible for the archaeological and architectural pedestrian survey coordination and execution, community outreach, documentation of built environments, and records research in Puerto Rico's government and educational institutions (SHPO), Insituto Cultura Puertorriquena (ICP). At the end of fieldwork, Ms. Rodriguez was also responsible for document translation from Spanish to English, report writing from collected field results, and determining NRHP eligibility for archaeological sites.

**BLM, Oregon, Coos Ranger District: Oregon BLM Broadband Cultural Surveys, Coos Bay, OR.** Field Director. The project involved a pedestrian survey on 90 miles of road within Coos County for future broadband installation. Ms. Rodriguez was responsible for staff and field coordination, required review of possible historic properties and archaeological site identification, material analysis, recording, and report writing.

**Oregon Department of Forestry: Malheur National Forest Lithic Scatter Recording, Malheur National Forest, OR.** Field Director. The project included a surface survey of 8,600 acres for site updates on six large lithic scatter/site complexes in the Malheur National Forest. Ms. Rodriguez was the field director responsible for crew mobilization and training, surface survey, site recording, subsurface testing, identification and analysis of pre-contact and historic-era contexts, main report writing, coordination with Tribal entities and Forest Service staff.

**King Range National Conservation Area: King Range Class III Survey, Humboldt County, CA.** Crew Chief. For future forest management plans, the project included surveying 3,400 acres within the King Range National Conservation Area. Ms. Rodriguez was responsible for crew coordination, survey execution, on-site analysis of precontact and historical material, NRHP evaluation of sites, and report writing.

**Dryer Partnership: Survey and Site Record for Morrill Creek Bridge Removal and Replacement, Langlois, OR.** Crew Chief. The project includes removing and replacing an existing bridge on Floras Creek Road in Curry County. Ms. Rodriguez was crew chief responsible for crew coordination, subsurface testing and documentation of precontact contexts, infield analysis of material, curation preparation and report writing.

**T Mobile: Longview Campus Tower, Longview, WA.** Field Director. The project involved an archaeological survey and testing for the relocation of cell towers and collocations of telecommunication equipment. Ms. Rodriguez was responsible for field investigation, testing, documentation of built environment and archaeological resources, report writing, and NRHP evaluation.

**US Bureau of Land Management: Burns Cultural Clearance Class III Survey, Harney County, OR.** Crew Chief. The BLM Burns District required a Class III cultural resources inventory and evaluation of approximately 4,412 acres spread across ten units near Burns, Oregon. The Project required the pedestrian survey to identify and evaluate cultural resources.

**Oregon State Parks and Recreation Department: Monitoring Silver Falls State Park, Marion County, OR.** Field Director. The project included the monitoring and testing for the new construction of the North Falls boardwalk and trail in Silver Falls State Park. Ms. Rodriguez was responsible for the survey, testing, and report writing.

**City of North Bend: Ferry Road Park Heritage Management Plan, North Bend, OR.** Field Director. The project included a surface survey and subsurface testing of approximately 15 acres within Ferry Road Park in the City of North Bend, OR. The City of North Bend planned future park improvements within a known archaeological site. Ms. Rodriguez was responsible for crew coordination, pedestrian survey, determining the location of subsurface testing based on records research results and CTCLUSI tribal member input, supervising and performing subsurface testing. After the work was completed, Ms. Rodriguez was solely responsible for organizing and preparing archaeological



**Cristina Rodriguez-Franco, M.A., RPA**  
*Scientist Archaeology*

material for curation, including database creation and statistical analysis of findings. Results created a Heritage Management Report for the City of North Bend.

**Neil Friedman: Sweet Way Monitoring in Port Orford, Curry County, OR.** Crew Chief/Field Director. Testing and monitoring for private residence at Sweet Home. The project involved the archaeological survey and testing within the prehistoric site and Tribal coordination.

**Plumas National Forest: Berry Brush Creek Survey, Plumas National Forest, CA.** Crew Chief. The project included a surface survey of 2,600 acres for site updates on multiple archaeological sites within the Plumas National Forest. Ms. Rodriguez was the Crew Chief responsible for surface survey and site recordings of pre-contact and historic-era contexts, NRHP site evaluations, and report writing.

**US Cellular: 348332 Sun Dome Cell Tower Project, Yakima, WA.** Field Technician. The project included a historic archaeological survey of historic properties within the State Fair Grounds in Yakima, Washington.

**Aspen Environmental Group, LLC: Oak Knoll Class III Survey in Klamath National Forest, OR and CA.** Field Technician. The project included the surface survey of 6,500-6,800 acres to develop a solar energy generating facility for Arica Solar, LLC. Ms. Rodriguez was responsible for surface survey and site record of prehistoric and historic contexts.

**David L. Davis Real Estate: Brandon Ridge Subdivision Survey and Testing, Coos County, OR.** Field Technician. The project included a surface and subsurface survey of 4.97 acres on the eastern bank of the Coquille River in Brandon, Oregon for proposed private development. Ms. Rodriguez was responsible for surface survey and site record of prehistoric and historic contexts.

**Aspen Environmental Group, LLC: Oberon Class III Survey and Site Record, Desert Center, CA.** Field Technician. The project included the surface survey of 6,500-6,800 acres to develop a solar energy generating facility for Arica Solar, LLC. Ms. Rodriguez was responsible for surface survey and site record of prehistoric and historic contexts.

**JUB Engineering, Inc.: Class III Survey for Caldwell Industrial Airport, Caldwell, ID.** Field Technician. The project included the development of an updated Airport Master Plan and Airport Layout Plan of 528 acres. Ms. Rodriguez was responsible for surface survey and site recording.

**Douglas High School: Monitoring in Douglas High School, Winston, OR.** Field Technician. The project required archaeological monitoring of ground disturbance caused by construction and field identification and analysis of precontact and historic materials.

**Tri-Leaf Environmental and Environmental Consultants of America: FCC Section 106 Documentation for Various Cell Towers, OR and WA.** Field Technician. Projects included new installations of cell towers and collocations of telecommunication equipment. Ms. Rodriguez was responsible for field investigation and documentation of the built environment and archaeological resources supporting the proposed telecommunications facilities.

**Cory Vom Baur: Archaeological Predetermination for Everett St. Quadplex, Camas, WA.** Field Technician. The project included the construction of a Quadplex apartments. Ms. Rodriguez was responsible for subsurface testing and identifying archaeological materials in impacted areas.

**Turner Construction Company: Monitoring in Mission College Blvd Project, Santa Clara, CA.** Crew Chief. The project included the archaeological construction monitoring, identification, and documentation of any archaeological materials in impacted areas.





**Cristina Rodriguez-Franco, M.A., RPA**  
*Scientist Archaeology*

**BLM Battle Mountain District: Survey and Site Record in Douglas Canton and Curren Summit Class III, NV.** Field Technician. The project included surface survey and site record for 1,000 acres for fuel reduction in BLM land. Ms. Rodriguez was responsible for surface survey and documentation.

**BLM Battle Mountain District: Surface Surveys for Applied Archaeological Research, Inc., Woodland, WA.** Field Technician. The project included a surface survey and site record for 1,000 acres for fuel reduction in BLM land. Ms. Rodriguez was responsible for the surface survey and historic and precontact site documentation.

**Applied Archaeological Research, Inc.: Surface Surveys for Applied Archeological Research, Inc., OR and WA.** Field Technician. The project included subsurface testing for apartment complex construction. Ms. Rodriguez was responsible for subsurface testing and documentation of archaeological materials in the proposed area.

**European Credit System for Vocational Education and Training (ECVET): Katalymata Ton Plakoton, Akrotiri, CY.** Field Technician/Unit Leader. Internship sponsored by Grampus Heritage and Placements in Environmental Archaeological and Traditional Skills (PEATS) to further expand knowledge in classical archaeology. The Erasmus internship also provided community archaeology outreach with soldiers from the Royal Air Force (RAF). This project helped RAF personnel transition to and from military life. Ms. Rodriguez was responsible for data recovery, preservation of mosaics, and teaching archaeological basics to RAF participants.

**Alan Brown, MA: Caer Alyn Archaeological Project, Wales, UK.** Field Technician. This project aimed to explore Caer Alyn Hillfort's history with public involvement. Ms. Rodriguez was responsible for cleaning and categorizing archaeological material, unit excavation, and site drawing.

**Natasha Fernandez, MA: El Morro Kitchen Archaeological Project, San Juan, PR.** Field Technician. The project was part of the master's students' thesis to help understand and determine the diet of the fort's occupants during Spanish rule. Sponsored by the University of Puerto Rico. Ms. Rodriguez oversaw excavation, documentation through photography and scale drawings, and soil sample collections.

**Conservation Trust of Puerto Rico, People for Nature: Tracing Our Roots, Manati, PR.** Principal Research Assistant. Three-year investigation to determine the history of occupation along the Manati river basin. Ms. Rodriguez was involved in extensive field surveys on surrounding lands, ethnography, and community archaeology outreach. Ms. Rodriguez was responsible for organizing meetings with collaboration investigators, teaching volunteer workshops, input and analysis of information, creating the database for this investigation, and report writing.

**Nydia Ponton, PhD: Hacienda La Esperanza, Manati, PR.** Field Assistant. This project spanned three years for a PhD student candidate from Temple University. Its goal was to understand landscapes of power and determine the location of the slave quarters. Ms. Rodriguez was responsible for unit excavation, documentation, data input, cataloging of material culture, and the identification of historic ceramics of the 18<sup>th</sup> and 19<sup>th</sup> centuries.

**University of Puerto Rico, Isabel Rivera-Collazo, PhD: Tierras Nuevas, Manati, PR.** Principal Field Assistant. An archaeological field school provided by the University of Puerto Rico. Ms. Rodriguez was responsible for teaching university students archaeological ethics and basic techniques and creating and supervising surface surveys, excavation, and data input.



**Nichole Padovano**  
*Archaeological Field Technician*

**EDUCATION**

Bachelor’s Degree, Anthropology & Psychology, Boston University, 2020  
Global Ocean’s Program, Sea Education Association (SEA) Semester, 2019

**REGISTRATIONS/  
CERTIFICATIONS**

HAZWOPER 40 Hour Certification  
First Aid/CPR/AED  
Asbestos Awareness Training Version 2 Washington 2B

**PROFESSIONAL  
AFFILIATIONS**

Association for Washington Archaeology  
Society for American Archaeology  
U.S Forest Service  
Washington Department of Transportation  
U.S. Department of the Navy  
Puyallup Tribe of Indians

**TRAINING**

ArcGIS

**STELL TENURE**

2 Years

**INDUSTRY TENURE**

2 Years

**AREAS OF EXPERTISE**

Phase I and II archaeological survey and investigation	Precontact/historic-period materials analysis
Database background research (WISAARD, OARRA)	Technical writing (Reports, MIDP/IDP, APE Letter, Site Forms, Site Condition Forms)
Crew lead (Field Maps, Trimble)	

**PROFESSIONAL EXPERIENCE**

Ms. Padovano has over two years of professional experience in archaeological research and cultural resource management, conducting numerous surveys throughout the Pacific Northwest. Their responsibilities include, but are not limited to, site recording, site relocation, technical writing and background research, construction monitoring, client coordination, and cultural resource data collection. Ms. Padovano has experience successfully leading crews in the field and following a project from kick-off through final report submission. They have worked for and with the Washington Department of Transportation, U.S. National Parks Service, U.S. National Forest Service, Washington Department of Fish and Wildlife, the Puyallup Tribe of Indians, and the Duwamish Tribe.

**PROJECT EXPERIENCE**

**SP Cramer & Associates, Inc.: Chewelah A-Z Project, Colville National Forest, WA.** Phase I survey. Conducted site recording and historic-period material analysis. **US Forest Service: Heritage Surveys, Okanogan-Wenatchee NF and CRGNSA, Okanogan-Wenatchee National Forest, WA.** Phases I and II survey. Conducted site recording, lithic analysis, and historic-period material analysis. Created shovel probe logs, photo logs, artifact logs, and organized field notes, and previously recorded sites. Authored reports and background research. **US Forest Service: 2021 Rouge River-Siskiyou National Park Snowy Butte Archaeological Surveys, Snowy-Butte National Forest, OR.** Phases I and II survey. Conducted site recording, site relocation, site mapping on Field Maps, lithic analysis, historic-period material analysis, and detailed record keeping. Created shovel probe logs, photo logs, artifact logs, and organized field notes, and previously recorded sites. **US Forest Service: Umpqua National Forest Archie Creek 2, North Umpqua National Forest, OR.** Phases I and II survey utilizing Field Maps and Trimble. Crew lead site recovery and site relocation; conducted lithic analysis and historic-period material analysis. Lead shovel probe layout, documented field notes. Lead author on report, report letter, and background research



**Nichole Padovano**  
*Archaeological Field Technician*

**Anchor QEA: Lower Duwamish Waterway Shellfish Sampling, Seattle, WA.** Conducted background research. Co-author on the cultural resources report, APE letter, and IDP/MIDP. **US Forest Service: Archie Creek Wildfire North Umpqua Trail Archaeological Survey, Umpqua National Forest, OR.** Phases I and II survey, utilizing Field Maps and Trimble. Crew lead site recovery and site relocation; conducted lithic analysis and historic-period material analysis. Lead shovel probe layout, documented field notes. Lead author on report and background research. **Shannon & Wilson Inc.: 8801 E. Marginal Way–Remedial Excavations Project, Tukwila, WA.** Sonic drill rig soil extraction and trench excavation construction monitoring for cultural resources. Lead author on cultural monitoring report, conducted background research, and in direct communication with client throughout monitoring work and report writing. **Shannon & Wilson Inc.: 8801 E. Marginal Way–South Remedial Excavation, Tukwila, WA.** Sonic drill rig soil extraction and trench excavation construction monitoring. Lead author on cultural monitoring report, conducted background research, and in direct communication with client throughout monitoring work and report writing. **Confluence: Stanwood IS4 92<sup>nd</sup> Ave Drainage Improvements Project, Stanwood, WA.** Wrote the MIDP and updated Appendix A., communicating directly with client. Conducted background research for previously known cultural resources. **PBS Engineering & Environmental: Mojonier Road Reconstruction, College Place, WA.** Drill rig soil extraction construction monitoring for cultural resources. Conducted background research for previously known cultural resources, submitted a monitoring log, organized the photo logs, and co-author for the cultural resources report. **PBS Engineering & Environmental: SR 224 Red Mountain Improvement Project, West Richland, WA.** Phases I and II survey and drill rig soil extraction construction monitoring. Conducted background research for previously known cultural resources and properly documented previously recorded HPI's within the APE while in the field. Submitted weekly monitoring logs, organized the photo logs, and co-author for the cultural resources report. **Weston Solutions, Inc.: Shoreline Repair Project Archaeological Monitoring, Puget Sound Naval Shipyard, Bremerton, WA.** Monitored the excavation of the Naval Base Kitsap Bremerton along the shoreline of Sinclair Inlet for cultural resources. Submitted weekly updates, supporting author on monitoring report and IDP/MIDP. **USDA Forest Service: Willamette CRI, Willamette National Forest, OR.** Phases I and II survey utilizing Field Maps and Trimble. Crew lead site recovery and site relocation; conducted lithic analysis and historic-period material analysis. Lead shovel probe layout and documented field notes. Lead author on report and background research. **South Puget Sound Salmon Enhancement Group: Griffinwood Stables – Griggs Creek Fish Passage Project, Thurston County, WA.** Phase I survey. Logged field notes and conducted background research. Communicated directly with client and supporting author on cultural resources report.

**Jacobs Engineering Group: Elliot West Wet Weather Treatment Station Alternatives Evaluation, Seattle, WA.** Monitored soil disturbing activity (mud rotary drill rig core barrel extractions, sonic drill rig core barrel extractions) for cultural resources. Logged daily field notes and conducted background research. Lead author on report and MIDP/IDP. **DH Environmental, Inc: Archeological Monitoring-Star Forge Demolition Project, Seattle, WA.** Monitored soil disturbing activity for cultural resources, logged daily field notes, and conducted background research. Lead author on monitoring report and MIDP/IDP. **Washington State Department of Transportation: SR 167 Completion General Engineering Consulting (GEC) Services Project, Tacoma, WA.** Monitored soil disturbing activities (excavation, core barrel extractions, spoils) for cultural resources across a 14-year, \$2.69 billion transportation project. Water screened an identified shell midden alongside members of the Puyallup Tribe of Indians. Logged daily field notes, submitted weekly logs. **U.S. Forest Service: BLM Cascade-Siskiyou National Monument Desktop Review.** Desktop literature review. **Washington Department of Fish and Wildlife: L.T. Murray Complex Vantage Hwy Fire 2022.** Phase 1 Survey. Monitored soil disturbances as over 6,000 trees were being planted. Created monitor logs.

## AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT, made this 17th day of January, 2017, by and between NORTHWEST HYDRAULIC CONSULTANTS, INC, hereinafter called "NHC" and the City of Snoqualmie, Washington, hereinafter called "the City."

### RECITALS

- 1.1 The City is a municipal corporation of the State of Washington, located in King County.
- 1.2 NHC is a corporation engaged in the practice of providing professional engineering consulting services in the areas of hydraulics, hydrology and related fields.
- 1.3 The City is in need of professional engineering services in the areas of hydraulics, hydrology and related fields on an "on-call" basis to support planning staff and to provide advice in connection with various planning activities and development proposal review in the City.
- 1.4 The City has determined that NHC is qualified to provide required professional engineering services in the areas of hydraulics, hydrology and related fields.

UPON the foregoing premises, and in consideration of the mutual promises set forth below, the parties agree as follows.

### AGREEMENT

2.1 **CONTRACT DOCUMENTS.** This Agreement, the attachments hereto, Task Orders, Scopes of Work and Budget, and any written modifications thereto, shall constitute the entire agreement between NHC and the City for the conduct of all work hereunder.

2.2 **OBJECTIVE AND SCOPE OF WORK.** The objective of this Agreement is to provide for NHC availability to provide professional engineering services in the areas of hydraulics, hydrology and related fields on an "on-call" basis as directed by the City. The Task Orders and Scopes of Work shall include all services necessary to accomplish work to be specified therein as may be authorized during the duration of this Agreement.

2.3 **TASK ORDERS.**

2.3.1 The City, in entering into this Agreement, does not guarantee that any engineering services in the areas of hydraulics, hydrology and related fields will be requested nor guarantee any specific dollar amount of work during the term of this Agreement.

2.3.2 Requests by the City for professional engineering services in the areas of hydraulics, hydrology and related fields under this Agreement shall be given by written Task Orders to NHC. The Task Orders shall describe the work to be done, and specify the desired commencement and completion dates for the work.

2.3.3 NHC shall respond in writing within seven (7) calendar days after receipt of a Task Order with a proposed scope of work, cost estimate, and schedule for completing the requested services.

2.3.4 The final Scope of Work and Budget for each Task Order shall be confirmed in writing by the City.

2.3.5 NHC shall initiate the specified work consistent with the schedule included within the final Scope of Work and Budget for each Task Order.

2.3.6 If the City requests NHC to perform work or render services in connection with a Task Order assignment in addition to or other than work provided for by the Scope of Work of the Task Order, such work will be considered as Extra Work and will be specified as to its nature and scope in a written supplement to the Task Order. Such work shall not proceed until the supplement to the Task Order is authorized in writing by the City.

2.4 TERM. This Agreement shall be in effect from and after its execution by the parties, and shall remain in effect until terminated as hereinafter provided.

2.5 COMPENSATION. The City agrees to compensate NHC on an hourly basis for services rendered under this Agreement, on the basis of the NHC "Billing Rates," (attached "Exhibit A") unless other rates are established by mutual written agreement. "Billing Rates" shall be adjusted annually as proposed by NHC and agreed to by the City. "Reimbursable Expenses" shall be those costs for mileage (IRS rate) incurred directly for work on a Task Order given by the City. Any revision to NHC's "Billing Rates" shall be communicated to the City in writing sixty (60) days prior to the date when the revision is to become effective.

2.6 PAYMENT. NHC shall submit monthly statements for services rendered and expenses incurred for each Task Order, which shall be due in full within thirty (30) days after receipt by the City.

2.7 STANDARD OF PROFESSIONAL CARE. NHC shall perform all services under this Agreement in accordance with the usual and customary standards of professional care. NHC makes no other warranty, express or implied.

2.8. OWNERSHIP OF WORK PRODUCTS. All work products generated or otherwise produced by NHC under the terms of this Agreement shall be deemed to be the property of the City. The City acknowledges that its use of such work product for any purpose other than the Task Order for which it was prepared is at the City's own risk.

2.9 THE CITY'S RESPONSIBILITIES.

2.9.1 The City shall provide all criteria and full information as to the City's requirements and designate a person with authority to act on the City's behalf on all matters concerning each Task Order, which shall be the Director of Community Development, unless another person is specified.

2.9.2 The City shall furnish to NHC all existing studies, reports and other available data and services of others pertinent to each Task Order, and obtain additional reports and data as required; and NHC shall be entitled to rely upon all such information and services in

performing services hereunder.

2.9.3 The City shall arrange for access to and make all provisions for NHC to enter upon public and private property as required for NHC to perform services hereunder.

2.10 INSURANCE COVERAGE. NHC shall maintain general and automotive liability insurance for the duration of this Agreement to provide comprehensive coverage for public liability and property damage. Such insurance covering public liability shall be in the sum of not less than one million dollars (\$1,000,000) single limit. Insurance covering property damage shall be in the sum of not less than one million dollars (\$1,000,000) single limit. NHC shall maintain professional liability insurance for the duration of this Agreement to provide coverage for liability arising out of any negligent performance of professional services by NHC under this Agreement. Insurance covering professional liability shall be in the sum of not less than one million dollars (\$1,000,000) single limit. NHC shall provide the City with a certificate of insurance showing such insurance to be in force within twenty (20) days after execution of this Agreement.

2.11 HOLD HARMLESS. NHC shall hold the City, and its officers, agents and employees, harmless from all suits, claims, or liabilities of any nature, including attorney's fees, costs, and expenses, for or on account of injuries or damages to any person or property resulting from the negligent acts or omissions of NHC and its agents, employees and subcontractors. In the event of joint or concurring negligence on the part of NHC and the City, NHC shall hold the City harmless in proportion to the percentage of such negligence.

2.12 NHC AN INDEPENDENT CONTRACTOR. NHC and the City agree that NHC is an independent contractor and not an agent of the City, and that NHC is subject, as an employer, to all applicable employment statutes.

2.13 NO SUBLET. Neither NHC nor the City shall assign or sublet this Agreement or any part thereof without the written consent of the other party.

2.14 CONFLICT OF INTEREST. NHC agrees to and shall notify the City of any potential conflicts of interest in NHC's client base and shall obtain written permission from the City prior to providing services to third parties where a conflict or potential conflict of interest is apparent. If the City determines in its sole discretion that a conflict is irreconcilable, the City reserves the right to terminate this Agreement.

2.15 TERMINATION. This Agreement may be terminated, with or without cause, by either party upon ninety (90) days' written notice. Upon termination, compensation for all work completed through the termination date, including all retained amounts, shall be due. Upon receipt of compensation, all completed and partially completed work products shall become the property of the City.

2.16 APPLICABLE LAWS. NHC shall be cognizant of all Federal and state laws and local ordinances which in any manner affect those engaged or employed in the work or which in any manner affect the conduct of the work, and shall at all times observe and comply with all such existing laws and ordinances.

2.17 JURISDICTION AND VENUE. This Agreement shall be governed by the laws of the State of Washington. Venue of any action hereon shall be in King County, Washington.

2.18 SEVERABILITY. If any part of this Agreement is found to be in conflict with applicable laws, such part shall be null and void to the extent of such conflict but the remainder of this Agreement shall be given full force and effect.

2.19 NOTICES.

2.18.1 Any notices by the City to NHC shall be given to the following address:

Northwest Hydraulic Consultants, Inc.  
Attn: Malcolm Leytham  
12787 Gateway Dr S  
Seattle, WA 98168

2.18.2 Any notices by NHC to the City shall be given to the following address:

Robert J. Larson  
City Administrator  
P.O. Box 987  
Snoqualmie, WA 98065

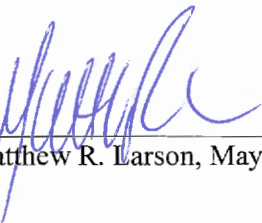
With a copy to:

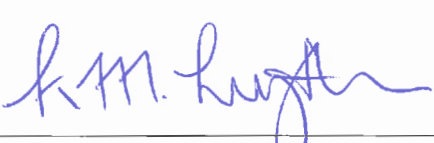
Bob C. Sterbank  
City Attorney  
P.O. Box 987  
Snoqualmie, WA 98065

IN WITNESS WHEREOF, the parties hereto have executed this Agreement this 17th day of January, 2017.

CITY OF SNOQUALMIE

NORTHWEST HYDRAULIC CONSULTANTS, INC

By:   
Matthew R. Larson, Mayor

By:   
Malcolm Leytham, Principal

## EXHIBIT A

## SCHEDULE OF BILLING RATES AND CHARGES

Consulting services from NHC will be billed on a time and materials basis.

Effective January 1, 2017.

<u>LABOR</u>	<u>FEE RATE (\$/hr)</u>
Principal	240
Sr. Project Engineer	232
Sr. Engineer 1	195
Sr. Engineer 2	165
Engineer 1	140
Engineer/Scientist 2	120
Jr. Engineer	100
GIS Specialist	130
GIS Analyst	90
Sr. Engineering Technician	130
Jr. Engineering Technician	65
Sr. Laboratory Technician	95
Jr. Lab Technician	75
Sr Contract Administrator	130
Sr. Document Production Specialist	115
Document Production Specialist	80

**Handling Charges, Fees**

Markup on Subconsultants	10%
Markup on Reimbursables	10%
Markup on Travel/Subsistence	10%

**Reproduction**

Photocopies:	
B&W 8½ x 11	\$0.10
B&W 11 x 17	\$0.15
Color 8½ x 11	\$1.00
Color 11 x 17	\$2.00

**Plotting**

Plots, bond, 11 x 17	\$2.00
Plots, bond, D size	\$4.00
Plots, oversize (running foot)	\$2.00

**Labor costs subject to annual escalation adjustment in October to reflect cost of living and merit salary increases.** Refer to separate schedules for field and laboratory equipment charges.

Any other expenses shall be subject to prior approval by the City and shall be reimbursed at cost, with no markup.





January 29, 2019

Nicole Sanders  
City of Snoqualmie Public Works Department  
38624 SE River Street  
PO Box 987  
Snoqualmie, WA 98065

**Re: Sandy Cove Park Bank Protection and Restoration (Phase 2)**

Dear Nicole:

Enclosed for your review and signature are two copies of Task Order No. 38 under the on-call services contract between the City of Snoqualmie (City) and Northwest Hydraulic Consultants Inc. (NHC). This task order will authorize NHC to perform engineering services related to bank protection and restoration at Sandy Cove Park and other locations along the Snoqualmie River.

A cost breakdown is attached for our estimated budget to be billed on a time and materials basis.

Please let me know if you have any questions or concerns. We look forward to working with you on this project.

Sincerely,

NORTHWEST HYDRAULIC CONSULTANTS

A handwritten signature in cursive script that reads "Derek L. Stuart".

Derek L. Stuart, P.E.

ON-CALL SERVICES  
HYDROLOGY, HYDRAULICS & STORMWATER MANAGEMENT

TASK ORDER NO. 38  
SANDY COVE PARK BANK PROTECTION AND RESTORATION (PHASE 2)

AGREEMENT FOR PROFESSIONAL SERVICES

This Agreement is made this 28th day of January, 2019, by and between **Northwest Hydraulic Consultants Inc.**, hereinafter called "NHC," and the **City of Snoqualmie**, hereinafter called the "CITY."

NHC has an Agreement dated 23 January 2017 with the CITY, which is herein referred to as the **Prime Agreement**, and which provides for NHC performing unspecified professional services in hydraulics, hydrology, and related fields on an on-call basis, with specific work items to be identified in subsequent **Task Orders**.

The professional service which the CITY has employed NHC to perform under this Agreement constitutes **Task Order No. 38** under the provisions of the **Prime Agreement** and is generally described as follows:

Sandy Cove Park Bank Protection and Restoration (Phase 2)

NHC and the CITY, for mutual consideration hereinafter set forth, agree as follows:

1. **SCOPE OF WORK.** NHC, acting as additional city staff, shall perform services as directed by the City Director of Public Works, to assist the City of Snoqualmie with a topographic and bathymetric survey at Sandy Cove Park along the Snoqualmie River. The scope of work to be completed is attached.
2. **PERIOD OF SERVICE.** The period for services provided under this Task Order shall begin on January 28, 2019 and expire on December 31st, 2022.
3. **COMPENSATION.** The CITY shall pay NHC on a time and materials basis at NHC's current rates, as agreed to in the Prime Agreement, provided the total compensation payable under this Task Order shall not exceed \$448,136 without the authorization of the CITY. The attached spreadsheet shows a budget for the tasks described above.
4. **ADDITIONAL CONTRACT REQUIREMENTS.** All other contract requirements are as specified in the Prime Agreement.



IN WITNESS WHEREOF, the parties hereto have executed this Agreement effective as of the day and year first above written.

CLIENT:

CITY OF SNOQUALMIE, WASHINGTON

Signature: 

Name: Matthew R. Larson

Title: Mayor

Address: P. O. Box 987

38624 SE River Street

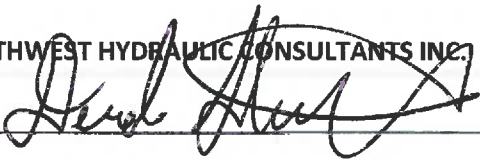
Snoqualmie, WA 98065

Telephone: (425) 888-5307

Date of Execution:

2/26/2019

NORTHWEST HYDRAULIC CONSULTANTS INC.

Signature: 

Name: Derek L. Stuart

Title: Principal

Address: 12787 Gateway Drive S.

Seattle, WA 98168

Telephone: (206) 241-6000

Date of Execution:

2/26/2019





## Sandy Cove Park Bank Protection and Restoration - Phase 2

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January 28, 2018

Page 2

3. Assess how proposed bank modifications at Sandy Cove Park will most likely affect the river, specifically the bank opposite of Sandy Cove Park and downstream;
4. Design of a new stormwater outfalls at River Street (90% PS&E) and King Street (30%).
5. A Scour assessment of Meadowbrook Bridge and erosion on the left bank of the river near Walnut Street. Optional design of embankment stabilization at Walnut Street (preliminary design).
6. A secondary objective of the Project will include a high-level assessment of potential floodplain restoration opportunities within and around the City's jurisdiction.

### BACKGROUND

The PSE weir modifications were made during the 2014 NHC study (first issued in April 2013), and NHC made several recommendations related to the resulting changes to the hydraulics and geomorphology of the project reach:

- At the time of NHC (2014), the most recent hydraulic model calibration that had been performed was documented in 2008, before the weir at Snoqualmie Falls was lowered. NHC (2014) recommended that new calibration be performed after water-level data is collected from a post weir modification flood.
- The NHC (2014) geomorphic assessment noted the growing influence of significant gravel bars in the Snoqualmie River reach. In particular, erosion at the project site is likely the result of mid-channel gravel bar growth in the channel at Sandy Cove Park. The lowering of the PSE weir at Snoqualmie Falls lowered the water surface through the river reach and this is expected to further increase the relative prominence of gravel bars and their hydraulic impact on the flow. Additionally, lowering the weir will increase the hydraulic power and gravel bedload transport into the reach. Since sand and gravel have a direct impact on the stability of the river and river banks, this transition could have a major impact on banks at the Park.

The following scope of work defines the specific work plan tasks requested by the City.

#### **Task 1. Data Collection, Kick-off Site Inspections, Geomorphic Assessment, and Sub-Surface Borings**

Two kick-off meetings will be held. The first will be an internal meeting attended by NHC and City staff. The second meeting also include City staff, but other project stakeholders such as King County, the Snoqualmie Tribe, and/or permitting agencies will also be invited. The purpose of these meetings will be collection of information needed to establish the project objectives and constraints that will guide development of project concepts. NHC will assist the City with development of the meeting agenda.

NHC will collect and review readily available data pertaining to the project. This may include historical aerial and ground photographs, available hydrologic data and reports for the Snoqualmie River, previous hydraulic analyses, property boundary information, and other relevant data. The City will provide NHC with any related data it may have. The City will be responsible for obtaining property owner permission to conduct surveys on private land.

NHC's design team will travel to and assess how physical conditions of river and project site have changed since 2012. This evaluation will examine channel/floodplain relationships, erosion characteristics, channel stability



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concerns, and site-specific constructability issues. Special attention will be paid to recent channel evolution in response to the 2014 weir modifications and the anticipated response of the river and potential impacts to channel/habitat conditions upon construction of the project. This review is critical for understanding how the river will likely respond to the bank protection, as well as helping to define key elements to include in the design.

NHC will explore subsurface conditions at the site by drilling a total of two borings to approximately 20 to 25 feet below the river thalweg, not exceeding 80 feet of total drilling footage. The borings are intended to support a request from permitting agencies for a pile reinforced design at Sandy Cove Park. The drilling will be subcontracted by NHC to a drill rig operator. NHC will call the state “dial-before-you-dig” contractor number to clear utility locations prior to the explorations. However, we request that the City (or other property owner if land is not owned by the City) clear and/or identify any site utilities. The borings will be monitored by NHC’s geologist (or geotechnical engineering sub-consultant), he/she will obtain soil samples, classify the materials, and maintain a detailed log of each exploration. The collected soil samples will be used for laboratory testing of physical characteristics such as moisture content and sieve analysis.

#### Assumptions:

- The City will provide NHC with plans for the Riverwalk Park trail (draft or final), including the Subsurface Exploration, Geologic Hazard and Geotechnical Engineering Report (AESI, September 25, 2017).
- NHC has assumed that all sub-surface explorations can be completed in a single day using a track or, if space allows, a truck mounted drill rig.
- NHC has assumed that soil collected by the drill can be left on-site following the exploration.

#### Task 2. Field Survey and Development of Digital Terrain Model

NHC will conduct a topographic and bathymetric survey of the project reach, capturing enough detail to update to the hydraulic model and development of conceptual bank protection designs for the site. Two days of fieldwork have been allocated to perform the survey using a two-man crew, jet sled, RTK GPS and eco-sounder. In addition to this, one day of post-processing the survey data in the office is also included.

There are multiple legacy terrestrial survey datasets that will be referenced as part of this project; these include:

- Survey data collected for the Riverwalk Trail project by KPFF in 2017 and stamped by their Professional Land Surveyor (PLS) was provided to NHC by the City in datafile “41600532TOPOBM.DWG”. This is the most comprehensive of the three existing terrestrial survey datasets.
- Perteet 2016 survey performed for the Snoqualmie Infrastructure Improvements Project (AutoCAD filename “20160013\_Topo.dwg”). This survey is focused on roadway corridors and has only limited information in the river corridor. This dataset is not expected to be widely applicable.
- Terrestrial survey of Sandy Cove Park was also collected by NHC in 2012 as part of the NHC (2014) project.
- Base mapping for the Meadowbrook bridge site work will be based on the April 2003 King County survey documented in CAD files “x\_survey.dwg” and “MB\_basemap.dwg”.



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In addition to the bathymetric survey NHC will perform up to 2 days of additional field terrestrial survey using RTK GPS methods to fill in gaps in the existing terrestrial survey datasets. The primary area that is expected to require additional refinement is the river bank in the vicinity of Sandy Cove Park where the river has been advancing into the park. Some limited survey in the vicinity of the Meadowbrook bridge may also be required to support the bridge scour assessment (Task 11)

The new bathymetry, new terrestrial survey, and legacy survey datasets will then be reviewed by NHC and compiled into a single digital terrain model (DTM) surface including the river corridor and floodplain that can be used for hydraulic modeling and detailed design at the Sandy Cove Park site. The compiled surface will include the new bathymetry data, terrestrial survey data sets, and 2016 bare earth LiDAR ground surface data. This effort will focus on adding break lines and other refinements of the bathymetric survey data as needed to define the river bathymetry for hydraulic modeling. NHC has allocated up to four days of office time (32 hours) to complete these refinements.

### Assumptions:

- The bathymetric survey will be limited to the mainstem reach of the Snoqualmie River between the North Fork and Middle Fork confluence and the SR-202 Bridge. Survey of the South Fork is not currently included within the scope of the survey.
- The City will be responsible for obtaining property owner permission to conduct surveys on private land.
- The City will open a gate at SE Reinig Road and 396<sup>th</sup> Drive SE that is required for vehicular access to the river. It is also assumed this access route is in a condition adequate for use as a boat launch (it was used for this purpose in 2012). Additional time required to identify an alternative access location is not included in the hour and fee estimate.

### Deliverables:

- X,Y,Z coordinate file for bathymetric survey including the river reach near Sandy Cove Park with proposed bank restoration.

### Task 3. Hydraulic Modeling Plan and Model Development

There are several aspects of the project that will require riverine hydraulic modeling to support engineering analysis and mapping. All prior hydraulic modeling within the City<sup>2</sup> has utilized a one-dimensional (1D) model, but the tasks included in this task order are arguably better supported by a two-dimensional (2D) hydraulic model application. At a minimum, significant updates to the existing 1D model are required.

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<sup>2</sup> Previous significant hydraulic modeling of the Snoqualmie River has been performed with HEC-2 (e.g. NHC, 1993) or HEC-RAS 1D (e.g. NHC, 2008, 2014; King County, 2015; and the City's on-going LOMR study to be completed in 2019).



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NHC always recommends that our clients develop some form of a modeling plan at the onset of a project that includes a significant modeling task to ensure that current and future modeling objectives are addressed by the project. There are three primary project objectives related to hydraulic modeling:

- design of bank restoration measures at Sandy Cove Park,
- scour assessment of Meadowbrook bridge
- detailed flood routing and hazard mapping across the floodplain within the City and its UGA. This will be used for evaluation of floodplain restoration opportunities (Task 11b) and also future infrastructure work within the Kimball Creek corridor (roadways and bridges).

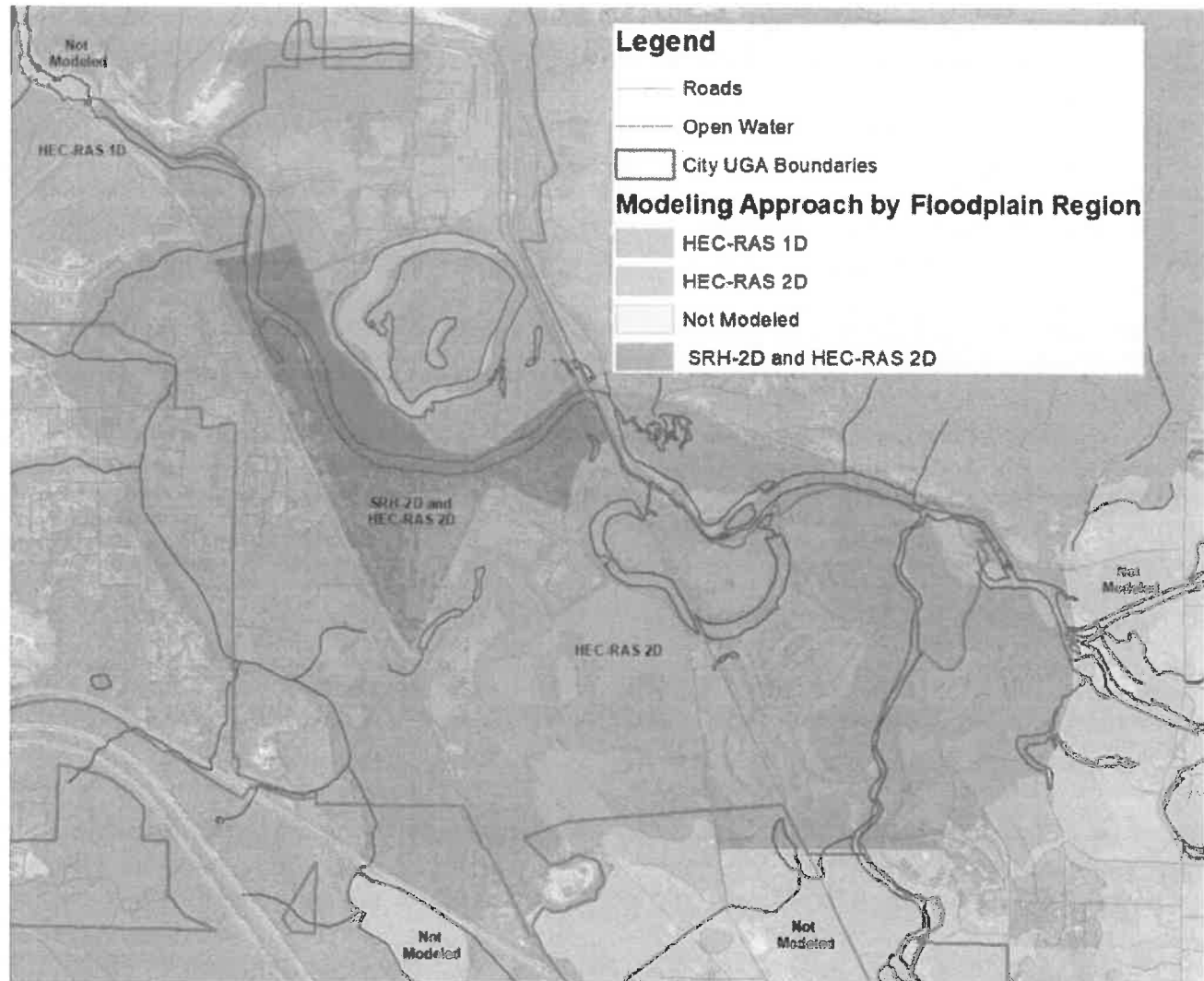
NHC will develop a draft modeling plan that will recommend which 1D model, 2D model, or combination of models will be used for the project, what input data will be used, and what outputs will be needed. A few of the models NHC commonly recommends for similar studies include the U.S. Army Corps of Engineers HEC-RAS 1D, HEC-RAS 2D, Adaptive Hydraulics (AdH), and the U.S. Bureau of Reclamation's SRH-2D. Each of these tools have advantages and disadvantages. Generally speaking HEC-RAS is preferred for simulating flood depths across larger floodplain areas and AdH and SRH-2D is preferred for modeling detailed bridge and structure hydraulics.

For the purposes of developing an estimate for model development under this task, it is assumed that three different hydraulic modeling approaches will be applied for the project as illustrated in Figure-2.



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**Figure-2: Proposed Hydraulic Model Extents and Modeling Approach by Floodplain Region**

Proposed modeling approaches shown in Figure-2 include:

- The floodplain region shaded blue will be modelled with HEC-RAS 2D, extending from the Middlefork and North Fork Snoqualmie River confluence downstream to the SR-202 bridge. Areas in Northbend and to the east shown as “Not Modeled” on Figure-2 will not be included in the model domain. Flows from the South Fork Snoqualmie River Flood Insurance Study (FIS) will be used to define inflows entering the HEC-RAS 2D model at the South Fork Snoqualmie River boundary. The HEC-RAS 2D model will be used to simulate flood depths and overland flow velocities and will provide time-series of water-level and inflows for the SRH-2D model.



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- The region in dark purple, extending from the Snoqualmie Valley Trail railroad bridge crossing downstream to Kimball Creek, includes the Sandy Cove Park bank restoration project and the Meadowbrook Bridge scour assessment and will require the SRH-2D model for engineering design; this region will also be included in the HEC-RAS 2D model. Southeast Mill Pond Road will form the northern boundary of this model and Railroad Avenue will form the southern boundary.
- The region shaded green, downstream of SR-202 to the Snoqualmie Falls weir, will be modeled with the existing 1D HEC-RAS model.

All three models will utilize the same DTM of the ground surface developed under Task 2. The HEC-RAS 2D model will utilize a coarser mesh than the SRH-2D model, but it will also require breaklines to be defined along roadways and other prominent embankments. NHC will define these breaklines for all railroads and major public roadways affecting flood flows within the City that are visible within the existing 2016 LiDAR dataset.

The Manning's N roughness coefficients used in the HEC-RAS 2D model will be assigned similar values to those in the existing 1D HEC-RAS model that was previously calibrated to high water marks (HWMs) surveyed for the 2006, 2009, and 2015 floods. Only the 2015 flood HWMs are representative of the current weir configuration at Snoqualmie Falls. A limited effort (8 hours) is included in NHC's fee estimate to allow for limited refinement of the in-channel roughness coefficients to improve the match to the 2015 flood HWMs.

The models will then be applied to compute the hydraulic information needed to develop the conceptual alternatives (e.g. flow velocities and depths) and for calculations of scour along the bank, riprap sizing and/or large woody debris ballast forces required for subsequent tasks.

Note: The City is currently performing a LOMR study that will result in an updated 100-year FEMA floodplain and floodway maps based on output from the existing 1D HEC-RAS model. NHC discussed the use of an updated 2D HEC-RAS model for that study and the FEMA LOMR reviewer expressed that the LOMR should utilize the 1D HEC-RAS model, not the 2D, for the floodway analysis. NHC expects that the HEC-RAS 2D model will inform the LOMR, but that study and associated FEMA mapping will proceed using the 1D HEC-RAS model.

### Assumptions:

- No new hydrologic analysis is included in this task order.

### Deliverables:

- Input and output files for models developed under Task 3.

### Task 4a. Assessment of Bank Erosion near Sewer Pipe on Left Bank at Walnut Street

NHC took photographs documenting erosion along 500 feet of the left bank of the Snoqualmie River upstream of the Meadowbrook bridge at Walnut Street during site visits following the 2006 flood (example photos



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included below). There is a sewer pipe that runs parallel to the Snoqualmie River at this location; erosion impacts to this sewer pipe are of specific concern to the City.



**Figure 3: 2007 Photos of Bank Erosion near Sewer Pipe upstream of Meadowbrook Bridge at Walnut Street**

Under this task NHC will provide a specific assessment of the river bank near Walnut Street. The assessment will leverage the conclusions on river migration made as part of the geomorphic assessment in Task 1 and add a new site inspection of the current bank conditions. The assessment will characterize the current processes affecting erosion of the river bank and, depending on the severity of the erosion at the site, recommendations for mitigating additional erosion and protecting the sewer pipe from being compromised will be provided to the City in a technical memorandum.

### **Deliverables:**

- Memorandum documenting the assessment of bank erosion at Walnut Street and recommendations for mitigating additional erosion.

### **Assumptions:**

- The bank stabilization measures recommended for the Walnut Street site will be simple. Up to three concepts with minor variations will be illustrated.
- Meeting to discuss Meadowbrook erosion hazard and design concepts for the site (Meeting #3).

### **Task 4b. Conceptual Design of Bank Stabilization Measures near Sewer Pipe on Left Bank at Walnut Street**

The erosion and mitigation concepts recommended as part of Task 4a will be developed into 8.5" x 11" JARPA format drawings adequate for permit application submittal (permit application is to be performed under Task 5).



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48 North Solutions scope of work and fee estimate for the River Street embankment and Sandy Cove Park included as Attachment A does not include the Walnut Street embankment. It is assumed that adding this site to the permit package will add 25% to the total permitting cost for the River Street embankment and Sandy Cove Park. If 48 North Solutions final estimate for the Walnut Street embankment is larger, then the fee estimate associated with this element of the Task Order may need to be amended.

### **Deliverables:**

- 8.5" x 11" JARPA format drawings

### **Assumptions:**

- No cultural resources support is included for the Walnut Street site.

### **Task 5. Refinement of Preferred Alternative, 60% Design Drawings, and Permitting Support**

NHC will produce a Basis of Design (BOD) Report memorandum (1-3 pages) that presents documentation supporting the project design and summarizing technical analyses developed for the project. The BOD Report will integrate and/or reference technical documentation from NHC (2014) and earlier tasks and describe the physical processes that have caused the erosion problem for review and use by the City and other stakeholders. The BOD report will be updated and expanded as part of subsequent tasks serving as the final design documentation report at the completion of Task 6. The memorandum will be submitted in draft form to the City for review and will be finalized following receipt of comments.

NHC will refine the "preferred" lower bank alternative L1 from NHC (2014) (see attachment) based on the updated hydraulic model output and new criteria identified by City staff. The refined alternative (1) will again target a design that is practical, cost effective, durable and likely to receive approval from the permitting agencies. A simple drawing of the concept, similar to that provided in NHC (2014), will be prepared and a preliminary construction cost estimate developed.

In addition to refining the preferred alternative as part of this task, NHC will also assess how the proposed bank modifications will most likely affect the river, specifically the bank opposite of Sandy Cove Park and downstream.

NHC's permitting sub-consultant, 48 North Solutions, will prepare and submit all permits. NHC will support 48 North Solutions with information needed to prepare the environmental permits such as grading quantities. A scope of work for 48 North Solutions that is associated with both this and a potential project at the River Street embankment is included as Attachment A with narrative of cost savings between the two related projects.

NHC's cultural resources sub-consultant, Stell, will perform a review of pertinent literature on the archaeology, ethnography, and history of the project area to determine the probability for archaeological resources and traditional cultural properties in the project area. The scope of work for Stell is included as attachment B. A cultural resources field survey is not included in the current project budget.



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NHC will incorporate one round of comments from permitting agencies, King County, and/or the City, make revisions, and develop details for the 60% design, special provisions and quantity estimates. The 60% plans will also be developed in JARPA format (8.5"x11") to support permitting. Special provisions will be developed assuming the WSDOT Standard Specifications for 2018 unless NHC is otherwise directed by the County. The project QAQC plan, including senior review of all deliverables will be followed throughout the design process.

### Assumptions:

- NHC will use its standard CAD templates for all drawings, such as borders, titles, and plot files, etc.
- City will provide information on property boundaries (ROW, property lines, easements), Riverwalk Park layout and planting plan in the vicinity of the bank protection project.
- See Design Meeting, Deliverable, and Comment Workflow summary at end of scope of work for commentary of design review and comments. It is assumed that comments on the 30% and 60% submittal packages will each be returned to NHC within 3 weeks.
- Review comments for each design submittal (30% and 60%) will be provided to NHC in one set from each stakeholder (i.e. not individual sets of comments from individual staff).
- Time is included for one meeting following both the preliminary and 60% design submittals.
- The City will be responsible to pay any federal, state, or local permitting costs or associated fees.
- No cultural resources exist at the site. If remains or artifacts are identified, or a cultural resources field survey is deemed necessary, the contract will be amended to include the required expertise.
- The City would like to enhance the wetland within Sandy Cove Park. It is assumed that this enhancement will include plantings, signage, and similar minor interventions (i.e. not earthwork or structures). NHC has assumed 8 staff hours for discussion and design of these elements. If a more extensive design is requested additional design hours may be required.
- It is assumed that the refined alternative concept will be expanded upstream and downstream, not exceeding 3 times the extent of the alternative documented by NHC (2014) as L1.
- Design of the "Upper Bank" above Sandy Cove Park and including the King Street lot is not included in this Task Order.

### Deliverables:

- Draft and Final 11"x17" 60% design drawings, special provisions, and quantity estimates.
- One draft of JARPA format drawings (8.5" x11") for construction grant applications.
- Meeting to discuss the 30% design. It is assumed that the erosion risk assessment mapping (Task 8) will be discussed at the same meeting.



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- A meeting with the City to discuss possible refinements to the 60% embankment design (following Task 5).

### **Task 6. Final Design and Embankment Design Documentation**

NHC will develop the 90% final construction plans, special provisions and cost estimates (PS&E) by revising the design based on comments provided by the City and adding further details. NHC will attend a design review meeting to discuss final revisions and comments with the City.

NHC will provide a TESC plan covering both in-water and upland construction and staging areas.

The Basis of Design report from Task 5 will be updated to document design methods and summarize analyses added to the design in Task 6.

KPFF will provide bid package assembly support including coordination of specification questions developed by contractors during the bid process for the Division 01 Specifications. Revision of design specifications as needed to reflect clarifications during contractor bidding. KPFF will also assemble the division 1 specifications and specification deliverables. The project specifications will be compiled for 90% and Final design submittals as listed in the NHC proposal in PDF format. KPFF will review and provide a comment matrix with proposed corrections for the Division 01 Specifications. Recommendations for specification editing, including draft language will be provided based on comments for the City's use. KPFF's scope of work and fee estimate for the River Street project is included as Attachment C. If KPFF's final estimate for similar services on the Sandy Cove Park project is larger than that for the River Street project the fee estimate associated with this element of the Task Order may need to be amended.

### **Assumptions:**

- City will provide information on property boundaries (ROW, property lines, easements), Riverwalk Park layout and planting plan in the vicinity of the bank protection project,
- See Design Meeting, Deliverable, and Comment Workflow summary at end of scope of work for commentary of design review and comments. It is assumed that comments on the 90% submittal package will be returned to NHC within 3 weeks.
- Development of a construction traffic control plan will be included as part of the Riverwalk project and is not included as a deliverable for this project.
- NHC staff to provide construction inspection and/or support services is limited to the hours prescribed under Task 14.
- NHC will make a final set of revisions based on the final design meeting (1) and one set of comments provided by the County.



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- The necessary Division 01 specifications will be provided from the City to NHC and KPFF for KPFF's use and review.
- Specification Sections provided by the City will be in CSI format and will not require formatting over and above compiling the sections into different document types.

### **Deliverables:**

- NHC will submit the final design package stamped by a Washington State registered Professional Engineer consisting of plans (PDF), special provisions (MS Word), and engineer's cost estimate. A basis of design memorandum will be prepared to document design methods and summarize analyses.
- TESC plan for in-water and upland construction and staging areas.
- meeting with the City to provide an overview of the possible refinements to the final design (occurs during Task 6). It is assumed that the floodplain restoration sites identified as part of Task 11b will also be discussed at this time.

### **Task 7. No-Rise Analysis and Certification**

The proposed bank protection project is located within FEMA's regulatory floodway for the Snoqualmie River. A FEMA No-Rise assessment is required to demonstrate that the project would not result in any increase in flood levels during the occurrence of the base (100-year) flood discharge. The hydraulic model built in Task 3 will be used to assess any rise. If the bank protection design meets FEMA's No-Rise criteria, then it will be documented in a short memorandum. If no design is identified that meets FEMA's criteria, then pursuing the proposed design may necessitate a CLOMR (Conditional Letter of Map Revision) which notifies FEMA and the surrounding communities of intent to increase the 100-year flood profile. If a CLOMR is pursued, significant additional effort will be required that is beyond this scope of work. If requested, a separate scope and budget can be prepared.

### **Assumptions:**

- It is possible the proposed design will not meet FEMA's No-Rise criteria. If NHC identifies this as the case, a meeting will be held with the City to discuss options.

### **Deliverables:**

- Short memorandum documenting the No-Rise analysis results and certification.

### **Task 8. Erosion Risk Assessment Mapping**

NHC will develop an erosion risk assessment map for the focus reach that characterizes the bank condition along the project. The assessment will make special note of evidence of erosion near private residential property (e.g. any evidence of erosion near homes on left bank of river between Sandy Cove Park and the SR-202 bridge). In addition to noting existing bank erosion, the assessment will also identify areas with a high likelihood of future



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erosion. The future erosion assessment work will leverage elements of the Geomorphic Assessment completed as part of NHC (2014) such as Exhibit 8 “Historical Channel Change” and Exhibit 9 “Historic Channel Occupancy”.

### Deliverables:

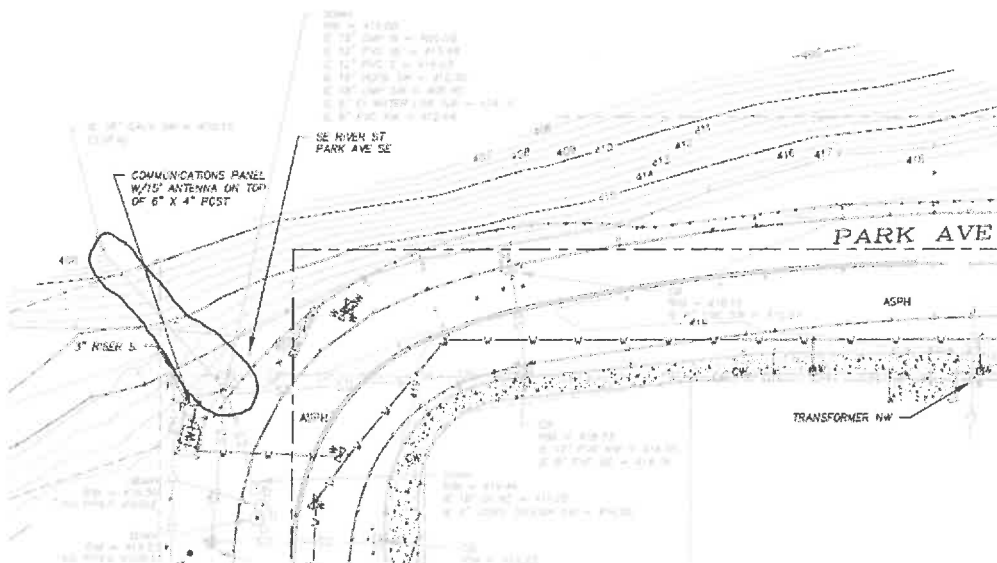
- Maps of erosion risk in PDF and/or GIS format.

### Assumptions:

- It is assumed that the erosion risk assessment mapping will be discussed at the same meeting the preliminary designs are discussed (Meeting #4). Therefore, no additional hours for attending that meeting are included in Task 8.

### Task 9. River Street Stormwater Outfall 30% and 90% Design

The existing stormwater outfall at River Street and Park Avenue was found to be undersized as part of the 2015 Snoqualmie Infrastructure Improvement Project (NHC, 2015). The existing outfall pipe, a galvanized pipe circled red in the 2017 KPFF survey shown below, is approximately 40 feet in length.



**Figure 4: River Street Stormwater Outfall Pipe (circled red) in 2017 KPFF Survey Drawing**

NHC will develop 30%, and 90% final construction plans, special provisions and cost estimates (PS&E) for a new stormwater outfall to the Snoqualmie River at River Street. The replaced outfall line will be located in the same basic alignment as the existing pipe and match existing upstream and downstream inverts.

NHC will attend a design review meeting to discuss final revisions and comments with the City.





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NHC will provide a TESC plan covering both in-water and upland construction and staging areas.

### Assumptions:

- The design fee estimate for the River Street outfall design assumes that stormwater modeling and other technical analysis for sizing the outfall pipe will be included and performed as part of the City's on-going stormwater utility plan efforts. If that analysis is not included in that project this task may need to be amended to include modeling of the stormwater system. It is assumed that effort will result in a 10% design (size, discharge, depth, material, etc.). If the stormwater modeling analysis confirms that this outfall is not undersized this task may be omitted.
- NHC will use its standard AutoCAD file template for the drawings, such as borders, titles, and plot files.
- City will provide information on property boundaries (ROW, property lines, easements).
- Any survey effort, including preparation of documents, for any new easements that may be required is NOT part of this scope.
- The same staging area used for the River Street embankment repair construction will also be available and suitable for construction staging for the outfall replacement.

### Deliverables:

- Draft and Final 30%, 60%, and 90% construction plans, special provisions and cost estimates (PS&E) for a new stormwater outfall to the Snoqualmie River at River Street.
- TESC plan covering both in-water and upland construction and staging areas for River Street outfall replacement.
- A meeting with the City to provide an overview of the 30% outfall designs (discussion of deliverables for Tasks 9 and 10).

### Task 10. King Street Stormwater Outfall 30% Design

The existing stormwater outfall at King Street and Falls Avenue was found to be undersized as part of the 2015 Snoqualmie Infrastructure Improvement Project (NHC, 2015). The existing outfall pipe, a 15" galvanized pipe circled red in a hybrid of the 2017 KPFF and NHC 2012 surveys shown below, is approximately 260 feet in length.



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**Figure 5: King Street Stormwater Outfall Pipe (circled red)**

NHC will develop 30% construction plans and planning level cost estimate for a new stormwater outfall to the Snoqualmie River at King Street.

NHC will attend a design review meeting via phone to discuss final revisions and comments with the City.

### Assumptions:

- The design fee estimate for the River Street outfall design assumes that stormwater modeling and other technical analysis for sizing the outfall pipe will be included and performed as part of the City's on-going stormwater utility plan efforts. If that analysis is not included in that project this task may need to be amended to include modeling of the stormwater system. It is assumed that effort will result in a 10% design (size, discharge, depth, material, etc.). If the stormwater modeling analysis confirms that this outfall is not undersized this task may be omitted.
- NHC will use its standard AutoCAD file template for the 90% plan set, such as borders, titles, and plot files.
- City will provide information on property boundaries (ROW, property lines, easements).
- The gravel parking lot between Sandy Cove Park and the bowling alley will be suitable for construction staging.
- No cultural resources support is included for the stormwater pipe replacement corridor.



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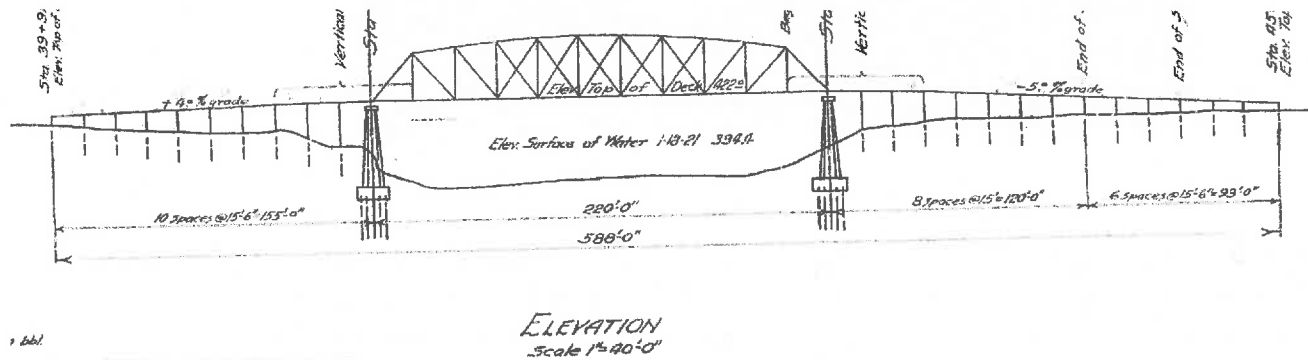
- No arborist will be required for the project or one will be provided by the City separately from this Task Order.

### Deliverables:

- Draft and Final 30% construction plans and cost estimates (PS&E) for a new stormwater outfall to the Snoqualmie River at King Street.

### Task 11a. Scour Assessment of Meadowbrook Bridge – Technical Work

The historic Meadowbrook bridge (WSDOT Bridge No. 1726A) was constructed in 1921 and is documented by the Historic American Engineering Record (HAER). The last work on the bridge structure was made in 2005 when King County performed some minor improvements to the abutments. City would like to better understand the potential for scour of the bridge sub-structure (see Figure 6) and has asked NHC to perform a scour assessment and confirm the scour code for the structure, which was listed as 5 at the time of the most recent inspection.



**Figure 6: Elevation View of Meadowbrook Bridge from February 1921 Design Drawings**

NHC will work with City staff to capitalize on existing data and information that will be necessary to efficiently perform the hydraulic and scour analysis. Existing information includes but is not limited to that from other tasks in this scope of work, bridge inspection records, bridge plans, geotechnical reports, and piling driving records.

NHC will conduct a field inspection to examine the characteristics of the bridge, and surrounding reach with respect to hydraulic, erosion, and scour processes. The purpose of this inspection is to understand site hydraulics and channel conditions, with an emphasis on determining scour susceptibility to the structure and roadway. Field measurements will include: characterizing sediment size, estimating channel/floodplain roughness, bridge measurements, assessment of existing scour protection, documenting lateral and longitudinal erosion, identification of high water marks, and other relevant information to aid in the scour assessment. A groundline survey will be performed using a tape down method at the upstream bridge face.



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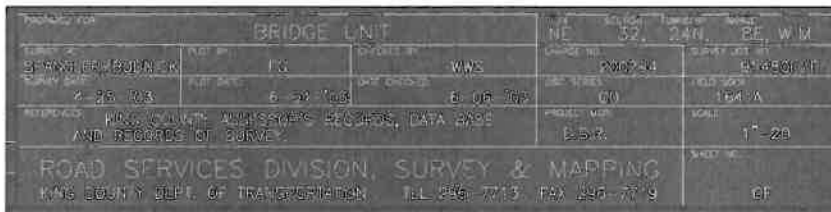
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The 2D hydraulic model developed for Task 7 will be applied to ascertain the hydraulic characteristics necessary to support the scour evaluation of the existing structure.

NHC will examine scour susceptibility of the existing structure, scour protection and river banks utilizing various design manuals such as HEC-18 and HEC-23. A scour evaluation will be performed following the guidelines described in the Washington State Bridge Inspection Manual, Chapter 5 and FHWA HEC-18, 5th Edition. If scour/bank protection measures are needed based on scour evaluation, NHC can work with City staff to develop preliminary design concepts in a separate task order.

### Assumptions:

- Base mapping for the bridge will be based on the April 2003 King County survey documented in CAD files "x\_survey.dwg" and "MB\_basemap.dwg".



### Task 11b (Optional). Scour Assessment of Meadowbrook Bridge – Reporting and Plan of Action

City staff may elect to halt additional work on the scour assessment by not authorizing optional Task 11b if the results of Task 11a indicate that the scour condition of Meadowbrook Bridge is not of concern.

If authorized, NHC will summarize the results of the bridge hydraulic and scour evaluation in a brief technical memorandum. The memorandum will include a description of the physical characteristics of the site, including photographs taken during the site reconnaissance; text, tables, and figures that describe the results of the hydraulic and scour analysis. A draft version of the report will be provided to the City for review and one set of comments. Upon receipt of comments, NHC will finalize the memorandum and submit digital or hard copies as requested by City. The results of the scour evaluation will also be recorded in a WSDOT Scour Summary Sheet (5.04-A-1).

NHC will assist City of Snoqualmie staff in the development of a Scour Critical Plan of Action (POA) if it is deemed necessary from the scour evaluation. Up to 8 hours is available for assistance.

### Deliverables:

- Draft and final versions of a technical memorandum documenting the scour assessment results.
- WSDOT Scour Summary Sheet (5.04-A-1)



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### **Task 12. Assessment of Potential Floodplain Restoration Opportunities**

A high-level assessment will identify potential floodplain restoration opportunities within and around the City's jurisdiction. Concepts that could be included involve:

- A. lowering Reinig Road to allow the Snoqualmie River to flow through Borst Lake, and across Mill Pond Road back to the Snoqualmie River north of downtown,
- B. activating side channels through the three forks natural area.

The concept will be evaluated with the 2D hydraulic model and a memorandum describing the restoration concepts and potential challenges and/or benefits will be provided to the City for discussion.

#### **Deliverables:**

- Short memorandum providing commentary on the viability and/or obstacles related to identified floodplain restoration opportunities.
- Meeting to discuss potential floodplain restoration opportunities (occurs during Task 11b). It is assumed that this meeting will coincide with the final design meeting for Task 6 (i.e. no hours for a separate meeting are included as part of Task 11b).

### **Task 13. Project Management/Administration and Quality Control**

NHC will keep the City's project manager informed on project activities through the use of email and phone. Meeting dates will be set well in advance to ensure adequate time to secure commitments from key participants. Monthly invoices will be submitted that are accompanied by a brief progress report. Each progress report will detail the following:

1. Work completed from the Scope in this billing period.
2. Work anticipated for next billing period.
3. Project issues that need to be addressed.
4. Tracking of any work performed outside the original scope.

Quality control services performed under this Task includes a drafting a quality control and quality assurance plan memorandum at the outset of project work. The QAQC plan will document measures NHC will implement to assure that the deliverables are on-time, technically sound and meet professional industry standards, and to ensure effective and accurate analyses and development of recommendations, including demonstration of effective integration of multiple disciplines.

### **Task 14. Construction Support.**

NHC staff will provide up to 70 hours of on-site construction inspection and supervision to ensure that the design is implemented properly by the contractor.



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**DESIGN MEETING, DELIVERABLE, and COMMENT WORKFLOW SUMMARY**

1. Kickoff
  - Initial internal kick-off meeting for the project (Task 1), may be via phone
    - Attended by NHC, City, Subconsultants
  - External kick-off meeting for the project (Task 1)
    - Attended by NHC, City, County, Subconsultants, Tribe
2. Initial assessment of Walnut Street Embankment (Task 4a)
  - Meet with City staff to discuss assessment of Walnut Street and recommend if embankment design concept is needed (Meeting #3).
3. Refinement of NHC (2014) preferred concept for Sandy Cove Park embankment (Task 5) and develop concepts for Walnut Street embankment, if needed (Task 4b).
  - Develop concept alternatives (project objectives, narrative memorandum, simple figure, concept comparison table)
    - Submit to City
  - No-Rise memorandum, assuming the proposed design meets No-Rise criteria (Task 6)
    - Submit to City
  - Meeting to decide on preferred alternatives (Meeting #4)
    - Attended by NHC, City
    - Submit to stakeholders
  - Receive comments from all stakeholders and incorporate in next milestone
4. Sandy Cove Park Embankment 60% Design (Task 5)
  - Develop 60% plans (preferred alternative), construction notes, technical special provisions, cost estimate, BOD
    - Submit to stakeholders and 48 North in JARPA format
  - 48 North to submit 60% package for permits
    - Meeting to discuss 60% submittal (Meeting #5)
    - Attended by all stakeholders
  - Receive comments from all stakeholders (including permit agencies) and incorporate in next milestone
5. Sandy Cove Park Embankment 90% Design (Task 6)
  - Develop 90% plans, complete specifications, cost estimate, BOD
    - Submit to stakeholders
  - Meeting to discuss 90% submittal (Meeting #6)
    - Attended by NHC, City
  - Receive comments from City and incorporate in next milestone
6. River Street Stormwater Outfall 30% Design (Task 9) and King Street Stormwater Outfall 30% Designs (Task 10)
  - Develop 30% drawing of stormwater outfall pipe, construction notes, planning level cost estimates, narrative memorandum
    - Submit to City
  - Receive comments from City and incorporate in next milestone (River Street outfall only)
7. River Street Stormwater Outfall 90% Design (Task 9)
  - Develop 90% plans (including TESC), complete specifications, cost estimate, BOD



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- Submit to City
  - Meeting to discuss 90% River Street stormwater outfall submittal (meeting via phone)
    - Attended by NHC, City
  - Receive comments from City and incorporate in next milestone
- 8. Final Sandy Cove Park Embankment 90% Design (Task 6) + River Street Stormwater Outfall 90% Design (Task 9)
  - Develop final plans, complete specifications, cost estimate, BOD
    - Submit to City only

### OTHER DELIVERABLES INDEPENDENT OF DESIGN WORKFLOW

1. X,Y,Z coordinate file for bathymetric survey including the river reaches at Sandy Cove Park and Walnut Street with proposed bank restoration. (Task 2)
2. Input and output files for models developed under Task 3.
3. Maps of erosion risk in PDF and/or GIS format. (Task 8)
4. Draft and final versions of a technical memorandum documenting the scour assessment results. (Task 11b)
5. WSDOT Scour Summary Sheet (5.04-A-1) (Task 11b)
6. Short memorandum providing commentary on the viability and/or obstacles related to identified floodplain restoration opportunities. (Task 12)

### TIME AND PERFORMANCE

1. At a schedule coordinated with City staff following issuance of this Task Order.

### COST ESTIMATE

As listed in the following table, the cost estimate for NHC to complete this work is \$448,136 if the City elects to include ESA consultation, a mitigation plan (i.e. 48 North Solutions Optional Task), specialized geotechnical engineering services, and authorizes use of a 10% contingency. The actual effort required for this project may be reduced to as little as \$277,843 based on use of the contingency and two factors related to the effort required for permitting:

- 1) If the River Street embankment protection project is also authorized there will be an estimated \$38,170 savings in permitting and cultural resources research costs to the Sandy Cove Park Bank Restoration Project alone (this is in addition to similar savings to the River Street embankment protection project).
- 2) If the ESA consultation and/or a mitigation plan (48 North Solution's optional task) are not needed for the Sandy Cove Bank Restoration project an additional \$20,342 could also be saved.



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If the full \$448,136 is budgeted, the City could place between \$40,740 and \$162,732 as optional and/or management reserve tasks that would require City staff authorization to activate if required based on these factors that cannot currently be determined.





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<b>nhc -- Northwest Hydraulic Consultants Inc.</b> 12787 Gateway Drive S. Seattle, WA 98168  Tel. (206) 241-6000 Fax (206) 439-2420		Prepared for: City of Snoqualmie Project: Sandy Cove Park Bank Protection and Restoration (Phase 2)  Date: January 28, 2019 Project No.: 2003862 Prepared By: Derek Stuart/Erik Rowland						
TASK DESCRIPTION	Principal Erik Rowland or Casey Kramer	Principal T3 Derek Stuart, Vaughn Collins, or Chris Long	Staff Scientist Andrew Nelson	Engineer 1 Jaron Brown	Engineer 2 Victor Lam and/or Jessica Lammers	Technician/G IS Analyst Justin Scollock or Madalyn Ohrt	Contract Admin Diane Numrich	Totals
1 Data Collection, Kick-off, Site Inspection, Geomorphic Assessment and Subsurface Borings	8	20	40					\$13,200
2 Field Survey and Development of DTM		6		16	64	60	1	\$20,640
3 Hydraulic Modeling Plan and Model Development		24			88	8	1	\$17,540
4a Assessment of Erosion ... at Walnut Street	2	6	8		15			\$5,075
4b (Optional) Design of Erosion Mitigation at Walnut Street (30%)	10	6	8		50			\$11,450
5 Refinement of Preferred Alternative, 60% Design Drawings, and Permitting Support	24	48	28		100	24	6	\$37,640
6 Final Design and Embankment Design Documentation	24	21	12		60		5	\$21,150
7 No-Rise Analysis and Certification		24			80			\$15,520
8 Erosion Risk Assessment Mapping	4	18	40			12		\$12,600
9 River Street Stormwater Outfall 30% and 90% Design		24			52	16		\$13,780
10 King Street Stormwater Outfall 30% Design		16			32	16		\$9,440
11a Scour Assessment of Meadowbrook Bridge - Technical (Optional) Scour Assessment of Meadowbrook Bridge - Reporting and POA	24			4	36			\$11,080
11b Assessment of Potential Floodplain Restoration Opportunities	8				16	2	0.5	\$4,290
12 Project Management/Administration and Quality Control	8	80	24		14	8		\$8,430
13 Construction Support	8	80			20		2	\$23,180
14 Construction Support	10	40			30		2	\$15,730
<b>Total Hours and Direct Labor Cost (DL)</b>	<b>122.0</b>	<b>339.0</b>	<b>160.0</b>	<b>20.0</b>	<b>657.0</b>	<b>166.0</b>	<b>18.5</b>	
Standard Rate	\$250.00	\$230.00	\$165.00	\$145.00	\$125.00	\$110.00	\$140.00	\$240,745
<b>TOTAL LABOR COST (BASE SCOPE OF WORK ONLY)</b>								<b>\$225,005</b>
<b>TOTAL LABOR COST (OPTIONAL TASK 12 ONLY)</b>								<b>\$15,740</b>
<b>Direct Expense Detail</b>								
				Units	Rate			Cost
Mileage (estimated 30-40 round trips)				3,966	\$0.580			\$2,300
Reproduction & Communication								\$200
Survey Equipment (Boat/RTK GPS/Echo Sounder)					(per field equipment sheet)			\$3,800
								\$6,300
<b>Subconsultants</b>								
				Sub Fee	Markup			Cost
<b>Base Scope of Work</b>								
Drilling Rig (\$1000 per boring x 2 boring + \$500 mobilization)				\$2,500	\$250			\$2,750
Stall for Cultural Resources Support (excludes cultural resources field survey)				\$6,874	\$687			\$7,561
48 Degrees North for Permit Application Support				\$63,500	\$6,350			\$69,850
							Base Scope of Work	\$80,161
<b>Optional Tasks</b>								
Geotechnical support for Task 1 from Terracon Consultants				\$10,000	\$1,000			\$11,000
KPFF bid package and Division 1 specification review				\$8,400	\$840			\$9,240
48 Degrees North for Permit Application Support (Additional for Walnut Street site, Task 8; not included in Attachment A)				\$25,000	\$2,500			\$27,500
48 Degrees North for Permit Application Support (ESA Consultation, Mitigation Plan)				\$28,500	\$2,950			\$32,450
							Optional Tasks	\$60,190
							Subconsultants Base Scope and Optional Tasks Combined	\$160,351
<b>Cost Summary</b>								
Total NHC Labor (Base Tasks + Optional Task)								\$240,745
Total Direct Expenses								\$6,300
Subconsultants								\$160,351
							TOTAL COST BASE SCOPE OF WORK	\$311,486
							TOTAL COST INCLUDING OPTIONAL TASKS	\$407,396
							<b>TOTAL COST INCLUDING OPTIONAL TASKS AND 10% CONTINGENCY</b>	<b>\$448,136</b>
							ESTIMATED MINIMUM COST (WITH PERMITTING/CULTURAL RESOURCES COST SHARE, NO OPTIONAL TASKS)	\$277,843



## Sandy Cove Park Bank Protection and Restoration - Phase 2

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### REFERENCES

NHC 1993, Draft interim report, Snoqualmie River flood control project. Prepared for City of Snoqualmie, Snoqualmie, Washington.

NHC 2008, Technical Analysis for FEMA Letter of Map Revision for the Snoqualmie River near the City of Snoqualmie, Washington. May 23, 2008. LOMR became effective February 26, 2010. NHC Project Number 21478.

NHC 2014, Sandy Cove Bank Restoration Project, Final Report, Prepared by Northwest Hydraulic Consultants for the City of Snoqualmie in coordination with Perteet Inc. and Terracon Inc. Review Draft April 2013, Final Draft January 2014. NHC Project Number 200080.

NHC 2017, Infrastructure Improvement Program, Hydrologic and Hydraulic Analysis, Final Report, Prepared by Northwest Hydraulic Consultants for Perteet Inc. on behalf of the City of Snoqualmie. February 2017. NHC Project Number 2001642.



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**Attachment A**

Sub-consultant 48 North Solutions Scope and Fee Estimate for both Sandy Cove Park and River Street Embankment projects



909 NE Boat Street, Seattle, Washington, 98105

October 18, 2018

Mr. Derek Stuart, PE,  
Northwest Hydraulics Consultants  
12787 Gateway Drive S.  
Seattle, WA 98168

submitted via email to: [dstuart@nhcweb.com](mailto:dstuart@nhcweb.com)

**Re: Version 2** - Environmental Permitting Support for the City of Snoqualmie's River Street Embankment Project (Phase 1) and Sandy Cove Bank Stabilization (Phase 2).

Dear Mr. Stuart:

48 North Solutions, Inc. (48 NORTH) is excited to submit this proposal to Northwest Hydraulic Consultants (NHC) to provide permit acquisition services for the proposed Snoqualmie Riverwalk embankment and bank stabilization project along the left bank of the Snoqualmie River, proposed by the City of Snoqualmie (the City). We have combined Phases 1 and 2 of the Snoqualmie Riverwalk Master Plan elements into one permitting effort to minimize costs and maximize effort for this project. This approach is the preferred strategy to follow since providing separate permitting documents for each phase would increase the cost of the project(s) significantly. If each Phase was permitted on its own, the cost would be significantly higher for each phase, than a combined permitting approach. Anticipated standalone permitting costs for Phase 2 are higher due to a more complex project involving stormwater, wetland, and other environmental impacts that are not anticipated in the Phase 1 standalone permitting costs. A 60/40 cost share split was derived based on the anticipated cost if each project was permitted on its own (see Part 2: Cost Estimate and Assumptions for more details).

While the City has recently stated that Phase 1 does not need to be expedited and can be constructed on the same timeline as Phase 2, the permit applications could to be split depending on the initial permitting strategy meetings with the U.S. Army Corps of Engineers (USACE) and on conditions and timeline with Phase 1 that needs to get done, but are not tied up with Phase 2. This proposal outlines 48 NORTH's effort to provide a combined cost-share environmental permit support for Phases 1 and 2 of this project.

#### PART 1: SCOPE OF WORK

The left bank of the Snoqualmie River, within the City limits, has experienced increased bank erosion that threatens Sandy Cove Park, River Street, local drainage infrastructure, and/or a planned Snoqualmie Riverwalk project. Sandy Cove Park and the riverbank adjacent to River Street are being eroded by the Snoqualmie River and require streambank protection. The City has asked NHC to design an embankment restoration at the River Street outfall, as well as incorporate new criteria into the Sandy Cove Park bank restoration design concepts that were identified by City staff in relation to the Riverwalk Master Plan and as outlined in the Berger Partnership Sandy Cove Phase 2 Schematic Plan.

The overall scope has grown in complexity since our initial consultation, but both projects are expected to have similar permitting requirements since bank protection along the river will be incorporated in both Phases. In-water work below the Ordinary High Water Mark (OHWM) is expected to trigger USACE, U.S. Fish and Wildlife Service (USFWS), Washington Departments of Fish and Wildlife (WDFW), and Ecology, and the City permits and reports. The City is also considering incorporating a replacement

outfall into the embankment repair project and conducting work in a wetland as part of the Sandy Cove stormwater effort. 48 NORTH has extensive experience permitting these types of projects and is currently in the process of completing the permitting of an outfall structure on the Nooksack River and is currently working closely with the USACE on a support system for an intake structure in Eastern Washington.

Formal and informal permitting agency consultation with federal, state and local agencies, and external stakeholders is a critical component of the permitting processes in Washington State. Consultation generally involves analysis of a proposed project to determine any potential environmental effects and to develop effective monitoring, mitigation, and adaptive management measures necessary to prevent, minimize and/or mitigate project effects on the environment. Consultation should start as early as possible to ensure that the correct environmental documentation and needs of both the project and agencies overseeing the permitting efforts are met. 48 NORTH will support NHC and the City with obtaining the environmental permits and the supporting consultations necessary to complete the bank stabilization and restoration with large woody debris, from Sandy Cove Park upstream to the City's outfall structure on River Street. We have broken these efforts into four tasks.

Task 1: Permitting

A) *Local (City) Permits*

48 NORTH will plan a kick off meeting with the City to engage in the local permitting strategy. As the City is leading this effort, we assume they will be the lead agency for the State Environmental Policy Act (SEPA) review. We anticipate that a standard SEPA Environmental Checklist will likely be required, as opposed to a SEPA Environmental Impact Statement (EIS). The checklist requires governmental agencies to consider the environmental impacts of a proposal before making decisions and helps agencies identify those impacts. The City (as the lead agency) will use this checklist to determine whether the environmental impacts of the proposal are significant. If impacts are not significant, the City will issue a Determination of Non-Significance for this project. 48 NORTH will work closely with the City's Planning team to develop the project's SEPA checklist for their review. In addition to developing the SEPA Checklist, 48 NORTH will prepare a Letter of Exemption for Shoreline Permit and a Flood Improvement Permit.

As part of the design, critical areas such as wetlands, should be avoided where practical. If they cannot be avoided, impacts should be minimized to the greatest extent practical. As part of the Critical Area Report (CAR), a wetland delineation and/or OHWM delineation would be necessary to avoid or minimize these impacts (see Task 2 for more detail). Wetlands are regulated by the City under the Sensitive Areas Ordinance, Chapter 19.12.180. The preparation of a special report (i.e., wetland delineation report, CAR, or Habitat Management Plan) will identify critical natural resources are within the proposed project. These assessments will identify if wetlands are present, and if so, where in relation to the project; if there are threatened and/or endangered species present; and surface waters are present, in addition to those identified as being present in the project area. These reports, or information contained within them, will support permit applications including the Conditional Use Permit and SEPA Checklist. Other City-related permits that maybe required include clearing and grading permits.

48 NORTH will prepare one (1) draft copy of the SEPA Checklist, CAR, and each City permit application, that includes both Phase 1 and 2, in MS Word format for internal review by NHC and/or the City. Upon receipt of one (1) consolidated set of comments, 48 NORTH will then prepare the final SEPA Checklist, CAR, and permit applications for submission to the City. Copies of all applications, as pdfs, will be submitted to NHC for their records.

**B) State and Federal Permits**

When it comes to permitting a project at a federal and State level, a Joint Aquatic Resource Permit Application (JARPA) is a key part of the permitting process. The JARPA serves as an application to the USACE, along with multiple state and local agencies. The JARPA is an efficient process because it initiates several related permitting processes through one application, including WDFW via its online APPS system, Ecology, and USACE. Each agency receives a separate copy of the same application.

To expedite the permitting process, 48 NORTH recommends conducting an on-site, pre-application meeting with the various federal and state permitting agencies, in particular, WDFW, Ecology and USACE. Upon receiving feedback during the pre-application meeting, 48 NORTH will develop the JARPA, that includes both Phase 1 and 2, for submission. 48 NORTH in collaboration with NHC will conduct a preliminary site visits with the USACE and other pertinent permitting agencies. 48 NORTH will then send the JARPA, that includes both Phase 1 and 2, application to the various permitting agencies including Ecology and USACE. The JARPA submission to USACE is to obtain either a Standard Permit (e.g., an Individual Permit) or a General Permit (e.g., a Nationwide Permit). The JARPA is submitted to Ecology for concurrence of Section 401 of the Clean Water Act (CWA). This concurrence can be in the form of either issuance of a Water Quality Certification or concurrence to the issuance of a nationwide permit by the USACE. Since this project is in King County and requires federal permitting, a Coastal Zone Management Certification may be required. The JARPA submission to WDFW, via its online APPS system, is to obtain a Hydraulic Project Approval (HPA) for the in-water work component of the project.

48 NORTH will develop the JARPA and the Determination of Consistency form for submission. We assume NHC will prepare all JARPA-formatted figures for this submission. 48 NORTH will send the application, that includes both Phase 1 and 2, to the various permitting agencies. 48 NORTH will use the information included in the JARPA and upload it onto the WDFW APPS online application system to obtain an HPA. A Determination of Consistency form will be submitted to the USACE and Ecology.

48 NORTH recognizes the regulatory agencies are involved with multiple projects at any one time. Therefore, once each application is submitted, 48 NORTH will work closely with the respective agencies to support the permitting review process so that it is completed as efficiently as possible. Our aim will be to minimize any lag time during the application review. Throughout the permit review process, 48 NORTH will monitor and engage these agencies via phone calls and/or electronic mail correspondence to receive updates from them and address any concerns that may arise. We will work closely with NHC to address agency comments received and provide any supplemental information to keep the project on schedule.

**Task 2: Field Surveys, Critical Area Report, and Conceptual Mitigation Plan**

The USACE, under Section 404 of the CWA, regulates the filling of “waters of the United States,” including associated wetlands (Environmental Laboratory 1987). USACE defines wetlands as: *“Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, bogs, marshes, and similar areas”* (U.S. Environmental Protection Agency, 40 Code of Federal Register [CFR] 230.3, 33 CFR 328.3, Federal Register 1982).

Ecology also regulates wetlands under section 401, when applicable, of the CWA and under state regulations. According to Section 401 of the federal CWA, Ecology may require any permit issued by the

USACE to meet state water quality standards. Conditions placed on the issuance of a Section 401 certification by Ecology become part of the Section 404 permit issued by the USACE. Ecology has the regulatory authority to deny a Section 401 certification. A Section 404 permit cannot be issued by the USACE if there is a denial of the Section 401 certification by Ecology.

Two (2) 48 NORTH biologists will conduct a Critical Area review and wetland and waters determination for the proposed project area that includes both Phase 1 and 2 sites. The purpose of this study will be to verify the presence or absence of wetlands and important habitat areas in, and within approximately 200 feet of the project, where access is available. We will assess for the presence of wetlands on the site in accordance with the current methodology of the USACE (2010) *Western Mountains, Valleys, and Coast Regional Supplement (Version 2.0)* and the USACE (1987) *Wetlands Delineation Manual*. A global positioning system unit will be used by the field team to assist in locating the project area and to record submeter-accurate site spatial data. Wetlands will be rated using Ecology's *Wetland Rating System for Western Washington (2014 Update)*.

Ecology defines the OHWM as “*that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland...*”

Following Ecology's 2016 guidance for OHWM determination, 48 NORTH will delineate the OHWM along the left bank of the Snoqualmie River, at the site of the proposed streambank stabilization and embankment project. Prior to the delineation, our biologist will complete a desktop assessment to identify water flow-related data for the determined river reach. If field indicators are not conclusive in determining the OHWM, hydrologic data will be used to develop an understanding of the timing and elevation of high water that creates marks on the soil with respect to vegetation. We have assumed that this delineation will be limited to the left bank of the river only. Principal elements of the field assessment will include general observations of the site conditions, as well as identifying the boundaries of the OHWM using field indicators.

Through our experience, we understand mitigation may be required to offset a potential impact of the proposed project. Mitigation may include either restoring, and/or enhancing the riparian and aquatic habitat and invasive removal. If the presence of wetlands is determined, and more importantly, impacts to those identified wetlands and aquatic habitat cannot be avoided, 48 NORTH will prepare a conceptual wetland and aquatic resources mitigation plan. It is assumed that structures will be placed primarily for bank stabilization and river bank protection and these impacts need to be mitigated and depending on the size of the proposed impacts, we will assess the potential mitigation alternatives including enhancement and/or restoration of nearby wetland area, creation of wetlands, invasive plant removal, riverbank or side-channel restoration and/or the use of a wetland mitigation bank.

Upon completion of our delineations, 48 NORTH will prepare one CAR, inclusive of both Phase 1 and 2, including findings of our wetland/OHWM delineations and a Conceptual Mitigation Plan. The CAR will also include a description of the aquatic and terrestrial resources at the site, photographs, and vegetation and soil characteristics of the area, and a description of the mapped critical area boundaries. 48 NORTH's wetland staff will develop a conceptual mitigation plan for the City that will describe temporary and permanent wetland and aquatic impacts and present an overview of possible mitigation solutions to provide compensatory mitigation for wetland and aquatic impacts from the proposed project. The alternatives in this conceptual mitigation plan will be developed using *Wetland Mitigation in Washington State Part 2: Developing Mitigation Plans* (Ecology et al., 2006) and the *Wetland Rating System for Western Washington* (Ecology 2014 Update).

Prior to submittal, 48 NORTH will submit one (1) draft copy of the CAR and Conceptual Mitigation Plan in Word format to NHC for review, along with pdfs of the final report. A printed copy of this report will be included in the JARPA submittal(s) as an appendix.

#### Task 3: Endangered Species Act Consultation (Optional – Depending on USFWS requirements)

Section 7 of the Endangered Species Act (ESA) requires federal agencies to ensure actions it authorizes, or permits are not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitats. To meet ESA requirements, agencies review the likely effects of their projects in consultation with the National Marine Fisheries Service (NMFS) and/or USFWS, commonly referred to as the “Services”. The Services share responsibility for administering Section 7 of the ESA.

Consultation with the Services may be required if the project requires a federal permit from the USACE, which is considered a federal nexus. Projects that have a federal nexus (i.e., receive federal funds, occur on federal lands, or require federal permits or approval) trigger the completion of Section 7 consultation with the Services.

Consultation under the ESA would require the City to submit either a letter of “no effect” or request a Biological Assessment (BA) for informal (determination of “may effect, is not likely to adversely affect”), or formal consultation (determination of may affect, is likely to adversely affect”) to the Services. The USACE is responsible for initiating and coordinating the consultation process and obtaining the Services concurrence. The City is responsible for preparing either a “letter of no effect” or a BA to address the potential impacts and possible mitigation measures to offset these impacts.

The project is located upstream of Snoqualmie Falls and does not contain any ESA-listed species and/or critical habitat overseen by NMFS but may contain ESA-listed species and/or critical habitat overseen by USFWS. As such, we assume there will be no consultation with NMFS. Consultation requirements with the USFWS may include 1) an assessment of the proposed construction of the streambank stabilization and culvert replacement to determine the level of effect on ESA-listed species such as the marbled murrelet (or their designated critical habitat, which is found just west of the City in the Middle Fork Snoqualmie River basin), protected by the respective agencies, and 2) preparation of a letter (or report, depending on the level of effect) addressed to the Services requesting concurrence with the effect determination. The USACE will issue a permit once they receive concurrence from USFWS (amongst other items).

Working through the USACE, we will meet in person or communicate over the phone with the USFWS to discuss the Proposed Action. Following this, 48 NORTH will prepare the requested documentation, (BA, Letter of No Effect, or abbreviated Biological Evaluation [BE]) summarizing the potential impacts of the Proposed Action on ESA-listed species that may occur within the Project Area.

48 NORTH will prepare one (1) draft copy of the BA, Letter of No Effect, or abbreviated BE, inclusive of Phase 1 and 2, for internal review. Upon receipt of one (1) consolidated set of comments, we will then prepare a final document for submission to the USACE.

#### Task 4: Mitigation Plan (Optional – Depending on Proposed Impacts)

Due to the uncertainty as to how much wetland and aquatic habitat could be impacted and the mitigation option(s) selected, we have costed the development of a Conceptual Mitigation Plan. Upon selecting a



mitigation alternative, 48 NORTH will develop a final Mitigation Plan that will outline how the City will compensate for the impacts of the identified wetlands and aquatic habitats and increase the net wetland and aquatic habitat functions and values at a landscape level.

**PART 2: COST ESTIMATE AND ASSUMPTIONS**

48 NORTH's Time & Materials estimate to complete the environmental permitting for the City's proposed combined embankment project (Phases 1 & 2) is \$116,600 (Table 1). This cost estimate is net of any applicable Federal, state, and local sales taxes or fees. 48 NORTH's 2019 labor rates are presented in Table 2. These rates will be valid for the duration of the project. Our cost estimate does not include any payments for other federal, state, or local permitting costs, or other agreements.

A standalone permitting effort for Phase 1 is estimated to cost \$72,000 (\$42,500 for Tasks 1 & 2 and \$29,500 for optional Tasks 3 & 4). A standalone permitting effort for Phase 2 is estimated to cost \$114,000. Anticipated standalone permitting costs for Phase 2 would be larger due to a more complex project involving stormwater, wetland and other environmental impacts that would not be anticipated in the Phase 1 standalone permitting. A 60/40 cost share split was derived based on the anticipated cost if each project was permitted on its own.

**Table 1: 48 NORTH's Time & Materials Cost Estimate Per Task for Combined Phase 1 and 2 Permitting Effort**

Task	Cost
Task 1: Permitting	\$35,500
Task 2: Field Surveys, CAR, Conceptual Mitigation Plan	\$41,900
Task 3: ESA Consultation (Optional)	\$14,500
Task 4: Mitigation Plan (Optional)	\$25,000
<b>TOTAL</b>	<b>\$116,600</b>

**Table 2: 48 NORTH's 2019 Professional Rates**

Labor Category	Rate/Hour
Principal Scientist	\$156
Senior Scientist	\$143
GIS Analyst	\$126
Associate Scientist II	\$126
Associate Scientist I	\$111
Junior Scientist	\$ 96
Field Technician II	\$ 93
Field Technician I	\$ 74
Accounts Specialist	\$ 71

**Other Direct Costs (out of pocket expenses), Travel, and Subcontractor costs are invoiced at actual plus 10%.**

When costing this estimate, we made the following assumptions:

- Permitting effort and costs were estimated based on restoration design concepts identified by City staff in relation to the Riverwalk Master Plan and as outlined in the Berger Partnership Sandy Cove Phase 2 Schematic Plan.

- Permitting applications, reports, and other submittals (e.g., the JARPA and associated appendices, such as the delineation report) will combine Phases 1 and 2 of the Snoqualmie Riverwalk Master Plan elements into one submittal per agency to minimize costs and maximize effort for this project.
- Due to the project's location above the Snoqualmie Falls, we do not anticipate consultation with NMFS; however, USFWS may request consultation, or Best Management Practices, and a determination of impacts for Northern spotted owl and/or marbled murrelet. We have costed an abbreviated BE that can be later amended to a letter of No Effect upon consultation with USFWS. We have not costed the development of a fully expanded BA.
- The City will be the SEPA lead, not King County.
- A SEPA Checklist is sufficient and the project will not require a SEPA EIS.
- If required by the permitting agencies, a cultural resources report will be completed by a third party and will be provide to 48 NORTH for the permit application submittals.
- A Mitigation Plan for wetland, river and floodplain impacts may be required by the regulatory/local agencies. A Conceptual Mitigation Plan has been costed and a final Mitigation Plan has been costed as optional in Task 4. Mitigation Plan cost is only an estimate as impacts to critical areas have yet been determined.
- NHC will provide all JARPA-formatted figures to support permit applications.
- In an effort to minimize costs and maximize effort, permit tracking will be limited to teleconferences, phone calls, and electronic mail correspondence with regulatory agencies only.
- This cost estimate does not include additional agency/stakeholder meetings to address significant changes to the JARPA submittal and/or agency comments; or substantial project changes that may require modifying the JARPA.

We appreciate the opportunity to submit this proposal and look forward to continuing to support NHC and the City on this project. If you have any questions or would like to discuss this proposal further, please contact Bill Mavros at (206) 637-5442 or via e-mail at [bmavros@48northsolutions.com](mailto:bmavros@48northsolutions.com).

Sincerely,



Cameron Fisher  
Principal, Aquatic Lead  
48 North Solutions, Inc.



Sandy Cove Park Bank Protection and Restoration - Phase 2

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January 28, 2018

Page 24

**Attachment B**

Sub-consultant Stell's Scope and Fee Estimate



September 24, 2018

Northwest Hydraulic Consultants  
 12787 Gateway Drive South  
 Seattle, WA 98168  
 ATTN: Mr. Derek Stuart P.E., Principal  
 DStuart@nhcweb.com

RE: Request for Proposals (RFP)---Sandy Cove Phase 2 Bank Restoration in Snoqualmie - Cultural Resources Assessment

Dear Mr. Stuart:

Enclosed please find Stell's proposal in response to the request for additional information.

Stell is a woman-owned and veteran-owned small business specializing in environmental and planning consulting services. Established in 2004, our professional staff of more than 100 archeologists, scientists, engineers, planners, and geologists has extensive experience complying with federal and state environmental laws and regulations. Over the past 6 years, Stell has provided more than \$13 million in cultural resources program support to municipal, state, commercial, and federal clients. A sampling of these projects includes the following:

- Lower Big Quilcene River Floodplain Cultural Resources Assessment, Quilcene, WA
- Archaeological Field Investigations on Identified Lands of the Quileute Tribe, La Push, WA
- Cultural Inventory and Evaluation at the Turn Point Lighthouse on Stuart Island, WA
- Archaeological Monitoring for the Elliott Bay Seawall Replacement Program, Seattle, WA
- Archaeological Data Recovery Excavation at 45WH265 and the Large Woody Debris Corral Survey, Ross Lake National Recreation Area, WA
- Cultural resources investigation activities supporting several Washington State Department of Transportation fish passage projects, WA

In support of the Sandy Cove Phase 2 Bank Restoration in Snoqualmie Cultural Resources Assessment, we offer Sarah Steinkraus, MSc, RPA as our project manager. Resumes for Ms. Steinkraus and Mr. Timothy Gerrish are provided as Attachment 1. This proposal offers two separate price estimates:

**1) Project Management, Background Research and Desktop Literature Review, and Technical Report;**

If it is determined that a cultural resources survey is required, the following tasks will be required:

**2) Project Management, Background Research and Desktop Literature Review, Cultural Resources Survey, and Technical Report.**

Stell archaeologists will perform the following tasks to satisfy requirements set forth in local King County ordinances and Washington's State Environmental Policy Act (SEPA):

### Scope of Work

**Task 1 – Project Management** – Stell emphasizes the importance of strong and effective project management, as it provides the foundation for successful project execution. Furthermore, Stell recognizes that the Project pre-construction stage is a particularly dynamic phase, where clear communication, dissemination of information to

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Certified VOSB | WOSB | MWBE



team members, and prompt implementation of appropriate compliance requirements are critical for the success of the Project. Stell project manager, Ms. Sarah Steinkraus, will serve as the single point of contact.

**Task 2 - Background Research and Literature Review and Desktop Review and Report.** Pertinent literature on the archaeology, ethnography, and history of any given project area will be reviewed to determine the probability for archaeological resources and traditional cultural properties in the project area. Previous cultural resources studies, historic building and structure inventories, ethnographies, local histories, historic maps, as well as records held by the Washington State Department of Archaeology and Historic Preservation (DAHP) will be consulted.

At this phase, the project area will need to be determined. An Area of Potential Effect (APE) letter will be written by Stell to provide a brief project description, level and amount of acreage proposed for ground-disturbing activities and a project vicinity map. A request will be made in the letter to the involved state agency and affected Native American tribes for concurrence on the proposed project area. For archaeological resources, the typical project area includes the vertical and horizontal extent of proposed construction excavation plus associated laydown and staging areas. Once concurrence on the APE is agreed upon by the reviewing authorities, a process that takes a maximum of 30 days, fieldwork for the project can commence.

**Task 3 - Cultural Resources Survey (Price Estimate No. 2 only).** Stell will conduct a systematic field survey to identify previously recorded and/or unrecorded archaeological resources where ground-disturbing activities are expected to take place. Field reconnaissance will include a series of pedestrian transects at varying intervals, depending on terrain and vegetation cover experienced across the project area. Shovel test probes will be excavated to a maximum depth of 100 centimeters across the entire project area approximately 20 meters (65 feet) apart. All sediment excavated from the shovel probes will be hand screened using ¼- inch hardwire mesh. A hand auger will be used to determine subsurface deposits deeper than 1 meter and will be used to a maximum depth of 3 meters. New archaeological sites will be mapped, photographed, and recorded on Washington State Archaeological Site Inventory forms. This assessment assumes that no more than one new archaeological site will be identified and recorded during the fieldwork. Previously documented sites within the project area will be relocated, reevaluated for condition, and updated on a Washington State Archaeological Site Inventory Addendum Sheet. The Washington State Historic Inventory Database will be utilized to record the identified historic resources.

**Task 4 - Technical Report.** After the completion of the fieldwork, Stell will prepare a technical cultural resources report that meets state and federal standards for reporting as outlined in the guidelines provided by the DAHP. The technical report will describe the survey methods, summarize and interpret our findings, and provides management recommendations. The report will contain brief geological, prehistoric, and historical contexts for the area, as well as discussion of the fieldwork strategy employed, results, and field conditions. Stell will submit the report to Northwest Hydraulic Consultants and the DAHP.

The cost for Price Estimate No. 1 is \$6,873.71. The cost for Price Estimate No. 2 will be \$9,051.98.

Stell's proposed cost options for this project is provided as Attachment 2. The two pricings enclosed are based on the following assumptions:

- Northwest Hydraulic Consultants will provide all rights of entries.
- Weather conditions permitting, the cultural resources survey is scheduled to be completed in one (1) day and will commence within 30 days of notice to proceed (Price Estimate # 2).
- Not more than 35 shovel test probes will be excavated to a depth of no more than 100 centimeters (39 inches) below the ground surface (Price Estimate # 2).
- No historic buildings/structures over 50 years of age have been identified in the project area and therefore no buildings/structures will be inventoried as part of this assessment.
- Not more than one archaeological site will be recorded during fieldwork (Price Estimate # 2).



April 4, 2018  
Page 3

- Should archaeological testing for NRHP evaluation eligibility and/or data recovery efforts be determined necessary, a new scope and budget will need to be submitted.
- Human remains will not be encountered. If human remains are encountered, the King County Sheriff and Coroner will be immediately contacted. If the remains are determined to be not part of a criminal investigation and anthropological in nature, Washington Department of Archaeology and Historic Preservation forensic anthropologist Guy Tasa will be contacted immediately, as will be the affected Native American tribes.
- The draft technical report will be delivered for review to Northwest Hydraulic Consultants within 6 weeks of notice to proceed.
- The draft/final technical report will not exceed 30 pages of text (not including appendices) and five figures.
- The report will undergo one cycle of review and comment; Northwest Hydraulic Consultants will collate all comments into a single list for response by Stell.
- One hard copy of the final report will be delivered to Northwest Hydraulic Consultants within 1 week after receiving comments on the draft report.
- Stell staff will not require or need to provide project-specific training.
- Stell will provide cultural resources services under a firm-fixed price (or lump sum) contract.
- The scope and price quote are valid for 60 days from the date of this proposal letter.

Based on the above assumptions, this project is anticipated to take 35 days for pricing # 1, plus Northwest Hydraulic Consultants review time of the draft technical report. If a cultural resources survey is required, then this project is anticipated to take 60 days (pricing #2).

I look forward to the opportunity to support Northwest Hydraulic Consultants. Please contact me at (206) 351-7809 or [tgerrish@stelllee.com](mailto:tgerrish@stelllee.com) with any questions.

Best regards,

A handwritten signature in black ink, appearing to read "Tim Gerrish".

Tim Gerrish  
Archaeologist

Attachments:

- 1.) Resumes of Key Personnel
- 2.) Price Estimate



**Sarah M.H. Steinkraus**  
Archaeologist

**EDUCATION**

M.S. Forensic Anthropology,  
University of Central Lancashire, UK, 2008

B.S. Anthropology,  
Central Washington University, 2007

**REGISTRATIONS/  
CERTIFICATIONS**

Register of Professional Archaeologists

National Parks Service  
Managing Archaeological Collections Certificate

**PROFESSIONAL AFFILIATIONS**

Association for Washington Archaeology

**TRAINING**

CPR / AED Certification

WISAARD and OARRA Access

**INDUSTRY TENURE**

10 years

**AREAS OF EXPERTISE**

Phase I, II, III archaeological surveys and investigations

National Environmental Policy Act (NEPA) / Washington State Environmental Policy Act (SEPA)

Osteology

Historic property inventories

Lithic Analysis

**PROFESSIONAL EXPERIENCE**

Ms. Steinkraus has 10 years of professional experience in cultural resource management including experience as a bioarchaeologist and technical writer and editor. She has conducted survey, testing, and excavation and assisted with osteological examinations of human remains for NAGPRA repatriation, mapping, and managing GIS data. Ms. Steinkraus has also been a Lecturer and Research Associate with the Anthropology Department at Central Washington University. Ms. Steinkraus has performed over 95 surveys and excavations in Washington, Oregon, Nevada, and Mexico. Her responsibilities include client coordination, project strategizing and planning, technical reporting and analysis, field data collection, supervising field personnel, osteological analysis, construction monitoring, precontact and historic-era artifact analysis, and artifact curation following federal guidelines.

**PROJECT EXPERIENCE - WASHINGTON**

**Cultural Resources Assessment of the East Rutherford Street Project, Carnation, King County, Washington.** 2016. Project Archaeologist. H.W. Lochner contracted Tierra Right of Way to conduct a review, pedestrian survey, and subsurface sampling of along East Rutherford Street in Carnation, Washington in preparation for street improvement projects. Ms. Steinkraus conducted the fieldwork and prepared the report for the project.

**Lower Satsop Habitat Restoration Project, Grays Harbor County, WA.** 2018. Project Archaeologist. Washington Department of Fish and Wildlife contracted Tierra Right of Way to conduct a review, pedestrian survey, and subsurface sampling of a portion of the Satsop Unit of the Chehalis Wildlife Area. This project proposed to remove four man-made dykes an approximately 6-acre spoil pile from the construction of the Satsop Reactor in order to regrade the area to provide off-stream habitat for various fish species. Ms. Steinkraus conducted the fieldwork and prepared the report for the project.

**Lakewood Hatchery Electrical Improvements Project, Pierce County, WA.** 2018. Project Archaeologist. Washington Department of Fish and Wildlife contracted Tierra Right of Way to monitoring of electrical improvements for its Lakewood Hatchery facility. Ms. Steinkraus monitored trenching by a small backhoe for placement of electrical conduit, documented one archaeological site on WISAARD, and prepared the report for the project.



**Sarah M.H. Steinkraus**  
*Archaeologist*

**WEYCO Fir Creek Fish Passage Project, Grays Harbor County, WA.** 2018. Project Archaeologist. Weyerhaeuser NR Company contracted Tierra Right of Way to conduct pedestrian survey and subsurface sampling along Fir Creek in order to facilitate the replacement of three culverts which inhibited access upstream to anadromous fish and replace these with a precast concrete bridge. Ms. Steinkraus conducted the fieldwork and prepared the report for the project.

**WEYCO Little North River Tributary Fish Passage Project, Grays Harbor County, WA.** 2018. Project Archaeologist. Weyerhaeuser NR Company contracted Tierra Right of Way to conduct pedestrian survey and subsurface sampling along a tributary of the Little North River in order to facilitate the replacement of two culverts which inhibited access upstream to anadromous fish and replace these with a precast concrete bridge. The new bridge was to be placed above historic-era railroad bridge abutments. Ms. Steinkraus conducted the fieldwork and prepared an HPI form on WISAARD as well as the report for the project. Ms. Steinkraus provided communication and updates with the Washington State Recreation and Conservation Office (funding agency) and the Department of Archaeology and Historic Preservation to expedite the determination of eligibility process for the historic property onsite so that the project could continue in a timely manner.

**Samish Fish Hatchery Intake Project, Skagit County, WA.** 2017. Project Archaeologist. Washington Fish and Wildlife contracted Tierra Right of Way to conduct pedestrian survey, subsurface sampling, and historic properties documentation at the Samish Fish Hatchery release facility prior to improvements to the facility. Ms. Steinkraus conducted pedestrian survey, oversaw the subsurface sampling, documented all historic properties on HPI forms for WISAARD, and prepared the report for the project.

**Mopang Creek Fish Barrier Correction Project, Grays Harbor County, WA.** 2017. Project Archaeologist. Chehalis Basin Fisheries Task Force contracted Tierra Right of Way to conduct pedestrian survey and subsurface sampling for the replacement of a culvert along Mopang Creek that was inhibiting access upstream to multiple anadromous fish species. Ms. Steinkraus conducted pedestrian survey, subsurface sampling, and prepared the report for the project.

**Lower Russell Road Levee Setback Project, King County, WA.** 2018. Project Archaeologist. HDR, Inc. contracted Tierra Right of Way to conduct deep (three meters) subsurface sampling for a 75-acre project along the Green River along Russell Road in Kent. King County proposed to move the Russell Road Levee inland in order to create more wildlife areas in this location including fish habitat. Ms. Steinkraus conducted and oversaw fieldwork; documented multiple, large sites within the project area on archaeological site forms on WISAARD; analyzed historic artifacts including flaked glass tools; and prepared the report for the project.

**Kalama Falls Fish Hatchery Phase 2 Project, Cowlitz County, WA.** 2016. Project Archaeologist. Washington Department of Fish and Wildlife contracted Tierra Right of Way to conduct an 18.9-acre pedestrian survey, subsurface survey, documentation of built environment, and a final report for improvements planned to the Fish Hatchery facility. Ms. Steinkraus conducted the built environment documentation and prepared the report for the project.

**Corson Wildlife Area Culvert Removal Project, Snohomish County, WA.** 2016. Project Archaeologist. Washington Department of Fish and Wildlife contracted Tierra Right of Way to conduct pedestrian survey and subsurface sampling for the replacement of multiple culverts within the Corson Wildlife Area. Ms. Steinkraus conducted pedestrian survey, subsurface sampling, and prepared the report for the project.

**Weyerhaeuser-Middle Fork Satsop Passage Project, Grays Harbor County, WA.** 2016. Project Archaeologist. Weyerhaeuser NR Company contracted Tierra Right of Way to conduct pedestrian survey and subsurface sampling for the replacement of a large culvert along the Middle Fork Satsop River that was inhibiting the upstream access of multiple anadromous fish species. Ms. Steinkraus conducted pedestrian survey, subsurface sampling, and prepared the report for the project.





**Timothy Gerrish**  
Archaeologist

**EDUCATION**

B.A. Anthropology, University of Washington, 2007

**REGISTRATIONS/  
CERTIFICATIONS**

American Academy of Underwater Sciences Certified Scientific Diver

Rescue SCUBA Diver, Professional Association of Diving Instructors

Washington State Boater Education, U.S. Power Squadron

**PROFESSIONAL  
AFFILIATIONS**

American Academy of Underwater Sciences, Friday Harbor Laboratories, University of Washington

Underwater Archaeological Society of British Columbia

Association for Washington Archaeology

**TRAINING**

OSHA 40-Hour HAZWOPER

Nautical and Foreshore Archaeological Field Methods

First Aid / CPR / AED / Emergency Oxygen Administration / Neurological Assessment for divers

**INDUSTRY TENURE**

10 years

**AREAS OF EXPERTISE**

Phase I, II, III archaeological surveys and investigations

National Environmental Policy Act (NEPA) / Section 106 of the National Historic Preservation Act (NHPA)

Historic property inventories

Archaeological monitoring

Lithic Analysis

**PROFESSIONAL EXPERIENCE**

Mr. Gerrish has 10 years of professional experience in cultural resource management and serves as project manager. He has been coordinating with clients and developing strategies to assist in the successful completion of projects using his expertise in field survey methods, data recovery, and laboratory analytic techniques. He has conducted cultural resource inventories, including intensive and reconnaissance-level pedestrian surveys and data recoveries, throughout the Pacific Northwest. Mr. Gerrish has performed over 90 surveys and excavations in Washington, Oregon, Montana, California and Corsica, France. His responsibilities include client coordination, project strategizing and planning, technical reporting and analysis, field data collection, supervising field personnel, construction monitoring, lithic analysis, and artifact collection curation following federal guidelines.

**PROJECT EXPERIENCE**

**Cultural Resources Assessment of the Hancock and Calligan Creek Hydroelectric Project, FERC Nos. P-13994 and P-13948, King County, WA. 2011.** Mr. Gerrish was field director for the cultural resources survey of two 18-acre alignment parcels along Calligan and Hancock Creeks north of North Bend in King County, Washington. The assessment consisted of a pedestrian and subsurface survey within areas of remote and rugged geography. A total of 8 acres of proposed enhancements were surveyed and 111 STPs were excavated with no observed cultural materials. Key stakeholders included Snohomish County Public Utilities District, King County, and the Snoqualmie Indian Tribe.

**Snoqualmie Transmission Line Survey, King County, WA 2008.** Archaeologist. Performed a cultural resources assessment which included pedestrian and subsurface testing of a transmission line corridor near Carnation, Washington.

**City of Redmond Driver's Club Project Cultural Resources Survey, King County, WA 2016-2017.** Supervisory Archaeologist. Under contract with Shotgun Creek LLC, Mr. Gerrish was project manager and performed an updated cultural resources assessment of the Project parcel. Mr. Gerrish conducted the fieldwork for this effort and drafted the technical report which recommended that no historic properties were subject to effect.



**Timothy Gerrish**  
Archaeologist

**Jefferson County Public Health: Lower Big Quilcene River Floodplain Cultural Resources Assessment, Quilcene, WA.** 2017-2018. Jefferson County Public Health (County) has contracted with Stell to conduct a cultural resources assessment for the Lower Big Quilcene Floodplain Project. This project is being funded by a Recreation and Conservation Office grant and falls under the auspices of the State Environmental Policy Act. The project includes seven parcels containing a variety of structures, trailers, solid waste, and containers which will be demolished and removed as part of the floodplain enhancement. This assessment includes pertinent background literature review, field survey, inventory of two historic properties, and a final technical report.

**McSorley Creek Pocket Estuary Restoration Project at Saltwater State Park, King County, WA** 2016-present. Supervisory Archaeologist. Washington State Parks and King County Department of Natural Resources and Parks (King County) are collaborating on a feasibility study to restore the estuary and lowermost reaches of McSorley Creek which flows through Saltwater State Park into Puget Sound. The Project involved an initial exploration which contributed to the feasibility study. Mr. Gerrish is consulting with Confluence Environmental Company in the delivery of Section 106 of the National Historic Preservation Act compliant documents which include an Archaeological Monitoring Plan and Inadvertent Discovery Plan.

**U.S. Army Corps of Engineers (USACE) Seattle District: Howard Hanson Dam Archaeological District Data Recovery, Site Monitoring, and Cultural Resource Survey, King County, WA.** 2010-2015. Archaeologist and assistant project manager. Participated in development a Plan of Action according to the USACE performance work statement detailing our approach to handling data recovery activities, site monitoring, and an archaeological pedestrian survey within and adjacent to the NRHP-eligible Howard Hanson Dam Archaeological District (DT 184).

During the reconnaissance survey, archaeologists documented a previously unrecorded archaeological site in peril from erosion of a cut bank overlooking the historic channel of the Green River. Emergency excavation on what would later be identified as 45KI1083 (the Eagle Gorge Terrace Site) recovered significant amount of precontact lithic material, burnt animal fauna, at least two fire modified rock hearths, and a radiocarbon date estimating the site's age at 800 to 1,000 years before present. Post-fieldwork analysis on the recovered archaeological material included an inventory and evaluation of both the stone tool and faunal assemblages, blood residue analysis on selected diagnostic stone tools, and obsidian hydration results from recovered obsidian. Other activities executed between 2011 and 2015 included archaeological testing at six pre-contact sites, site monitoring of 19 pre-contact, historic, and multicomponent sites; and archaeological survey of over 300 acres. During the survey, documented 18 new isolated finds and 13 newly discovered archaeological sites.

The final report also recorded the demonstrative effects of erosion on this site, revealing that between 2011 and 2014 one meter of terrace edge was been lost due to erosion, and highlighted the potential for site loss based on an analysis of historic trends in reservoir levels. Recommendations were made for excavations that would build on previous work and target areas most in danger.

**Issaquah Creek Integrated Fish Passage Project, Issaquah, WA** 2012. Supervisory Archaeologist. Conducted the field survey effort for mitigation of a fish passage project at the historic Issaquah Creek Diversion Dam. Additionally, a survey of the project area was conducted which included shovel testing areas of high probability. Work was performed under a Memorandum of Agreement between USACE, the Washington State Department of Archaeology and Historic Preservation, the City of Issaquah, the Washington Department of Fish and Wildlife, and the Muckleshoot Indian Tribe. The MOA was developed to mitigate construction of a fish passage at the dam, resulting in the dam's removal and reconstruction.

**Site 45KI757 Archaeological Data Recovery, WSDOT, King County, WA.** 2009. Archaeologist. Participated in the fieldwork for a small-scale archaeological data recovery along Interstate 405. The site contained only one artifact, an isolated Olcott projectile point, so the project was salvaged by conducting an analysis of all confirmed isolated Olcott points in the region, which produced a model of early/middle Holocene hunting practices. Work included interaction with the Snoqualmie tribe.

LABOR CATEGORIES / EMPLOYEE NAME	Home or Client	BASE YEAR	Unit	Task 01: Project Management		Task 02: Background Research and Literature Review		Task 03: Site Visit		Task 04: Technical Report		Summary	
				Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost
Project Manager / Sarah Steinkraus	Home	\$ 96.10	HR	4	\$ 384.40	14	\$ 1,345.40	6	\$ 576.60	12	\$ 1,153.20	36	\$ 3,459.60
Archaeologist / Tim Gemish	Home	\$ 86.80	HR		-		-		-	4	\$ 347.20	4	\$ 347.20
Archaeologist / Mark Steinkraus	Home	\$ 94.22	HR		-	8	\$ 753.76		-	10	\$ 942.20	18	\$ 1,695.96
GIS Specialist / Andrew Tulejya	Home	\$ 77.50	HR		-	2	\$ 155.00		-	4	\$ 310.00	6	\$ 465.00
Editor / Lisa Oliver	Home	\$ 59.12	HR		-		-		-	4	\$ 236.48	4	\$ 236.48
				4	\$ 384.40	24	\$ 2,254.16	6	\$ 576.60	34	\$ 2,989.08	68	\$ 6,204.24
<b>TRAVEL &amp; ODC COSTS</b>				<b>Rate</b>	<b>Qty</b>	<b>Cost</b>	<b>Qty</b>	<b>Cost</b>	<b>Qty</b>	<b>Cost</b>	<b>Qty</b>	<b>Cost</b>	
ODC Subtotal				\$	-	\$	-	\$	-	\$	-	\$	-
SUBS				\$	-	\$	-	\$	-	\$	-	\$	-
SUBS				\$	-	\$	-	\$	-	\$	-	\$	-
Sub Subtotal		8.78%		\$	-	\$	-	\$	-	\$	-	\$	-
Sub/ODC G&A				\$	-	\$	-	\$	-	\$	-	\$	-
Mileage		\$ 0.545	mile		-		-	90	\$ 49.05		-		\$ 49.05
TRAVEL			Per		-		-		-		-		\$ 49.05
Sub/ODC/Travel Subtotal				\$	-	\$	-	\$	49.05	\$	-	\$	49.05
Profit/Fee (on Labor)		10.0%		\$	38.44	\$	225.42	\$	57.66	\$	298.91	\$	620.42
<b>Total Price</b>				\$	422.84	\$	2,479.58	\$	683.31	\$	3,287.99	\$	6,873.71

LABOR CATEGORIES / EMPLOYEE NAME	Home or Client	BASE YEAR	Unit	Task 01: Project Management		Task 02: Background Research and Literature Review		Task 03: Cultural Resources Survey		Task 04: Technical Report		Summary	
				Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost
Project Manager / Sarah Steinkraus	Home	\$ 96.10	HR	4	\$ 384.40	14	\$ 1,345.40	10	\$ 961.00	14	\$ 1,345.40	42	\$ 4,036.20
Archaeologist / Tim Gernish	Home	\$ 86.80	HR					10	\$ 868.00	8	\$ 694.40	18	\$ 1,562.40
Archaeologist / Mark Steinkraus	Home	\$ 94.22	HR			8	\$ 753.76			12	\$ 1,130.64	20	\$ 1,884.40
GIS Specialist / Andrew Tuleya	Home	\$ 77.50	HR			2	\$ 155.00			4	\$ 310.00	6	\$ 465.00
Editor / Lisa Oliver	Home	\$ 59.12	HR							4	\$ 236.48	4	\$ 236.48
			HR									0	\$ -
				4	\$ 384.40	24	\$ 2,254.16	20	\$ 1,829.00	42	\$ 3,716.92	90	\$ 8,184.48
<b>TRAVEL &amp; ODC COSTS</b>				<b>Rate</b>	<b>Qty</b>	<b>Cost</b>	<b>Qty</b>	<b>Cost</b>	<b>Qty</b>	<b>Cost</b>	<b>Qty</b>	<b>Cost</b>	
<b>ODC Subtotal</b>				\$ -		\$ -		\$ -		\$ -		\$ -	
<b>SUBS</b>				\$ -		\$ -		\$ -		\$ -		\$ -	
<b>SUBS</b>				\$ -		\$ -		\$ -		\$ -		\$ -	
<b>Sub Subtotal</b>													
<b>Sub/ODC G&amp;A</b>		8.78%											
<b>Mileage</b>		\$ 0.545	mile			\$ -		90	\$ 49.05		\$ -		\$ 49.05
<b>TRAVEL</b>				\$ -		\$ -			\$ 49.05		\$ -		\$ 49.05
<b>Sub/ODC/Travel Subtotal</b>				\$ -		\$ -			\$ 49.05		\$ -		\$ 49.05
<b>Profit/Fee (on Labor)</b>		10.0%				\$ 225.42			\$ 182.90		\$ 371.69		\$ 818.45
<b>Total Price</b>				\$ 422.84		\$ 2,479.58		\$ 2,060.95		\$ 4,088.61		\$ 9,051.98	



Sandy Cove Park Bank Protection and Restoration - Phase 2

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January 28, 2018

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**Attachment C**

Sub-consultant KPFF's Scope and Fee Estimate (example from similar task on River Street Embankment Project)



January 14, 2019

Mr. Derek Stuart, PE, Principal  
Northwest Hydraulic Consultants  
12787 Gateway Drive South  
Seattle, WA 98168

Subject: River Street Bank Protection  
Specification Review and Assembly Fee Proposal

Dear Mr. Stuart:

We appreciate the opportunity to provide consulting services for the project referenced above. The project intends to provide the survey and design documents for stream bank stabilization along a portion of the Snoqualmie River near River Street, as generally shown in the NHC proposal sketch.

The City of Snoqualmie (City) will then provide the design documents to potential bidders for pricing, permitting and construction.

This proposal is provided for general review and consultation services as it relates to the Division 01 Specifications required for the work. We also understand that NHC would like KPFF to compile the specifications and format the specification documents into one complete specification for the City's use in bidding the work.

### **SCOPE OF WORK**

Our scope of work as we understand it is as follows:

#### ***MEETINGS AND COORDINATION***

- Attend one Kick-Off Meeting.
- Call into team coordination calls on an as-needed basis (six calls).
- Attend two City comment review meetings (90% and Final).

#### ***BID SUPPORT***

- Coordinate specification questions developed by contractors during the bid process for the Division 01 Specifications.
- Revise the design specifications as needed to reflect clarifications during contractor bidding.

Mr. Derek Stuart  
January 14, 2019  
Page 2

**DIVISION 01 SPEC AND SPEC DELIVERABLES ASSEMBLY**

- The project specifications will be compiled for 90% and Final design submittals as listed in the NHC proposal in PDF format.
- KPFF will review and provide a comment matrix with proposed corrections for the Division 01 Specifications.
- Recommendations for specification editing, including draft language will be provided based on comments for the City's use.

**ASSUMPTIONS**

- We understand that specification sections outside of Division 01 will be provided by NHC to KPFF and that those sections will not require review.
- The necessary Division 01 specifications will be provided from the City for our use in word format.
- Specification Sections provided by others will be in CSI format and will not require formatting over and above compiling the sections into different document types (ie: ready for transition from word to pdf file types).
- Project design, design drawings and design review will be by others.
- Permit documentation, execution and review will be by others.
- Design scheduling and management will be by others.
- Construction cost estimates will be prepared by others
- Input regarding permitting and administrative requirements needed in the Division 01 Specifications will be provided by others for our use.
- All deliverables will be in digital formats. Printing will not be required.

**FEE**

We propose to accomplish the above scope of services on a lump-sum basis for the following total estimated fee, in accordance with the enclosed Terms and Conditions, which are made part of this proposal:

Meetings	\$ 2,400
Bid Support	2,500
Division 01 Spec Review	<u>3,500</u>
<b>Civil Fee Total</b>	<b><u>\$ 8,400</u></b>

Expenses, such as mileage, are included in this fee. We will not exceed the total estimated fee without prior approval.

Mr. Derek Stuart  
January 14, 2019  
Page 3

We look forward to working with you on this project. If this letter of agreement meets with your approval, please sign below and return one copy for our files. If you have any questions, please contact me at (206) 622-5822.

Sincerely,

David E. Schwartz, PE, LEED AP  
Principal

ERL:des:heh

Enclosure

65400

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
Northwest Hydraulic Consultants



CITY OF SNOQUALMIE  
AGREEMENT FOR CONSULTANT SERVICES  
Amendment No. 1 to NHC Task Order 38  
Sandy Cove Park Bank Protection and Restoration (Phase 2) Rescoping

WHEREAS, on January 23, 2017, Northwest Hydraulic Consultants, Inc. (“NHC”) entered into an Agreement with the City of Snoqualmie (“City”), which provides for NHC to perform unspecified professional services in hydraulics, hydrology, and related fields on an on-call basis, with specific work items to be identified in subsequent Task Orders (“Prime Agreement”).

WHEREAS, on January 28, 2019, the City entered into Task Order No. 38 under the Prime Agreement for the Sandy Cove Park Bank Protection and Restoration – Phase 2 project; and

WHEREAS, the City has requested that NHC complete the Sandy Cover Bank Stabilization design and permitting effort, including updating design drawings, resubmitting permit applications, and completing a Conditional Letter of Map Revision (CLOMR); and

WHEREAS, NHC has the resources and capability to perform this work and has provided a scope of work and an hour and fee estimate for such additional work;

NOW, THEREFORE, the parties herein do mutually agree as follows:

**Section 1. Scope of Work Amended.** Section 1 (“Scope of Work”) of the January 28, 2019 Task Order No. 38 is hereby amended to add the additional tasks set forth in “Sandy Cove Park Bank Protection and Restoration Project - Phase 2 Rescoping,” dated July 18, 2022, and attached as Exhibit A to this Amendment No. 1.

**Section 2. Period of Service Amended.** Section 2 (“Period of Service”) of the January 28, 2019 Task Order No. 38 is hereby amended to extend the completion date from December 31, 22 to June 31, 2024.

**Section 3. Compensation Amended.** Section 3 (“Compensation”) of the January 28, 2019 Task Order No. 38 is hereby amended to increase the total compensation to be paid Consultant for the work from the not to exceed amount of \$448,136 to not to exceed \$935,304.



CITY OF SNOQUALMIE,  
WASHINGTON

By: \_\_\_\_\_  
Its: Mayor

Date: \_\_\_\_\_

CONSULTANT – NHC.

By: \_\_\_\_\_

Typed/Printed Name: Derek L. Stuart

Its: Principal \_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_

ATTEST:

Reina McCauley, Deputy City Clerk  
Date: \_\_\_\_\_

APPROVED AS TO FORM:

Anna Astrakan, Deputy City Attorney  
Bob C. Sterbank, City Attorney  
Date: \_\_\_\_\_



# CITY OF SNOQUALMIE CONTRACT ROUTING SHEET

Item 3.

### ORIGINATING DEPARTMENT INFO

Contract Name: Northwest Hydraulic Consultants Sandy Cove Bank Stabilization  
Department: Parks & Public Works  
Staff Person: Dylan Gamble  
Date of Request: 4/10/2024 Date Due: 4/22/2024

**Contract No: 24-020**

### DOCUMENT TYPE

Contract Amendment If other:

### CONTRACTOR / VENDOR / CONSULTANT INFO

Name: Northwest Hydraulic Consultants (NHC)  
Address: 12787 Gateway Drive South, Seattle WA 98168  
Phone: 206-436-5530

### PROJECT TITLE (if relevant)

Project Phase: Design

Type of Person or Entity Corporation: State where entity formed: WA Debarred or Suspended:  Yes  No  
Signature name: Derek L. Stuart, Principal Contractor Email: DStuart@nhcweb.com  
Tax ID#: 91-1113093 [Snoqualmie Business Lic. #:](#) 50270 If none, date when application submitted:  
Non Profit:  Yes  No Completed W9  Yes  No

### SCOPE OF WORK - EXHIBIT A

Attach a complete and detailed description of the services or scope of work, including completion date for each phase of work and location of work as EXHIBIT A to the contract. Additional exhibits may apply and should be included as needed.

### TERM/COMPENSATION

Commencement Date 4/23/2024 Completion Date: 12/31/2024 Contract Extension:  Yes  No  
Total Compensation: \$ Not to Exceed: \$  
(Include expenses and sales tax, if any. If calculated on hourly labor charge, attach schedules of employees' titles and hourly rates)  
Reimbursable Expenses:  Yes  No If yes, maximum dollar amount: \$  
Certificate of Insurance Required:  Yes  No (If yes, certificate must be attached before agreement is signed)

### PURCHASING & CONTRACTING REQUIREMENTS (see [Snoqualmie Municipal Code \(SMC\) §2.90 Contracts](#))

Procurement Category: Contract Amendments  
Selection Process/Procedure Used: Sole Source  
Approval Authority (Two approvers required):  Staff  Manager  Director  Mayor or City Admin.  City Council

### CONTRACT ROUTING & APPROVALS (INITIALED & DATED BY APPROVER)

Date Approved by City Council, if required: 4/22/2024

- 1.  Director Name: Jeff Hamlin
- 2.  Finance - Budget Janna Walker
- 3.  City Attorney: David Linehan

### SIGNATURES COLLECTED

- Manager (if required): Dylan Gamble
- Director (if required):
- Mayor or City Administrator (if required):

### ACCOUNTING INFORMATION / OTHER NOTES

Applicable Account Codes & Descriptions:

- Signed original goes to Department/Project Lead
- When sending out for signature, cc Deana Dean, City Clerk**



**STORMWATER CAPITAL PROJECT OR PROGRAM**

**SANDY COVE PARK RIVERBANK RESTORE. AND OUTFALL PROJECT**

**CIP Project ID:** STM19003CIP  
**Department:** Stormwater  
**Project Status:** Design  
**Project Location:** Sandy Cove Park  
**Project Contact:** Jeff Hamlin

**Previously Spent:** \$419,364  
**Current Project Budget:** \$5,919,364  
**Original Budget at CIP Inception:** \$850,000

**Years Project in CIP:** 5

**Contact Email:** jhamlin@snoqualmiewa.gov

**Project Description:**

This project will stabilize the Snoqualmie River bank and prevent further erosion at Sandy Cove Park. Furthermore, this project will reconstruct the outfall at King Street and Falls Avenue which is undersized.

**Photo or Map:**



**Community Impact:**

The intent of this project is to stabilize the Snoqualmie River bank, prevent the river from carving a new channel that may in the future endanger important City assets such as SR 202, and protect Sandy Cove Park presently from further erosion. This work is consistent with ongoing plans for the Riverwalk Project.

**Operating Impact:**

This project is not expected to impact the operating budget.

**Budget:**

Project Activities	% of Budg.	Total Activity Budget	Previously Spent	2023	2024	2025	2026	2027	2028	2029 or Beyond
Analysis	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Design	7%	\$ 419,364	\$ 419,364	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Construction	62%	\$ 3,641,281	\$ -	\$ 555,969	\$ 2,074,786	\$ 1,010,526	\$ -	\$ -	\$ -	\$ -
Const. Manage	10%	\$ 601,218	\$ -	\$ -	\$ 311,218	\$ 290,000	\$ -	\$ -	\$ -	\$ -
Contingency	14%	\$ 804,957	\$ -	\$ -	\$ 414,957	\$ 390,000	\$ -	\$ -	\$ -	\$ -
Art	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Labor	4%	\$ 251,805	\$ -	\$ 25,031	\$ 132,300	\$ 94,474	\$ -	\$ -	\$ -	\$ -
Other	3%	\$ 200,739	\$ -	\$ -	\$ 103,739	\$ 97,000	\$ -	\$ -	\$ -	\$ -
<b>TOTAL</b>	<b>100%</b>	<b>\$ 5,919,364</b>	<b>\$ 419,364</b>	<b>\$ 581,000</b>	<b>\$ 3,037,000</b>	<b>\$ 1,882,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Operating		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

**TOTAL PROJECT BUDGET:** \$5,919,364

**TOTAL OPERATING BUDGET:** \$0

**Anticipated Funding Mix:**

Source	Total Sources	Previously Allocated	2023	2024	2025	2026	2027	2028
Utility Fees ("Rates")	\$ 3,169,364	\$ 419,364	\$ 290,500	\$ 1,518,500	\$ 941,000	\$ -	\$ -	\$ -
Grants	\$ 2,750,000	\$ -	\$ 290,500	\$ 1,518,500	\$ 941,000	\$ -	\$ -	\$ -
<b>TOTAL</b>	<b>\$ 5,919,364</b>	<b>\$ 419,364</b>	<b>\$ 581,000</b>	<b>\$ 3,037,000</b>	<b>\$ 1,882,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

**Fiscal Notes:** This project covers DR6 in the Stormwater Management Plan.

**TOTAL FUNDING SOURCES:** \$5,919,364

**FUTURE FUNDING REQUIREMENTS:** \$0