For City of Yakima Use Only:
Contract No._____
Project No._____
Resolution No._____
SOQ No._____

AGREEMENT

BETWEEN

CITY OF YAKIMA, WASHINGTON

AND

HDR ENGINEERING, Inc.

FOR PROFESSIONAL SERVICES

THIS AGREEMENT, made and entered into on this _____ day of _____, 2019, by and between the City of Yakima, Washington, a municipal corporation with its principal office at 129 North Second Street, Yakima, WA 98901, hereinafter referred to as "CITY," and HDR Engineering, Inc. with its principal office at 4717 97th Street NW, Gig Harbor, Washington 98332, hereinafter referred to as "ENGINEER," said corporation and its principal engineers are licensed and registered to do business in the State of Washington, and will provide engineering design, bidding, and construction services under this AGREEMENT for **Nelson Dam Replacement** on behalf of the City of Yakima, Project No. IC2010, herein referred to as the "PROJECT."

WITNESSETH:

RECITALS

WHEREAS, CITY desires to retain the ENGINEER to provide engineering services for design and construction of the PROJECT, as described in this AGREEMENT and subsequent Amendments thereto; and

WHEREAS, ENGINEER represents that it has available and offers to provide personnel with knowledge and experience necessary to satisfactorily accomplish the work within the required time and that it has no conflicts of interest prohibited by law from entering into this AGREEMENT;

WHEREAS, the ENGINEER is aware that CITY and Yakima COUNTY have signed an Interlocal Agreement for the funding, design and construction of the PROJECT, that allows technical and real property coordination for the PROJECT, which occurs on Yakima County land within Yakima COUNTY.

NOW, THEREFORE, CITY and ENGINEER agree as follows:

SECTION 1 INCORPORATION OF RECITALS

1.1 The above recitals are incorporated into these operative provisions of the AGREEMENT.

SECTION 2 SCOPE OF SERVICES

2.0.1 ENGINEER agrees to perform those services described hereafter. Unless modified in writing by both parties, duties of ENGINEER shall not be construed to exceed those services specifically set forth herein.

2.0.2 ENGINEER shall strive to maintain continuity in personnel and shall assign Michael Garello, PE, as Principal-in-Charge throughout the term of this AGREEMENT unless other personnel are approved by the CITY.

2.1 Basic Services: ENGINEER agrees to perform those tasks described in Exhibit A - Scope of Services (WORK) which are attached hereto and made a part of this AGREEMENT as if fully set forth herein. It is anticipated construction of improvements related to this AGREEMENT will occur through two separate projects and associated bid calls.

2.2 Additional Services: CITY and ENGINEER agree that not all WORK to be performed by ENGINEER can be defined in detail at the time this AGREEMENT is executed, and that additional WORK related to the Project and not covered in Exhibit A may be needed during performance of this AGREEMENT. CITY may, at any time, by written order, direct the ENGINEER to revise

portions of the PROJECT WORK previously completed in a satisfactory manner, delete portions of the PROJECT, or request that the ENGINEER perform additional WORK beyond the scope of the PROJECT WORK. Such changes hereinafter shall be referred to as "Additional Services."

2.2.1 If such Additional Services cause an increase or decrease in the ENGINEER's cost of, or time required for, performance of any services under this AGREEMENT, a contract price and/or completion time adjustment pursuant to this AGREEMENT shall be made and this AGREEMENT shall be modified in writing accordingly.

2.2.2 Compensation for each such request for Additional Services shall be negotiated by the CITY and the ENGINEER according to the provisions set forth in Exhibit A – Scope of Services, attached hereto and incorporated herein by this reference, and if so authorized, shall be considered part of the PROJECT WORK. The ENGINEER shall not perform any Additional Services until so authorized by CITY and agreed to by the ENGINEER in writing (an approved Change Order that includes the additional scope and pricing will be considered written authorization).

2.3 The ENGINEER must assert any claim for adjustment in writing within thirty (30) days from the date of the ENGINEER's receipt of the written notification of change.

SECTION 3 CITY'S RESPONSIBILITIES

3.1 CITY-FURNISHED DATA: The CITY will provide to the ENGINEER all technical data in the CITY's possession relating to the ENGINEER's services on the PROJECT including information on any pre-existing conditions known to the CITY that constitute hazardous waste contamination on the PROJECT site as determined by an authorized regulatory agency.

3.2 ACCESS TO FACILITIES AND PROPERTY: The CITY will make its facilities reasonably accessible to ENGINEER as required for ENGINEER's performance of its services and will provide labor and safety equipment as reasonably required by ENGINEER for such access.

3.3 TIMELY REVIEW: The CITY will examine the ENGINEER's studies, reports, sketches, drawings, specifications, proposals, and other documents; obtain advice of an attorney, insurance counselor, accountant, auditor, bond and financial advisors, and other consultants as CITY deems appropriate; and render in writing decisions required of CITY in a timely manner. Such examinations and decisions, however, shall not relieve the ENGINEER of any contractual obligations nor of its duty to render professional services meeting the standards of care for its profession.

3.4 CITY shall appoint a CITY's Representative with respect to WORK to be performed under this AGREEMENT. CITY's Representative shall have complete authority to transmit instructions and receive information. ENGINEER shall be entitled to reasonably rely on such instructions made by the CITY's Representative unless otherwise directed in writing by the CITY, but ENGINEER shall be responsible for bringing to the attention of the CITY's Representative any instructions which the ENGINEER believes are inadequate, incomplete, or inaccurate based upon the ENGINEER's knowledge.

3.5 Any documents, services, and reports provided by the CITY to the ENGINEER are available solely as additional information to the ENGINEER and will not relieve the ENGINEER of its duties and obligations under this AGREEMENT or at law. The ENGINEER shall be entitled to reasonably rely upon the accuracy and the completeness of such documents, services and reports, but shall be responsible for exercising customary professional care in using and reviewing such documents, services, and reports and drawing conclusions therefrom.

SECTION 4 AUTHORIZATION, PROGRESS, AND COMPLETION

4.1 In signing this AGREEMENT, CITY grants ENGINEER specific authorization to proceed with WORK described in Exhibit A - Scope of Services. The time for completion is defined in Exhibit A - Scope of Services, or as amended.

SECTION 5 COMPENSATION

5.1 COMPENSATION ON A TIME SPENT BASIS AT SPECIFIC HOURLY RATES: For the services described in Exhibit A, compensation shall be according to Exhibit C - Schedule of Rates, attached hereto and incorporated herein by this reference, on a time spent basis plus reimbursement for direct non-salary expenses.

5.1.1 DIRECT NON-SALARY EXPENSES: Direct Non-Salary Expenses are those costs incurred on or directly for the PROJECT including, but not limited to, necessary transportation costs, including current rates for ENGINEER's vehicles; meals and lodging; laboratory tests and analyses; printing, binding and reproduction charges; all costs associated with other outside nonprofessional services and facilities; special CITY-requested and PROJECT-related insurance and performance warranty costs; and other similar costs. Reimbursement for Direct Non-Salary Expenses will be on the basis of actual charges plus a reasonable markup, not to exceed ten percent (10%) and on the basis of current rates when furnished by ENGINEER. Estimated Direct Non-Salary Expenses are shown in Exhibit B.

5.1.1.1 Travel costs, including transportation, lodging, subsistence, and incidental expenses incurred by employees of the ENGINEER and each of the Subconsultants in connection with PROJECT WORK; provided, as follows:

- That a maximum of U.S. INTERNAL REVENUE SERVICE allowed cents per mile will be paid for the operation, maintenance, and depreciation costs of company or individually owned vehicles for that portion of time they are used for PROJECT WORK. ENGINEER, whenever possible, will use the least expensive form of ground transportation.
- That reimbursement for meals inclusive of tips shall not exceed a maximum of forty dollars ($40) per day per person. This rate may be adjusted on a yearly basis.
- That accommodation shall be at a reasonably priced hotel/motel.
- That air travel shall be by coach class, and shall be used only when absolutely necessary.

5.1.2 Telephone charges, computer charges, in-house reproduction charges, first class postage, and FAX charges are not included in the direct expense costs, but are considered included in the Schedule of Specific Hourly Billing Rates.

5.1.3 Professional Subconsultants. Professional Subconsultants are those costs for engineering, architecture, geotechnical services and similar professional services approved by the CITY. Reimbursement for Professional Subconsultants will be on the basis of actual costs billed plus a reasonable markup, not to exceed ten percent (10%) for services provided to the CITY through this AGREEMENT. Estimated Subconsultant costs are shown in Exhibit B.

5.2 Unless specifically authorized in writing by the CITY, the total budgetary amount for this PROJECT shall not exceed One Million Eight Hundred Nineteen Thousand Six Hundred Dollars ($1,819,600). The ENGINEER will make reasonable efforts to complete the WORK within the budget and will keep CITY informed of progress toward that end so that the budget or WORK effort can be adjusted if found necessary. The ENGINEER is not obligated to incur costs beyond the indicated budget, as may be adjusted, nor is the CITY obligated to pay the ENGINEER beyond these limits. When any budget has been increased, the ENGINEER's excess costs expended prior to such increase will be allowable to the same extent as if such costs had been incurred after the approved increase, and provided that the CITY was informed of and approved in writing any such increases prior to the time such costs were incurred.

5.3 The ENGINEER shall submit to the CITY's Representative an invoice each month for payment for PROJECT services completed through the accounting cut-off day of the previous month. Such invoices shall be for PROJECT services and WORK performed and costs incurred prior to the date of the invoice and not covered by previously submitted invoices. The ENGINEER shall submit with each invoice a summary of time expended on the PROJECT for the current billing period, copies

of subconsultant invoices, and any other supporting materials determined by the CITY necessary to substantiate the costs incurred. CITY will use its best efforts to pay such invoices within thirty (30) days of receipt and upon approval of the WORK done and amount billed. CITY will notify the ENGINEER promptly if any problems are noted with the invoice. CITY may question any item in an invoice, noting to ENGINEER the questionable item(s) and withholding payment for such item(s). The ENGINEER may resubmit such item(s) in a subsequent invoice together with additional supporting information required.

5.4 If payment is not made within forty five (45) days following receipt of approved invoices, interest on the unpaid balance shall accrue beginning with the sixty-first (61) day at the rate of 1.0% per month or the maximum interest rate permitted by law, whichever is less; provided, however, that no interest shall accrue pursuant to Chapter 39.76 RCW when before the date of timely payment a notice of dispute is issued in good faith by the CITY to the ENGINEER pursuant to the terms of RCW 39.76.020(4).

5.5 Final payment of any balance due the ENGINEER for PROJECT services will be made within forty-five (45) days after satisfactory completion of the services required by this AGREEMENT as evidenced by written acceptance by CITY and after such audit or verification as CITY may deem necessary and execution and delivery by the ENGINEER of a release of all known payment claims against CITY arising under or by virtue of this AGREEMENT, other than such payment claims, if any, as may be specifically exempted by the ENGINEER from the operation of the release in stated amounts to be set forth therein.

5.6 Payment for any PROJECT services and WORK shall not constitute a waiver or release by CITY of any claims, right, or remedy it may have against the ENGINEER under this AGREEMENT or by law, nor shall such payment constitute a waiver, remission, or discharge by CITY of any failure or fault of the ENGINEER to satisfactorily perform the PROJECT WORK as required under this AGREEMENT.

SECTION 6 RESPONSIBILITY OF ENGINEER

6.1 The ENGINEER shall be responsible for the professional quality, technical adequacy and accuracy, timely completion, and the coordination of all plans, design, drawings, specifications, reports, and other services furnished by the ENGINEER under this AGREEMENT. The ENGINEER shall, without additional compensation, correct or review any errors, omissions, or other deficiencies in its plans, designs, drawings, specifications, reports, and other services. The ENGINEER shall perform its WORK according to generally accepted civil engineering standards of care and consistent with achieving the PROJECT WORK within budget, on time, and in compliance with applicable laws, regulations, and permits.

6.2 CITY's review or approval of, or payment for, any plans, drawings, designs, specifications, reports, and incidental WORK or services furnished hereunder shall not in any way relieve the ENGINEER of responsibility for the technical adequacy, completeness, or accuracy of its WORK and the PROJECT WORK. CITY's review, approval, or payment for any of the services shall not be construed to operate as a waiver of any rights under this AGREEMENT or at law or any cause of action arising out of the performance of this AGREEMENT.

6.3 In performing WORK and services hereunder, the ENGINEER and its subcontractors, subconsultants, employees, agents, and representatives shall be acting as independent contractors and shall not be deemed or construed to be employees or agents of CITY in any manner whatsoever. The ENGINEER shall not hold itself out as, nor claim to be, an officer or employee of CITY by reason hereof and will not make any claim, demand, or application to or for any right or privilege applicable to an officer or employee of CITY. The ENGINEER shall be solely responsible for any claims for wages or compensation by ENGINEER employees, agents, and representatives, including subconsultants and subcontractors, and shall save and hold CITY harmless therefrom.

6.4 INDEMNIFICATION:

6.4.1 ENGINEER agrees to defend, indemnify, and hold harmless the CITY, its elected and appointed officials, agents, officers, employees, and volunteers (hereinafter "parties

protected") from (1) claims, demands, liens, lawsuits, administrative and other proceedings,(including reasonable costs and attorneys' fees) and (2) judgments, awards, losses, liabilities, damages, penalties, fines, costs and expenses of any kind claimed by third parties arising out of, or related to any death, injury, damage or destruction to any person or any property to the extent caused by any negligent act, action, default, error or omission or willful misconduct arising out of the ENGINEER's performance under this AGREEMENT. In the event that any lien is placed upon the CITY's property or any of the CITY's officers, employees or agents as a result of the negligence or willful misconduct of the ENGINEER, the ENGINEER shall at once cause the same to be dissolved and discharged by giving bond or otherwise.

6.4.2 CITY agrees to indemnify and hold the ENGINEER harmless from loss, cost, or expense of any kind claimed by third parties, including without limitation such loss, cost, or expense resulting from injuries to persons or damages to property, caused solely by the negligence or willful misconduct of the CITY, its employees, or agents in connection with the PROJECT.

6.4.3 If the negligence or willful misconduct of both the ENGINEER and the CITY (or a person identified above for whom each is liable) is a cause of such third party claim, the loss, cost, or expense shall be shared between the ENGINEER and the CITY in proportion to their relative degrees of negligence or willful misconduct and the right of indemnity will apply for such proportion.

6.4.4 Nothing contained in this Section or this AGREEMENT shall be construed to create a liability or a right of indemnification in any third party.

6.5 In any and all claims by an employee of the ENGINEER, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligations under this AGREEMENT shall not be limited in any way by any limitation on the amount or types of damages, compensation, or benefits payable by or for the ENGINEER or a subcontractor under workers' or workmens' compensation acts, disability benefit acts, or other employee benefit acts.

6.6 It is understood that any resident engineering or inspection provided by ENGINEER is for the purpose of determining compliance with the technical provisions of PROJECT specifications and does not constitute any form of guarantee or insurance with respect to the performance of a contractor. ENGINEER does not assume responsibility for methods or appliances used by a contractor, for a contractor's safety programs or methods, or for compliance by contractors with laws and regulations. CITY shall use its best efforts to ensure that the construction contract requires that the contractor(s) indemnify and name CITY, the CITY's and the ENGINEER's officers, principals, employees, agents, representatives, and engineers as additional insureds on contractor's insurance policies covering PROJECT, exclusive of insurance for ENGINEER professional liability.

6.7 SUBSURFACE INVESTIGATIONS: In soils, foundation, groundwater, and other subsurface investigations, the actual characteristics may vary significantly between successive test points and sample intervals and at locations other than where observation, exploration, and investigations have been made. Because of the inherent uncertainties in subsurface evaluations, changed or unanticipated underground conditions may occur that could affect total PROJECT cost and/or execution. These conditions and cost/execution effects are not the responsibility of the ENGINEER, to the extent that ENGINEER has exercised the applicable and appropriate standard of professional care and judgment in such investigations.

6.8 CITY agrees that structures and systems studied, reviewed, analyzed or designed by the ENGINEER are dependent upon CITY's continued reasonable operation and maintenance of the project structures and systems in accordance with all permits, laws and regulations that permit the construction and operation of the structures and systems, including any ENGINEER prepared operations and maintenance plans. Should CITY fail to reasonably maintain the structures to be in full compliance with permits, approvals, and operations and maintenance plans, ENGINEER shall have no liability to CITY, and CITY shall indemnify, release and hold ENGINEER and its employees

harmless from any liability resulting from any direct or consequential damage solely resulting from such non-compliance, including but not limited to claims made by third-parties against ENGINEER.

SECTION 7 PROJECT SCHEDULE AND BUDGET

7.1 The general PROJECT schedule and the budget for both the entire PROJECT and its component tasks shall be as set forth in this AGREEMENT and attachments. The project schedule and performance dates for the individual tasks shall be mutually agreed to by the CITY and the ENGINEER within fifteen (15) days after execution of this AGREEMENT. The performance dates and budgets for tasks may be modified only upon written agreement of the parties hereto. The performance date for tasks and the completion date for the entire PROJECT shall not be extended, nor the budget increased because of any unwarranted delays attributable to the ENGINEER, but may be extended or increased by the CITY in the event of a delay caused by special services requested by the CITY or because of unavoidable delay caused by any governmental action or other conditions beyond the control of the ENGINEER which could not be reasonably anticipated.

7.2 Not later than the tenth (10) day of each calendar month during the performance of the PROJECT, the ENGINEER shall submit to the CITY's Representative a copy of the current schedule and a written narrative description of the WORK accomplished by the ENGINEER and subconsultants on each task, indicating a good faith estimate of the percentage completion thereof on the last day of the previous month. Additional oral or written reports shall be prepared at the request of the CITY for presentation to other governmental agencies and/or to the public.

SECTION 8 REUSE OF DOCUMENTS

8.1 All internal WORK products of the ENGINEER are instruments or service of this PROJECT. There shall be no reuse, change, or alteration by the CITY or others acting through or on behalf of the CITY without written permission of the ENGINEER, which shall not be unreasonably withheld and will be at the CITY's sole risk. The CITY agrees to indemnify the ENGINEER and its officers, employees, subcontractors, and affiliated corporations from all claims, damages, losses, and costs including, but not limited to, litigation expenses and attorney's fees arising out of or related to such unauthorized reuse, change, or alteration; provided, however, that the ENGINEER will not be indemnified for such claims, damages, losses, and costs including, without limitation, litigation expenses and attorney fees were caused by the ENGINEER's own negligent acts or omissions.

8.2 The ENGINEER agrees that ownership of any plans, drawings, designs, specifications, computer programs, technical reports, operating manuals, calculations, notes, and other WORK submitted or which are specified to be delivered under this AGREEMENT or which are developed or produced and paid for under this AGREEMENT, whether or not complete, shall be vested in the CITY.

8.3 All rights to patents, trademarks, copyrights, and trade secrets owned by ENGINEER (hereinafter “Intellectual Property”) as well as any modifications, updates or enhancements to said Intellectual Property during the performance of the WORK remain the property of ENGINEER, and ENGINEER does not grant CITY any right or license to such Intellectual Property.

SECTION 9 AUDIT AND ACCESS TO RECORDS

9.1 The ENGINEER, including its subconsultants, shall maintain books, records, documents and other evidence directly pertinent to performance of the WORK under this AGREEMENT in accordance with generally accepted accounting principles and practices consistently applied. The CITY, or the CITY's duly authorized representative, shall have access to such books, records, documents, and other evidence for inspection, audit, and copying for a period of three years after completion of the PROJECT. The CITY shall also have access to such books, records, and documents during the performance of the PROJECT WORK, if deemed necessary by the CITY, to verify the ENGINEER's WORK and invoices.

9.2 Audits conducted pursuant to this section shall be in accordance with generally accepted auditing standards and established procedures and guidelines of the reviewing or auditing agency.

9.3 The ENGINEER agrees to the disclosure of all information and reports resulting from access to records pursuant to this section provided that the ENGINEER is afforded the opportunity for an

audit exit conference and an opportunity to comment and submit any supporting documentation on the pertinent portions of the draft audit report and that the final audit report will include written comments, if any, of the ENGINEER.

9.4 The ENGINEER shall ensure that the foregoing paragraphs are included in each subcontract for WORK on the Project.

9.5 Any charges of the ENGINEER paid by the CITY which are found by an audit to be inadequately substantiated shall be reimbursed to the CITY.

SECTION 10 INSPECTION AND PRODUCTION OF RECORDS

10.1 The records relating to the WORK shall, at all times, be subject to inspection by and with the approval of the CITY, but the making of (or failure or delay in making) such inspection or approval shall not relieve ENGINEER of responsibility for performance of the WORK in accordance with this AGREEMENT, notwithstanding the CITY's knowledge of defective or non-complying performance, its substantiality or the ease of its discovery. ENGINEER shall provide the CITY sufficient, safe, and proper facilities and equipment for such inspection and free access to such facilities. ENGINEER's records relating to the WORK will be provided to the CITY upon the CITY's request.

10.2 ENGINEER shall promptly furnish the CITY with such information and records which are related to the WORK of this AGREEMENT as may be requested by the CITY. Until the expiration of six (6) years after final payment of the compensation payable under this AGREEMENT, or for a longer period if required by law or by the Washington State Secretary of State's record retention schedule, ENGINEER shall retain and provide the CITY access to (and the CITY shall have the right to examine, audit and copy) all of ENGINEER's books, documents, papers and records which are related to the WORK performed by ENGINEER under this AGREEMENT.

10.3 All records relating to ENGINEER's WORK under this AGREEMENT must be made available to the CITY, and also produced to third parties, if required pursuant to the Washington Public Records Act, Chapter 42.56 RCW or by law. All records relating to ENGINEER's WORK under this AGREEMENT must be retained by ENGINEER for the minimum period of time required pursuant to the Washington State Secretary of State's record retention schedule.

SECTION 11 INSURANCE

11.1 At all times during performance of WORK, ENGINEER shall secure and maintain in effect insurance to protect the CITY and the ENGINEER from and against all claims, damages, losses, and expenses arising out of or resulting from the performance of this AGREEMENT. ENGINEER shall provide and maintain in force insurance in limits no less than that stated below, as applicable. The CITY reserves the rights to require higher limits should it deem it necessary in the best interest of the public. If ENGINEER carries higher coverage limits than the limits stated below, such higher limits shall be shown on the Certificate of Insurance and Endorsements and ENGINEER shall be named as an additional insured for such higher limits.

11.1.1 **Commercial General Liability Insurance.** Before this AGREEMENT is fully executed by the parties, ENGINEER shall provide the CITY with a certificate of insurance as proof of commercial liability insurance and commercial umbrella liability insurance with a total liability limit of the limits required in the policy, subject to minimum limits of Two Million Dollars ($2,000,000.00) per occurrence combined single limit bodily injury and property damage, and Two Million Dollars ($2,000,000.00) general aggregate. The certificate shall clearly state who the provider is, the coverage amount, the policy number, and when the policy and provisions provided are in effect. Said policy shall be in effect for the duration of this AGREEMENT. The policy shall name the CITY, its elected and appointed officials, officers, agents, employees, and volunteers as additional insureds. The insured shall not cancel or change the insurance without first giving the CITY thirty (30) calendar days prior written notice. The insurance shall be with an insurance company or companies rated A-VII or higher in Best's Guide and admitted in the State of Washington.

Subcontractors: If subcontractors will be used, the same terms and limits of coverage will apply and a certificate will be required per the instructions above. In lieu of a certificate, contractor may provide confirmation in writing from their insurance broker that their insurance policy does not contain a subcontract exclusion or one relating to the work of others.

11.1.2 **Commercial Automobile Liability Insurance.**

11.1.2.1 If ENGINEER owns any vehicles, before this AGREEMENT is fully executed by the parties, ENGINEER shall provide the CITY with a certificate of insurance as proof of commercial automobile liability insurance and commercial umbrella liability insurance with a total liability limit of the limits required in the policy, subject to minimum limits of Two Million Dollars ($2,000,000.00) per occurrence combined single limit bodily injury and property damage. Automobile liability will apply to "Any Auto" and be shown on the certificate.

11.1.2.2 If ENGINEER does not own any vehicles, only "Non-owned and Hired Automobile Liability" will be required and may be added to the commercial liability coverage at the same limits as required in that section of this AGREEMENT, which is Section 11.1.1 entitled "Commercial General Liability Insurance."

11.1.2.3 Under either situation described above in Section 11.1.2.1. and Section 11.1.2.2., the required certificate of insurance shall clearly state who the provider is, the coverage amount, the policy number, and when the policy and provisions provided are in effect. Said policy shall be in effect for the duration of this AGREEMENT. The policy shall name the CITY, its elected and appointed officials, officers, agents, employees, and volunteers as additional insureds. The insured shall not cancel or change the insurance without first giving the CITY thirty (30) calendar days prior written notice. The insurance shall be with an insurance company or companies rated A-VII or higher in Best's Guide and admitted in the State of Washington.

11.1.3 Statutory workers' compensation and employer's liability insurance as required by state law.

11.1.4 **Professional Liability Coverage.** Before this AGREEMENT is fully executed by the parties, ENGINEER shall provide the CITY with a certificate of insurance as proof of professional liability coverage with a total liability limit of the limits required in the policy, subject to minimum limits of Two Million Dollars ($2,000,000.00) per claim, and Two Million Dollars ($2,000,000.00) aggregate. The certificate shall clearly state who the provider is, the coverage amount, the policy number, and when the policy and provisions provided are in effect. Said policy shall be in effect for the duration of this AGREEMENT. The insured shall not cancel or change the insurance without first giving the CITY thirty (30) calendar days prior written notice. The insurance shall be with an insurance company or companies rated A-VII or higher in Best's Guide. If the policy is written on a claims made basis the coverage will continue in force for an additional two years after the completion of this AGREEMENT.

11.1.5 Failure of either or all of the additional insureds to report a claim under such insurance shall not prejudice the rights of the CITY, its officers, employees, agents, and representatives there under. The CITY and the CITY's elected and appointed officials, officers, principals, employees, representatives, volunteers and agents shall have no obligation for payment of premiums because of being named as additional insureds under such insurance. None of the policies issued pursuant to the requirements contained herein shall be canceled, allowed to expire, or changed in any manner that affects the rights of the CITY until thirty (30) days after written notice to the CITY of such intended cancellation, expiration or change.

SECTION 12 SUBCONTRACTS

12.1 ENGINEER shall be entitled, to the extent determined appropriate by ENGINEER, to subcontract any portion of the WORK to be performed under this AGREEMENT.

12.2 Any subconsultants or subcontractors to the ENGINEER utilized on this PROJECT, including any substitutions thereof, will be subject to prior approval by CITY, which approval shall not be unreasonably withheld. Each subcontract shall be subject to review by the CITY's Representative, if requested, prior to the subconsultant or subcontractor proceeding with the WORK. Such review shall not constitute an approval as to the legal form or content of such subcontract. The ENGINEER shall be responsible for the architectural and engineering performance, acts, and omissions of all persons and firms performing subcontract WORK.

12.3 CITY hereby authorizes the ENGINEER to subcontract with professional service firms for the purpose of completing Geotechnical Engineering related to this AGREEMENT.

12.4 The ENGINEER shall submit, along with its monthly invoices, a description of all WORK completed by subconsultants and subcontractors during the preceding month and copies of all invoices thereto.

SECTION 13 ASSIGNMENT

13.1 This AGREEMENT is binding on the heirs, successors and assigns of the parties hereto. This AGREEMENT may not be assigned by CITY or ENGINEER without prior written consent of the other, which consent will not be unreasonably withheld. It is expressly intended and agreed that no third-party beneficiaries are created by this AGREEMENT, and that the rights and remedies provided herein shall inure only to the benefit of the parties to this AGREEMENT.

SECTION 14 INTEGRATION

14.1 This AGREEMENT represents the entire understanding of CITY and ENGINEER as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered herein. This AGREEMENT may not be modified or altered except in writing signed by both parties.

SECTION 15 JURISDICTION AND VENUE

15.1 This AGREEMENT shall be administered and interpreted under the laws of the State of Washington. Jurisdiction of litigation arising from this AGREEMENT shall be in Washington State. If any part of this AGREEMENT is found to conflict with applicable laws, such part shall be inoperative, null, and void insofar as it conflicts with said laws, but the remainder of this AGREEMENT shall be in full force and effect. Venue of all disputes arising under this AGREEMENT shall be Yakima County, State of Washington.

SECTION 16 EQUAL EMPLOYMENT AND NONDISCRIMINATION

16.1 During the performance of this AGREEMENT, ENGINEER and ENGINEER's subconsultants and subcontractors shall not discriminate in violation of any applicable federal, state and/or local law or regulation on the basis of age, sex, race, creed, religion, color, national origin, marital status, disability, honorably discharged veteran or military status, pregnancy, sexual orientation, or any other classification protected under federal, state, or local law. This provision shall include but not be limited to the following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, selection for training, and the provision of services under this AGREEMENT. ENGINEER agrees to comply with the applicable provisions of State and Federal Equal Employment Opportunity and Nondiscrimination statutes and regulations.

SECTION 17 SUSPENSION OF WORK

17.1 CITY may suspend, in writing by certified mail, all or a portion of the WORK under this AGREEMENT if unforeseen circumstances beyond CITY's control are interfering with normal progress of the WORK. ENGINEER may suspend, in writing by certified mail, all or a portion of the

WORK under this AGREEMENT if unforeseen circumstances beyond ENGINEER's control are interfering with normal progress of the WORK. ENGINEER may suspend WORK on PROJECT in the event CITY does not pay invoices when due, except where otherwise provided by this AGREEMENT. The time for completion of the WORK shall be extended by the number of days WORK is suspended. If the period of suspension exceeds ninety (90) days, the terms of this AGREEMENT are subject to renegotiation, and both parties are granted the option to terminate WORK on the suspended portion of Project in accordance with SECTION 18.

SECTION 18 TERMINATION OF WORK

18.1 Either party may terminate this AGREEMENT, in whole or in part, if the other party materially breaches its obligations under this AGREEMENT and is in default through no fault of the terminating party. However, no such termination may be effected unless the other party is given: (1) not less than fifteen (15) calendar days written notice delivered by certified mail, return receipt requested, of intent to terminate; and (2) an opportunity for consultation and for cure with the terminating party before termination. Notice shall be considered issued within seventy-two (72) hours of mailing by certified mail to the place of business of either party as set forth in this AGREEMENT.

18.2 In addition to termination under subsection 18.1 of this Section, CITY may terminate this AGREEMENT for its convenience, in whole or in part, provided the ENGINEER is given: (1) not less than fifteen (15) calendar days written notice delivered by certified mail, return receipt requested, of intent to terminate; and (2) an opportunity for consultation with CITY before termination.

18.3 If CITY terminates for default on the part of the ENGINEER, an adjustment in the contract price pursuant to the AGREEMENT shall be made, but (1) no amount shall be allowed for anticipated profit on unperformed services or other WORK, and (2) any payment due to the ENGINEER at the time of termination may be adjusted to the extent of any additional costs or damages CITY has incurred, or is likely to incur, because of the ENGINEER's breach. In such event, CITY shall consider the amount of WORK originally required which was satisfactorily completed to date of termination, whether that WORK is in a form or of a type which is usable and suitable to CITY at the date of termination and the cost to CITY of completing the WORK itself or of employing another firm to complete it. Under no circumstances shall payments made under this provision exceed the contract price. In the event of default, the ENGINEER agrees to pay CITY for any and all damages, costs, and expenses whether directly, indirectly, or consequentially caused by said default. This provision shall not preclude CITY from filing claims and/or commencing litigation to secure compensation for damages incurred beyond that covered by contract retainage or other withheld payments.

18.4 If the ENGINEER terminates for default on the part of CITY or if CITY terminates for convenience, the adjustment pursuant to the AGREEMENT shall include payment for services satisfactorily performed to the date of termination, in addition to termination settlement costs the ENGINEER reasonably incurs relating to commitments which had become firm before the termination, unless CITY determines to assume said commitments.

18.5 Upon receipt of a termination notice under subsections 18.1 or 18.2 above, the ENGINEER shall (1) promptly discontinue all services affected (unless the notice directs otherwise), and (2) deliver or otherwise make available to CITY all originals of data, drawings, specifications, calculations, reports, estimates, summaries, and such other information, documents, and materials as the ENGINEER or its subconsultants may have accumulated or prepared in performing this AGREEMENT, whether completed or in progress, with the ENGINEER retaining copies of the same.

18.6 Upon termination under any subparagraph above, CITY reserves the right to prosecute the WORK to completion utilizing other qualified firms or individuals; provided, the ENGINEER shall have no responsibility to prosecute further WORK thereon.

18.7 If, after termination for failure of the ENGINEER to fulfill contractual obligations, it is determined that the ENGINEER has not so failed, the termination shall be deemed to have been effected for

the convenience of CITY. In such event, the adjustment pursuant to the AGREEMENT shall be determined as set forth in subparagraph 18.4 of this Section.

18.8 If, because of death, unavailability or any other occurrence, it becomes impossible for any key personnel employed by the ENGINEER in PROJECT WORK or for any corporate officer of the ENGINEER to render his services to the PROJECT, the ENGINEER shall not be relieved of its obligations to complete performance under this AGREEMENT without the concurrence and written approval of CITY. If CITY agrees to termination of this AGREEMENT under this provision, payment shall be made as set forth in subparagraph 18.3 of this Section.

SECTION 19 DISPUTE RESOLUTION

19.1 In the event that any dispute shall arise as to the interpretation of this AGREEMENT, or in the event of a notice of default as to whether such default does constitute a breach of the AGREEMENT, and if the parties hereto cannot mutually settle such differences, then the parties shall first pursue mediation as a means to resolve the dispute. If either of the afore mentioned methods are not successful then any dispute relating to this AGREEMENT shall be decided in the courts of Yakima County, in accordance with the laws of Washington. If both parties consent in writing, other available means of dispute resolution may be implemented.

SECTION 20 NOTICE

20.1 Any notice required to be given under the terms of this AGREEMENT shall be directed to the party at the address set forth below. Notice shall be considered issued and effective upon receipt thereof by the addressee-party, or seventy-two (72) hours after mailing by certified mail to the place of business set forth below, whichever is earlier.

CITY: City of Yakima
Attn: Mike Shane, Water/Irrigation Engineer
2302 Fruitvale Blvd.
Yakima, WA 98902

ENGINEER: HDR Engineering
Attn: Mike Garello, PE, Project Manager
4717 97th Street NW
Gig Harbor, WA 98332-5710

SECTION 21 SURVIVAL

21.1 The foregoing sections of this AGREEMENT shall survive the expiration or termination of this AGREEMENT in accordance with their terms.

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed by their respective authorized officers or representatives as of the day and year first above written.

CITY OF YAKIMA	HDR ENGINEERING
_____	_____
Signature	Signature
Printed Name: Cliff Moore	Printed Name: _____
Title: City Manager	Title: _____
Date: _____	Date: _____
Attest _____	

City Clerk

STATE OF WASHINGTON)
) ss.
COUNTY OF YAKIMA)

I certify that I know or have satisfactory evidence that Cliff Moore is the person who appeared before me, and said person acknowledged that he signed this instrument, on oath stated that he was authorized to execute the instrument, and acknowledged it as the CITY MANAGER of the CITY OF YAKIMA, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated: _____

Seal or Stamp

_____
(Signature)

_____
Title

_____
Printed Name

My commission expires:_____

STATE OF WASHINGTON)
) ss.
COUNTY OF YAKIMA)

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to execute the instrument, and acknowledged it as the _____ of HDR Engineering to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated: _____

Seal or Stamp

_____
(Signature)

_____
Title

_____
Printed Name

My commission expires:_____

EXHIBIT A

SCOPE OF SERVICES

PROJECT DESCRIPTION NO. 1:

CITY OF YAKIMA
Nelson Dam Replacement
(Project IC2010)
HDR Project No. _____

SCOPE OF SERVICES

Overview/Background

The City of Yakima desires to obtain professional services for the Nelson Dam Replacement Project (Project). The Project includes the removal of Nelson Dam (a known barrier to fish passage), the left bank former Powerhouse Bridge abutment and approach, and construction of several new Project elements that are intended to provide a more effective natural fish passage route, improve conveyance of low-frequency flood flow events through the Project reach, improve sediment continuity, and provide more reliable surface water delivery systems for four existing water purveyors: Naches-Cowiche Canal Association, City of Yakima, Fruitvale, and Old Union. The proposed Project incorporates the following elements to achieve these goals:

- Construct a weir and channel-spanning roughened channel with average gradient of 2.5% and crest positioned at elevation 1,168.5 feet to maintain an existing minimum operating water surface elevation of 1,169.0 feet and provide more effective sediment and fish passage. The roughened channel shall include provisions for low-flow passage of fish and small craft recreation.
- Integrate a concrete sluiceway adjacent to the weir and roughened channel with a downstream hydraulic control weir along the right bank of the river to improve sediment transport and decrease maintenance level of effort.
- Provide up to 2,550 feet of left bank floodplain approach channel and transitions to the channel spanning weir.
- Regrade and remove floodplain material to transition to the new weir and roughened channel.
- Protect Powerhouse Road and HWY 12 Bridges with appropriate tie-ins and features.
- Improve hydraulic and sediment conveyance throughout the project reach.
- Consolidate four points of diversion to a new surface water diversion with gravity water supply with fish screens meeting WDFW and NMFS screening criteria.
- Improve gravity pipeline conveyance systems to the existing General and Consolidated water delivery systems.

The scope of services provided herein describes the anticipated tasks and services required to fulfill the 2019 Interlocal Agreement between the City of Yakima and Yakima County for Ramblers Park Flood Control – Nelson Dam Replacement Project, prepare bid-ready construction documents, and support permitting for the completion of the Project. The anticipated elements to be designed by the ENGINEER are described with more detail in this document. These elements will also provide the basis for permitting efforts proposed in this scope of services.

The design will develop and integrate appropriate elements of the 2017 “NHC Nelson Bypass Channel Design Project, Physical Modelling” and the 2017 “HDR Preliminary Design Report”, while utilizing the 2018 County “Environmental Memo” that facilitates permitting and stakeholder acceptance. For reference, the concept level drawings prepared as part of previous work efforts are provided as Attachment D to this scope of services.

Weir and Roughened Channel Fishway

The existing Nelson Dam, existing left-bank fish ladder, left bank former Powerhouse Road bridge abutment and approach and left overbank area are to be removed and replaced with a single, channel-spanning weir and roughened channel. The roughened channel will consist of “appropriately sized streambed material

placed in such a way as to mimic the configuration of the natural streambed" (NMFS 2011 Section 4.10.2.2). The channel would slope downstream at 2.5% for about 240 feet until it catches the existing channel grade downstream. Additional scour and structural countermeasures immediately below the roughened channel and immediately below the weir will be incorporated to accommodate general channel scour and anticipated structure scour that may occur at both transitions critical to structure stability and reduced maintenance. The channel geometry would vary in cross-section with a wide primary flow channel extending downstream near the right bank and several secondary channels along the left half of the channel that would provide fish passage conditions throughout the range of fish passage flows identified with the stakeholder committee during earlier phases of alternative formulation. The project design will include the restoration and revegetation of channel and over-bank areas disturbed by the construction process.

Floodplain Approach Channel and Overbank

Provide up to 2,500 lineal feet of approach channel(s) to the channel-spanning weir structure in the left bank floodplain interior to the setback N-1 levee that activate that floodplain and allows additional flows and reduction of normal and flood elevations. This excavation will require protective features at the downstream end of the N-1 levee along Powerhouse Road to the abutment of the existing Powerhouse Road Bridge. Design will also include grading, stabilization, and revegetation in the area of the floodplain that transitions to the new weir elevation. In many locations the weir elevation is 7 feet below existing floodplain grade. This also includes the removal of the old Powerhouse Bridge abutment and approach located on the left river bank.

Sluiceway

A 20-foot wide concrete sluiceway will be located between the intake and the roughened channel on the right bank. A hydraulic isolation wall will separate the sluiceway and the roughened channel and is anticipated to extend the full length of the roughened channel (from approximately 290 feet upstream of the proposed intake location to approximately 100 feet downstream of the intake). An Obermeyer weir, radial gate, or hinged leaf gate would be located in the sluiceway downstream of the intake to provide control of the water surface across the intake and fish screens.

Surface Water Intake and Fish Screens

The existing Naches-Cowiche and City intakes on the right bank would be removed and replaced by a new intake and fish screen that will serve the combined City, Naches-Cowiche, Fruitvale, and Old Union diversion requirements. The intake and fish screens would be sized to facilitate the maximum withdrawal of 84 cfs while meeting the NMFS slot width and approach velocity criteria of 1.75 mm and 0.40 fps, respectively. An automated cleaning system will be integrated into the screen design to accommodate debris removal and bio-fouling. Porosity control of some form will also be integrated behind the screens to provide user flexibility and enhance uniform approach velocities across the screen. The intake floor will be sloped and will reach a low point to accumulate sediment. Sediment sluicing provisions will be added to facilitate sluicing of accumulated sediment present in the intake structure back to the river downstream. Electrical power distribution to all project equipment will be provided from local service power. Instrumentation and control provisions will be developed with automated, local, and SCADA Remote operation modes and system alarms for critical processes and equipment.

Conveyance Piping

Conveyance pipeline improvements will include decommissioning the City's sedimentation basin, connection of the mid-reservoir drains to the City's (General pipe) pipeline, providing conveyance to the City's distribution system, and to the Fruitvale and Old Union canals via two parallel pipes of varying sizes. Flow to the City and the Fruitvale and Old Union canals would exit the proposed intake via a single 48-inch diameter steel pipe manifold. The 48-inch pipe manifold would split into one 42-inch and one 32-inch high density polyethylene (HDPE) pipe. The 32-inch pipe would supply the General pipeline while the 42-inch pipe would supply the two canals (Consolidated pipe). A slip-lined portion of the General pipeline would connect directly to the existing 32-inch and 30-inch HDPE pipelines downstream of the existing sedimentation basin and subsequently supply irrigation water to the City's existing distribution system. Adjustments to this conveyance strategy will be discussed with the City at the onset of the project to identify potential cross-connects and alternative conveyance routes that may improve cost-effectiveness and efficiency of the design and future operations.

Decommissioning of Existing Facilities

In concert with implementing fish passage and consolidation of four intake locations, this project will include the decommissioning and/or demolition of several existing facilities to include the following:

- The left bank former Powerhouse road abutment and approach,
- The existing Nelson Dam,
- The existing concrete fish ladder,
- The General Diversion structure and screens,
- The Naches Cowiche Diversion structure and screens, and
- Associated fish bypass systems at the General and Naches-Cowiche Diversions.

The decommissioning and removal of the Old Union Diversion and Fruitvale Diversion will be accomplished as a separate phase of work not included in this scope of services.

Implementation

The project is intended to be constructed in phases that emphasize constructability, cost effectiveness, environmental impact, and operational continuity. Although the exact phasing of work may be modified as the design moves forward, the current phasing strategy and level of effort is based upon a three-year construction process as described in Table 1.

Table 1. Work package Phases I and II which require unique bid documentation.

Phase	Work Performed	Year
Phase I	• Weir and Roughened Channel • Floodplain Approach Channel and Overbank • Sluiceway • Decommissioning and demolition of the existing fish ladder, Nelson Dam, General Intake, and N-C Intake. • Surface Water Intake and Screens	Year 1 and/or 2
Phase II	• Conveyance Piping	Year 2 or Year 3

This phased approach allows for testing, commissioning, and establishment of operations at the new consolidated intake prior to finalization of the conveyance pipeline improvements. This approach will also limit the potential risk that may occur to water supply should unforeseen issues during Phase 1 construction occur.

Given the above approach, the tasks for design and associated level of effort are established with the assumption that there are two separate sets of construction documents to be implemented at different phases of construction. The construction document packages will mimic the phasing outlined above.

Schedule Assumptions

- The contract for this scope of services will occur from May 15, 2019 through December 1, 2020.
- The project is intended to go to bid at some point between November of 2020 and January of 2021 but may be dependent upon the responsiveness of regulatory agencies and their influence on the permitting timeframe.
- Phase I construction will begin during the negotiated environmental work window in 2021.
- Construction and operational permits and environmental clearances may require 12 to 18 months from the time of permit/document submittal. Regulatory approvals are dependent on a number of factors outside of the project team's control.
- See attached detailed schedule for specific durations and dependencies by task.

Project Participants

- City of Yakima (City)
- Yakima County Flood Zone Control District (County)
- Project Management Team (City and County)
- Project Stakeholders (greater Nelson Dam Stakeholders Group)
- ENGINEER (consultant team comprised primarily of HDR, NHC, and HLA)
- Bonneville Power Administration (BPA)
- Department of Natural Resources (DNR)
- U.S. Bureau of Reclamation (Reclamation)
- American Rivers

Companion Projects Influencing Project Needs and Benefits

The City of Yakima, Yakima County, and the Washington State Department of Transportation are collaborating on a companion project effort called the Naches-Cowiche Flood Risk Reduction and Floodplain Restoration Project (Companion Project). The Companion Project includes the coordinated design of a series of interrelated flood hazard reduction and floodplain and habitat restoration actions downstream of the Project. The Companion Project includes planning, design, and permitting related to:

- Two longer-span bridges (Powerhouse Road and Highway 12);
- A reconfigured alignment for over 2000 feet of Cowiche Creek above and below Hwy 12 that will increase flood conveyance, improve floodplain connectivity, and restore habitats for native threatened and endangered species;
- 900 feet of levee setback on the right bank of Cowiche Creek between Highway 12 and Powerhouse Road that will provide protection to the City of Yakima to at least the 1% annual chance flood event;
- Improved aquatic and riparian habitats and floodplain connectivity on over 6000 feet of the Naches River.

The overlap of infrastructure in the Naches-Cowiche confluence requires close coordination between projects. It is anticipated that this will result in additional cost-effectiveness for both projects, particularly as it pertains to design, permitting, and construction sequencing.

Scope of Services

Task 100 – General and Stakeholder Coordination

Regular meetings, phone calls, and other miscellaneous communications with the project management team (City and County) as well as other project stakeholders will take place to maintain communications, exchange information, obtain feedback, with the intent to proactively mitigate potential design issues or constraints that arise as part of the natural design process. The preliminary design reports noted above and the Environmental Memo objectives will be used, and modified as necessary, in order to minimize potential misunderstanding and delays. Coordination activities are expected to occur throughout the duration of the design process and are anticipated to include regularly scheduled progress updates, technical meetings related to specific project disciplines, and coordinated design updates or reviews at major project milestones or levels of completion.

Objective

- Maintain communication and coordination with the project management team as well as with external stakeholder participants to update, inform on project status, address design issues, seek feedback and concurrence on critical path items, and inform decisions made by the City and the design team.

ENGINEER Services

1. Schedule and conduct a kickoff meeting and site visit at the beginning of the project. The purpose of the kickoff meeting is to clarify roles, discuss approach methods, establish communication protocols, confirm the anticipated schedule, and to initiate project management procedures to help identify and proactively resolve issues.
2. Schedule and conduct bi-weekly interagency progress meetings via conference call with the Project Management Team to maintain open communication, discuss project progress, and mitigate foreseeable project challenges.
3. Schedule and conduct design review meetings with the City and County of Yakima after the 30%, 60%, 90%, and 100% levels of design following the respective design submittal review periods. The purpose of the design review meetings will to discuss outstanding comments and identify a clear pathway forward for the next iteration of design.
4. Attend and help facilitate project progress meetings with the Nelson Dam Replacement Project stakeholder committee after the 30%, 60%, and 100% levels of design following the respective internal design review meetings with the City and County. The purpose of these meetings will be to inform the larger stakeholder group of general project progress.

Client Responsibilities

- Participation in kickoff, bi-weekly, and design review meetings.
- Coordination of venue for all on-site meetings occurring at the City of Yakima.
- Review and comment on draft agenda and meeting notes provided by ENGINEER.
- Coordinate with others to schedule the project progress meetings with the broader stakeholder group.

Assumptions

- ENGINEER will coordinate and facilitate a project kickoff meeting. This 2-hour meeting will be attended by up to nine (9) staff from the ENGINEER's team and will occur in the City of Yakima.
- ENGINEER's budget includes anticipated travel costs and expenses for each in-person meeting.
- ENGINEER will coordinate the initial 2-hour site-visit which is anticipated to occur on the same day and with the same attendees as the kickoff meeting. If not able to perform site visit concurrent with initial Kick-off, additional travel costs may be incurred.
- ENGINEER will coordinate and facilitate design review meetings. These 2-hour meetings will be attended by up to seven (7) staff from the Engineer's team and will occur in Gig Harbor or Seattle, WA.

- City will coordinate project progress meetings with the Nelson Dam Replacement Project stakeholder committee. Up to three (3) members of the ENGINEER's team will attend and help facilitate these 2-hour long meetings in Yakima, WA.
- ENGINEER will coordinate and facilitate the bi-weekly interagency progress meetings (assumed 50 total meetings). Each bi-weekly meeting is anticipated to be 1-hour long and will be conducted via conference calls with screen share capability (i.e. WebEx or Skype for Business). ENGINEER will have up to three (3) staff attend the bi-weekly interagency progress meetings; and assumed alternating attendance from Civil and Environmental depending on anticipated and/or timely topics.

Deliverables

- Agendas, meeting materials, and meeting notes for the project kickoff meeting, bi-weekly management meetings, bi-weekly interagency progress meeting, and design review meetings, pdf format via email.
- Attendance and meeting notes at the project stakeholder progress meetings, pdf format via email.
- E-mail type contact reports for other communications with others outside of the project management team.

Task 200 – Site Reconnaissance and Data Collection

Data collection necessary for final design is anticipated to include implementation of a geotechnical investigation plan, collection of recent topographic survey data, and collection of information to fill in unanticipated data gaps. The geotechnical investigation will include excavation of pits and borings at designated locations to verify subsurface conditions near the diversion, sluiceway, and along the proposed pipeline alignment, and geophysical investigations along the sluiceway walls. The geotechnical investigation is expected to be summarized in a geotechnical report which will contain conclusions regarding specific criteria to be used during design. The topographic survey data collection will require acquisition of ground elevations, structure and utility locations, structure and utility elevations, bench marks, and right of way and property lines occurring in and around the proposed project footprint. A hydrographic survey will also be accomplished to collect the latest ground elevations occurring within wetted areas of the project reach. A final combined 3D surface will be developed from the collected information and used for the final design of project elements as well as the basis of hydraulic modeling activities described in other design tasks.

Collection of other additional data, including as-built data for existing pipes, vaults, and other utilities within the project footprint, is necessary to identify potential conflicts and interties with selected designs. Most of the work associated with this task is expected to occur early in the project but collection of additional information may continue throughout the project as information and additional data needs are identified. Tasks 201 and 202 below characterize the objectives, services, client responsibilities, assumptions and deliverables to acquire the necessary data for the Project.

Task 201 – Geotechnical Investigation

Geotechnical investigations are needed to determine the configuration and elevation of the top of bed rock and to evaluate the properties of the overlying overburden in the vicinity of the project. Information gathered in wetted portions of the river will be used to determine how existing bed substrate will be used in the final design of the rock matrix that will be used to construct portions of the roughened channel fishway. This information will also be coupled with available material sources to inform both constructability and cost of various project elements.

Objectives

- Review and understand the underlying project conditions, geologic features that may influence design or construction. Review available existing information that would support the geotechnical investigation. Determine potential site conditions that may affect the geotechnical investigation.
- Conduct field investigation to collect necessary geotechnical information to support design of the project.
- Prepare a Geotechnical Data Report that presents geotechnical and geophysical data collected for the project and develop engineering criteria and recommendations for the structural design

and stability of the project features under design conditions. This would be used to develop the basis of design, design criteria, and final structural calculations.

ENGINEER Services

1. Obtain and review of existing salient data and reports to include well logs, as-builts, geologic maps, hydrographic and geomorphic studies, soils maps, and topographic maps including preconstruction maps if available.
2. Coordinate and attend a site visit with geophysical subcontractor. The site visit will include:
   - Visual assessment of on-the-ground conditions
   - Location of proposed borings for the explorations program
   - Layout of proposed geophysical lines
   - Confirmation of access to exploration sites
3. Technical communication, on-site meetings, and conference calls specific to the geotechnical services being performed. Meetings include the kickoff meeting and site visits including visits during geotechnical investigations including the drilling, backhoe investigations, and geophysical investigations. Additional team meetings via conference call.
4. Develop a draft geotechnical exploration plan for review by the City to include:
   - Up to four (4) borings- two (2) on the right bank to evaluate the soil types and properties and determine the top of rock. Anticipated depth of the borings is 25 vertical feet. Two (2) borings on the left bank to evaluate soil properties and permeability.
   - Two (2) geophysical lines- one (1) along the proposed alignment of the sluiceway walls and one (1) along the proposed crest of the weir.
   - Up to six (6) backhoe pits be made. Two (2) on the left bank to evaluate soil types and determine ground water levels. Up to (4) along the general pipeline.
   - The explorations plan will detail the location, and type of each investigation. Borehole and test pit locations will be noted and depth of the explorations along with procedures to be employed for each type of investigation.
5. Laboratory Testing – develop a draft Laboratory Testing Plan. Samples collected from the exploratory borings and test pits will be laboratory tested. It is anticipated that the following tests may be needed:
   - Water content
   - Gradation including the - #200 material
   - Liquid Limit (LL) and Plastic Limit (PL) testing (if plastic soils are found)
   - Compaction Testing
   - Max/Min density testing
6. Prepare draft and final Geotechnical Data Report documenting information gained during explorations to include final borehole and test pit logs, potholing logs, and geophysical information. An inspection summary of the log potholing efforts along the pipeline route will be included. This document is intended to be an appendix to the Geotechnical Design Report.
7. Incorporate design criteria and recommendations into the Design Criteria Report prepared as part of Task 300. Recommendations are intended to guide the design process and provide recommendations for integration of proposed structures into the existing landscape. Report to include, but is not limited to:
   - Geologic setting
   - Overburden Properties
   - Strength
   - Permeability
   - Rock surfaces based on borings and geophysical information

- Rock Properties
- Foundation parameters for foundations on gravels and foundations on rock
- Wall loading

8. Provide interpretations of data, make additional recommendations, and provide geotechnical guidance throughout the final design process.

Client Responsibilities

- The City and County will provide the right-to-access for all on-site meetings, at the project site, and along the potential pipeline routes.
- The City and County will provide the right-to-access and coordinate access route and approvals for all geotechnical exploration services and activities performed by ENGINEER and their subconsultants.
- The City will coordinate all necessary utility locates and notification to the Washington Utility Notification Center for subsurface exploration activities.
- The City will acquire permits that may be required for local, state, or federal agencies for subsurface exploration activities. A shoreline exemption will be required for geotechnical borings. No other permits required if borings collected landward of ordinary high water mark.
- The City will provide an excavator or backhoe with operator to excavate and backfill identified test pits in the left overbank floodplain area and along pipeline alignment.
- The City will provide access to any water needed for the explorations.
- The City will provide a disposal area for borehole cuttings.
- Coordinate documentation review and provide no more than two sets of comments to ENGINEER for incorporation at the Draft level of completion.

Assumptions

- City will provide all documents available (well logs, as-builts, geologic maps, hydrographic and geomorphic studies, soils maps, and topographic maps) upon initiation of this task.
- The initial meeting with the geophysical subcontractor will be performed at the project site and the subcontractor will provide site specific health and safety plans that directly applies to the work they are performing.
- For budgetary purposes, the design team assumes attendance at up to three (3) additional on-site geotechnical coordination meetings in Yakima.
- ENGINEER will require boat access to the water to establish geophysical lines. ENGINEER will provide their own boat, if needed, for installation of geophysical lines.
- All boring sites will be accessible by track mounted drill.
- ENGINEER will provide an on-site observer during all subsurface explorations.
- The Final Geotechnical Data Report and Geotechnical Design Criteria Report will be sealed and signed by a Geotechnical Engineer licensed in the State of Washington and will be incorporated into the project Design Documentation Report as an Appendix.

Deliverables

- Trip reports for each field visit
- Electronic copy of Draft and Final Geotechnical Exploration and Laboratory Testing Plan
- Electronic copy of Draft and Final Geotechnical Data Report
- Incorporate recommendations into the Design Criteria Report (Task 300) for the project.

Task 202 – Topographic Survey and Basemapping

ENGINEER will perform topographic and hydrographic data collection to develop a current basemap and 3D ground surface that can be used for the purposes of final design and construction. The topographic survey data collection will augment existing survey information already available and will include acquisition of ground elevations, structure and utility locations, verification of bench marks, and calculation/verification of recorded right-of-way and property lines occurring in around the proposed project footprint. The topographic survey will encompass the footprint of proposed elements of the project and is depicted in Attachment A. The hydrographic survey area will be limited to the wetted width of the mainstem of the

Naches River also within the footprint of proposed project elements. This area encompasses approximately 9.2 acres of wetted stream, and is 0.36 miles in length (see Attachment A).

The majority of the stream channel will be surveyed utilizing Real Time Kinematic (RTK) GNSS survey techniques in conjunction with a single beam HydroLite echosounder. This RTK and HydroLite system will promote efficient collection of bathymetric data upstream of Nelson Dam and downstream of the four bridge crossings in the middle of the site (refer to Attachment A for survey limits). Surveys in the vicinity of the four bridge crossings will be completed using a robotic total station (RTS) in conjunction with the HydroLite echosounder. This RTS and HydroLite system will produce a precise dataset underneath the bridge complex where RTK will be an ineffective survey method. More discrete areas such as mid channel bars or shallow water locations (less than two feet deep) will be surveyed with a standard survey rod and either RTK or RTS as a supplement to the hydrographic data. Some supplemental survey control will likely be necessary and will be installed to tie in the RTS survey data. All survey data will be post processed in Trimble Business Center. Echosounder data will be reviewed in GIS to sort for erroneous depth soundings.

All survey data will be tied in to common survey control and monumentation being established for the project and projected in the NAVD88 vertical and NAD83 State Plane horizontal coordinate systems. Available LiDAR data will be used to augment areas outside of the project footprint for the purposes of reach-scale floodplain modeling efforts.

Objective

- The objective of topographical survey is to prepare an accurate map with existing features, including topography, elevations, road ways, pathways and site improvements.
- The objective of the hydrographic/bathymetric survey is to characterize and document the Naches River channel morphology for the development of accurate mapping, stream modeling, and other project design elements.
- The combined basemapping and 3D surface data will be used to establish vertical and horizontal elements of the proposed design elements.

ENGINEER Services

1. Perform survey of upland areas, including ground elevations, structures, utilities, roadways, and apparent site improvements.
2. Perform utility research and identify recorded above and below ground utilities occurring within the project footprint.
3. Perform hydrographic survey of inundated river channel areas in the project vicinity, including topography, elevation, channel depth, and stream channel features.
4. Prepare project basemap and 3D surface representing ground surface.

Client Responsibilities

- Provide 2017 LiDAR data with QC documentation.
- Provide existing documentation and information to support surveying activities, including record drawings, local control points, and historical surveys/maps.
- Provide access to all survey sites and coordinate right-of-entry permits.

Assumptions

- Daily access to a secured area for RTK base station receiver.
- Base station tripod can remain static in the secured area overnight through completion of all survey work. Electronics will be removed daily.
- Survey control and monumentation will be established by HLA Engineering and Land Surveying, Inc. prior to the hydrographic survey.
- Coordinates for each control point will be provided in electronic format at least three business days in advance of the hydrographic survey.

Deliverables

- Draft topographic survey.
- Signed and sealed copy of final completed survey.
- Tabular point data files in “P,N,E,Z,D” text format.

- AutoCAD compatible file of the boundary, topographic, and elevation model.

Task 300 - Design Criteria Development

This task will include the documentation of anticipated criteria, constraints, and conditions that are to be followed throughout the process of final design and development of construction documents. Criteria are expected to include biological, operational, and technical factors that provide the framework for the design of each project element. Constraints may include those limiting factors, physical boundaries, or limitations that influence implementation of various project elements. Conditions are to include those environmental and operational strategies that are to be expected as part of facility operation and maintenance activities. The Design Criteria Document will be developed in coordination with the City, the County, and ENGINEER's technical team and will be included as a technical appendix that is part of the overall Design Documentation Report.

Objective

- Establish and document the operational, biological, environmental, and technical factors that will guide the final design of proposed project elements.

ENGINEER Services

1. Prepare a Draft and Final Design Criteria Document.

Client Responsibilities

- Coordinate documentation review and provide no more than two sets of comments to ENGINEER for incorporation at the Draft level of completion.

Assumptions

- ENGINEER will track, respond to, and incorporate comments received, as appropriate, on the Draft Design Criteria Document.
- For budgetary purposes, it is assumed that the Design Criteria Document will be a 60-page document inclusive of figures, tables, narratives, and attachments.

Deliverables

- Electronic Copy of the Draft Design Criteria Document
- Electronic Copy of the Final Design Criteria Document

Task 400 - Concept Design Update Workshop

ENGINEER will facilitate a concept design update workshop to incorporate the recommended alternative refinements identified in previous work efforts including conclusions described in 2017 "NHC Nelson Bypass Channel Design Project, Physical Modelling" and the 2017 "HDR Preliminary Design Report", while utilizing the 2018 County "Environmental Memo" that facilitates permitting and stakeholder acceptance.).

This phase of design will be used to consolidate feedback obtained in the final stages of the previous work efforts, analyze similar structures and structure failures to limit design risk, and to bring the project elements to a common understanding among the City, County, and ENGINEER design team. Identified options, changes, or refinements will be incorporated into the 30% level of design. Such refinements are anticipated to include:

- Roughened channel design to pass 100-year flood with minimal but acceptable damages to the bed form and key boulder structure elements.
- Attention provided to designs of the transitions downstream of weir and upstream of plunge pool in order to verify boulder retention over time. This will require structural measures that are complimentary to river mechanics.
- Recommendations provided in the Final Alternatives Assessment noted above
- Alternative fish screen and fish screen cleaning technologies that may improve reliability and lower operational and maintenance level of effort.
- Orientation, seepage control, and cross-sectional variation of the roughened channel fishway.
- Left bank floodplain approach channels and transitions.
- Flood protection measures for Powerhouse Road and Ramblers Park levee
- Sediment, fish and boat conveyance criteria over a range of flows.

- Cross-connection water conveyance options which may improve water distribution functionality and cost effectiveness.
- Maintenance needs and provision of access points for maintenance equipment.
- Construction and "care of water" sequencing for the Phase I and Phase II work packages.

Objective

- To consolidate feedback obtained after completion of the last phase of work and present a concept that represents the project team's common understanding of each project element.

ENGINEER Services

1. Coordinate and facilitate a 4-hour concept refinement meeting in the City of Yakima.
2. Prepare meeting notes which outlines items that are to be integrated into the 30% Design Drawings.

Client Responsibilities

- Verify desired staff and participants are made available to attend.

Assumptions

- ENGINEER will coordinate, facilitate, and attend the 4-hour conceptual design workshop in Gig Harbor, WA.
- ENGINEER anticipates that up to seven ENGINEER's team (7) design team members will attend the meeting.
- ENGINEER will be responsible for preparation of agenda, meeting materials, and meeting notes.
- The outcome of this workshop will be integrated into the 30% Design Documentation Submittal.
- City and County will verify appropriate stakeholders are present at the meeting.

Deliverables

- Agenda, meeting materials, and draft and final meeting notes for concept update meeting

Task 500 – Hydrologic and Hydraulic Design

This task includes the development of two separate modeling tools necessary to inform different hydraulic characteristics of the proposed project. A 1-dimensional HEC-RAS model will be prepared to establish the relative impact that proposed project elements may have on reach-based hydraulic profiles downstream and upstream of the structure and to confirm the project's compliance with FEMA and County Flood Zone Control District regulations. The 1-dimensional modeling objective is to demonstrate compliance with Title 44 CFR 60.3 of FEMA by showing that the project does not increase the 1% chance AEP flood levels in the floodplain or floodway analysis. Resulting water surface profile calculations from the modeling efforts are anticipated to allow the County flood official to provide a No-rise certificate that reduces overall permitting time and requirements presented by a CLOMR. If increases to the floodway or floodplain are identified, the decision to move forward with a CLOMR will need to be discussed.

A new 2-dimensional SRH-2D model representing proposed conditions will be developed to evaluate hydrodynamic conditions in and around proposed elements of the project. The model will be used to confirm anticipated hydraulic conditions at the entrance condition of the pilot channels, roughened channel, in low flow channel conditions, in transition areas both upstream and downstream of the roughened channel, scour potential in the sluiceway, sweeping velocities near the fish screens, and through the bridge downstream of the project. Each model will be developed and refined in coordination with the iterative design process. Results from the proposed model runs will be used to inform design decisions and help confirm the range of conditions that can be expected after project construction and implementation.

Conclusions resulting from these modeling activities will help inform project stakeholders and resource agencies that will have purview over project permit approvals which may be a critical factor in gaining ultimate support for this project.

Objective

- Provide updated hydrological assessment that establishes the targeted design flows for the project including: updated fish passage target flow analysis, and updated seasonal low-flow analysis.

- Perform both 1- and 2-dimensional hydrodynamic modeling to inform the design process and confirm that the range of hydraulic characteristics that are anticipated after project construction and implementation meet fish passage, sediment passage, and water supply and flood resilience/stability criteria developed in Task 300 and refined in Task 400.
- Provide information to provide a No-rise certificate from the building/flood official.
- Confirm compliance with FEMA and County Flood Zone Control District regulations regarding the potential impact to the current effective Base Flood Elevations.
- Refine sediment continuity and particle mobility thresholds for river bed substrate to inform sediment transport and sluicing targets.
- Provide hydraulic characteristics such as shear stress to verify sizing and stability of the approach channels, boulder matrices of the roughened channel, and supporting rock filters.
- Evaluate the potential for scour at the downstream end of the roughened channel and near the existing bridge abutments and piers.
- Identify erosion protection measures for Powerhouse Road embankments and Bridge.

ENGINEER Services

1. Provide updated hydrological assessment that establishes the targeted design flows for the project including: a flow duration analysis to update the existing fish passage target flow analysis and updated seasonal low-flow analysis.
2. Perform river mechanics and soil bearing calculations to size the roughened channel rock matrix layers and filters and ensure satisfaction of roughened channel design criteria and to protect existing infrastructure.
3. Assist the City and County identify potential sources for materials.
4. Refine the existing 1-dimensional HEC-RAS model to examine reach-based hydraulics. This is to include development of updated existing and project conditions.
5. Perform a floodway and floodplain analysis using the existing and project conditions model.
6. Prepare and submit a No-rise certificate to the Yakima County building/flood official based on the structure and associated grading detailed in the final bid package.
7. Use HEC-RAS model to verify conformance with FEMA regulatory requirements.
8. Prepare small scale SRH-2D design model to help refine final design characteristics and engineering requirements including: conformance with targeted design criteria, refinement of shear and scour estimates in the pilot channels, roughened channel, and at gradient transitions, confirmation of low flow hydraulics, and confirmation of stage vs. discharge relationships throughout the project.
9. Prepare scour calculations for bridge piers and abutments using FHWA standards and results from the hydraulic modeling activities.
10. Evaluate potential “structure”, and “long term” scour at the downstream end of the roughened channel to inform design of scour countermeasures.
11. Prepare a section in the modeling summary report that evaluates the risk and uncertainties associated with a project of this nature and discuss the potential for future failure mechanisms.
12. Prepare Draft and Final Hydraulic Modeling Summary Report to document findings at the 30% and 90% level of design respectively.

Client Responsibilities

- Coordinate documentation review and provide no more than two sets of comments to ENGINEER for incorporation during preparation of the Final Hydrologic and Hydraulic Analysis Report.

- City and County assume responsibility for unintentional secondary habitat and flood conveyance impacts associated with sedimentation of the Naches River downstream of the project location in response to the implementation of the proposed project improvements.

Assumptions

- ENGINEER will update and refine the existing conditions HEC-RAS model developed as part of previous efforts by integrating the new detailed topography prepared as part of Task 202 to represent existing conditions. ENGINEER assumes that this model will be used as the basis establishing FEMA compliance. Additional development of duplicate effective, corrected effective, and subsequent existing conditions models are not included in this scope of work.
- It is assumed that up to four project options or scenarios will be evaluated as part of the final design process which would require iterative refinement of the proposed "project" HEC-RAS model.
- This task includes design so as to confirm that HEC-RAS comparison of existing conditions and proposed design results in zero rise of the calculated 100-year water surface profile and a No-Rise certificate.
- This scope of services and schedule does not include preparation of a LOMR or CLOMR. Development of a project related CLOMR is required only in the case that the design fails to provide a No-rise certificate. A contract amendment will be required to incorporate CLOMR preparation and submittal should this be required. The CLOMR process may take up to 9 months and is required to be completed prior to construction should this be required.
- A new SRH-2D model representing proposed conditions will be developed after results of the Concept Design Update have been confirmed by the project management team.
- It is assumed that up to four project options or scenarios will be evaluated as part of the final design process which would require iterative refinement of the SRH-2D model.
- It is assumed that 2D model runs will be made for up to six (6) river flow conditions.
- It is assumed that the Hydraulic Model Summary Report will be comprised of a 100-page document inclusive of narratives, tables, figures, and attachments.
- The Final Hydraulic Modeling and Summary Report submitted at the 90% level of completion will be sealed and signed by a Civil Engineer licensed in the State of Washington and will be incorporated as an Appendix to the Final Design Documentation Report.

Deliverables

- Electronic copy of the Hydraulic Modeling Summary Report to document findings at the 30% and 90% level of design
- No-rise certification for the project
- Electronic copies of the final HEC-RAS and SRH-2D model files

Task 600 – Design Documentation Report

A Design Documentation Report (DDR) will be prepared to document the design intent, criteria, assumptions, and calculations for each element of the design. The report will summarize important aspects of the design process including background data and assumptions used in the design process, design criteria, team coordination and important decisions made along the way, results from the geotechnical investigation, results from the hydrologic and hydraulic analysis, a functional description of each proposed project element, anticipated operational strategy, anticipated construction strategy, development of the opinion of probable construction cost, and pertinent design calculations. This report will be a living document developed to a point of completion alongside final drawings, specifications, and opinions of probable cost. Updated drafts of this report will be provided at the major design milestones beginning with the 60% design submittal. The document will be revised at the 100% level and a final stamped and sealed Design Documentation Report will be provided at the same time as the stamped bid documents.

Objective

- Document the design basis for each project element.
- Record the design process and major decisions or factors that influenced the final design configuration.

ENGINEER Services

1. Prepare and submit a 60% DDR for review by the City and County and distribution by the City.
2. Prepare and submit a 100% DDR for by the City and County review and distribution by the City.
3. Prepare a final wet-sealed DDR at the time bid documents are developed.

Client Responsibilities

- Coordinate documentation review and provide no more than two sets of comments to ENGINEER for incorporation at the TOC, 60%, and 100% level of completion.

Assumptions

- ENGINEER will track, respond to, and incorporate comments received, as appropriate, on the 60%, and 100% Design Documentation Report.
- For budgetary purposes, it is assumed that the Design Documentation Report will include a body of approximately 150 to 200 pages and it is anticipated that up to eight (8) Appendices will be included as part of the complete report.
- The Final Design Documentation Report will be sealed and signed by the responsible engineers licensed in the State of Washington.

Deliverables

- Electronic copy of the 60% and 100% DDR
- Eight hardcopies and electronic pdf of the Final Sealed DDR with Appendices.

Task 700 – Construction Documentation

This task includes the development and submittal of design submittals at the 30%, 60%, 90%, and 100% level of completion. Each design submittal will include CAD drawings, specifications, and Opinions of Probable Construction Cost (OPCC) for each of the three proposed phases of project construction. The two anticipated phases of work include:

- Phase I - In-river, overbank, and intake structures;
- Phase II - Water conveyance improvement

Upon approval by the City at the 100% complete progress level, “Issued for Bid” drawings and specifications will be sealed, wet-signed, and incorporated into a bid solicitation document using the City’s standard construction contract format (see Task 800). The OPCC will be used for budgeting purposes, to track project costs and identify the need for course corrections, and provide the basis of the schedule of values that will be used by bidders for the project.

Objective

- Develop CAD drawings, technical specifications, and OPCC to facilitate project bid solicitation and construction.

ENGINEER Services

1. Preparation and submittal of the following at the 30%, 60%, 90%, and 100% level of completion in separate design packages for Phases I and II:
    - CADD design drawings
    - Technical Specifications
    - Opinion of Probable Costs (OPCC)
2. Regularly identify, communicate, and resolve design issues with the project management team.
3. Perform and document an independent constructability evaluation at the 60% level of design.
4. Track and respond to comments provided by reviewers.

Client Responsibilities

1. Coordinate documentation review and provide no more than two sets of comments to ENGINEER for incorporation at the 30%, 60%, 90%, and 100% level of completion.
2. Respond to and provide input to design issues and questions identified by the design team.

Assumptions

- Design submittals will be in electronic pdf format.
- Drawings will be prepared on full-size 22x34 sheets using ENGINEER's CAD standards.
- Drawings will be marked "PRELIMINARY – NOT FOR CONSTUCTION" until they are sealed and wet-signed for the purposes of bidding.
- Technical Specifications will be based off of the CSI 6-digit master specifications system.
- The level of effort for this task is anticipated in accordance with the preliminary drawing list presented as Attachment B.
- The level of effort for this task is anticipated in accordance with the preliminary specifications list presented as Attachment C.
- The OPCC will be prepared in accordance with AACE standards. It is assumed that the 30% OPCC will correspond to a Class 5 estimate while the 100% OPCC will correspond to a Class 1 estimate.
- Class 1 OPCC will have a range of accuracy based upon AACE International Recommended Practice No. 18R-97, Class 1, 90- percent project definition, +15% to -10% Range of Accuracy
- Class 5 Cost Opinions will have a range of accuracy based upon AACE International Recommended Practice No. 18R-97, Class 5, 0- to 2- percent project definition, +100% to -50% Range of Accuracy.
- Design submittals will be provided to the City for review and distribution to others by the City. The City will be responsible for coordinating reviews and providing consolidated comments back to ENGINEER for consideration.
- Design review meetings will occur in accordance with Task 100 General and Stakeholder Coordination.

Deliverables

- The level of detail anticipated for each milestone design submittal is summarized in Tasks 701 through 705 below.

Task 701 – 30% Design

The 30% Design Submittal will be prepared based upon the following assumptions:

- Progress level design advancements will be prepared in accordance with the configuration agreed upon in Task 400 Concept Design Update Workshop.
- Drawings will prepared to establish the general horizontal and vertical component of each project element. The majority of drawings will include general plans, partial plans, draft profiles, and elevation views required to establish the bounds and scale of project features.
- Detailed civil, structural, and mechanical sections, details, and technical notes will be limited.
- Existing conditions and concept demolition/decommissioning drawings will be included.
- A refined care-of-water construction sequence will be included.
- Draft Temporary Erosion and Sediment Control (TESC) sheets will be included.
- A re-vegetation schedule and planting palette occurring in the floodplain will be developed to conceptual level.
- A general electrical site plan will be included.
- No instrumentation and control sheets will be provided.
- A Table of Contents for specifications Divisions 01 through 48 will be provided.
- A 30% OPCC will be prepared corresponding to a Class V and will include a 30% contingency accounting for cost uncertainty and undetermined design items.

Task 702 – 60% Design

The 60% Design Submittal will be prepared based upon the following assumptions:

- Progress level design advancements will be prepared in accordance with the configuration presented in the 30% Design Submittal and incorporation of comments received during the 30% review period.
- Drafts of “General” abbreviations, symbols, notes, legends, and details for each discipline will be provided.
- In addition to the drawings presented in the 30% design, draft civil, structural, and mechanical sections, details, schedules, and technical notes will be provided.
- A refined care-of-water construction sequence will be included.
- Refined TESC sheets will be included.
- Electrical site plan, one-line diagram and detail sheets will be included.
- A draft Process Network and Instrumentation Diagram (PNID) will be included.
- Divisions 02 through 48 specifications for key project elements will be developed. Other specifications may still be placeholders or preliminary.
- A 60% OPCC will be prepared corresponding to a Class III classification and will include a 20% contingency accounting for cost uncertainty and undetermined design items.

Task 703 – 90% Design

The 90% Design Submittal will be prepared based upon the following assumptions:

- Progress level design advancements will be prepared in accordance with the configuration presented in the 60% Design Submittal and incorporation of comments received during the 60% review period.
- Completed draft design drawings for civil, structural, and mechanical disciplines as well as detailed schedules and technical notes will be provided.
- A draft final care-of-water construction sequence will be included.
- Draft final TESC sheets will be included.
- Electrical plans, panel schedule, and detail sheets will be updated. Electrical one-line diagrams, schedules, and details will be at a draft level of completion.
- The PNID will be refined. I/O lists, and details will be prepared to a draft level of completion.
- Draft Specifications for Divisions 02 through 48 will be provided.
- A 90% OPCC will be prepared corresponding to a Class II classification and will include a 10 to 15% contingency accounting for cost uncertainty and undetermined design items.

Task 704 – 100% Design

The 100% Design Submittal will be prepared based upon the following assumptions:

- Progress level design advancements will be prepared in accordance with the configuration presented in the 90% Design Submittal and incorporation of comments received during the 90% review period.
- Design drawings and specifications for Divisions 02 through 48 will be prepared to a final level of completion.
- A 100% OPCC will be prepared corresponding to a Class I classification and will include a 10% contingency accounting for cost uncertainty.

Task 705 – Preparation of Final Bid Documents

ENGINEER will assist the City in preparing Bid Documents for Phases I through III of the Nelson Dam Replacement project. This task will include assistance with incorporation of the final 100% construction drawings, technical specifications, and schedule of values prepared as part of Task 700 into complete bidding documents with the City’s bidding instructions, contract terms, conditions, and general requirements (Divisions 00 and 01).

Objective

- Assist the City in preparing a complete set of Bid Documents that are to be used to solicit bids from eligible and responsive construction contractors.

ENGINEER Services

1. Review and modify the City's standard bidding instructions to reflect the requirements of the Nelson Dam Replacement Project. Modifications may include but are not limited to the following:
    - Schedule requirements,
    - Bidder qualifications,
    - Schedule of values and approximate quantities, and
    - Description of work.
    - Project cost estimate
2. Development of Division 01 Specifications – General Requirements.
3. Review and provide edits on bid notices and announcements.
4. Provide sealed, wet-signed drawings and specifications "Issued for Bid."

Client Responsibilities

- Provide the City's standard MS word compatible bidding instructions, Division 00 specifications, and any specific Division 01 specifications that are specifically desired by the City.

Assumptions

- Engineering services during the bidding process, bidder selection, response to RFIs, and preparation of addenda are not currently included in this scope of services and are to be a part of a future contract modification.
- Division 01 specifications are to be prepared using a 6-digit CSI format.
- ENGINEER will not be making changes to the contract that have substantive legal influence – modifications will be purely contextual for that section.
- It is currently assumed that the project would be bid and contracted as a total lump sum or lump sum by schedule of values method.
- The level of effort for this task is anticipated in accordance with the preliminary specifications list presented as Attachment C.

Deliverables

- Electronic tracked changes edits on the City's bidders requirements, contract, and Division 00
- Draft Division 01 specifications
- One Final "camera-ready" sealed and wet-signed hardcopy and scanned electronic copies of final bid documents including drawings and specification Divisions 01 through 40

Task 800 Construction Management

Onsite inspection, engineering services during construction, and contract management are not currently included in this scope of services and are to be a part of a future contract modification to be determined after 100% Design Submittal.

Task 900 - Permitting Support

This task will cover permitting of Phase I and II as described in Table 1. Decommissioning of Fruitvale and Old Union irrigation diversions and associated canals will not be included in this scope of services. Wetland delineations will not include areas associated with these future decommissioning efforts.

Federal, state, and local and environmental permit applications, documentation, and supporting information will be prepared through a multi-agency effort that is anticipated to include the City, County, Yakima Tributary Access and Habitat Program (YTAHP), and ENGINEER's environmental and engineering team. ENGINEER's engineering team will provide engineering and construction background information, figures, quantity estimates, and construction sequencing information. HDR's environmental team will conduct field surveys and prepare documentation to support local, state, and federal permitting applications for submittal to the City, who will be the applicant for the Project. It is anticipated that the interagency project team will support the permit review and approval process until the required permits for construction have been authorized.

Task 901 – Internal Environmental Kickoff Meeting

Objective

- Convene an internal environmental specific kickoff meeting for key staff to learn about the project and ask questions of engineering design team.
- Review and confirm environmental and permitting scope, schedule and budget.

ENGINEER Services

1. Coordinate, prepare meeting materials, and facilitate a 2-hour environmental kickoff meeting via conference call.

Client Responsibilities

- None.

Assumptions

- It is anticipated that up to eight (8) members of ENGINEER's staff will participate in the environmental kickoff meeting.

Deliverables

- None.

Task 902 – Agency Outreach and Coordination

Objective

- Implement a proactive and consistent agency outreach program and provide regular coordination with agency representatives to determine federal lead status and NEPA pathway, maintain the permitting schedule, and help negotiate agreeable mitigation requirements or permit stipulations.
- Organize a site visit with key regulatory staff early in the project to solicit input.

ENGINEER Services

1. Prepare, maintain, and update a permit tracking log that will be used to track the status of relevant permits and identify the influence that regulatory schedules have on the overall project schedule.
2. Facilitate meetings with known federal nexus entities, including Reclamation and USACE, to determine path forward for NEPA compliance. Meetings with Bonneville Power Administration (BPA) are included in this task as an assumption that they may provide funding for a portion of the project. Upon determination of a NEPA compliance pathway, an amended scope of services will be prepared and submitted to the City, based upon the level of ENGINEER participation and NEPA support.
3. Organize and facilitate a 2-hour long regulatory kickoff meeting for Federal, State, local regulatory representatives in Yakima. This meeting will occur following wetland delineation and habitat characterization in summer 2019.
4. Organize and facilitate a 1-hour pre-application meeting (by phone) with the USACE.
5. Provide project updates to regulatory agencies on a bi-monthly (i.e., every two months) basis to keep regulatory representatives informed and engaged in the permitting process. Regulatory and design updates to the Yakama Nation would be provided at a greater frequency (i.e., once per month, at a minimum).
6. Coordinate and attend up to one (1) additional on-site meeting for the purpose of coordinating technical concerns with interested regulatory representatives.
7. Through end of contract, host monthly 1/2-hr permitting status meetings upon completion of 30 percent design to coordination and prepare for pending permitting submittals. Monthly meetings may increase to bi-weekly during peak permitting period.

Client Responsibilities

- Coordinate City and County attendance and participate in key meetings and discussion.

- Continue coordination with potential lead agencies such as USBR and BPA.
- City is responsible for preparation of any agreement or permit associated with removal of USBR structures.

Assumptions

- Agencies attending proposed kickoff meeting may include the City, County, Tribes, Irrigation Companies, USACE, Ecology, DNR, WSDOT, USFWS, Reclamation, NMFS, WDFW, BPA and FEMA.
- Regarding NEPA outreach, scope of services assumes one in-person meeting at Reclamation for up to three (3) of ENGINEER's staff, and up to 3, one-hour teleconference calls for up to two (2) ENGINEER's staff.
- Related to this regulatory outreach task, up to two total site visits are anticipated to occur over a 2-hour period and will be attended by up to three (3) ENGINEER team members.
- ENGINEER will prepare agendas, meeting materials, and summary meeting notes.
- Up to three (3) ENGINEER participants will attend the 1-hour long monthly permitting status calls.
- The permit tracking spreadsheet will be updated on a monthly basis.
- The length of the permitting contract for this task will be commensurate with the overall contract for Phase I and II.

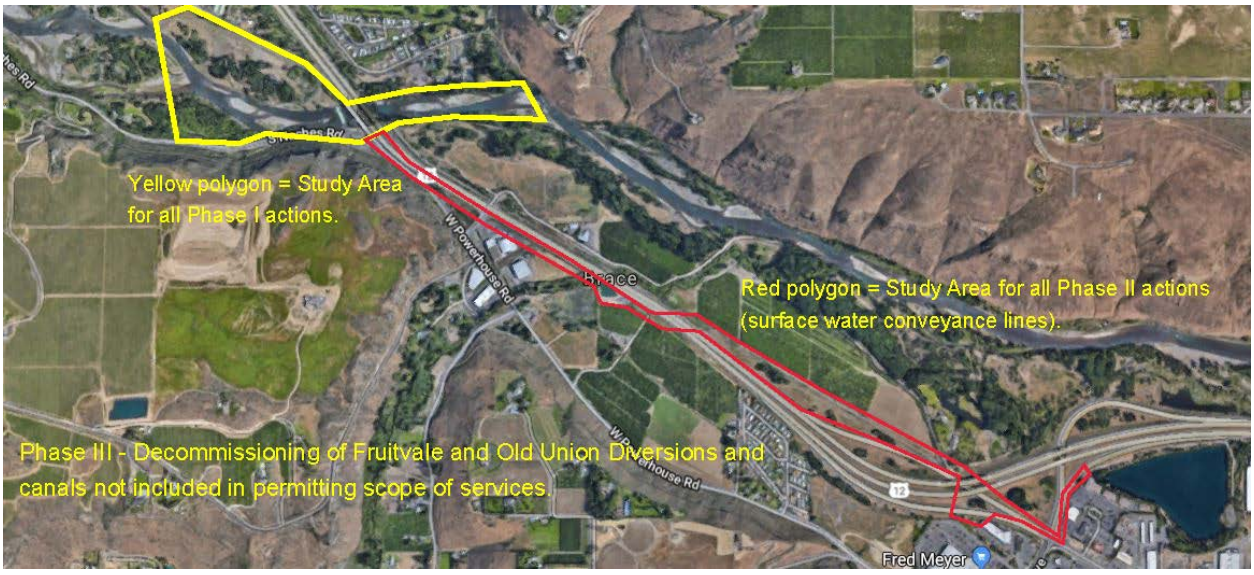
Deliverables

- Meeting agendas, meeting materials, and meeting notes for site visits and meetings
- Updated permit tracking spreadsheet

Task 903 – Environmental Field Work

Objective

- Conduct necessary environmental related field work, delineations, habitat assessments, to support preparation of permit applications and approvals.
- Study area for field work and permitting:



ENGINEER Services

- Field staff will review pertinent background information including Yakima County Soils Survey, previous wetland delineations, NWI maps, City and County maps, critical area code, FEMA maps, and database information from WDFW, DNR, USFWS and NOAA Fisheries.
- Field staff will review previous wetland delineations and similar habitat assessments conducted for the project area.
- Prepare GIS-based field maps

- Up to three ENGINEER environmental science staff will delineate wetlands within the project study area in June 2019 per USACE parameter methods within the FEMA floodway and for a width 100 feet landward of the Naches River OHWM. For the purposes of wetland delineation, the study area includes:
    - The existing Nelson Dam site and banks adjacent to upstream extent of proposed roughened channel, including the upstream extend of the two pilot channels proposed immediately upstream of the dam (as depicted on EAGL Exhibit 1_lower.pdf).
    - The left bank of the Naches River south of Powerhouse Road to the river bank, extending from Highway 12 west to a distance of 100 feet upstream of the upstream terminus of the two proposed pilot channels immediately upstream of the dam (as depicted on EAGL Exhibit 1_lower.pdf). Riverine habitat associated with pilot channels depicted further upstream on EAGL Exhibit 1_lower.pdf (as provided by County) will not be delineated.
    - The right bank of the Naches River north of S. Naches Road from Highway 12 to the right bank retaining wall.
    - The extent of the proposed surface water conveyance pipeline corridor, plus 100 feet either side of the pipeline(s).
    - No delineation is proposed along irrigation ditches to be abandoned, or irrigation diversion structures to be decommissioned under a separate project (i.e., Fruitvale and Old Union).
- Identify the OHWM of the following waterbody reaches:
    - Naches River:
        - Left bank: for a distance 300 feet downstream of the existing dam, and a distance of approximately 1,200 feet upstream of the existing dam (to cover upstream extent of two pilot channels nearest the dam)
        - Right bank: for a distance of 300 feet downstream of the dam to 600 feet upstream of the dam
    - Cowiche Creek for a distance of 100 feet upstream and downstream of the surface water pipeline crossing.
- Wetlands and OHWM will be documented with appropriate data sheets. GPS coordinates will also be collected to map OHWM and wetland delineations and overlay them on design drawings. No flagging will be placed along OHWM or wetland boundaries.
- Conduct a baseline habitat assessment of fish and wildlife use of the existing fish ladder and river corridor upstream and downstream of the dam by a qualified ENGINEER biologist. Baseline information will be incorporated into the county critical areas report and other ESA/SEPA/NEPA deliverables, as applicable. No separate deliverable will be prepared.

Client Responsibilities

- Provide right-to-access to all project locations.
- Provide background reports, information, and background data.
- For delineations conducted in WSDOT ROW, City will coordinate with WSDOT to get an MOU of work within ROW.

Assumptions

- If wetland delineations cannot be conducted before June 30, 2019, agencies may require a secondary confirmation of wetland delineations in spring 2020. A secondary confirmation, if required, is not included in this scope of work, and will require an amendment to the SOW.
- A summer (flowering period) rare plant survey is not anticipated to be required.
- Species-specific surveys for threatened or endangered species (State or Federal) are not anticipated to be required. Note that species-specific surveys typically require two (2) year survey protocols.
- The proposed field work is expected to take up to four (4) days in the field for up to three (3) ENGINEER staff.

Deliverables

- GIS Field Maps, including wetland and OHWM mapping on design sheets

- Photograph logs
- Electronic GPS data coordinates of OHWM and wetlands

Task 904 – Documentation/Reports

Objective

- Prepare the required studies or reports to support the various permit application packages for federal, state, and local regulatory agencies.

ENGINEER Services

1. Prepare Draft and Final versions of the following studies and reports for review of the permit applications for the project:
    - Wetland/Stream Delineation Report
    - Critical Area Report (pursuant to Yakima County code requirements)
    - Endangered Species Act Section 7 Consultation Document - Biological Assessment for individual Section 7 consultation
    - SEPA Checklist
    - Conceptual Restoration Plan
    - Cultural Resources Inventory and Report (historic and cultural resources, Reiss-Landreau Associates). Survey and report will be provided for Area of Potential Effect (APE) for Nelson Dam project (see figure under Task 903 for study area)

Client Responsibilities

- Coordinate documentation review and provide one consolidated set of comments to ENGINEER for incorporation at the Draft level of completion for each deliverable.
- Coordinate, prepare, and submit request for shoreline exemption for the Cowiche Creek crossing with the General Pipeline.

Assumptions:

- The basis for the permitting scope of work includes the following elements:
    - Dam removal
    - Fish ladder removal (left bank)
    - Right bank consolidated surface diversion and associated infrastructure,
    - Surface water conveyance pipeline(s),
    - Weir and roughened channel fishway,
    - Removal of former powerhouse road left bank abutment and approach
    - Left lowering/contouring, for improved sediment and hydraulic conveyance
    - Two left proposed pilot channels immediately upstream of the dam along left bank per County exhibit provided via e-mail on February 26, 2019.
    - Decommissioning of Old Union and Fruitvale diversions, and abandonment or modification of existing irrigation canals NOT included in permitting scope of work.
- ESA:
    - Physical and numeric modeling previously conducted for sediment transport analysis will be sufficient to enable response to NMFS and USFWS comments during the ESA consultation. No specific modeling, hydrogeomorphic, or similar assessments are required to complete ESA consultation. Additional studies would require a scope amendment.
    - Physical and numeric modeling previously conducted (or conducted as part of this scope of services) for analysis of fish passage and channel stability will be sufficient to enable response to NMFS and USFWS comments during the ESA consultation. No additional assessments are required to complete ESA consultation. Additional studies would require a scope amendment.
    - Intake screening and roughened channel designs will be coordinated and approved by USFWS, WDFW, and NMFS prior to completion of ESA consultation.

- One ESA consultation document will be prepared that will fulfill the requirements of both NMFS and the USFWS.
- For purposes of scoping, an individual ESA Section 7 consultation will be required. Upon identification of federal lead agency, if a programmatic ESA consultation is determined to be viable for coverage, ENGINEER will determine the level of effort and documentation needs associated with use of a programmatic. A scope amendment may be required.

- Conceptual Restoration Plan
  - ENGINEER will prepare a restoration plan for revegetating lands temporarily disturbed during Phase I and Phase II activities.
  - Scope assumes in-water work associated with passage will be permitted under NWP 27 or 53, neither of which require mitigation for in-water work because projects will improve chemical, physical, and biological conditions in the river. Scope also assumes NWP 12 for consolidated intake, and no mitigation.
  - If compensatory wetland or instream habitat mitigation is required for permanent impacts, final Mitigation Planning and Design is not included in this scope of work and will require an amendment as details and siting information become available.
  - Federal lead agency (USACE or other) will consult with the State Department of Archaeology and Historic Preservation, pursuant to Section 106 of the National Historic Preservation Act.
  - County is expected to be the lead agency for SEPA. Relative to SEPA, the following are assumed:
    - To expedite state and local permitting, a stand-alone SEPA Checklist will be required.
    - SEPA coverage can be obtained via a Checklist and the Project will not require a SEPA EA or EIS.
    - No SEPA public scoping is required.
    - City and County will provide any existing project data or environmental reports prepared for previous work in the vicinity of the Nelson Dam for background and historic understanding.
    - One consolidated round of review and revision is expected.
    - County will issue DNS or MDNS, as appropriate.

- A contaminated sediment survey (Level 1 assessment or other) is not required for the project.
- A Phase 1 Environmental Assessment is not included in this scope of services.

Deliverables

- Electronic copies of the Draft and Final documents listed above, in pdf format.

Task 905 – Federal and State Application Preparation

Objective

- Prepare the forms, narratives, and research necessary to compile the Federal and State permit application packages.

ENGINEER Services

1. Prepare Draft and Final applications or compliance documents for Federal agency review of the permit applications for the project:

   - JARPA, including figures, for:
     - U.S. Army Corps of Engineers [USACE] Clean Water Act Section 404 Discharge Authorization
     - Ecology (Ecology administers 401 Water Quality Certification)

   - Water Quality Monitoring Plan (required by Ecology)
   - Dewatering and Fish Salvage Plan (note final dewatering to be determined by Contractor)

2. Prepare Draft and Final applications or compliance documents for State agency review of the permit applications for the project:

    - Washington State Department of Fish and Wildlife Aquatic Protection Permitting System (APPs) for Hydraulic Project Approval (HPA) from WDFW
        - ENGINEER will prepare "dummy" application for submittal to City; City will apply for HPA via online APPs system

    - Aquatic Land Lease for DNR (JARPA Attachment E)
        - County will coordinate with DNR, as required, to amend or apply for aquatic lands lease for both the Naches River (dam activities) and Cowiche Creek (pipeline crossing, if applicable)

3. Prepare Notice of Intent (NOI) for National Pollutant Discharge Elimination System construction general stormwater permit and Stormwater Pollution Prevention Plan (SWPPP).

Client Responsibilities

- City will be applicant and will sign all application forms as owner/applicant.
- City will publish required notifications in newspapers and pay fees.
- ENGINEER will not act as authorized agent.
- City will pay all application fees.
- City will handle formal submittal of all application packages – electronic and/or hard copy mail. This includes online APPs application to WDFW for the HPA.
- City will participate in all formal pre-application meetings.
- City is responsible for the Ecology Water Right Transfer (completed)
- City will negotiate aquatic land lease with DNR, as applicable.
- City will negotiate and acquire utility permit, including any real estate services, from WSDOT.

Assumptions

- The basis for this permitting task includes the following elements:
    - Dam removal
    - Fish ladder removal (left bank)
    - Right bank consolidated surface diversion and associated infrastructure,
    - Surface water conveyance pipeline(s),
    - Weir and roughened channel fishway,
    - Removal of former powerhouse road left bank abutment and approach
    - Left lowering/contouring, for improved sediment and hydraulic conveyance
    - Two left pilot channels immediately upstream of the dam along left bank per County exhibit provided via e-mail on February 26, 2019.
    - Decommissioning of Old Union and Fruitvale diversions, and abandonment or modification of existing irrigation canals NOT included in permitting scope of work.
- Blasting and Debris Management Plan to be prepared by Contractor.
- Relative to U.S. Army Corps of Engineers Clean Water Act Section 404 Discharge Authorization permitting:
    - Elements included under Phase I and II of project will be authorized under nationwide permit program for discharge and fill pursuant to CWA Section 404. Specifically, this scope assumes project coverage under NWP 27 (roughened channel fishway and left bank conveyance improvements for fish habitat enhancement); NWP 53 for low-head dam removal; NWP 12 for consolidated intake structure and surface water conveyance pipeline; and NWP 33 for temporary in-water construction access to implement the project.
        - Note the current NWP program is valid through March 2022; scope assumes Phase I and II elements completed prior to expiration of current NWPs and will not require NWP renewal.

    - Riverine impacts permitted under the NWP will not require compensatory mitigation.
    - An individual permit is not required. If the USACE determines that an individual permit is required, a scope amendment will be necessary to prepare additional permitting submittals (e.g., Clean Water Action Section 404 alternatives analysis).
    - An individual WQC pursuant to CWA Section 401 may be required. Scope includes nominal amount of hours (24 total) to respond to public comments. A water quality monitoring plan, if required, will be prepared by the ENGINEER.
- Cultural and Historic Resources:
    - Reiss-Landreau will conduct cultural and historic investigations and prepare cultural and historic survey report for City-submittal to federal lead agency.
    - Lead federal agency is assumed as the USACE. USACE will consult with the State Department of Archaeology and Historic Preservation, pursuant to Section 106 of the National Historic Preservation Act. Report will be reviewed by BOR relative to work associated with the fish ladder.
    - If additional federal nexus are identified requiring additional cultural/historic report review, a scope amendment will be required.
    - No mitigation is included in the cultural/historic survey task.
- Project site is not a navigable water of the U.S. for USACE Section 10 River and Harbors permitting.
- ENGINEER will contact DNR local aquatics land manager to determine if Cowiche Creek is a state-owned aquatic land. For the purposes of this scope, we assume the Naches River and Cowiche Creek sites are considered state-owned aquatic lands and subject to DNR for aquatic land use authorization. The City will be responsible for negotiating the aquatic land use authorization with DNR and developing support documents, if necessary, for easements. ENGINEER will prepare the JARPA Attachment E.
- The selected construction contractor will obtain Demolition Permit from local and Clean Air Agency. Because the dam and related water conveyance infrastructure contains concrete, the Northwest Clean Air Agency will require an asbestos and lead paint survey prior to demolition permit issuance. The selected contractor will be responsible for conducting the survey and submitting to the Clean Air Agency for approval prior to demolition.
- At the current level of design development it is anticipated that dam replacement and intake relocation can be accomplished during one extended in-water work window. This scope assumes one season of in-water work. Work outside that window or work requiring multiple in-water construction periods will require a scope amendment to address permitting implications and on-going coordination.
- Permit-related document review:
    - City will review each permitting task deliverable prior to filing of each permit. All documents submitted to the City for review will be returned to ENGINEER with one set of consolidated comments. One review cycle is assumed per deliverable.
    - No other entities will review permitting deliverables.
- A Forest Practices Application/Notification (FPA/N) from DNR is not required for any portion of this project. If an FPA/N is required, ENGINEER support for permitting will require a scope amendment.
- Based on preliminary review of the State Dam Safety Office (DSO) database and the DSO "Inventory of Dams" (https://fortress.wa.gov/ecy/publications/documents/94016.pdf; updated June 2018), Nelson Dam is not a DSO-regulated structure. As such, DSO review is not required for dam removal/modification. Permitting and coordination with DSO is not included in this scope.

Deliverables

- Draft and Final permit application packages identified in the list above.

Task 906 - Local Permit Preparation

Objective

- Prepare the forms, narratives, and research necessary to compile the local permit application packages. Yakima County is the sole local permitting regulatory jurisdiction for the full project. For portions of the pipeline that extend into the city of Yakima limits, including the pipeline crossing of Cowiche Creek, the city will assume all permitting responsibilities.

ENGINEER Services

1. The following Yakima County application packages (draft and final) will be prepared for review of the permit applications for the project:
    - Pre-Application Meeting Request
    - Shoreline Substantial Development Permit application (or Shoreline Exemption application, if applicable)
        - Shoreline and critical areas application
        - Shoreline and critical areas submittal checklist
        - Shoreline and critical areas questionnaire
        - Narrative Form
        - Critical areas, shoreline, and Floodplain Submittal Checklist
        - If project qualifies for shoreline exemption:
            - CAO and Shoreline Exemption form
            - Shoreline Exemption Bulletin
    - Critical Area Modification
    - Grading and Excavation Permit
    - Building/Structural Foundation Permits

Client Responsibilities

- City will sign all application forms as owner/applicant.
- City will obtain all city-permits, including Shoreline maintenance exemption, related to installation of the replacement pipelines within city limits.
- City will print all applications and direct pay all permitting and publication fees, including application fees and leasing fees, as applicable. City will provide printing and hand delivery for any required in-person intakes for permit agencies in that require hardcopy submittals.
- City will handle formal submittal of all application packages – electronic and/or hard copy mail.
- City will participate in all formal pre-application meetings.
- Review draft submittals and provide consolidated comments.

Assumptions

- ENGINEER's environmental team (2 staff) and PM will attend up to two (2) meetings at City or County offices to support local permitting. One of these meetings includes the County pre-application meeting.
- Yakima County Shoreline Permitting:
    - If all or part of the project does not qualify for exemption under RCW 90.52.147 (Shoreline Substantial Development Permit [SSDP] - exemption for projects to improve fish or wildlife habitat or fish passage), an SSDP would be required.
    - If SSDP, three ENGINEER team members will attend up to one (1) public hearing associated with the SSDP.
    - No appeals will be made under SSDP.
- No other city or county permits are required outside of what is specified in this scope of work. The City of Yakima will obtain all permits related to pipeline installation within city limits.
- It is anticipated that no geologic hazard areas or aquifers will be impacted (cumulatively or directly). Tasks completed by the ENGINEER team as part of development of the design will be of sufficient detail to address impacts, or lack thereof, in the critical areas report. Tasks

addressing impacts or lack of impacts will be summarized in the critical areas report. This includes during and post-construction geomorphic analysis and sedimentation analysis.
- City will require one (1) building application for the consolidated intake and associated infrastructure. Building permit not required for roughened channel fishway, pipelines.
- A summer (flowering period) rare plant survey is not required.

Deliverables
- Draft and Final permit application packages identified in the list above.

Task 907 – Permit Coordination and Support

ENGINEER's permitting team will provide continuing support during agency review of applications and permit submittals through October 2021.

Objective
- Facilitate an efficient and organized permit submittal and acquisition process.

ENGINEER Services

1. Conduct follow up with regulatory staff.
2. Attend up to two (2) two-hour regulatory meetings in Yakima to support regulatory review and permit processing. Up to two (2) ENGINEER staff will attend these meetings, one of which can be completed in one-12 hour day, one of which will require an overnight stay.
3. Facilitate response to comment and revision process with internal team.
4. Organize and coordinate materials necessary to make timely resubmittals.

Client Responsibilities
- Attend agency coordination meetings and develop project communications as required.
- Provide meeting location and invite relevant participants.

Assumptions
- Support associated with Hearing Examiner meeting, public meetings on project, or appeals (e.g., Shoreline permitting) is not anticipated and would therefore require a contract amendment should such support be required.

Deliverables
- E-mail type contact reports documenting miscellaneous communications with regulatory staff

Task 1000 – Project Management and Administration

Objective
- Initiate internal project management communications and controls to effectively manage scope, schedule, budget, and quality.
- Carry out regular administrative activities, provide guidance, and coordinate multi-disciplinary integration of the project team.

ENGINEER Services

1. Initiate a shared file directory for use by the project team.
2. Prepare a Project Management Plan outlining the project scope, team organization, schedule, and communications information for use by the project team.
3. Regularly coordinate and guide day-to-day project activities.
4. Prepare Project specific Health and Safety plan, as well as Job Hazard Assessments (JHAs) for site visits.
5. Subcontract with and manage project subconsultants.

6. Perform regular schedule updates and financial status summaries to track and guide budget expenditures.
7. Prepare monthly invoices formatted in accordance with contract terms.
8. Prepare monthly status reports describing the following:
    - Services accomplished during the invoicing period
    - Needs for additional information
    - Current known items that may influence scope, schedule, or budget

Client Responsibilities

- Attend project management meetings as outlined in Task 100.
- Coordinate with the County to help maintain open communication and active communication among the project management team.

Assumptions

- The project design duration is anticipated to be 18 months.
- Meetings will be carried out as outlined in Task 100.
- Invoices will be prepared monthly and formatted in ENGINEER standard invoice format.

Deliverables

- Completed project management plan.
- Electronic copies of monthly progress reports and invoices.
- Overall project schedule and schedule revisions.

EXHIBIT B
SUMMARY OF FEE ESTIMATE BY TASK

HDR ENGINEERING, INC.
City of Yakima: Nelson Dam Replacement

Task #	Task Description	Billable Labor	Subconsultant Fees and Billable Expenses	Total Anticipated Fee by Task
100	Task 100 - Stakeholder Coordination	$ 69,976.70	$ 34,628.00	**$104,604.70**
201	Task 201 - Geotechnical Investigation	$ 58,223.18	$ 44,920.00	**$103,143.18**
202	Task 202 - Topographic Survey and Basemapping	$ 17,603.66	$ 45,842.00	**$63,445.66**
300	Task 300 - Design Criteria Development	$ 20,834.24	$ 7,120.00	**$27,954.24**
400	Task 400 - Concept Design Update Workshop	$ 11,755.41	$ 15,000.00	**$26,755.41**
500	Task 500 - Hydrologic and Hydraulic Design	$ 13,247.28	$ 144,390.00	**$157,637.28**
600	Task 600 - Design Documentation Report	$ 68,289.93	$ 11,656.00	**$79,945.93**
701	Task 701 - 30% Design Construction Documentation	$ 169,219.18	$ 5,000.00	**$174,219.18**
702	Task 702 - 60% Design Construction Documentation	$ 270,817.59	$ 5,000.00	**$275,817.59**
703	Task 703 - 90% Design Construction Documentation	$ 234,115.00	$ 5,000.00	**$239,115.00**
704	Task 704 - 100% Design Construction Documentation	$ 103,597.47	$ 5,000.00	**$108,597.47**
705	Task 705 - Preparation of Final Bid Documents	$ 20,820.29	$ -	**$20,820.29**
800	Task 800 - Construction Support Services	$ -	$ -	**$0.00**
901	Task 901 - Internal Environmental Kick-Off Meeting	$ 6,541.44	$ 1,142.20	**$7,683.64**
902	Task 902 - Agency Outreach and Coordination	$ 31,947.12	$ 4,064.60	**$36,011.72**
903	Task 903 - Environmental Field Work	$ 24,839.68	$ 3,775.20	**$28,614.88**
904	Task 904 - Documents/Reports	$ 82,871.20	$ 26,545.40	**$109,416.60**
905	Task 905 - Federal and State Application Preparation	$ 60,454.42	$ 72.60	**$60,527.02**
906	Task 906 - Local Permit Preparation	$ 48,164.08	$ 51.00	**$48,215.08**
907	Task 907 - Permit Coordination and Support	$ 29,849.38	$ 916.00	**$30,765.38**
1000	Task 1000 - Project Administration	$ 107,149.06	$ 9,160.00	**$116,309.06**
				$1,819,599.31

$1,819,599.31

EXHIBIT C
SUMMARY OF HOURLY RATES

HDR ENGINEERING, INC. STAFF

City of Yakima: Nelson Dam Replacement

	STAFF	PROJECT ROLE	BILLING RATE
1	Hill, Jason L	PIC	$237.74
2	Garello, Michael C	PM	$225.88
3	Venard, Jacob Allen	Deputy PM	$193.57
4	Bevan, Shaun P	Proj. Engineer	$147.97
5	Prociv, Matthew D	Hydraulic Lead	$181.80
6	Nelson, John D	Sr. Civil/Fisheries	$216.30
7	Mallonee, Anna S	WR/Fisheries EIT	$105.19
8	Story, Tobin	Wetland Scientist	$112.32
9	Spellecacy, Ronalee Rae (Rona)	NEPA/SEPA QC	$207.37
10	Rudd, Kelsey MIchelle	Env. Assistant	$90.57
11	Holloway, Becky E	Permit/ESA Lead	$179.03
12	Danielski, Lisa C	Wetland Lead	$161.54
13	Dalzell, Maki	Wetland Scientist /GIS	$139.47
14	Szymanowicz, Matthew (Matt)	ESA Specialist	$105.51
15	French, Cameron C	NPDES/SWPP Specialist	$134.83
16	Finn, Maureen C	Tech Editor	$121.60
17	Teepe, Adam K	NEPA Lead	$165.96
18	Gurrad, Matthew C	Landscape Architect	$163.01
19	Flint, Sandra S	Cultural Specialist	$193.22
20	Wiseman, Chad D	WQ/Permit QC	$184.15
21	Gifford, Marissa A	Planner / Local Permits	$139.19
22	Orton, Eric E	Lead Mech	$202.38
23	Batrack, Faith Marie (Faith)	Proj. Mech	$139.19
24	Terry, Joy Lynn	Proj. Pipe	$205.91
25	Whitehead, Marc G	Proj. Mech	$120.81
26	McGuire, Matthew P	QC Mech	$255.26
27	Bradley, Bruce A	Lead Struct.	$205.27
28	Fortner, Andy	Proj. Struct	$156.65
29	Gipson, Chad A	QC Struct	$224.22
30	Hannan, Richard W	Lead Geotech	$202.76
31	Clark, Nicholas M	Proj. Geotech	$194.23
32	Sheean, Ryan B	Staff Geotech	$135.82
33	Chin, Ginette Danuelle	Lead Electrical	$243.37
34	Ortiz-Camacho, Mareval	Proj. Electrical	$105.00
35	Rincon, Isabel	QC Elect	$263.94
36	Best, Donald E	Lead I&C	$233.83
37	Johnston, Bruce	I&C QC	$249.69
38	Schweissing, Stan B	Sr. Irrig QC	$180.78
39	Allen, Jeffrey C	Sr. Constr QC	$292.18
40	DeGabriele, Thomas Andrew (Tom)	Hyd. Surv	$139.79
41	Pete Hille	Survey QC	$174.55
42	Blake, Andrew C	CAD Designer	$160.14
43	Campbell, Jerry L	CAD Tech	$108.88
44	Finn, Maureen C	Tech Editor	$121.60
45	Casarez, Kristie Lea	BG Manager	$320.00
46	Jeffery, Sherry L	Project Accountant/Assistant	$120.52