RFP #777

PROFESSIONAL, TECHNICAL AND EXPERT SERVICES

Clark County Washington

RELEASE DATE: WEDNESDAY, APRIL 29, 2020
DUE DATE: WEDNESDAY, MAY 20, 2020 by 1:30 p.m.

Request for Proposal for:

ENGINEERING SERVICES for BRIDGE REHABILITATION

Submit one (1) original and four (4) complete copies of the Proposal to:
Proposals must be date and time stamped by Purchasing staff before 1:30 p.m. on due date.

Clark County
Office of Purchasing
P.O. Box 5000
1300 Franklin Street, 6th Floor, Suite 650
Vancouver, Washington 98660
564-397-2323

Refer Questions to Project Manager:

Matt Hall
Project Manager – Public Works
Matt.Hall@clark.wa.gov

General Terms and Conditions

ADMINISTRATIVE REQUIREMENTS - Contractors shall comply with all management and administrative requirements established by Washington Administrative Code (WAC), the Revised Code of the State of Washington (RCW), and any subsequent amendments or modifications, as applicable to providers licensed in the State of Washington.

ALL proposals submitted become the property of Clark County. It is understood and agreed that the prospective Proposer claims no proprietary rights to the ideas and written materials contained in or attached to the proposal submitted. Clark County has the right to reject or accept proprietary information.

AUTHORSHIP - Applicants must identify any assistance provided by agencies or individuals outside the proposers own organization in preparing the proposal. No contingent fees for such assistance will be allowed to be paid under any contract resulting from this RFP.

CANCELLATION OF AWARD - Clark County reserves the right to immediately cancel an award if the contractual agreement has not been entered into by both parties or if new state regulations or policy make it necessary to change the program purpose or content, discontinue such programs, or impose funding reductions. In those cases where negotiation of contract activities are necessary, Clark County reserves the right to limit the period of negotiation to sixty (60) days after which time funds may be unencumbered.

CONFIDENTIALLY - Proposer shall comply with all applicable state and federal laws governing the confidentiality of information."

CONFLICT OF INTEREST - All proposals submitted must contain a statement disclosing or denying any interest, financial or otherwise, that any employee or official of Clark County or the appropriate Advisory Board may have in the proposing agency or proposed project.

CONSORTIUM OF AGENCIES - Any consortium of companies or agencies submitting a proposal must certify that each company or agency of the consortium can meet the requirements set forth in the RFP.

COST OF PROPOSAL & AWARD - The contract award will not be final until Clark County and the prospective contractor have executed a contractual agreement. The contractual agreement consists of the following parts: (a) the basic provisions and general terms and conditions, (b) the special terms and conditions, (c) the project description and goals (Statement of Work), and (d) the budget and payment terms. Clark County is not responsible for any costs incurred prior to the effective date of the contract. Clark County reserves the right to make an award without further negotiation of the proposal submitted. Therefore, the proposal should be submitted in final form from a budgetary, technical, and programmatic standpoint.

DISPUTES - Clark County encourages the use of informal resolution to address complaints or disputes arising over any actions in implementing the provisions of this RFP. Written complaints should be addressed to Clark County – Purchasing, P.O. Box 5000, Vancouver, Washington 98666-5000.

DIVERSITY IN EMPLOYMENT AND CONTRACTING REQUIREMENTS - It is the policy of Clark County to require equal opportunity in employment and services subject to eligibility standards that may be required for a specific program. Clark County is an equal opportunity employer and is committed to providing equal opportunity in employment and in access to the provision of all county services. Clark County's Equal Employment Opportunity Plan is available at http://www.clark.wa.gov/hr/documents.html. This commitment applies regardless of race, color, religion, creed, sex, marital status, national origin, disability, age, veteran status, on-the-job injury, or sexual orientation. Employment decisions are made without consideration of these or any other factors that are prohibited by law. In compliance with department of Labor Regulations implementing Section 504 of the rehabilitation Act of 1973, as amended, no qualified handicapped individual shall be discriminated against in admission or access to any program or activity. The prospective contractor must agree to provide equal opportunity in the administration of the contract, and its subcontracts or other agreements.

ENVIRONMENTALLY RESPONSIBLE PURCHASING PROGRAM - Clark County has implemented an Environmentally Responsible Purchasing Policy with a goal to reduce negative impacts on human health and the environment. Negative environmental impacts include, but are not limited to, greenhouse gases, air pollution emissions, water contamination, waste from the manufacturing process and waste in packaging. This policy also seeks to increase: 1) water and energy efficiency; 2) renewable energy sources; 3) use of products with recycled content; 4) product durability; 5) use of products that can be recycled, reused, or composted at the end of its life cycle. Product criteria have been established on the Green Purchasing List http://www.clark.wa.gov/general-services/purchasing/erp/environmental.html

INDEPENDENT PRICE DETERMINATION - The prospective contractor guarantees that, in connection with this proposal, the prices and/or cost data have been arrived at independently, without consultation, communication, or agreement for the purpose of restricting competition. This does not preclude or impede the formation of a consortium of companies and/or agencies for purposes of engaging in jointly sponsored proposals.

INTERLOCAL AGREEMENT - Clark County has made this RFP subject to Washington State statute RCW 39.34. Therefore the bidder may, at the bidders' option, extend identical prices and services to other public agencies wishing to participate in this RFP. Each public agency wishing to utilize this RFP will issue a purchase order (or contract) binding only their agency. Each contract is between the proposer and the individual agency with no liability to Clark County.

LIMITATION - This RFP does not commit Clark County to award a contract, to pay any costs incurred in the preparation of a response to this RFP, or to procure or contract for services or supplies.

LATE PROPOSALS - A proposal received after the date and time indicated above will not be accepted. No exceptions will be made.

ORAL PRESENTATIONS - An oral presentation may be required of those prospective contractors whose proposals are under consideration. Prospective contractors may be informed that an oral presentation is desired and will be notified of the date, time and location the oral presentation is to be conducted.

OTHER AUDIT/MONITORING REQUIREMENTS - In addition, auditing or monitoring for the following purposes will be conducted at the discretion of Clark County: Fund accountability; Contract compliance; and Program performance.

PRICE WARRANT - The proposer shall warrant that the costs quoted for services in response to the RFP are not in excess of those which would be charged any other individual or entity for the same services performed by the prospective contractor, in a similar socioeconomic, geographical region.

PROTESTS - Must be submitted to the Purchasing Department.

PUBLIC SAFETY - May require limiting access to public work sites, public facilities, and public offices, sometimes without advance notice. The successful Proposer's employees and agents shall carry sufficient identification to show by whom they are employed and display it upon request to security personnel. County project managers have discretion to require the successful Proposer's employees and agents to be escorted to and from any public office, facility or work site if national or local security appears to require it.

REJECTION OF PROPOSALS - Clark County reserves the right to accept or reject any or all proposals received as a result of this RFP, to negotiate with any or all prospective contractors on modifications to proposals, to waive formalities, to postpone award, or to cancel in part or in its entirety this RFP if it is in the best interest of Clark County to do so.

SUBCONTRACTING - No activities or services included as a part of this proposal may be subcontracted to another organization, firm, or individual without the approval of Clark County. Such intent to subcontract shall be clearly identified in the proposal. It is understood that the contractor is held responsible for the satisfactory accomplishment of the service or activities included in a subcontract.

VERBAL PROPOSALS - Verbal proposals will not be considered in making the award of any contract as a result of this RFP.

WORKERS COMPENSATION INSURANCE – The contractor shall comply with R.C.W. Title 51- with minimum coverage limits of $500,000 for each accident, or provide evidence that State law does not require such coverage.

FOR ALTERNATIVE FORMATS
Clark County ADA Office: V: 564-397-2322
ADA@clark.wa.gov

Request for Proposals
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Request for Proposal #777
Engineering Services for Bridge Rehabilitation

Part I Proposal Requirements

Section IA General Information

1. Introduction

The purpose of this Request for Proposal (RFP) is to obtain, in a full and open competition, proposals for engineering and environmental services.

This RFP seeks proposals that address required services. Those services are generally described below in Section 1B.

Selected candidates based on the proposal review will be asked to interview to determine the final consultant selection.

2. Background

Clark County Public Works completed an evaluation and report on 9 bridges that had load ratings under 1.0 for the new Emergency Vehicles and Specialized Hauling Vehicles loadings. The report used the existing available bridge plans along with the summaries of the recent load ratings that were performed. Refer to Attachment C: Preliminary Bridge Rehabilitation Review

The repair or rehabilitation schemes that were developed were based on an evaluation of the loading capacities needed, and presentation of a general concept that could be used for repair. The two options that were presented were using cast-in-place (CIP) concrete strengthening alongside the existing girders or the use of Fiber Reinforced Polymers (FRP) on the underside of the superstructure. In all cases, the capacity of the substructures were reviewed, and it was determined that the substructures had adequate capacity for the additional loading.

Three of the bridges, Gibbons Creek Bridge #6, Matney Bridge #168 and Morgan Bridge #213, where found to require the additional CIP concrete girders to reach the added strength, due to geometry of the bridge, and limits of the FRP process.

Six county bridges, Flatwood Bridge #30, Landon Bridge #299, Lucia Falls Bridge #116, Unnamed Bridge #222, Rock Creek Bridge #96, and Venersborg Bridge #217 were found to require the FRP process on the underside of the superstructure to reach the added strength.

Clark County received grants from the Federal Highway Bridge Program for two separate projects to complete the design and construction of the bridges identified. One project is for the three bridges using the CIP concrete strengthening process. The second project is for the six bridges using the FRP strengthening process.

3. Scope of Project

The two projects involve bridge design/engineering and environmental documentation and permitting necessary to prepare a biddable and constructible set of plans and specifications in accordance with all applicable Federal, State and County standards. Traffic control plans and property access rights will likely be required. The bridge designs should follow state and federal design guidance and regulations, including the Washington Administrative Code (WAC) and 44 CFR 60.3, and WSDOT Bridge Design Manual. Designs should incorporate WSDOT standard bid items. Utilities may need to be accommodated.

The projects have received federal funding and will be required to follow WSDOT's Environmental Procedures Manual for compliance with the National Environmental Policy Act (NEPA). Permits from local, state, and federal agencies will be required.
For consultant design work the projects have a mandatory consultant Underutilized Disadvantaged Business Enterprise (UDBE) goal of 8%.

More information about the UDBE program can be found at the following websites as well as in Chapter 26 of the WSDOT Local Agency Guidelines:

http://www.wsdot.wa.gov/EqualOpportunity/DBE.htm

http://www.wsdot.wa.gov/EqualOpportunity/BDDirectory.htm

4. Project Funding

Funding for the projects includes grants from the Federal Highway Bridge Program and revenue from the Clark County Road Fund.

The (Local Agency) in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, subtitle A, Office of the Secretary, Part 21, nondiscrimination in federally assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises as defined at 49 CFR Part 26 will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin or sex in consideration for an award.

5. Timeline for Selection

The following dates are the **intended** timeline:

Proposals Due	May 20, 2020
Proposal Review/Evaluation Period	May 28, 2020
Interviews	June 11, 2020
Contract Negotiation/Execution	July 14, 2020
Contract Intended to Begin	July 16, 2020

6. Employment Verification

Effective November 1st, 2010, to be considered **responsive** to any formal Clark County Bid/RFP or Small Works Quote, all vendors shall submit before, include with their response or within **48 hours** after submittal, a recent copy of their E-Verify MOU or proof of pending enrollment. The awarded contractor shall be responsible to provide Clark County with the same E-Verify enrollment documentation for each sub-contractor ($25,000 or more) within thirty days after the sub-contractor starts work. Contractors and sub-contractors shall provide a report(s) showing status of new employee's hired after the date of the MOU. The status report shall be directed to the county department project manager at the end of the contract, or annually, which ever comes first. E-Verify information and enrollment is available at the Department of Homeland Security web page: www.dhs.gov/E-Verify

How to submit the MOU in advance of the submittal date:
1. Hand deliver to 1300 Franklin St, Suite 650, Vancouver, WA 98660, or;
2. E-mail: koni.odell@clark.wa.gov or priscilla.ricci@clark.wa.gov

Note : Sole Proprietors shall submit a letter stating exempt.

Section IB Work Requirements

1. Required Services

Clark County is requesting engineering and environmental professional services to join the in-house project team. The consultants will work closely with designated County personnel. Separate firms may provide the types of services listed below; however the firms must be presented as a joint team for the proposal.

Subcontracting amongst firms is acceptable; however a single firm must be identified as the "prime" and subcontracts must include the necessary clauses required by the Clark County contract (WSDOT Standard Consultant Agreement). **All proposed subcontracting must be identified in the proposal as well as the approach for meeting the UDBE goal.**

The work will result in two separate contract document packages (one for each project) for bidding and construction.

The required services are described below:

Engineering Service

Structural Engineering:

- Provide designs for the strengthening needs of the three CIP and six FRP bridges identified.
- Determine requirements for accessing the work areas.
- Determine "in-water work" area needs for constructing the improvements.

Submittals and Other Services:

- Submit plan sheets, specifications and cost estimates at 65%, 90%, 99% and final PS&E. Documents shall be biddable and constructible, taken through an internal QA/QC process by the consultant, and stamped by a professional engineer licensed in the State of Washington.
- Coordinate with county to determine traffic control and any needed road closures.
- Support the environmental permitting process by providing necessary information and documentation.
- Provide support during the bid period with response to inquiries, preparation of addendums, etc.
- Provide support during construction with design clarifications, submittal reviews, change order drawings, etc. During construction, design lead team members must be available either in person, by phone, or by email. Design lead team members must be able to attend weekly on-site construction meetings in person.

Environmental Services

- Provide environmental documentation and permitting support for County project manager and permit coordinator.
- Advise manager and coordinator of permits required for project.
- Develop permit application materials, exhibits and supporting documents that meet the requirements of federal, state and local regulations. These will be submitted by county.
- Meet with agency personnel, property owners, and other consultants as requested by the county.
- Conduct wetland delineations, critical/sensitive area assessments, and regional road maintenance 4(d) analysis.
- Carry out cultural resource surveys and prepare documentation in accordance with Section 106 of the Historic Preservation Act.
- Develop Mitigation Plans as necessary.
- Prepare SEPA Checklist and DNS

- Ensure NEPA and SEPA procedures are followed during all phases of the project in accordance with WSDOT's Environmental Procedures Manual and Environmental Classification Summary Guidebook.
- Coordinate and complete necessary documentation for a Documented Categorical Exclusion.

All consultants should be prepared to attend public meetings and hearings to present project information as representatives of Clark County Public Works.

Note that the list of services described in this Request for Proposal is for informational purposes and is subject to change following final selection of a consultant.

2. County Performed Work

The work to be performed by County Staff is listed below:

- Management of overall project, including the internal and consultant project teams.
- Needed surveys – topographic and boundary.
- Assist with the development and review of specification and other bid documents.
- Coordinate public involvement.
- Acquire all property rights necessary for the projects.
- Provide traffic control plans as needed.
- Administer grants and project funding.
- Coordinate all environmental permitting submittals and correspondence with federal, state, and local agencies.
- Coordinate contract document assembly and printing. Administer the bid period process.
- Manage construction of the projects and provide inspection.

3. Deliverables & Schedule

The following schedule is preliminary and subject to change, but provides a rough framework of timelines and expectations:

Permit Plans (65%) Submittal	October 30, 2020
90% Design Submittal	January 31, 2021
Permitting Process	November 1, 2020 – July 1, 2021
PS&E Completed	September 17, 2021
Bid Opening	November 2, 2021
Construction (excluding planting, if any)	July – September 2022

4. Place of Performance

Contract performance may take place in the County's facility, the Proposer's facility, a third party location or any combination thereof.

5. Period of Performance

A contract awarded as a result of this RFP will be for approximately three (3) years.

Clark County reserves the right to extend the contract resulting from this RFP for a period of five (5) additional years, in one (1) year increments, with the same terms and conditions, by service of a written notice of its intention to do so prior to the contract termination date.

6. Prevailing Wage

Pursuant to State of Washington RCW 39.12, all payment for salaries and wages shall conform to State of Washington Department of Labor and Industries as prevailing wage rates. For this project select the Clark County rates that apply on the bid opening date from either of these sites:

http://www.wsdot.wa.gov/Design/ProjectDev/WageRates/default.htm

http://www.lni.wa.gov/TradesLicensing/PrevWage/WageRates

Before payment is made by the Local Agency of any sums due under this contract, the Local Agency must receive from the Contractor and each Subcontractor a copy of "Statement of Intent to Pay Prevailing Wages" (Form L & I Number 700-29) approved by the Washington State Department of Labor and Industries.

A fee of $45.00 per each "Statement of Intent to Pay Prevailing Wages" and "Affidavit of Wages Paid" is required to accompany each form submitted to this Department of Labor and Industries. The Contractor is responsible for payment of these fees and shall make all applications directly to the Department of Labor and Industries. These fees shall be incidental to all the bid items of this contract

7. Public Disclosure

This procurement is subject to the Washington Public Records Act (the "Act"), chapter 42.56 RCW. Once in the County's possession, all of the RFP Submittals shall be considered public records and available for public records inspection and copying, unless exempt under the Act.

If a Respondent or Proposer considers any portion of an RFP Submittal to be protected under the law, whether in electronic or hard copy form, the Respondent or Proposer shall clearly identify each such portion with the word "PROPRIETARY". If a request is made for disclosure of such a portion, the County will determine whether it should be made available under the Act. If the county determines that such a record(s) is subject to disclosure, the County will notify the Respondent or Proposer in writing of the request and allow the Respondent or Proposer ten (10) days to obtain a court order enjoining release of the record(s). If the Respondent or Proposer does not take such action within the ten (10) day period, the County will release the portions of the RFP Submittal deemed subject to disclosure. All Respondents and Proposers who provide RFP Submittals for this procurement accept the procedures described above and agree that the County shall not be responsible or liable in any way for any losses that the party may incur from the disclosure of records to a third party who requests them.

8. Insurance/Bond

Firm awarded the contract will be required to have insurance in effect as specified in the contract under Section XII Legal Relations (see WSDOT Local Agency A&E Professional Services Agreement).

9. Plan Holders List

All proposers are required to be listed on the plan holders list.

✓ Prior to submission of proposal, please confirm your organization is on the Plan Holders List below:

To view the Plan Holders List, please click on the link below or copy and paste into your browser.
Clark County RFP site:
http://www.clark.wa.gov/general-services/purchasing/rfp.html

- If your organization is NOT listed, submit Attachment B - Letter of Interest to ensure your inclusion.
- Proposals received by Clark County by proposers not included on the Plan Holders List may be considered non-responsive.

Part II Proposal Preparation and Submittal

Section IIA Pre-Submittal Meeting / Clarification

1. Pre-Submittal Meeting

There will be no pre-submittal meeting or site visit scheduled for this project.

2. Proposal Clarification

Questions and Requests for Clarification regarding this Request for Proposal must be directed in writing, via email, to the person listed on the cover page. The deadline for submitting such questions/clarifications is May 13, 2020.

An addendum will be issued no later than May 15, 2020 to all recorded holders of the RFP if a substantive clarification is in order.

The Questions & Answers/Clarifications are available for review at the link below. Each proposer is strongly encouraged to review this document prior to submitting their proposal.

Clark County RFP site:
http://www.clark.wa.gov/general-services/purchasing/rfp.html

Section IIB Proposal Submission

1. Proposals Due

Sealed proposals must be received no later than the date, time, and location specified on the cover of this document.

The outside of the envelope/package shall clearly identify:
1. RFP Number and;
2. TITLE and;
3. Name and address of the proposer.

Responses received after submittal time will not be considered and will be returned to the Proposer - unopened.

Proposals received with insufficient copies (as noted on the cover of this document) cannot be properly disseminated to the Review Committee and other reviewers for necessary action, therefore, may not be accepted.

2. Proposal

Proposals must be clear, succinct and not exceed 8 pages, excluding resumes, E-Verify, and coversheet. Proposer's who submit more than the pages indicated may not have the additional pages of the proposal read or considered.

For purposes of review and in the interest of the County, the County encourages the use of submittal materials (i.e. paper, dividers, binders, brochures, etc.) that contain post-consumer recycled content and are readily recyclable.

The County discourages the use of materials that cannot be readily recycled such as PVC (vinyl) binders, spiral bindings, and plastic or glossy covers or dividers. Alternative bindings such as reusable/recyclable binding posts, reusable binder clips or binder rings, and recyclable cardboard/paperboard binders are examples of preferable submittal materials.

Proposers are encouraged to print/copy on both sides of a single sheet of paper wherever

applicable; if sheets are printed on both sides, it is considered to be two pages. Color is acceptable, but content should not be lost by black-and-white printing or copying.

All submittals will be evaluated on the completeness and quality of the content. Only those Proposers providing complete information as required will be considered for evaluation. The ability to follow these instructions demonstrates attention to detail.

Additional support documents, such as sales brochures, should be included with each copy unless otherwise specified.

Section IIC Proposal Content

1.	Cover Sheet	This form is to be used as your proposal Cover Sheet See Cover Sheet - Attachment A
2.	Project Team	Provide a summary describing the joint team organization, including the prime consultant and any sub-contractors. The summary should contain an organizational chart showing areas of responsibilities, professional titles of pertinent positions and which team member will be the "lead" in each area (structural, environmental, etc.). If the team includes members from different firms, please include any past experience working together.
3.	Management Approach	Provide a resume for all key team members. Also include a list of all other team members that will work on the projects – including technical expertise, title, years of experience and relevant project work. Describe how the team will be managed internally as well as within the overall County/Consultant project team. Include information about QA/QC processes. Provide the approach for meeting the required UDBE goal.
4.	Respondent's Capabilities	Provide three reference projects that demonstrate experience and competence in performing the type of work requested. Include name of project owner, contact person and phone number.
5.	Project Approach and Understanding	Provide a description of the work to be performed based on the Required Services described in Section IB. Include a description of key issues and challenges anticipated to be addressed during the development and execution of the specific project.
6.	Employment Verification	**Please refer to section 1A.6. – E-Verify** **IMPORTANT NOTE:** Include this portion of the response immediately **AFTER** the cover page, if not already on file with Clark County. Current vendors on file can be viewed at: **https://www.clark.wa.gov/general-services/purchasing-overview**

Part III Proposal Evaluation & Contract Award

Section IIIA Proposal Review and Selection

1. Evaluation and Selection:

Proposals received in response to this RFP will be evaluated by a Review Committee. Committee review results and recommendations may be presented to an appropriate advisory board prior to the consent process with the Clark County Council.

The county plans to conduct interviews based on proposal review results and recommendations. A minimum of three consultant teams will be invited for interviews to further review the projects.

2. Evaluation Criteria Scoring

Each proposal received in response to the RFP will be objectively evaluated and rated according to a specified point system.

A one hundred (100) point system will be used, weighted against the following criteria:

Proposal /Quality	10
Project Team	25
Management Approach	15
Capabilities	25
Project Understanding / Approach	25
Total Points	100

Section IIIB Contract Award

1. Consultant Selection

The County will award a contract to the highest scoring Consultant Team based on the interviews. Should the County not reach a favorable agreement with the highest scoring Proposer, the County shall suspend or terminate negotiations and commence negotiations with the second highest scoring Proposer and so on until a favorable agreement is reached.

2. Contract Development

The form of contract shall be the WSDOT Local Agency A&E Professional Services Agreement

https://www.wsdot.wa.gov/sites/default/files/2014/10/15/LP_AEPS-NegotiatedHourlyRate.pdf

Contract execution is subject to Clark County Council approval and WSDOT approval of the Consultant UDBE Plan.

3. Award Review

The public may view proposal documents after contract execution. However, any proprietary information so designated by the Proposer as a ‘trade secret’ will not be disclosed unless the Clark County Prosecuting Attorney determines that disclosure is required. At this time, Proposers not awarded the contract, may seek additional clarification or debriefing, request time to review the selection procedures or discuss the scoring methods utilized by the evaluation committee.

4. Orientation/Kick-off Meeting

Clark County intends to hold a project kick-off meeting shortly after contract execution.

Request for Proposal #777
Engineering Services for Bridge Rehabilitation

Attachment A: COVER SHEET

General Information:

Legal Name of Applicant/Company/Agency _____

Street Address _____

City _____ State _____ Zip _____

Contact Person _____ Title _____

Phone _____ Fax _____

Program Location (if different than above) _____

Email Address _____

Tax Identification Number _____

ADDENDUM:

Proposer shall acknowledge receipt of Addenda by checking the appropriate box(es).

None ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

NOTE: Failure to acknowledge receipt of Addendum may render the proposal non-responsive.

I certify that to the best of my knowledge the information contained in this proposal is accurate and complete and that I have the legal authority to commit this agency to a contractual agreement. I realize the final funding for any service is based upon funding levels, and the approval of the Clark County Council.

_____ _____

Signature, Company Representative with Signatory Authority Date

Request for Proposal #777
Engineering Services for Bridge Rehabilitation

Attachment B: LETTER OF INTEREST

Legal Name of Applicant Agency_____

Street Address_____

City_____ State _____ Zip _____

Contact Person _____ Title _____

Phone _____Fax_____

Program Location (if different than above) _____

Email Address _____

- All proposers are required to be included on the plan holders list.
- If your organization is NOT listed, submit the 'Letter of Interest" to ensure your inclusion.

Email Letter of Interest to*: Koni.Odell@clark.wa.gov and Priscilla.Ricci@clark.wa.gov*

Clark County web link:
http://www.clark.wa.gov/general-services/purchasing/rfp.html

This document will only be used to add a proposer to the plan holders list. Submitting this document does not commit proposer to provide services to Clark County, nor is it required to be submitted with proposal.

Proposals may be considered non-responsive if the Proposer is not listed on the plan holders list.

Attachment C: Preliminary Bridge Rehabilitation Review – February 14, 2019

DRAFT

Memorandum

To:	David Dolan, PE, Clark County Public Works
From:	Douglas Sarkkinen, PE, Otak Inc.
Copies:	File
Date:	February 14, 2019
Subject:	Preliminary Bridge Rehabilitation Review
Project No.:	18151E

This memorandum summarizes the preliminary study that was performed on 10 bridges that had load ratings under 1.0 for the new EV and SHV loadings. The study reviewed two alternatives for each bridge, with the first alternative being a repair or rehabilitation to increase the load capacities so the ratings would be above 1.0 and the second alternative being complete replacement of the bridge. The study used the existing available bridge plans along with the summaries of the recent load ratings that were performed.

The repair or rehabilitation schemes that were developed were based on brief evaluation of the capacities needed, and presentation of a general concept that could be used for repair. It should be noted that in-depth analysis or repair design was not performed, and that the design presented is at a concept level only. The two options that were presented were using cast-in-place concrete strengthening alongside the existing girders or the use of Fiber Reinforced Polymers (FRP) on the underside of the superstructure. In all cases, the capacity of the substructures was briefly reviewed, and it was determined that the substructures had adequate capacity for the additional considered loads.

The bridge replacement schemes that were developed for this study involved a brief review of the new required widths and span lengths. The widths were determined by the existing roadway classification, and varied between 28 feet and 40 feet wide. The length of the new bridge was determined by first estimating the bankfull width of the stream using past photographs (no field measurements were taken) and then factors applied to account for clearance for scour protection and slopes up to the abutment. Standard precast concrete bridge sections were assumed for the replacements.

The preliminary costs presented are concept level only, and are based on standard unit costs expected for 2019. Corrections should be added to account for future planning level costs. The costs also assumed normal environmental clearances would be obtained, and that there are no major wetland impacts, stream issues or archeological issues that would adversely impact the project.

The following contains a page for each bridge stating the current load ratings, a description of the bridge, and a brief description of the repair and replacement scheme considered. Also included is a preliminary breakdown of the costs presented for each bridge.

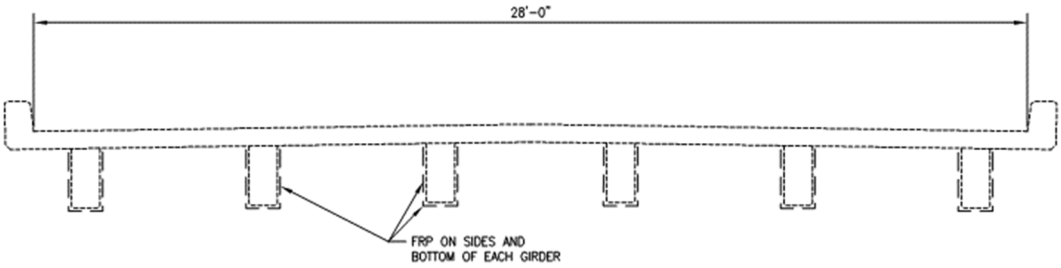
700 Washington Street, Suite 300 Vancouver, WA 98660 ▪ Phone (360)737-9613 Fax (360)737-9651 **otak.com**

DRAFT

Final Rating Factors:		Controlling Member:	
HL-93 Inventory	0.63	M1	Shear
HL-93 Operating	0.81	M1	Shear
AASHTO Type 3	1.42	M1	Shear
AASHTO Type 3S2	1.51	M1	Shear
AASHTO Type 3-3	1.72	M1	Shear
NRL	1.17	M1	Shear
SUV4	#DIV/0!	M1	Flexure
SUV5	#DIV/0!	M1	Flexure
SUV6	#DIV/0!	M1	Flexure
SUV7	#DIV/0!	M1	Flexure
OL1	1.17	M1	Shear
OL2	1.03	M1	Flexure
EV2	1.19	M1	Shear
EV3	0.78	M1	Shear

Bridge: Brush Prairie Bridge #201
Bridge Size: 43 ft, 2-span bridge, 28' curb-curb deck width, 2'-2" top-of-deck to bottom-of-girder depth
Bridge Description: Cast-in-place concrete girder bridge located on NE 156th Street, crossing Salmon Creek
Date Constructed: 1960
Roadway Classification: Rural minor collector – 2 lanes w/ shoulders
ADT: 1030

Bridge Rehabilitation / Repair



The low rating for the EV3 vehicle requires an approximate 15% increase in moment capacity at the center of the girder and a 25% increase in shear capacity at each end of each girder. This can be accomplished by additional FRP on the bottom and sides of each girder as indicated on the sketch above. The bottom and sides of the girders will need to be cleaned and prepped prior to FRP application. The bridge is located 7 or 8 feet above the water, so a complete working platform would be required over the stream. Construction cost would be in the range of $110,000 and a total project cost would be in the range of $180,000.

Bridge Replacement

The approximate bankfull width of the stream under the bridge is 40 feet. To meet WDFW requirements for the channel opening between the scour protection, an approximately length for a new bridge replacement would be 80 feet. The new bridge would be 40 feet wide, as the current road is classified as a minor arterial. The roadway would be required to be closed during construction. To accommodate the new widening, additional roadway work would be required and new drainage improvements. It is expected that the widening would trigger major stormwater requirements and to accommodate this, construction easements would be required from the neighboring properties. In addition, the bridge and roadway are in a mapped 100 year flood area, and there have been flooding issues on the neighboring properties. The bridge is close to an intersection, which may need to be partially reconstructed. Construction costs for a replacement bridge are estimated to be in the range of 1,800,000 and an overall project cost would be expected to be in the range of $2,900,000.

Brush Prairie Bridge No. 201

Rehabilitation / Repair Costs

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$18,000	$18,000
Traffic Control	1	LS	$5,000	$5,000
Temporary Work Platform	1120	SF	$40	$44,800
Surface Preparation	420	SF	$30	$12,600
FRP Furnish and Install	420	SF	$30	$12,600
Testing	1	LS	$2,000	$2,000
			Subtotal	$95,000
			Contingency 20%	$19,000
			Construction Cost	**$114,000**

Total Project Cost (Construction cost x 1.6) = $182,400

Bridge Replacement Cost

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$135,000	$135,000
Traffic Control	1	LS	$15,000	$15,000
Existing Bridge Removal	680	SF	$50	$34,000
Erosion Control	1	LS	$7,000	$7,000
Work Area Isolation	1	LS	$25,000	$25,000
Stream Reconstruction	1	LS	$32,000	$32,000
Stormwater Treatment	1	LS	$28,000	$28,000
Bridge Substructure	2	EACH	$90,000	$180,000
Bridge Superstructure	3200	SF	$250	$800,000
Bridge Approach Slabs	60	SY	$120	$7,200
Roadway Reconstruction	2500	SF	$50	$125,000
Guardrail	1	LS	$25,000	$25,000
Planting	1	ACRE	$8,000	$8,000
			Subtotal	$1,421,200
			Contingency 30%	$426,360
			Construction Cost	**$1,847,560**

Total Project Cost (Construction cost x 1.5) = $2,771,340
Plus Right-of-Way $120,000
Total $2,891,340

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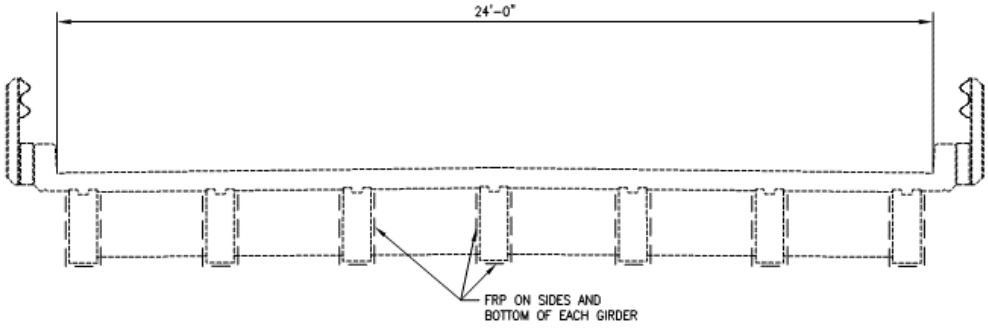
Final Rating Factors:				Posting (Tons)
HL-93 Inventory	0.67	M1	Flexure	19
HL-93 Operating	0.87	M1	Flexure	29
AASHTO Type 3	1.59	M1	Flexure	N.R.
AASHTO Type 3S2	1.62	M1	Flexure	N.R.
AASHTO Type 3-3	1.94	M1	Flexure	N.R.
NRL	1.08	M1	Flexure	N.R.
SUV4	0.00	M2	Shear	N.R.
SUV5	0.00	M2	Shear	N.R.
SUV6	0.00	M2	Shear	N.R.
SUV7	0.00	M2	Shear	N.R.
OL1	1.40	M1	Shear	N.R.
OL2	1.14	M1	Flexure	N.R.
EV2	1.42	M1	Flexure	N.R.
EV3	0.87	M1	Flexure	35

Bridge: Flatwood Bridge #30
Bridge Size: 29 ft bridge span, 24’ curb-curb deck width, 2’-6” top-of-deck to bottom-of-girder depth
Bridge Description: Cast-in-place concrete girder bridge located on NE 239th Street, crossing Mill Creek
Date Constructed: 1935, Rebuilt 1951
Roadway Classification: Rural minor collector – 2 lanes w/ shoulders
ADT: 1444

Bridge Rehabilitation / Repair



The low rating for the EV3 vehicle requires an approximate 15% increase in moment capacity at the center of the girder and a 5% increase in shear capacity at each end of each girder. This can be accomplished by additional FRP on the bottom and sides of each girder as indicated on the sketch above. The bottom and sides of the girders will need to be cleaned and prepped prior to FRP application. The bridge is located 5 or 6 feet above the water, so a complete working platform would be required over the stream. Alternatively, the work could be accomplished using simple protection blankets if the stream goes completely dry in the summer. Construction cost would be in the range of $80,000 and total project cost would be in the range of $120,000.

Bridge Replacement

The approximate bankfull width of the stream under the bridge is 20 feet. To meet WDFW requirements for the channel opening between the scour protection, an approximately length for a new bridge replacement would be 45 to 50 feet. The new bridge would be 40 feet wide, as the current road is classified as a minor arterial. The roadway would be required to be closed during construction. To accommodate the new widening, additional roadway work would be required and new drainage improvements. It is expected that the widening would trigger major stormwater requirements and to accommodate this, construction easements would be required from the neighboring properties. Construction costs for a replacement bridge are estimated to be in the range of 1,080,000 and an overall project cost would be expected to be in the range of $1,700,000.

Flatwood Bridge No. 030

Rehabilitation / Repair Costs

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$16,000	$16,000
Traffic Control	1	LS	$5,000	$5,000
Temporary Work Platform	670	SF	$40	$26,800
Surface Preparation	250	SF	$30	$7,500
FRP Furnish and Install	250	SF	$30	$7,500
Testing	1	LS	$2,000	$2,000
			Subtotal	$64,800
			Contingency 20%	$12,960
			Construction Cost	**$77,760**

Total Project Cost (Construction cost x 1.6) = $124,416

Bridge Replacement Cost

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$85,000	$85,000
Traffic Control	1	LS	$15,000	$15,000
Existing Bridge Removal	680	SF	$50	$34,000
Erosion Control	1	LS	$5,000	$5,000
Work Area Isolation	1	LS	$20,000	$20,000
Stream Reconstruction	1	LS	$15,000	$15,000
Stormwater Treatment	1	LS	$18,000	$18,000
Bridge Substructure	2	EACH	$80,000	$160,000
Bridge Superstructure	2000	SF	$250	$500,000
Bridge Approach Slabs	60	SY	$35	$2,100
Roadway Reconstruction	600	SF	$40	$24,000
Guardrail	1	LS	$25,000	$25,000
Planting	0.25	ACRE	$8,000	$2,000
			Subtotal	$905,100
			Contingency 20%	$181,020
			Construction Cost	**$1,086,120**

Total Project Cost (Construction cost x 1.5) = $1,629,180
Plus Right-of-Way $70,000
Total $1,699,180

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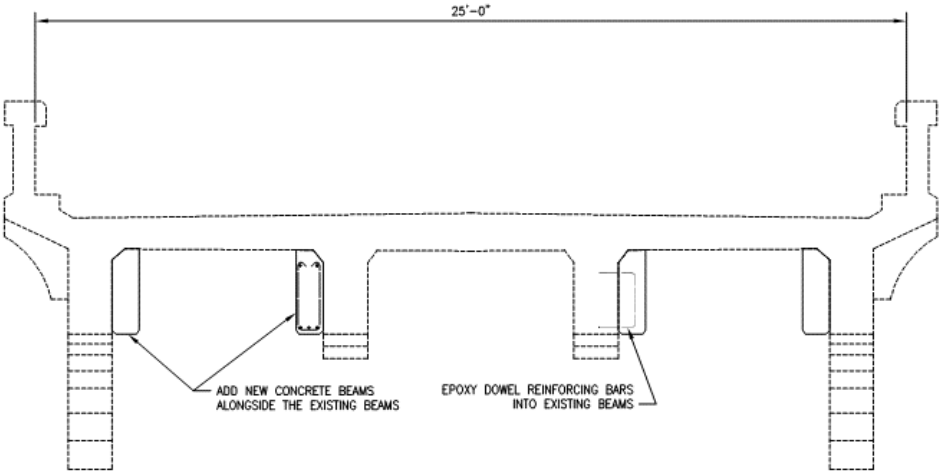
Final Rating Factors:		Controlling Member:	
HL-93 Inventory	0.66	M1	Shear
HL-93 Operating	0.86	M1	Shear
AASHTO Type 3	1.38	M1	Shear
AASHTO Type 3S2	1.48	M1	Shear
AASHTO Type 3-3	1.68	M1	Shear
NRL	1.10	M1	Shear
SUV4	0.00	M2	Shear
SUV5	0.00	M2	Shear
SUV6	0.00	M2	Shear
SUV7	0.00	M2	Shear
OL1	1.03	M1	Shear
OL2	0.98	M1	Shear
EV2	1.12	M1	Shear
EV3	0.77	M1	Shear

Bridge: Gibbons Creek Bridge #6
Bridge Size: 28 ft bridge span, 24.7' curb-curb deck width, 3'-0" top-of-deck to bottom-of-girder depth at midspan
Bridge Description: Cast-in-place concrete girder bridge located on SE Evergreen Way, crossing Gibbons Creek
Date Constructed: 1940
Roadway Classification: Rural major collector – 2 lanes w/ shoulders
ADT: 2376

Bridge Rehabilitation / Repair



The low rating for the EV3 vehicle requires an approximate 25% increase in shear capacity at each end of each girder. Because the girder depth is fairly shallow, it may be difficult to accomplish this by additional FRP on the sides of each girder. Therefore, new cast-in-place concrete beams are suggested as indicated on the sketch above. The new concrete will be attached to the existing concrete through the use of epoxy dowels. It will require a full work platform to carry out the work. Full road closure would be required for at least a month while the existing asphalt is removed and replaced to allow for holes to be cored through the deck. Construction cost would be in the range of $160,000 and total project cost would be in the range of $260,000.

Bridge Replacement

The approximate bankfull width of the stream under the bridge is 18 feet. To meet WDFW requirements for the channel opening between the scour protection, an approximately length for a new bridge replacement would be 45 to 50 feet. The new bridge would be 40 feet wide, as the current road is classified as a major arterial. The roadway would be required to be closed during construction. To accommodate the new widening, additional roadway work would be required and new drainage improvements. It is expected that the widening would trigger major stormwater requirements and to accommodate this, construction easements would be required from the neighboring properties. Construction costs for a replacement bridge are estimated to be in the range of 1,200,000 and an overall project cost would be expected to be in the range of $1,800,000.

Gibbons Creek Bridge No 006

Rehabilitation / Repair Costs

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$25,000	$25,000
Traffic Control	1	LS	$10,000	$10,000
Temporary Work Platform	640	SF	$50	$32,000
Surface Preparation	200	SF	$30	$6,000
Steel Reinforcing	1	LS	$15,000	$15,000
Concrete Class 4000	1	LS	$35,000	$35,000
Remove and replace asphalt	1	LS	$10,000	$10,000
Coring through deck	1		$5,000	$5,000
			Subtotal	$138,000
			Contingency 20%	$27,600
			Construction Cost	**$165,600**

Total Project Cost (Construction cost x 1.6) = $264,960

Bridge Replacement Cost

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$85,000	$85,000
Traffic Control	1	LS	$25,000	$25,000
Existing Bridge Removal	640	SF	$50	$32,000
Erosion Control	1	LS	$15,000	$15,000
Work Area Isolation	1	LS	$30,000	$30,000
Stream Reconstruction	1	LS	$2,000	$2,000
Stormwater Treatment	1	LS	$40,000	$40,000
Bridge Substructure	2	EACH	$85,000	$170,000
Bridge Superstructure	2000	SF	$250	$500,000
Bridge Approach Slabs	60	SY	$35	$2,100
Roadway Reconstruction	1000	SF	$40	$40,000
Guardrail	1	LS	$25,000	$25,000
Planting	0.75	ACRE	$8,000	$6,000
			Subtotal	$972,100
			Contingency 20%	$194,420
			Construction Cost	**$1,166,520**

Total Project Cost (Construction cost x 1.5) = $1,749,780
Plus Right-of-Way $60,000
Total $1,809,780

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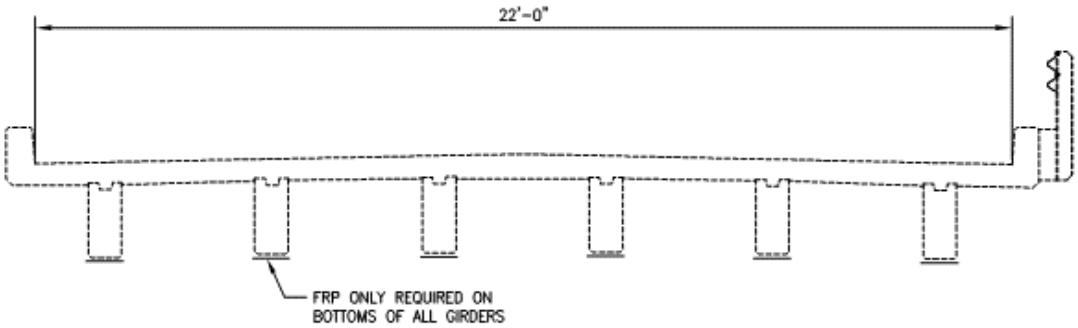
Final Rating Factors:		Controlling Member:	
HL-93 Inventory	0.51	M2	Flexure
HL-93 Operating	0.67	M2	Flexure
AASHTO Type 3	1.23	M2	Flexure
AASHTO Type 3S2	1.31	M2	Flexure
AASHTO Type 3-3	1.50	M2	Flexure
NRL	0.90	M2	Flexure
SUV4	1.04	M2	Flexure
SUV5	0.96	M2	Flexure
SUV6	0.90	M2	Flexure
SUV7	0.90	M2	Flexure
OL1	1.01	M2	Flexure
OL2	0.81	M2	Flexure
EV2	1.04	M2	Flexure
EV3	0.68	M2	Flexure

Bridge: Landon Bridge #299
Bridge Size: 25 ft span bridge, 22.2’ curb-curb deck width, 2’-2” top-of-deck to bottom-of-girder depth
Bridge Description: Cast-in-place concrete girder bridge located on CC Landon Road, crossing Yacolt Creek
Date Constructed: 1955
Roadway Classification: Unclassified
ADT: 313

Bridge Rehabilitation / Repair



The low rating for the EV3 vehicle requires an approximate 40% increase in moment capacity at the center of each girder. This can be accomplished by several layers of FRP on the bottom of each girder as indicated on the sketch above. The bottoms of the girders will need to be cleaned and prepped prior to FRP application. The bridge is located 5 or 6 feet above the water, so a complete working platform would be required over the stream. Alternatively, the work could be accomplished using simple protection blankets if the stream goes completely dry in the summer. Construction cost would be in the range of $80,000 and total project cost would be in the range of $120,000.

Bridge Replacement

The approximate bankfull width of the stream under the bridge is 18 feet. To meet WDFW requirements for the channel opening between the scour protection, an approximately length for a new bridge replacement would be 45 feet. The new bridge would be 28 feet wide, as the current road is unclassified. The roadway would be required to be closed during construction. To accommodate the new widening, additional roadway work would be required and new drainage improvements. It is expected that the widening would not trigger major stormwater requirements. Temporary construction easements may be required from the neighboring properties. Construction costs for a replacement bridge are estimated to be in the range of $930,000 and an overall project cost would be expected to be in the range of $1,500,000.

Landon Bridge No. 299

Rehabilitation / Repair Costs

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$18,000	$18,000
Traffic Control	1	LS	$5,000	$5,000
Temporary Work Platform	550	SF	$50	$27,500
Surface Preparation	150	SF	$30	$4,500
FRP Furnish and Install	150	SF	$50	$7,500
Testing	1	LS	$2,000	$2,000
			Subtotal	$64,500
			Contingency 20%	$12,900
			Construction Cost	**$77,400**

Total Project Cost (Construction cost x 1.6) = $123,840

Bridge Replacement Cost

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$85,000	$85,000
Traffic Control	1	LS	$15,000	$15,000
Existing Bridge Removal	500	SF	$50	$25,000
Erosion Control	1	LS	$5,000	$5,000
Work Area Isolation	1	LS	$18,000	$18,000
Stream Reconstruction	1	LS	$14,000	$14,000
Stormwater Treatment	1	LS	$18,000	$18,000
Bridge Substructure	2	EACH	$80,000	$160,000
Bridge Superstructure	1500	SF	$250	$375,000
Bridge Approach Slabs	60	SY	$120	$7,200
Roadway Reconstruction	600	SF	$40	$24,000
Guardrail	1	LS	$25,000	$25,000
Planting	0.25	ACRE	$8,000	$2,000
			Subtotal	$773,200
			Contingency 20%	$154,640
			Construction Cost	**$927,840**

Total Project Cost (Construction cost x 1.5) = $1,391,760
Plus Right-of-Way $70,000
Total $1,461,760

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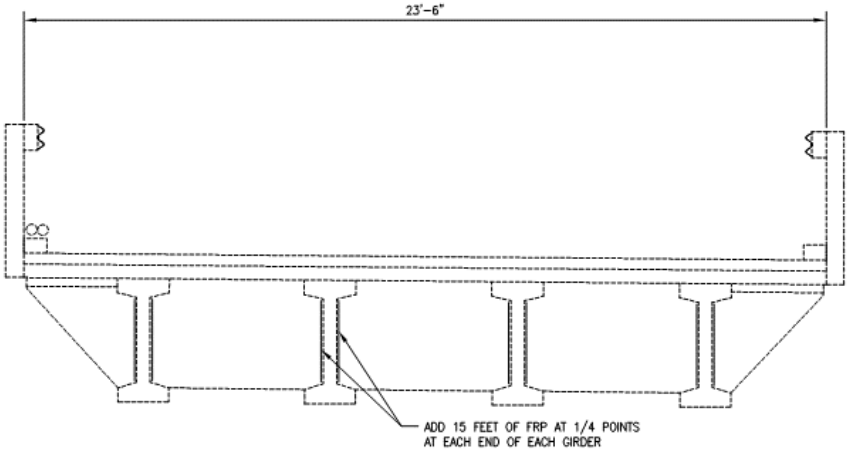
Final Rating Factors:	
HL-93 Inventory	0.53
HL-93 Operating	0.69
AASHTO Type 3	1.57
AASHTO Type 3S2	1.40
AASHTO Type 3-3	1.46
NRL	1.08
SUV4	0.00
SUV5	0.00
SUV6	0.00
SUV7	0.00
OL1	1.39
OL2	1.12
EV2	1.33
EV3	0.90

Bridge: Lucia Falls Bridge #116
Bridge Size: 78 ft bridge span, 22.2' curb-curb deck width, 4'-1" top-of-deck to bottom-of-girder depth
Bridge Description: Precast prestressed concrete girder bridge located on NE Hantwick Rd, crossing over E Fork Lewis River
Date Constructed: 1937, Rebuilt 2005
Roadway Classification: Unclassified (route to forest)
ADT: 150

Bridge Rehabilitation / Repair



The low rating for the EV3 vehicle requires an approximate 10% increase in shear capacity at the ¼ point at each end of each girder. This can be accomplished by additional FRP on the sides of each girder as indicated on the sketch above. This will be in addition to the FRP that was added during the deck reconstruction that occurred approximately 10 to 15 years ago. The sides of the girders will need to be cleaned and prepped prior to FRP application. The bridge is located approximately 30 to 40 feet above the East Fork of the Lewis River, so will require a work platform that will need to span the same distance as the bridge span. Alternatively, the work could be accomplished from an underside movable bridge platform. Construction cost would be in the range of $140,000 and total project cost would be in the range of $230,000.

Bridge Replacement

This bridge is founded on rock bluffs on either side of the river. The removal of the existing structure would require full protection under so material would not fall into the river. Only the bridge superstructure would need to be removed, as the existing substructure could be reused by widening it slightly to accommodate the new bridge. The new bridge would be 28 feet wide, as the current road is unclassified. The roadway would be required to be closed during construction. To accommodate the new widening, slight roadway work would be required and new drainage improvements. It is expected that the widening would not trigger major stormwater requirements. It is expected the construction easements would be required from the neighboring properties. Construction costs for a replacement bridge are estimated to be in the range of $980,000 and an overall project cost would be expected to be in the range of $1,500,000.

Lucia Falls Bridge No. 116

Rehabilitation / Repair Costs

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$25,000	$25,000
Traffic Control	1	LS	$5,000	$5,000
Temporary Work Platform	1800	SF	$40	$72,000
Surface Preparation	240	SF	$30	$7,200
FRP Furnish and Install	240	SF	$30	$7,200
Testing	1	LS	$2,000	$2,000
			Subtotal	$118,400
			Contingency 20%	$23,680
			Construction Cost	**$142,080**

Total Project Cost (Construction cost x 1.6) = $227,328

Bridge Replacement Cost

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$85,000	$85,000
Traffic Control	1	LS	$15,000	$15,000
Existing Bridge Removal	1700	SF	$50	$85,000
Erosion Control	1	LS	$5,000	$5,000
Work Area Isolation	1	LS	$0	$0
Stream Reconstruction	1	LS	$0	$0
Stormwater Treatment	1	LS	$10,000	$10,000
Bridge Substructure	2	EACH	$20,000	$40,000
Bridge Superstructure	2100	SF	$250	$525,000
Bridge Approach Slabs	60	SY	$35	$2,100
Roadway Reconstruction	600	SF	$40	$24,000
Guardrail	1	LS	$25,000	$25,000
Planting	0.25	ACRE	$8,000	$2,000
			Subtotal	$818,100
			Contingency 20%	$163,620
			Construction Cost	**$981,720**

Total Project Cost (Construction cost x 1.5) = $1,472,580
Plus Right-of-Way $50,000
Total $1,522,580

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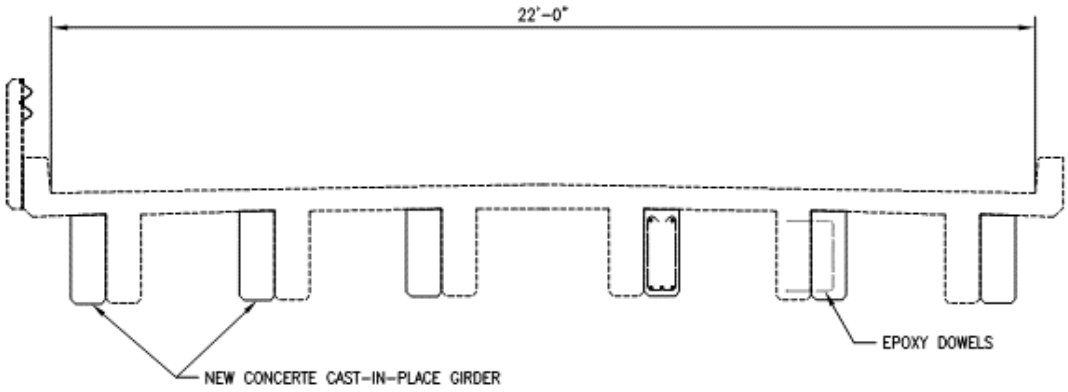
Final Rating Factors:		Controlling Member:	
HL-93 Inventory	0.39	M2	Flexure
HL-93 Operating	0.51	M2	Flexure
AASHTO Type 3	1.04	M2	Flexure
AASHTO Type 3S2	1.05	M2	Flexure
AASHTO Type 3-3	1.26	M2	Flexure
NRL	0.68	M2	Flexure
SUV4	0.86	M2	Flexure
SUV5	0.79	M2	Flexure
SUV6	0.72	M2	Flexure
SUV7	0.66	M2	Flexure
OL1	0.79	M2	Flexure
OL2	0.66	M2	Flexure
EV2	0.87	M2	Flexure
EV3	0.57	M2	Flexure

Bridge: Matney Bridge #168
Bridge Size: 30 ft bridge span, 22.2’ curb-curb deck width, 2’-6” top-of-deck to bottom-of-girder depth
Bridge Description: Cast-in-place concrete bridge Located on NE 68th Street, crossing over Matney Creek
Date Constructed: 1938
Roadway Classification: Unclassified
ADT: 807

Bridge Rehabilitation / Repair



The low rating for the EV3 vehicle requires an almost 100% increase in moment capacity in the girders. This is too much for the addition of FRP, so each girder will be strengthened by adding cast-in-place girders along the side, which will be epoxy doweled in to the existing concrete. This strengthening scheme does not result in lowering of the structural depth. It will require a full work platform over the creek below as well as complete road closure for at least a month while the asphalt is removed and replaced, and the concrete is placed. Construction cost for this is estimated to be $160,000 and an overall project cost would be in the range of $260,000.

Bridge Replacement

The bankfull width of Matney Creek at this location is around 25 feet. To meet WDFW requirements for the channel opening between the scour protection and allowing for back slopes up to the end abutments, an approximate new length of bridge would be 50 feet. Precast voided slabs would be used to maintain the same flood clearance under the bridge. Although this road is unclassified, the new roadway width at a minimum would be two 12-foot lanes plus 2-foot shoulders, for a total inside width of 28 feet. Slight roadway widening would occur, but it could possibly be limited in order not to trigger stormwater treatment requirements. Construction costs for a new bridge would be in the range of $960,000 and an overall project cost would be in the range of $1,500,000.

Matney Bridge No 168

Rehabilitation / Repair Costs

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$25,000	$25,000
Traffic Control	1	LS	$5,000	$5,000
Temporary Work Platform	600	SF	$50	$30,000
Surface Preparation	200	SF	$30	$6,000
Steel Reinforcing	1	LS	$15,000	$15,000
Concrete Class 4000	1	LS	$40,000	$40,000
Remove and replace asphalt	1	LS	$10,000	$10,000
Coring through deck	1		$5,000	$5,000
			Subtotal	$136,000
			Contingency 20%	$27,200
			Construction Cost	**$163,200**

Total Project Cost (Construction cost x 1.6) = $261,120

Bridge Replacement Cost

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$85,000	$85,000
Traffic Control	1	LS	$25,000	$25,000
Existing Bridge Removal	600	SF	$50	$30,000
Erosion Control	1	LS	$15,000	$15,000
Work Area Isolation	1	LS	$30,000	$30,000
Stream Reconstruction	1	LS	$2,000	$2,000
Stormwater Treatment	1	LS	$40,000	$40,000
Bridge Substructure	2	EACH	$85,000	$170,000
Bridge Superstructure	1400	SF	$250	$350,000
Bridge Approach Slabs	60	SY	$35	$2,100
Roadway Reconstruction	600	SF	$40	$24,000
Guardrail	1	LS	$25,000	$25,000
Planting	0.5	ACRE	$8,000	$4,000
			Subtotal	$802,100
			Contingency 20%	$160,420
			Construction Cost	**$962,520**

Total Project Cost (Construction cost x 1.5) = $1,443,780
Plus Right-of-Way $60,000
Total $1,503,780

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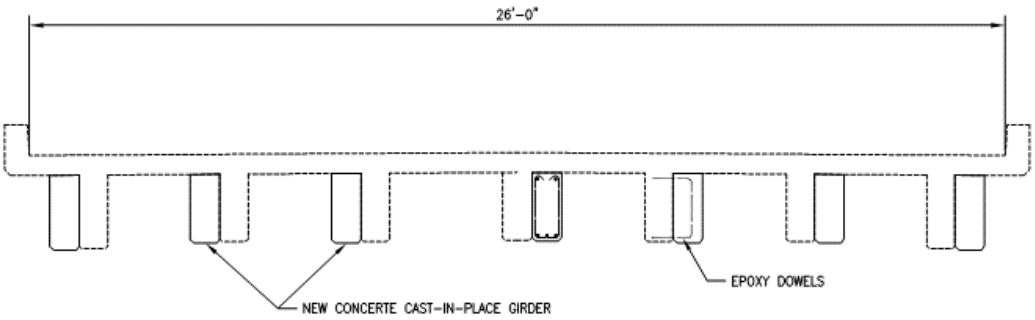
Final Rating Factors:		Controlling Member:	
HL-93 Inventory	0.40	M2	Flexure
HL-93 Operating	0.51	M2	Flexure
AASHTO Type 3	0.97	M2	Flexure
AASHTO Type 3S2	0.97	M2	Flexure
AASHTO Type 3-3	1.19	M2	Flexure
NRL	0.62	M2	Flexure
SUV4	0.79	M2	Flexure
SUV5	0.74	M2	Flexure
SUV6	0.67	M2	Flexure
SUV7	0.65	M2	Flexure
OL1	0.73	M2	Flexure
OL2	0.60	M2	Flexure
EV2	0.85	M2	Flexure
EV3	0.53	M2	Flexure

Bridge: Morgan Bridge #213
Bridge Size: 26 ft bridge span, 26.2' curb-curb deck width, 2'-6" top-of-deck to bottom-of-girder depth at midspan
Bridge Description: Cast-in-place concrete girder bridge located on NE 182nd Avenue, crossing Morgan Creek
Date Constructed: 1956
Roadway Classification: Rural major collector – 2 lanes w/ shoulders
ADT: 7560

Bridge Rehabilitation / Repair



The low rating for the EV3 vehicle requires an almost 100% increase in moment capacity in the girders. This is too much for the addition of FRP, so each girder will be strengthened by adding cast-in-place girders along the side, which will be epoxy doweled in to the existing concrete. This strengthening scheme does not result in lowering of the structural depth. It will require a full work platform over the creek below as well as complete road closure for at least a month while the asphalt is removed and replaced, and the concrete is placed. Construction cost for this is estimated to be $160,000 and an overall project cost would be in the range of $260,000.

Bridge Replacement

The bankfull width of Morgan Creek at this location is around 25 feet. To meet WDFW requirements for the channel opening between the scour protection and allowing for back slopes up to the end abutments, an approximate new length of bridge would be 50 feet. Precast voided slabs would be used to maintain the same flood clearance under the bridge. The new roadway width at a minimum would be two 12-foot lanes plus 8-foot shoulders, for a total inside width of 40 feet. Slight roadway widening would occur, but it could possibly be limited in order not to trigger stormwater treatment requirements. Construction costs for a new bridge would be in the range of $1,300,000 and an overall project cost would be in the range of $2,000,000.

Morgan Bridge No 213

Rehabilitation / Repair Costs

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$25,000	$25,000
Traffic Control	1	LS	$5,000	$5,000
Temporary Work Platform	600	SF	$50	$30,000
Surface Preparation	200	SF	$30	$6,000
Steel Reinforcing	1	LS	$15,000	$15,000
Concrete Class 4000	1	LS	$40,000	$40,000
Remove and replace asphalt	1	LS	$10,000	$10,000
Coring through deck	1		$5,000	$5,000
			Subtotal	$136,000
			Contingency 20%	$27,200
			Construction Cost	**$163,200**

Total Project Cost (Construction cost x 1.6) = $261,120

Bridge Replacement Cost

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$105,000	$105,000
Traffic Control	1	LS	$25,000	$25,000
Existing Bridge Removal	600	SF	$50	$30,000
Erosion Control	1	LS	$15,000	$15,000
Work Area Isolation	1	LS	$30,000	$30,000
Stream Reconstruction	1	LS	$2,000	$2,000
Stormwater Treatment	1	LS	$40,000	$40,000
Bridge Substructure	2	EACH	$95,000	$190,000
Bridge Superstructure	2400	SF	$250	$600,000
Bridge Approach Slabs	60	SY	$120	$7,200
Roadway Reconstruction	1200	SF	$40	$48,000
Guardrail	1	LS	$25,000	$25,000
Planting	0.9	ACRE	$8,000	$7,200
			Subtotal	$1,124,400
			Contingency 20%	$224,880
			Construction Cost	**$1,349,280**

Total Project Cost (Construction cost x 1.5) = $2,023,920
Plus Right-of-Way $90
Total $2,024,010

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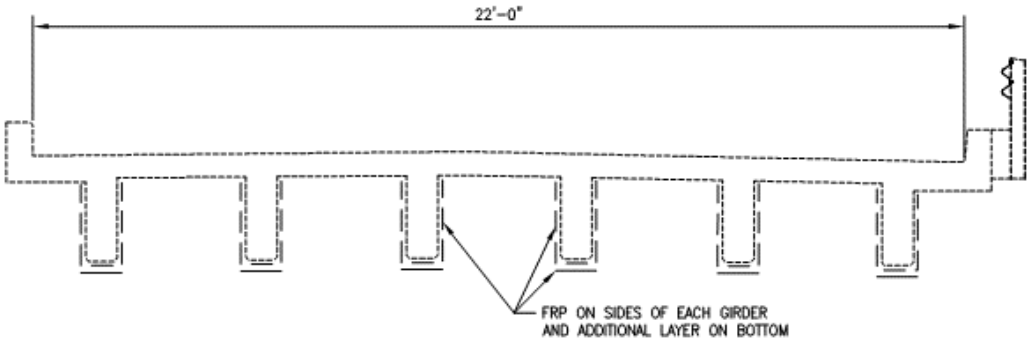
Bridge: None Bridge #222
Bridge Size: 34.7 ft bridge span, 22.5’ curb-curb deck width, 2’-6” top-of-deck to bottom-of-girder depth at midspan
Bridge Description: Cast-in-place concrete girder bridge located on NE Risto Road, crossing Salmon Creek
Date Constructed: 1954
Roadway Classification: Rural minor collector – 2 lanes w/ shoulders
ADT: 1014

Final Rating Factors:				Posting (Tons)
HL-93 Inventory	0.52	M2	Flexure	11
HL-93 Operating	0.67	M2	Flexure	19
AASHTO Type 3	1.25	M2	Flexure	N.R.
AASHTO Type 3S2	1.28	M2	Flexure	N.R.
AASHTO Type 3-3	1.52	M2	Flexure	N.R.
NRL	0.83	M2	Flexure	30
SUV4	1.05	M2	Flexure	N.R.
SUV5	0.95	M2	Flexure	26
SUV6	0.88	M2	Flexure	26
SUV7	0.84	M2	Flexure	28
OL1	1.05	M2	Flexure	N.R.
OL2	0.89	M2	Flexure	34
EV2	1.12	M2	Flexure	N.R.
EV3	0.69	M2	Flexure	24

Bridge Rehabilitation / Repair



The low rating for the EV3 vehicle requires an approximate 35% increase in moment capacity at the center of each girder. This can be accomplished by additional FRP on the bottom and sides of each girder, with additional layers on the bottom as indicated on the sketch above. The bottom and sides of the girders will need to be cleaned and prepped prior to FRP application. The bridge is located several feet above the water, so a complete working platform would be required over the stream. Construction cost would be in the range of $80,000 and total project cost would be in the range of $120,000.

Bridge Replacement

The approximate bankfull width of the stream under the bridge is 20 feet. To meet WDFW requirements for the channel opening between the scour protection, an approximately length for a new bridge replacement would be 60 feet. The new bridge would be 40 feet wide, as the current road is classified as a minor arterial. The roadway would be required to be closed during construction. To accommodate the new widening, additional roadway work would be required and new drainage improvements. It is expected that the widening would trigger major stormwater requirements and to accommodate this, construction easements would be required from the neighboring properties. Construction costs for a replacement bridge are estimated to be in the range of 1,200,000 and an overall project cost would be expected to be in the range of $1,900,000.

None Bridge No. 222

Rehabilitation / Repair Costs

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$16,000	$16,000
Traffic Control	1	LS	$5,000	$5,000
Temporary Work Platform	670	SF	$40	$26,800
Surface Preparation	250	SF	$30	$7,500
FRP Furnish and Install	250	SF	$30	$7,500
Testing	1	LS	$2,000	$2,000
			Subtotal	$64,800
			Contingency 20%	$12,960
			Construction Cost	**$77,760**

Total Project Cost (Construction cost x 1.6) = $124,416

Bridge Replacement Cost

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$85,000	$85,000
Traffic Control	1	LS	$15,000	$15,000
Existing Bridge Removal	680	SF	$50	$34,000
Erosion Control	1	LS	$5,000	$5,000
Work Area Isolation	1	LS	$20,000	$20,000
Stream Reconstruction	1	LS	$15,000	$15,000
Stormwater Treatment	1	LS	$18,000	$18,000
Bridge Substructure	2	EACH	$90,000	$180,000
Bridge Superstructure	2400	SF	$250	$600,000
Bridge Approach Slabs	60	SY	$120	$7,200
Roadway Reconstruction	600	SF	$40	$24,000
Guardrail	1	LS	$25,000	$25,000
Planting	0.25	ACRE	$8,000	$2,000
			Subtotal	$1,030,200
			Contingency 20%	$206,040
			Construction Cost	**$1,236,240**

Total Project Cost (Construction cost x 1.5) = $1,854,360
Plus Right-of-Way $70,000
Total $1,924,360

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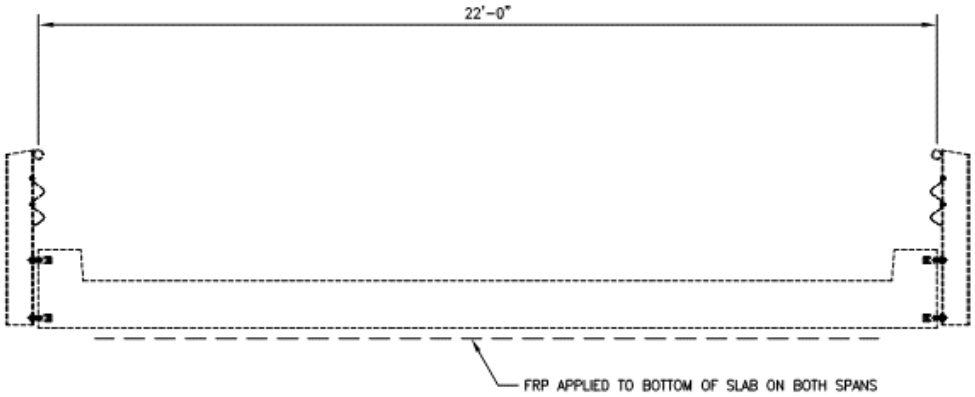
Final Rating Factors:		Controlling Member:	
HL-93 Inventory	0.69	M1	Pos. Flex @ cut
HL-93 Operating	0.89	M1	Pos. Flex @ cut
AASHTO Type 3	1.57	M1	Pos. Flex @ cut
AASHTO Type 3S2	1.72	M1	Pos. Flex @ cut
AASHTO Type 3-3	1.91	M1	Pos. Flex @ cut
NRL	1.26	M1	Pos. Flex @ cut
SUV4	0.00	M1	Neg. Flex @ cut
SUV5	0.00	M1	Neg. Flex @ cut
SUV6	0.00	M1	Neg. Flex @ cut
SUV7	0.00	M1	Neg. Flex @ cut
OL1	1.35	M1	Pos. Flex @ cut
OL2	1.20	M1	Neg. Flexure
EV2	1.30	M1	Pos. Flex @ cut
EV3	0.86	M1	Pos. Flex @ cut

Bridge: Rock Creek Bridge #96
Bridge Size: 42 ft, 2-span bridge span, 22’ curb-curb deck width, 1’-2” top-of-deck to bottom-of-girder depth
Bridge Description: Cast-in-place concrete bridge
Located on Rock Creek Road, crossing over Rock Creek
Date Constructed: 1949
Roadway Classification: Rural Major Collector
ADT: 2014

Bridge Rehabilitation / Repair



The low rating for the EV3 vehicle requires an approximate 15% increase in positive moment capacity in the slabs for each span. This can be accomplished by the addition of FRP on the underside of the slabs. The slabs will need to be cleaned and prepped prior to the FRP application. This strengthening scheme does not result in lowering of the structural depth. It will require a full work platform over the creek below as well as short partial road closures during curing of the FRP. Construction cost for this is estimated to be $93,000 and an overall project cost would in the range of $149,000.

Bridge Replacement

The bankful width of Rock Creek at this location is around 35 feet. To meet WDFW requirements for the channel opening between the scour protection, and allowing for back slopes up to the end abutments, an approximate new length of bridge would be 60 feet. Precast voided slabs could be used, but since the new bridge would be a single span, the depth of the slabs would be deeper. This would require raising of the roadway approximately 1.5 feet in order to maintain the same flood clearance under the bridge. The road is classified as a Rural Major Collector, therefore the new roadway width at a minimum would be two 12 foot lanes plus 8 foot shoulders, for a total inside width of 40 feet. The raising of the roadway plus widening would trigger stormwater treatment requirements, and it is expected that additional ROW would be needed. Construction costs for a new bridge would be in the range of $1,200,000 and an overall project cost would be in the range of $2,000,000.

Rock Creek Bridge No. 096

Rehabilitation / Repair Costs

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$16,000	$16,000
Traffic Control	1	LS	$5,000	$5,000
Temporary Work Platform	920	SF	$40	$36,800
Surface Preparation	300	SF	$30	$9,000
FRP Furnish and Install	300	SF	$30	$9,000
Testing	1	LS	$2,000	$2,000
			Subtotal	$77,800
			Contingency 20%	$15,560
			Construction Cost	**$93,360**

Total Project Cost (Construction cost x 1.6) = $149,376

Bridge Replacement Cost

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$85,000	$85,000
Traffic Control	1	LS	$15,000	$15,000
Existing Bridge Removal	920	SF	$50	$46,000
Erosion Control	1	LS	$5,000	$5,000
Work Area Isolation	1	LS	$20,000	$20,000
Stream Reconstruction	1	LS	$15,000	$15,000
Stormwater Treatment	1	LS	$28,000	$28,000
Bridge Substructure	2	EACH	$80,000	$160,000
Bridge Superstructure	2400	SF	$250	$600,000
Bridge Approach Slabs	60	SY	$35	$2,100
Roadway Reconstruction	1600	SF	$40	$64,000
Guardrail	1	LS	$30,000	$30,000
Planting	0.4	ACRE	$8,000	$3,200
			Subtotal	$1,073,300
			Contingency 20%	$214,660
			Construction Cost	**$1,287,960**

Total Project Cost (Construction cost x 1.5) = $1,931,940
Plus Right-of-Way $90,000
Total $2,021,940

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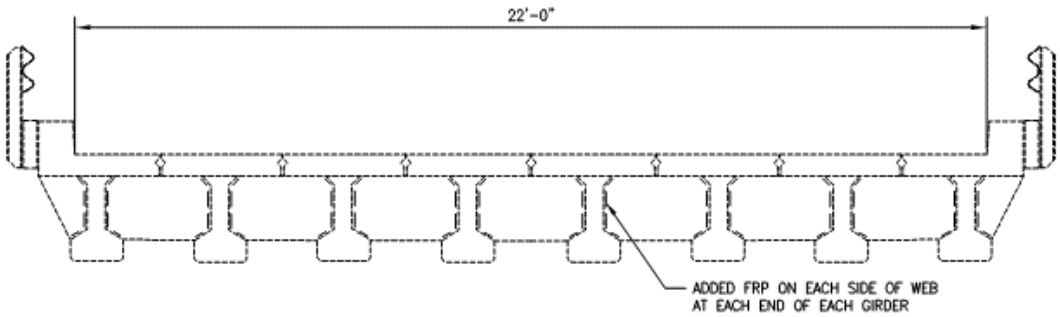
Final Rating Factors:		Controlling Member:	
HL-93 Inventory	0.50	M2	Shear
HL-93 Operating	0.64	M2	Shear
AASHTO Type 3	1.25	M2	Shear
AASHTO Type 3S2	1.10	M2	Shear
AASHTO Type 3-3	1.13	M2	Shear
NRL	0.85	M2	Shear
SUV4	1.13	M2	Shear
SUV5	1.01	M2	Shear
SUV6	0.95	M2	Shear
SUV7	0.90	M2	Shear
OL1	0.77	M2	Shear
OL2	0.61	M2	Shear
EV2	1.06	M2	Shear
EV3	0.71	M2	Shear

Bridge: Venersborg Bridge #217
Bridge Size: 61 ft bridge span, 22.5’ curb-curb deck width, 2’-6” top-of-deck to bottom-of-girder depth at midspan
Bridge Description: Cast-in-place concrete girder bridge located on NE Risto Road, crossing Salmon Creek
Date Constructed: 1941, Rebuilt 1954
Roadway Classification: Rural major collector – 2 lanes w/ shoulders
ADT: 2946

Bridge Rehabilitation / Repair



The low rating for the EV3 vehicle requires an approximate 45% increase in shear capacity at each end of each girder. This can be accomplished by adding FRP on the sides of each girder as indicated on the sketch above. It may require several layers of FRP and they may require special overlapping techniques. The sides of the girders will need to be cleaned and prepped prior to FRP application. The bridge is located over feet above the water, so a complete working platform would be required over the stream. Alternatively, the work could possibly be accomplished using underslung access platforms. Construction cost would be in the range of $160,000 and total project cost would be in the range of $250,000.

Bridge Replacement

The approximate bankfull width of the stream under the bridge is 40 feet. To meet WDFW requirements for the channel opening between the scour protection, an approximately length for a new bridge replacement would be 80 to 90 feet. The new bridge would be 40 feet wide, as the current road is classified as a major arterial. The roadway would be required to be closed during construction. To accommodate the new widening, additional roadway work would be required and new drainage improvements. It is expected that the widening would trigger major stormwater requirements and to accommodate this, construction easements would be required from the neighboring properties. Construction costs for a replacement bridge are estimated to be in the range of 2,000,000 and an overall project cost would be expected to be in the range of $3,100,000.

Venersborg Bridge No. 217

Rehabilitation / Repair Costs

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$23,000	$23,000
Traffic Control	1	LS	$8,000	$8,000
Temporary Work Platform	1500	SF	$40	$60,000
Surface Preparation	640	SF	$30	$19,200
FRP Furnish and Install	640	SF	$30	$19,200
Testing	1	LS	$3,000	$3,000
			Subtotal	$132,400
			Contingency 20%	$26,480
			Construction Cost	**$158,880**

Total Project Cost (Construction cost x 1.6) = $254,208

Bridge Replacement Cost

Item	Quantity	Unit	Unit Cost	Cost
Mobilization	1	LS	$150,000	$150,000
Traffic Control	1	LS	$15,000	$15,000
Existing Bridge Removal	1800	SF	$50	$90,000
Erosion Control	1	LS	$5,000	$5,000
Work Area Isolation	1	LS	$20,000	$20,000
Stream Reconstruction	1	LS	$15,000	$15,000
Stormwater Treatment	1	LS	$48,000	$48,000
Bridge Substructure	2	EACH	$120,000	$240,000
Bridge Superstructure	3600	SF	$250	$900,000
Bridge Approach Slabs	60	SY	$120	$7,200
Roadway Reconstruction	2600	SF	$40	$104,000
Guardrail	1	LS	$25,000	$25,000
Planting	0.25	ACRE	$8,000	$2,000
			Subtotal	$1,621,200
			Contingency 25%	$405,300
			Construction Cost	**$2,026,500**

Total Project Cost (Construction cost x 1.5) = $3,039,750
Plus Right-of-Way $70,000
Total $3,109,750