CITY OF MARYSVILLE AGENDA BILL

EXECUTIVE SUMMARY FOR ACTION

CITY COUNCIL MEETING DATE: April 10, 2017

AGENDA ITEM:	
Professional Services Agreement with HDR, Inc. for Design of the State Avenue Widening Project from 100th St NE to 116th St NE	
PREPARED BY:	**DIRECTOR APPROVAL:**
Jeff Laycock, City Engineer	
DEPARTMENT:	
Engineering	
ATTACHMENTS:	
Professional Services Agreement	
BUDGET CODE:	**AMOUNT:**
30500030.563000, R1601	$1,665,545.09
SUMMARY:	

On January 14, 2017, the City advertised a Request for Proposals, asking firms to submit written proposals stating their qualifications to provide consultant services related to the State Avenue Widening project from 100th St NE to 116th St NE. The City received proposals from eight firms and selected HDR, Perteet, and Gray and Osborne to participate in an interview selection process Interviews were conducted on March 3, 2017. Following the interviews, the consultant selection committee concluded that HDR was the most qualified firm for the project.

The attached Professional Services Agreement (PSA) will provide the City with design, permitting and right-of-way services for the project. It is in staff's opinion that the negotiated fee of $1,665,545.09 is fair and consistent with industry standard. The design and right-of-way is funded in part by the Transportation Improvement Board (TIB). TIB's contribution towards the project design and right-of-way is $1,270,832.

The scope of services included with the PSA demonstrates a clear approach in order to complete the design, permitting and right-of-way services associated with the project. Staff is confident that the City will be well served by HDR as it relates to this project.

RECOMMENDED ACTION:
Staff recommends that Council authorize the Mayor to sign and execute a Professional Services Agreement for the State Avenue Widening Project from 100th St NE and 116th St NE, between the City of Marysville and HDR, Inc. in the amount of $1,665,545.09.

PROFESSIONAL SERVICES AGREEMENT BETWEEN CITY OF MARYSVILLE AND HDR ENGINEERING, INC.

THIS AGREEMENT ("Agreement") is made and entered into this _____ day of April, 2017, by and between the City of Marysville, a Washington State municipal corporation ("City"), and HDR Engineering, Inc., a Nebraska corporation licensed under the laws of the State of Washington, located and doing business at 500 108th Avenue NE, Suite 1200, Bellevue, WA 98004-5549 ("Consultant").

In consideration of the terms, conditions, covenants, and performances contained herein, the parties hereto agree as follows:

1. SCOPE OF SERVICES. The Consultant shall provide the work and services described in the attached Exhibit A, incorporated herein by this reference (the "Services"). All services and materials necessary to accomplish the tasks outlined in the Scope of Services shall be provided by the Consultant unless noted otherwise in the Scope of Services or this Agreement. All such services shall be provided in accordance with the standards of the Consultant's profession.

2. TERM. The term of this Agreement shall commence upon notice to proceed and shall terminate at midnight on June 30, 2019. The parties may extend the term of this Agreement by executing a written supplemental amendment.

3. COMPENSATION. The Consultant shall be paid by the City for Services rendered under this Agreement as described in Exhibit A and as provided in this section. In no event shall the compensation paid to Consultant under this Agreement exceed One Million Six Hundred Sixty Five Thousand Five Hundred Forty Five Dollars and Nine Cents (**$1,665,545.09**) within the term of the Agreement, including extensions, without the written agreement of the Consultant and the City. Such payment shall be full compensation for the Services and for all labor, materials, supplies, equipment, incidentals, and any other expenses necessary for completion.

The Consultant shall submit a monthly invoice to the City for Services performed in the previous calendar month in a format acceptable to the City. The Consultant shall maintain time and expense records and provide them to the City upon request.

The City will pay timely submitted and approved invoices received before the 20th of each month within thirty (30) days of receipt.

4. CONSULTANT'S OBLIGATIONS.

4.1 MINOR CHANGES IN SCOPE. The Consultant agrees to accept minor changes, amendments, or revisions to the scope of the Services, as may be required by the City, when such

changes, amendments, or revisions will not have any impact on the cost of the Services or the proposed delivery schedule.

4.2 ADDITIONAL WORK. The City may desire to have the Consultant perform additional work or services which are not identified in the scope of the Services. If the parties agree to the performance of additional work or services, the parties will execute a written supplemental amendment detailing the additional work or services and compensation therefore. In no event will the Consultant be compensated for preparing proposals for additional work or services. In no event shall the Consultant begin work contemplated under a supplemental amendment until the supplemental amendment is fully executed by the parties.

4.3 WORK PRODUCT AND DOCUMENTS. The work product and all documents produced under this Agreement shall be furnished by the Consultant to the City, and upon completion of the Services shall become the property of the City, except that the Consultant may retain one copy of the work product and documents for its records. The Consultant will be responsible for the accuracy of the Services, the work product, and all documents produced under this Agreement, even though the Services have been accepted by the City.

In the event that the Consultant defaults on this Agreement or in the event that this Agreement is terminated prior to the completion of the Services or the time for completion, all work product and all documents and other materials produced under this Agreement, along with a summary of work as of the date of default or termination, shall become the property of the City. The summary of Services provided shall be prepared at no additional cost to the City. Upon request, the Consultant shall tender the work product, all documents, and the summary to the City within five (5) business days. Tender of said work product shall be a prerequisite to final payment under this Agreement.

The Consultant will not be held liable for reuse of work product or documents produced under this Agreement or modification of the work product or documents for any purpose other than those identified in this Agreement without the written authorization of the Consultant.

4.4 PUBLIC RECORDS ACT. Consultant acknowledges that the City is subject to the Public Records Act, chapter 42.56 RCW (the "PRA"). All records owned, used, or retained by the City are public records subject to disclosure unless exempt under the PRA, whether or not the records are in the possession or control of the City or Consultant. All exemptions to the PRA are narrowly construed.

a. **Confidential Information**. Any records provided to the City by the Consultant which contain information that the Consultant in good faith believes is not subject to disclosure under the PRA shall be marked "Confidential" and shall identify the specific information that the Consultant in good faith believes is not subject to disclosure under the PRA and a citation to the statutory basis for non-disclosure.

b. **Responding to Public Records Requests**. The City shall exercise its sole legal judgment in responding to public records requests.

(1) The City may rely upon the lack of notification from the Consultant in releasing any records that are not marked "Confidential."

(2) If records identified as "Confidential" by the Consultant are responsive to a PRA request, the City will seek to provide notice to Consultant at least ten (10) business days before the date on which the City anticipates releasing records. The City is under no obligation to assert any applicable exemption on behalf of the Consultant. The Consultant may seek, at its sole cost, an injunction preventing the release of information which it believes is protected. In no event will the City have any liability to Consultant for any failure of the City to provide notice prior to release.

(3) If the City, in its sole legal judgment, believes that the Consultant possesses records that (1) are responsive to a PRA request and (2) were used by the City, the City will request the records from the Consultant. The Consultant will, within ten (10) business days:

i. Provide the records to the City in the manner requested by the City;

ii. Obtain a court injunction, in a lawsuit involving the requester, covering all, or any confidential portion of, the records and provide any records not subject to the court injunction; or

iii. Provide an affidavit, in a form acceptable to the City Attorney, specifying that the Consultant has made a diligent search and did not locate any requested documents.

c. **Indemnification**. In addition to its other indemnification and defense obligations under this Agreement, the Consultant shall indemnify and defend the City from and against any and all losses, penalties, fines, claims, demands, expenses (including, but not limited to, attorneys fees and litigation expenses), suits, judgments, or damages (collectively "Damages") arising from or relating to any request for records related to this Agreement, to the extent such Damages are caused by action or inaction of the Consultant. This indemnification and defense obligation shall survive the expiration or termination of this Agreement.

4.5 MAINTENANCE/INSPECTION OF RECORDS. The Consultant shall maintain all books, records, documents, and other evidence pertaining to the costs and expenses allowable under this Agreement in accordance with generally accepted accounting practices. All such books and records required to be maintained by this Agreement shall be subject to inspection and audit by representatives of the City and/or the Washington State Auditor at all reasonable times, and the Consultant shall afford the proper facilities for such inspection and audit.

Representatives of the City and/or the Washington State Auditor may copy such books, accounts, and records where necessary to conduct or document an audit. The Consultant shall preserve and make available all such books of account and records for a period of three (3) years after final payment under this Agreement. In the event that any audit or inspection identifies any discrepancy in such financial records, the Consultant shall provide the City with appropriate clarification and/or financial adjustments within thirty (30) calendar days of notification of the discrepancy.

4.6 INDEMNITY.

a. Indemnification and Hold Harmless. The Consultant shall defend, indemnify, and hold the City, its officers, officials, employees, and volunteers harmless from any and all claims, injuries, damages, losses, or suits including attorney fees, arising out of or resulting from the acts, errors, or omissions of the Consultant in performance of this Agreement, except for injuries and damages caused by the sole negligence of the City.

b. Should a court of competent jurisdiction determine that this Agreement is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Consultant and the City, its officers, officials, employees, and volunteers, the Consultant's liability, including the duty and cost to defend, hereunder shall be only to the extent of the Consultant's negligence.

c. The provisions of this Section 4.6 shall survive the expiration or termination of this Agreement.

d. The Consultant hereby knowingly, intentionally, and voluntarily waives the immunity of the Industrial Insurance Act, Title 51 RCW, solely for the purposes of the indemnity contained in subpart "a" of this Section 4.6. This waiver has been mutually negotiated by the parties.

_____(initials) _____(initials)

4.7 INSURANCE.

a. **Insurance Term**. The Consultant shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the Services hereunder by the Consultant, its agents, representatives, or employees.

b. **No Limitation.** Consultant's maintenance of insurance as required by the Agreement shall not be construed to limit the liability of the Consultant to the coverage provided by such insurance, or otherwise limit the City's recourse to any remedy available at law or in equity.

c. **Minimum Scope of Insurance.** Consultant shall obtain insurance of the types and coverage described below:

(1) Automobile Liability insurance covering all owned, non-owned, hired, and leased vehicles. Coverage shall be written on Insurance Services Office (ISO) form CA 00 01 or a substitute form providing equivalent liability coverage.

(2) Commercial General Liability insurance shall be at least as broad as ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, stop-gap independent contractors and personal injury and advertising injury. The City shall be named as an additional insured under the Consultant's Commercial General Liability insurance policy with respect to the Services performed for the City using an additional insured endorsement at least as broad as ISO CG 20 26.

(3) Workers' Compensation coverage as required by the Industrial Insurance laws of the State of Washington.

(4) Professional Liability insurance appropriate to the Consultant's profession.

d. **Minimum Amounts of Insurance.** Consultant shall maintain the following insurance limits:

(1) Automobile Liability insurance with a minimum combined single limit for bodily injury and property damage of $1,000,000 per accident.

(2) Commercial General Liability insurance shall be written with limits no less than $1,000,000 each occurrence, $2,000,000 general aggregate.

(3) Professional Liability insurance shall be written with limits no less than $1,000,000 per claim and $1,000,000 policy aggregate limit.

e. **Other Insurance Provision.** The Consultant's Automobile Liability and Commercial General Liability insurance policies are to contain, or be endorsed to contain that they shall be primary insurance as respect the City. Any Insurance, self-insurance, or self-insured pool coverage maintained by the City shall be excess of the Consultant's insurance and shall not contribute with it.

f. **Acceptability of Insurers.** Insurance is to be placed with insurers with a current A.M. Best rating of not less than A:VII.

g. **Verification of Coverage.** The Consultant shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the additional insured endorsement, evidencing the insurance requirements of the Consultant before commencement of the Services.

h. **Notice of Cancellation.** The Consultant shall provide the City with written notice of any policy cancellation within two business days of the Consultant's receipt of such notice.

i. **Failure to Maintain Insurance.** Failure on the part of the Consultant to maintain the insurance as required shall constitute a material breach of contract, upon which the City may, after giving five (5) business days notice to the Consultant to correct the breach, immediately terminate the Agreement or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the City on demand, or at the sole discretion of the City, offset against funds due the Consultant from the City.

j. **Insurance to be Occurrence Basis.** Unless approved by the City all insurance policies shall be written on an "Occurrence" policy as opposed to a "Claims-made" policy. The City may require an extended reporting endorsement on any approved "Claims-made" policy. Professional liability insurance may be written on a "Claims-made" basis if it is maintained for a period of three (3) years following completion of the services.

k. **City Full Availability of Consultant Limits.** If the Consultant maintains higher insurance limits than the minimums shown above, the City shall be insured for the full available limits of Commercial General and Excess or Umbrella liability maintained by the Consultant, irrespective of whether such limits maintained by the Consultant are greater than those required by this Agreement or whether any certificate of insurance furnished to the City evidences limits of liability lower than those maintained by the Consultant.

4.8 LEGAL RELATIONS. The Consultant shall comply with all federal, state, and local laws, regulations, and ordinances applicable to the Services to be performed under this Agreement. The Consultant represents that it and all employees assigned to perform any of the Services under this Agreement are in full compliance with the statutes of the State of Washington governing the Services and that all personnel to be assigned to the Services are fully qualified and properly licensed to perform the work to which they will be assigned.

4.9 INDEPENDENT CONTRACTOR.

a. The Consultant and the City understand and expressly agree that the Consultant is an independent contractor in the performance of each and every part of this Agreement. The Consultant expressly represents, warrants, and agrees that the Consultant's status as an independent contractor in the performance of the Services required under this Agreement is consistent with and meets the six-part independent contractor test set forth in RCW 51.08.195 or as hereafter amended. The Consultant, as an independent contractor, assumes the entire responsibility for carrying out and accomplishing the Services required under this Agreement. The Consultant shall not make

a claim of City employment and shall not claim any related employment benefits, social security, and/or retirement benefits.

b. The Consultant shall be solely responsible for paying all taxes, deductions, and assessments, including but not limited to federal income tax, FICA, social security tax, assessments for unemployment and industrial injury, and other deductions from income which may be required by law or assessed against either party as a result of this Agreement. In the event the City is assessed a tax or assessment as a result of this Agreement, the Consultant shall pay the same before it becomes due.

c. The City may, during the term of this Agreement, engage other independent contractors to perform the same or similar work to the Services that the Consultant performs under this Agreement.

d. Prior to commencement of Services, the Consultant shall obtain a business license from the City.

4.10 EMPLOYMENT.

a. The term "employee" or "employees" as used herein shall mean any officers, agents, or employee of the Consultant.

b. Any and all employees of the Consultant, while performing any Services under this Agreement, shall be considered employees of the Consultant only and not of the City. The Consultant shall be solely liable for: (1) and any and all claims that may or might arise under the Workman's Compensation Act, Title 51 RCW, on behalf of any said employees while performing any Services under this Agreement, and (2) any and all claims made by any third party as a consequence of any negligent act or omission on the part of the Consultant or its employees while performing any Services under this Agreement.

c. The Consultant represents, unless otherwise indicated below, that all employees of the Consultant that will perform any Services under this Agreement have never been retired from a Washington State retirement system, including but not limited to Teacher (TRS), School District (SERS), Public Employee (PERS), Public Safety (PSERS), law enforcement and fire fighters (LEOFF), Washington State Patrol (WSPRS), Judicial Retirement System (JRS), or otherwise. *(Please use initials to indicate No or Yes below.)*

_____ No, employees performing the Services have never been retired from a Washington state retirement system.

_____ Yes, employees performing the Services have been retired from a Washington state retirement system.

In the event the Consultant checks "no", but an employee in fact was a retiree of a Washington State retirement system, and because of the misrepresentation the City is required to defend a claim by the Washington State retirement system, or to make contributions for or on account of the employee, or reimbursement to the Washington State retirement system for benefits paid, the Consultant hereby agrees to save, indemnify, defend and hold the City harmless from and against all expenses and costs, including reasonable attorney fees incurred in defending the claim of the Washington State retirement system and from all contributions paid or required to be paid, and for all reimbursement required to the Washington State retirement system. In the event the Consultant checks "yes" and affirms that an employee providing work has ever retired from a Washington State retirement system, every said employee shall be identified by the Consultant and such retirees shall provide the City with all information required by the City to report the employment with Consultant to the Department of Retirement Services of the State of Washington.

4.11 NONASSIGNABLE. Except as provided in Exhibit B, the Services to be provided by the Consultant shall not be assigned or subcontracted without the express written consent of the City.

4.12 SUBCONTRACTORS AND SUBCONSULTANTS.

a. The Consultant is responsible for all work or services performed by subcontractors or subconsultants pursuant to the terms of this Agreement.

b. The Consultant must verify that any subcontractors or subconsultants the Consultant directly hires meet the responsibility criteria for the Services. Verification that a subcontractor or subconsultant has proper license and bonding, if required by statute, must be included in the verification process. If the parties anticipate the use of subcontractors or subconsultants, the subcontractors or subconsultants are set forth in Exhibit B.

c. The Consultant may not substitute or add subcontractors or subconsultants without the written approval of the City.

d. All subcontractors or subconsultants shall have the same insurance coverage and limits as set forth in this Agreement and the Consultant shall provide verification of said insurance coverage.

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

4.14 CITY CONFIDENCES. The Consultant agrees to and will keep in strict confidence, and will not disclose, communicate, or advertise to third parties without specific prior written consent from the City in each instance, the confidences of the City or any information regarding the City or the Services provided to the City.

4.15 DISCRIMINATION PROHIBITED AND COMPLIANCE WITH EQUAL OPPORTUNITY LEGISLATION. The Consultant agrees to comply with equal opportunity employment and not to discriminate against any client, employee, or applicant for employment or for services because of race, creed, color, religion, national origin, marital status, sex, sexual orientation, age, or handicap except for a bona fide occupational qualification with regard, but not limited to, the following: employment upgrading; demotion or transfer; recruitment or any recruitment advertising; layoff or terminations; rates of pay or other forms of compensation; selection for training; or rendition of services. The Consultant further agrees to maintain (as appropriate) notices, posted in conspicuous places, setting forth its nondiscrimination obligations. The Consultant understands and agrees that if it violates this nondiscrimination provision, this Agreement may be terminated by the City, and further that the Consultant will be barred from performing any services for the City now or in the future, unless a showing is made satisfactory to the City that discriminatory practices have been terminated and that recurrence of such action is unlikely.

4.16 UNFAIR EMPLOYMENT PRACTICES. During the performance of this Agreement, the Consultant agrees to comply with RCW 49.60.180, prohibiting unfair employment practices.

5. CITY APPROVAL REQUIRED. Notwithstanding the Consultant's status as an independent contractor, the Services performed pursuant to this Agreement must meet the approval of the City, which shall not be unreasonably withheld if the Services have been completed in compliance with the Scope of Services and City requirements.

6. GENERAL TERMS.

6.1 NOTICES. Receipt of any notice shall be deemed effective three (3) calendar days after deposit of written notice in the U.S. mail with proper postage and address.

Notices to the City shall be sent to the following address:

CITY OF MARYSVILLE
Attn: Jeff Laycock, PE
80 Columbia Ave
Marysville, WA 98270

Notices to the Consultant shall be sent to the following address:

HDR ENGINEERING, INC.
Attn: Michael Pawlak, PE
123 Second Avenue South, Suite 200
Edmonds, WA 98020-8457

6.2 TERMINATION. The City may terminate this Agreement in whole or in part at any time by sending written notice to the Consultant. As per Section 6.1, the Consultant is deemed to have received the termination notice three (3) calendar days after deposit of the termination notice in the U.S. mail with proper postage and address. The termination notice is deemed effective seven (7) calendar days after it is deemed received by the Consultant.

If this Agreement is terminated by the City for its convenience, the City shall pay the Consultant for satisfactory Services performed through the date on which the termination is deemed effective in accordance with payment provisions of Section 3, unless otherwise specified in the termination notice. If the termination notice provides that the Consultant will not be compensated for Services performed after the termination notice is received, the City will have the discretion to reject payment for any Services performed after the date the termination notice is deemed received.

6.3 DISPUTES. The parties agree that, following reasonable attempts at negotiation and compromise, any unresolved dispute arising under this Agreement may be resolved by a mutually agreed-upon alternative dispute resolution of arbitration or mediation.

6.4 EXTENT OF AGREEMENT/MODIFICATION. This Agreement, together with exhibits, attachments, and addenda, represents the entire and integrated Agreement between the parties and supersedes all prior negotiations, representations, or agreements, either written or oral. This Agreement may be amended, modified, or added to only by a written supplemental amendment properly signed by both parties.

6.5 SEVERABILITY.

a. If a court of competent jurisdiction holds any part, term, or provision of this Agreement to be illegal or invalid, in whole or in part, the validity of the remaining parts, terms, or provisions shall not be affected, and the parties' rights and obligations shall be construed and enforced as if the Agreement did not contain the particular part, term, or provision held to be invalid.

b. If any part, term, or provision of this Agreement is in direct conflict with any statutory provision of the State of Washington, that part, term, or provision shall be deemed inoperative and null and void insofar as it may conflict, and shall be deemed modified to conform to such statutory provision.

6.6 NONWAIVER. A waiver by either party of a breach by the other party of any covenant or condition of this Agreement shall not impair the right of the party not in default to avail itself of any subsequent breach thereof. Leniency, delay, or failure of either party to insist upon strict performance of any agreement, covenant, or condition of this Agreement, or to exercise any right herein given in any one or more instances, shall not be construed as a waiver or relinquishment of any such agreement, covenant, condition, or right.

6.7 FAIR MEANING. The terms of this Agreement shall be given their fair meaning and shall not be construed in favor of or against either party hereto because of authorship. This Agreement shall be deemed to have been drafted by both of the parties.

6.8 GOVERNING LAW. This Agreement shall be governed by and construed in accordance with the laws of the State of Washington.

6.9 VENUE. The venue for any action to enforce or interpret this Agreement shall lie in the Superior Court of Washington for Snohomish County, Washington.

6.10 COUNTERPARTS. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same Agreement.

6.11 AUTHORITY TO BIND PARTIES AND ENTER INTO AGREEMENT. The undersigned represent that they have full authority to enter into this Agreement and to bind the parties for and on behalf of the legal entities set forth herein.

DATED this _____ day of April, 2017.

CITY OF MARYSVILLE

By: _____
Jon Nehring, Mayor

Attested/Authenticated:

_____
April O'Brien, Deputy City Clerk

Approved as to form:

_____
Jon Walker, City Attorney

HDR ENGINEERING, INC.

By: _____
Paul Ferrier
Its: Vice President

EXHIBIT A

State Avenue Corridor Widening Project

(100th Street NE to 116th Street NE)

Scope of Services for Design, Environmental Documentation & Permitting and Right-of-Way Services

April 2017

City of Marysville

Prepared by:

HDR
500 108th Avenue NE
Bellevue, WA 98004-5549

CONTENTS

INTRODUCTION

During the term of this PROFESSIONAL SERVICES AGREEMENT (AGREEMENT), HDR Engineering, Inc. (CONSULTANT) shall perform professional services for the City of Marysville (CITY) in connection with the following project: **State Avenue Corridor Improvement Project (100th Street NE to 116th Street NE) (PROJECT)**

Background and Project Description

The City of Marysville has maintained a long-term vision to improve the State Avenue Corridor to a 5-Lane Principal Arterial section. This final segment is the capstone to the corridor improvement program started in 1999 with the design of improvements to the initial segment.

State Avenue is the primary north-south spine of the City of Marysville's transportation network carrying traffic between the Downtown core and Smokey Point area. The corridor, running parallel to Interstate 5, provides local access to and from the freeway, and adjacent commercial and residential areas. The current section is defined as a rural 3-lane asphalt paved roadway with 6 to 8-foot wide shoulders. Storm drainage is generally handled by sheet flow and surface runoff, although there are sections with closed storm facilities that outfall to Quilceda Creek. The corridor crosses Quilceda Creek atop a 25-foot high earth embankment with vegetated steep banks. Adjacent properties currently utilize the public right-of-way outside the roadway limits for parking and lawn areas. Community Transit operates a transit line along the corridor with bus stops located with this segment at 100th Street and 106th Place (northbound), and at 113th Street and 106th Place (southbound). Traffic along the corridor is controlled by stop conditions on the side-street approaches and traffic signals at 100th Street NE and 116th Street NE.

The intent of this project is to reconstruct this segment of State Avenue to a 5-lane urban arterial section with curb & gutter, sidewalk, landscape planters, enclosed storm drainage facilities, and illumination. The existing box culvert will be replaced with a larger fish-passable structure and reconstructed roadway embankment with retaining walls. Additional traffic operations facilities will be evaluated to improve pedestrian and vehicle safety. To accomplish these improvements, Right-of-Way will be acquired and utility facilities will be relocated.

Scope of Work

This scope of work includes roadway design, survey, geotechnical testing and evaluation, subsurface utility exploration, PS&E development, traffic engineering and analysis, surface water low impact design, retaining wall and culvert design, utility coordination and design, permitting, right of way acquisition, environmental review and documentation, critical area delineation, stream and wetland mitigation, cultural resources review, public outreach, grant application assistance, bidding phase assistance and Council reports/updates. Construction management, engineering services during construction, construction inspection and

documentation management, and materials testing can be added to the contract by the City as a supplement to this contract prior to that phase of work.

Major Milestone Schedule

The following are major schedule milestones for the project:

Preliminary Design..... August 2017
30% Design..... October 2017
JARPA/SEPA Submittal..... October 2017
60% Design..... February 2018
90% Design..... August 2018
ROW Acquisition Complete..... August 2018
Ad-Ready..... December 2018
Bidding Phase..... February 2019

Project Assumptions

General Assumptions

1. The CONSULTANT Principal-in-Charge for this work will be **Paul A. Ferrier, PE.** The CONSULTANT Project Manager for this work will be **Michael A. Pawlak, PE.** The CITY's Project Manager for this project will be **Jeff Laycock, PE.**
2. The CITY will provide to the CONSULTANT pertinent information in the CITY's possession relating to the Project. The CONSULTANT will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by the CITY.
3. The CITY shall provide or make available the following items to the CONSULTANT:
    a. CITY of Marysville Design Standards & Guidelines
    b. Existing GIS and survey mapping information of the project including but not limited to general utility location maps.
    c. Copies of existing record drawing information of the project area.
    d. Updated utility contact information.
    e. One set of consolidated review comments for each Major Milestone Submittal (30%, 60%, and 90%).

Design Standards and References

The project shall be developed in accordance with the latest edition, amendments and revisions (as of execution of this AGREEMENT) of the following publications, where applicable:

1) City of Marysville Publications:
   a) City of Marysville Engineering Design and Development Standards, Rev May 2007.
2) State Publications
   a) 2016 Standard Specifications for Road, Bridge, and Municipal Construction (M 41-10)
   b) Standard Plans for Road, Bridge, and Municipal Construction (M 21-01)
   c) WSDOT Design Manual (M 22-01.13)
   d) WSDOT Hydraulic Manual (M 23-03)
   e) Amendments to the General Special Provisions
   f) WSDOT Standard Item Table
   g) WSDOT Highway Runoff Manual (M 31-16)
   h) WSDOT Environmental Manual (M 31-11)
   i) WSDOT Traffic Manual (M 51-02.08)
   j) WSDOT Local Agency Guidelines (M 36-63.32)
   k) WDFW Water Crossing Design Guidelines (2013)
3) WA Department of Ecology (DOE)
   a) Stormwater Management Manual for Western Washington (2012)
4) American Association of State Highway and Transportation Officials (AASHTO)
   a) A Policy on Geometric Design of Highways and Streets ("Green Book"); 2011, 6th Edition
   b) Any AASHTO policies where said policy is not in conflict with the standards of the City of Marysville.
5) U.S. Department of Transportation Publications:
   a) Manual on Uniform Traffic Control Devices for Streets and Highways (2009 Edition with Revision Numbers 1 and 2, dated May 2012)
6) Other Publications
   a) National Electric Code
   b) Book of American Society for Testing and Materials Standards
   c) ITE Trip Generation (9th Edition)
   d) Highway Capacity Manual (6th Edition), Transportation Research Board
   e) Franchise Utility Standards for Snohomish County PUD No. 1, PSE, Comcast, Frontier

Project Tasks

The CONSULTANT shall manage the work as described within the following major Work Elements:

TASK 1. PROJECT MANAGEMENT & ADMINISTRATION

This task will be continuous throughout the project duration, which is assumed to be 24 months. It will include the work to set up and plan the project; establish project-specific procedures, including communication, safety and quality control (QC) plans; project coordination with the CONSULTANT staff and SUBCONSULTANTS; management of project scope, schedule and budget; invoicing and project status reporting; and project closeout. Components of this work including planning the Project, executing the Project, managing change, and closing the Project, include:

1.1. Project FTP Site, Project Set up, Management Plan, HASP

The CONSULTANT shall create and maintain a project ftp site that can be accessed by the CITY and CITY authorized stakeholders.

The CONSULTANT shall prepare a Project Management Plan (Project Guide) outlining the project scope, team organization, budget, schedule and communications plan. The Project Management Plan will also include the Project Quality Assurance / Quality Control Plan and Project Health and Safety Plan.

1.2. Project Team Coordination Meetings

The CONSULTANT shall hold bi-weekly Project Team Coordination Meetings with key CONSULTANT team members to discuss the PROJECT status, elements of the work plan, status of action items, and to discuss progress of the design and resolve any outstanding PROJECT issues that might affect the delivery of the PROJECT. SUBCONSULTANT project managers shall also attend these meetings as requested.

Assumptions:

- 52 bi-weekly project team coordination meetings
- The CONSULTANT shall be responsible for agendas for the PROJECT team meetings.

Deliverable(s):

- There are no formal deliverables for this task.

1.3. Project Schedule

A Project schedule shall be developed by the CONSULTANT to establish Baseline Start and Baseline Finish dates for tasks and deliverables under this AGREEMENT, and shall be submitted to the CITY for review and approval, prior to commencement of any work under this AGREEMENT. The project schedule shall be developed using Microsoft Project software, and shall show a critical path leading to the project major milestone dates. The schedule for this project shall be updated bi-monthly and submitted to the CITY. The updated schedule will show Baseline, Actual and/or Projected Start and Finish dates that reflect the actual progress of the project.

Assumptions:

- 12 Bi-monthly schedule updates (once per month)

Deliverable(s):

- Draft and final baseline schedule
- Bi-monthly project schedule updates (to be included in progress reports)

1.4. Progress Reporting and Invoicing

The CONSULTANT shall prepare and submit a **Progress Report** with each invoice. The Progress Report shall summarize:

- Work accomplished during the billing period.
- Work to be accomplished in the next billing period.
- Billing amounts assigned to water main and stormwater retrofit design for CITY accounting and potential grant reimbursements.
- Meetings attended.
- Problems/issues encountered and actions taken for their resolution.
- Potential impacts to project schedule, budget, or scope.
- Issues requiring CITY's action, attention and resolution.

Monthly Invoices for work completed will be submitted to the CITY. Backup information such as time and expense records for the CONSULTANT and SUBCONSULTANTS shall also be submitted with each invoice. The CITY will review the work accomplished by the CONSULTANT and the percent complete assessments for each task item in the Earned Value Worksheet.

The CONSULTANT shall submit an **Earned Value Report** within the progress report to track and update progress in the project schedule, budget, actual and planned expenditures.

Project Change: The CONSULTANT shall obtain written authorization from the CITY before implementing any change to this AGREEMENT scope of work, schedule or budget.

Deliverable(s):

- Monthly Progress Reports
- Monthly Invoices
- Monthly Earned Value Reports

1.5. Subconsultant Coordination

The CONSULTANT shall not subcontract for the performance of any work under this AGREEMENT without prior written permission of the CITY.

The CONSULTANT shall coordinate with SUBCONSULTANTs regarding contracting procedures, shall prepare and execute contracts with individual SUBCONSULTANTs, and shall address contract-related issues with the SUBCONSULTANTs as they arise during the project.

The work of the SUBCONSULTANT shall not exceed its maximum amount payable unless the CITY has issued prior written approval. Either a percent of the SUBCONSULTANT agreement or direct labor should be noted for administrative costs in the fee estimate and invoices. Subcontracts shall contain applicable provisions of this AGREEMENT.

1.6. Project Kick-off Meeting

The CONSULTANT will prepare for and conduct a Project Kick-off Meeting to provide the necessary basis for a successful project that satisfies the needs of the CITY, HDR, and community-at-large. The Project Kick-off Meeting agenda will include discussion of overall project needs, community goals, areas of responsibility, project scope, budget, and commitments to decision-making and schedule.

CITY Responsibilities:

- Attend and participate in the Project Kick-off Meeting.

Assumption(s):

- The Project Kick-off Meeting will be held at the CONSULTANT's Bellevue Office.
- The Project Kick-off Meeting will be attended by the CONSULTANT Project Manager, Design Manager, and up to nine (9) Discipline Leads; CITY Engineer, Project Manager, Permitting Lead; and other staff may participate via conference call.

Deliverable(s):

- Project Kick-off Meeting agenda and summary notes, delivered electronically (PDF) to all participants within 5 working days of the meeting.

1.7. Project Team Management

The CONSULTANT shall provide an experienced project manager to oversee, schedule and manage the work of the Project Team.

1.8. Project Close-out

The CONSULTANT shall assemble project documentation and records, and prepare electronic files to be retained by the CONSULTANT and transmitted to the CITY in accordance with this AGREEMENT.

TASK 2. CLIENT COMMUNICATIONS AND COORDINATION

The CONSULTANT develop and implement a Client Communications Plan in order to maintain open and continuous communications about project status, issues, risks and change management. The Plan will be reviewed and approved by the CITY. The Communications Plan and CONSULTANT's ongoing efforts will include:

Bi-weekly project status updates known as 5/15 Reports, delivered via email to the CITY Project Manager;

Project updated regarding status, progress, issues, risks and schedule at Monthly Client Coordination Meetings.

CITY Responsibilities:

- Timely review of bi-weekly 5/15 Reports and response with any questions or concerns within 2 working days of receipt of report.
- Arrange for meeting facilities at the CITY Public Works Department Offices for Monthly Client Coordination Meetings.
- Attend and participate in the Monthly Client Coordination Meetings.

Assumption(s):

- There will be a total of 24 (monthly) Client Coordination Meetings, held at the CITY Public Works Department Offices.
- CONSULTANT participation will include the Project Manager, and/or Design Manager. Additional CONSULTANT staff may participate via conference call, if required.

Deliverable(s):

- Meeting agendas and summary notes.

TASK 3. QUALITY ASSURANCE / QUALITY CONTROL

The CONSULTANT's Quality Assurance Checklist will be completed and submitted by the CONSULTANT with each Plan submittal. Final work submitted to the CITY shall be stamped and signed by a professional engineer in the State of Washington. Preliminary, 30%, 60%, and 90% Plans, Specs, and Estimate shall not be stamped and will be marked "Not for Construction".

The CONSULTANT will upload submittals to the project FTP site. The CITY will contact PROJECT stakeholders to download and review submittals. Stakeholders may include but are not limited to CITY Departments as appropriate (e.g. Police, Fire Public Works Operations), Snohomish County Public Utility District, PSE, Frontier, Comcast, USPS, Community Transit, Tulalip Tribe, USACE, WDFW and ECOLOGY. The CITY will summarize the PROJECT stakeholder review comments of each plan submittal and transmit the comments to the CONSULTANT in a Review Ledger. The CONSULTANT will respond to the CITY's comments in the Review Ledger by indicating the actions taken on each comment, verifying that CITY comments have been addressed (or provide written response as to why the changes have not been made).

Each plan submittal will include a comment review discussion between the CITY and the CONSULTANT. This meeting will be a collaboration session to chart the path forward to the next submittal and address any concerns that were observed during submittal review.

Deliverable(s):

- Agendas for Comment Review Meetings.
- Review Ledger with comment responses, for each submittal.

TASK 4. DATA COLLECTION / REVIEW OF EXISTING INFORMATION

The purpose of this task is to collect and review all available documents related to the project and identify areas where further research and mapping are needed, and summarize what additional information is needed for project development.

CONSULTANT will collect and review available documents from the CITY including:

- Previously modified and constructed designs.
- Plans and specifications for previous CITY projects for the segments of State Avenue adjacent to the PROJECT.
- Existing topographical and right-of-way survey information.
- Basin studies or flow data for the project area including Quilceda Creek
- All completed and in-progress CITY utilities and street maps, plans and studies regarding the project area (including Geographic Information Systems (GIS)).
- Existing right-of-way and easement information available at the CITY.
- Agreements, franchises, licenses and other pertinent information concerning utilities providers, businesses and properties along the corridor.
- Any Critical Areas, Wetlands, and/or Stream reports related to Quilceda Creek within a mile of the project area.
- Agreements, licenses, easements and directives from regulatory and resource agencies applicable to the project.

Assumptions:

- The CITY will provide all available information in timely fashion.
- The CITY will assist CONSULTANT in obtaining information from regulatory and resource agencies, utility providers, Tulalip Tribe, Community Transit and other CITY departments.
- All necessary information regarding location and depth of bury for underground CITY utilities is available, accurate and readily attainable from CITY records.
- Underground and overhead utilities will be marked by 811 Locate Services.
- Utilities locations obtained from CITY records and 811 locates will be used and relied upon for the design.
- CITY will provide any current design plans and details if available for the corridor and adjacent projects in preferably AutoCAD, Civil 3D format for use and coordination with this project.

- If additional utility locate information in needed through methods such as potholing, the CITY will perform that work on City utilities and provide the information to the CONSULTANT.

TASK 5. SURVEY AND MAPPING

This task involves field surveying to densify horizontal and vertical control within the project limits, collecting existing topographic features and producing a project basemap and Digital Terrain Model (DTM) to be used in design, and conducting additional survey work to supplement the basemap and DTM as the design progresses. See Exhibit A for mapping limits.

5.1. Research and Existing Data Compilation

CONSULTANT will collect existing data pertinent to the project that is available from the CITY, the County, other agencies, franchise utilities, and other sources. The data shall include ROW information, topographic surveys, existing utility locations, and previous reports and documents pertaining to the project.

5.2. Survey and Construction Geodetic and Cadastral Control

CONSULTANT will recover existing survey control monumentation. A field survey traverse will be performed to densify the existing horizontal and vertical control points and to establish additional survey control along the corridor and within the project limits. The survey control traverse will be reviewed for accuracy by the Survey Quality Control Lead and adjusted by the least squares method, constrained to original, pre-design phase survey control. Horizontal Datum will be NAD 83/91, Washington State Plane Coordinates, North Zone, US Survey Feet. Vertical Datum will be NAVD 88, Feet. Consultant will set up to eight (8) permanent control points suitable for use during construction.

- Geodetic Control: This task involves the establishment of survey control at the project site for use in all phases of the project. Typically, survey control will be established using GPS together with terrestrial Total Station observations.
- Cadastral Control: This task involves records research and the recovery and observation of cadastral monumentation for use in the resolution of the ROW, boundaries, and any required easements.

5.3. Field Surveying and Base Mapping

A Washington State licensed professional land surveyor will prepare an existing conditions survey. Base mapping shall include topographic features and elevations within the project limits to a level of detail necessary for a proper engineering design and will field locate the following within the project limits:

- Topographic features between the edge of pavement and existing buildings along the corridor, including any building faces, fences, signs, parking features, surface utilities, surface evidence of subsurface utilities, and trees 4-inch diameter and greater. Survey limits are full right-of-way or to fences / walls, whichever is closer, on State Ave., 100 feet on major cross streets, (116th, 104th, and 100th), and 50 feet on other cross-streets.
- Delineation and survey of the Ordinary High Water Mark (OHWM), wetlands, and other critical areas flagged by the CONSULTANT.

- Topographic survey of Quilceda Creek including the culvert under State Avenue; surveyed surface 300 feet upstream and downstream of the culvert; the thalweg, edge of water line, bottom of bank, and top of bank of the creek and extents of floodplain.
- Locations of proposed geotechnical borings
- Utility paint markings
- Existing overhead utility lines

CONSULTANT will be responsible to call for utility locates. Locates will be obtained prior to the commencement of field survey for sub-surface utilities. These will be done initially by One-Call and then by private firm, if One-Call is deemed insufficient, as directed by The City.

CONSULTANT will perform measure downs to collect invert elevations and pipe sizes of sanitary and storm sewer systems and obtain top of operating nut elevations on all water valves, and compile this data into the project basemap.

CONSULTANT will prepare a 1"=20' comprehensive basemap adequate to support the design and cost analysis work performed in the design. The completed base map will be reviewed for accuracy by the Survey Quality Control Lead and any comments made during this review will be rectified and verified prior to release of the basemap. Existing features to be compiled and shown include:

- Roadway, pavement markings, sidewalk, curb & gutter, guardrails, railroad crossings, signals, structures, buildings, culverts, houses, poles, signs, overhead and surface utilities, , ditches, streams, culverts and trees.
- Right–of–way lines, parcel lines, roadway centerlines, survey control points, and survey benchmarks.
- Wetland and buffers, and bank full width delineations.

5.4. Right-of-Way and Parcel Resolution, Easements, Exhibits, and Legal Descriptions

CONSULTANT will resolve existing ROW and adjacent parcel boundaries within the project area.

It is estimated that 48 Title Reports will be needed to determine the CITY's ROW boundaries as well as determine potential right of way acquisition areas, easements and permits. This task also includes the development and delivery of up to 38 Exhibits and Legal Descriptions in support of project ROW acquisition or new easement requirements.

5.5. Office Processing and Deliverable

This task includes the office processing of the surveyed data sets and the extraction of the data required for deliverable.

This task also includes the processing of the data collected for use in determining the right-of-way and the creation of the topographic mapping deliverable.

5.6. Supplemental Surveys

It is assumed that during the design phase, some level of supplemental survey may be necessary, and for purposes such as private property match/conforms, utility features, structure elevations, or features requiring more definition for design purposes. For budgeting purposes this task item has been estimated not to exceed 24-field crew hours. Any costs for performing additional survey beyond 24-field crew hours, may be adjusted accordingly and approved by the CITY via a written amendment before commencement of field activities.

CONSULTANT will process the supplemental field survey data and update the existing basemap to include the supplemental data.

Assumptions:

- The CITY will obtain title reports for the 48 parcels that will be required.
- Up to 38 parcels will require Exhibits and Legal Descriptions – up to two versions each.
- Right-of-Entry (ROE) to 48 adjacent properties will be required and obtained by the CITY.
- The CONSULTANT will develop any required Traffic Control Plans.
- Survey control used on previous phases that the mapping matches into will be provided by CITY.
- Underground utilities will be painted or located by One-Call, as possible.
- Tree Tags are not a part of the scope of services.
- Does not include access or entry onto any Railroad properties.

Deliverable(s):

- Topographic Survey and ROW Base Map (electronic copy), 1"=20' basemap, 2-foot contour intervals.
- Supplemental survey and corresponding Base Map updates.
- AutoCAD Surfaces (DTM Files) (electronic copy).
- Copy of field survey books (hard copy).
- ASCII file of control points
- Construction control plans
- Draft and Final ROW Legal Descriptions and Exhibits in hard copy and electronic format.
- Draft and Final Right-of-Way Plans

TASK 6. GEOTECHNICAL ENGINEERING

CONSULTANT will provide geotechnical engineering services needed to support development of contract documents for the construction of retaining walls, utilities, stormwater ponds, signal pole foundations, and other road improvements associated with the project. CONSULTANT services include:

6.1. Data Collection and Type, Size, & Location (TS&L) Study:

Collect and Review Available Geotechnical Data: CONSULTANT will review readily available and relevant information along the project corridor. This review will include online geotechnical databases, geologic maps, existing known information previously gathered by the CONSULTANT for surrounding projects, and information provided by the CITY.

Prepare Geotechnical Type, Size, and Location (TS&L) Documents: CONSULTANT will prepare geotechnical documents for inclusion in a discipline combined TS&L report for the roadway crossing at Quilceda Creek. A culvert and a bridge alternative at the creek crossing will be evaluated in the TS&L report. Geotechnical documents include text for:

- General site geology based on geologic maps and historical documents.
- Conceptual foundation types for the culvert and bridge alternatives.
- Conceptual geotechnical design risks for each alternative.

A stand-alone geotechnical report will not be produced. Geotechnical engineering analyses will not be performed during this stage of the project.

6.2. Subsurface Explorations and Laboratory Testing:

After selection of the preferred Quilceda Creek crossing alternative by the CITY, the CONSULTANT will perform subsurface explorations, laboratory testing, and geotechnical engineering analyses for the project. Our scope of services assumes the culvert alternative will be selected, and that structural earth walls (SEWs) will be constructed on the east and west sides of the roadway fill at the creek crossing. For planning purposes, we have assumed the SEWs will be about 300 feet long and up to 25 feet tall, diminishing in height at either end to where the walls meet existing grade. One stormwater pond is planned on the CITY property located northwest of the creek crossing.

Subsurface Exploration Program: CONSULTANT will plan and coordinate the subsurface exploration program for the project. The subsurface exploration program will consist of conducting geotechnical borings and hand augers at specific structure locations along the corridor alignment. The explorations will characterize the subgrade soil for culvert design, SEWs, temporary shoring, luminaire and signal pole foundations, and

stormwater facilities. Planning will include the identification of the exploration locations, development of traffic control plans, and coordination with the CITY and subcontractors for the work.

Conduct Utility Locates: Prior to conducting the subsurface exploration program, the CONSULTANT will mark the proposed exploration locations in the field and arrange for utility locates using the Utilities Underground Location Center (UULC). CONSULTANT will subcontract with a private utility locator to locate underground utilities at the hand auger locations in the ravine and at the boring location on CITY property northwest of the creek crossing. The CITY is responsible for locating utilities not marked by the UULC or private utility locator.

Conduct Subsurface Explorations: CONSULTANT will conduct 9 borings and 2 hand augers along the project corridor to assess the subsurface soil and groundwater conditions at specific structure locations. The borings will be drilled using hollow-stem or mud rotary drilling methods from a truck mounted or low overhead access drill rig. Preliminary subsurface locations and depths include:

- Two borings between 50 and 65 feet deep along the southbound lane (west side of the road at the ravine) in support of the temporary shoring, culvert, and 300-foot-long SEW wall. The borings will be spaced approximately 150 feet apart.
- Three borings between 50 and 65 feet deep along the northbound lane (east side of the road at the ravine and at the grade separated property adjacent north) in support of the temporary shoring, culvert, and an estimated 300-foot-long SEW wall, parallel to the roadway centerline along the culvert area and Jet City Equipment property. The borings will be spaced approximately 150 feet apart and staggered with the southbound lane borings.
- One boring 20 feet deep near the intersection of 104th Street NE in support of the luminaries and future signal lights.
- Two borings 20 feet deep near the intersections of 106th Place NE and 113 Place NE in support of the rain garden/bioswale stormwater facilities and luminaries.
- One boring 20 feet deep on the CITY owned parcel located northwest of the creek crossing. The exploration will be in support of the stormwater pond planned at this location.
- Two hand augers approximately 10 feet deep in the ravine in support of the culvert and SEW design.

In-situ testing using a Standard Penetration Test (SPT) will occur in the borings at 2.5 foot intervals to 20 feet and at 5 foot intervals thereafter. SPT samples will be collected and returned to the CONSULTANT geotechnical laboratory for testing. The CONSULTANT will install 2-inch diameter groundwater wells in four of the borings to measure groundwater levels at the site. Three wells will be installed at the proposed stormwater facility locations, and one well in a boring at the ravine. Groundwater level measurements will be used to evaluate groundwater levels for infiltration and to assess the need for dewatering during construction excavation.

Groundwater instrumentation (transducers) will be installed in each well to measure the groundwater fluctuations over time. We will visit the site one time to collect the recorded groundwater data.

The hand augers will extend approximately 10 feet below ground surface, or to the practical extent of the equipment being used. Samples will be collected using a non-standard split spoon sampler at 2.5 to 5 feet intervals and returned to the CONSULTANT geotechnical laboratory for testing. The hand augers will be used to characterize the material and depth of soft sediment deposited along the creek banks, and to evaluate the need for over-excavation at the culvert and SEWs to mitigate settlement.

CONSULTANT will observe the geotechnical explorations and prepare summary logs. We estimate that it will take about 6 days to complete the borings and 1 day to complete the hand augers.

CONSULTANT will perform geotechnical laboratory testing on select soil samples in accordance with ASTM International standards. Anticipated geotechnical laboratory testing include visual classification, moisture content determination, grain size analyses, Atterberg Limits, and consolidation.

6.3. Geotechnical Design Services:

CONSULTANT will develop geotechnical recommendations for the design and construction of the roadway improvements and structure alternative. Anticipated geotechnical design services include the following:

Geologic Profiles: CONSULTANT will develop one longitudinal geologic profile along the project alignment from 100th Street NE to 104th Street NE and one geologic profile perpendicular to the alignment at the creek crossing. The geologic profiles will be included in the geotechnical engineering report.

Soil Properties: CONSULTANT will generate estimates of the soil strength and other properties needed to evaluate the effects that the subsurface conditions will have on the proposed improvements.

Seismic Design Parameters and Geologic-Hazard Assessment: CONSULTANT will determine the Site Class for seismic design and the design spectral acceleration parameters in accordance with the AASHTO Specifications for Road and Bridge. CONSULTANT will also evaluate the risk of geologic hazards at the site during the design-level ground motion, including liquefaction, lateral spreading, and fault rupture.

Culvert Design Recommendations: CONSULTANT will provide geotechnical recommendations for designing a replacement culvert. Bearing capacity recommendations will be provided for a cast-in-place box culvert on spread footings. Lateral earth pressure/resistance recommendations will be provided for the box culvert walls.

SEW Design Recommendations: CONSULTANT will provide geotechnical recommendations for designing the SEWs. Recommendations will include soil parameters for design, bearing capacity, lateral earth

pressures/resistances, sliding resistance, drainage, and minimum reinforcement lengths based on global stability. The global stability analysis will consider static, seismic, and post-seismic load cases. Depending on the relative density of the soil encountered below the SEWs, ground improvement may be required to provide adequate seismic and post-seismic global stability of the SEWs. The CONSULTANT will also estimate the anticipated settlement of the proposed roadway embankment fill at the creek crossing.

Culvert and SEW Construction Recommendations: CONSULTANT will provide geotechnical recommendations for temporary cut slopes and lateral earth pressures/resistances for temporary shoring walls. A soldier pile and lagging wall with a deadman anchor is currently planned to support the culvert removal and replacement and the construction of the SEWs.

Signal Pole and Luminaire Design Recommendations: CONSULTANT will evaluate the lateral bearing pressures of the soil at the boring locations and provide geotechnical recommendations for signal pole and luminaire foundations based on WSDOT standard plans and procedures.

Stormwater Infiltration Recommendations: Consultant will provide hydrogeologic recommendations for short- and long-term infiltration rates at up to 3 locations along the project corridor. The infiltration rates will be based on correlations with soil gradation.

Quality Assurance / Quality Control (QA/QC): CONSULTANT will have the design calculations, recommendations, and reports reviewed in accordance with its QA/QC plan.

Draft Geotechnical Engineering Report: CONSULTANT will prepare a draft geotechnical engineering report for the project. This report will contain the results of the subsurface exploration program, including logs, laboratory test results, and a description of the subsurface conditions; a site plan showing exploration locations and other pertinent features; and geotechnical engineering recommendations for the design and construction of the proposed roadway improvements.

Final Geotechnical Engineering Report: CONSULTANT will finalize the geotechnical engineering report based on review comments from other design team members and the CITY. A comment resolution form will not be produced. However, a statement through email or other correspondence will occur if a comment is not incorporated.

Plan and Specification Review: CONSULTANT will conduct a review of the project plans at the 60% and 100% milestone submittals to ensure that the geotechnical aspects of the project have been incorporated into the project documents. Special provisions for ground improvement below the SEWs may be required.

A letter will be produced after review of the 100% documents for conformance with the geotechnical design and construction recommendations for the project.

Assumption(s):

- The cut and cover culvert replacement option will be selected as the preferred design alternative for the Quilceda Creek crossing. The culvert replacement alternates will include a precast box or cast-in-place box on spread footings. If a bridge or other alternative is selected, this scope and fee will need to be amended.
- Roadway expansion north of the Jet City Equipment access road will be completed using cut and fill slope embankments, wherever possible. Permanent retaining walls, parallel to the roadway centerline, are assumed along the Quilceda Creek crossing and a short section of the Jet City Equipment frontage. Retaining walls or reinforced slopes are not assumed to be included at any other locations along the project limits.
- The subsurface explorations will be performed within the CITY right-of-way or on CITY property. The CONSULTANT will be responsible for preparing traffic control plans. All required street use and right-of-way permits will be secured and provided by the CITY at no cost to the CONSULTANT.
- Access and right-of-entry to the subsurface exploration locations by the exploration equipment and personnel, and for groundwater well data collection by the CONSULTANT, will be provided by the CITY. This access includes the construction and removal of all temporary roads required for the subsurface exploration work.
- Vegetation clearing may be required to access the hand auger exploration locations. Vegetation clearing needed beyond the use of a hand machete will be completed by the CITY.
- After completion, the borings that do not have wells will be backfilled with bentonite and a cold patch asphalt or quick drying concrete surface patch. The hand augers excavation will be backfilled with their excavation spoils. .
- The exploration locations will be restored to pre-exploration conditions by the CITY.
- The CONSULTANT will contract with a subcontractor to develop traffic control plans and provide traffic control equipment and personnel. Single lane closures are anticipated.
- The CONSULTANT will contract with a subcontractor to perform the borings. The borings and hand augers will be conducted during workday hours with no work hour restrictions.
- The subcontractor's equipment can be stored on the City parcel located northwest of the creek crossing, or at another nearby site, each night.
- Saw cutting of the pavement at the exploration locations will not be required.
- The spoils from the subsurface explorations will not be characterized as hazardous waste.
- Spoils from the borings will be drummed on site and transported off site for disposal by the drilling subcontractor.
- The subsurface explorations will not be used to assess site environmental conditions. However, visual and/or olfactory observations regarding potential contamination will be noted. Analysis, testing, storage, and handling of potentially contaminated soil and groundwater (either sampled or spoils

from drilling) are beyond this scope of services. If contaminated soils and/or ground water are encountered, the material will be properly contained on-site for disposal as mutually agreed upon without additional cost to the CONSULTANT.

- The subsurface exploration locations will be surveyed by the CONSULTANT as part of Task 5 in this AGREEMENT.
- The four wells installed as part of our services will be abandoned by the contractor during construction.
- Design for the geotechnical engineering analyses will be based on 2015 WSDOT Geotechnical Design Manual and 2014 AASHTO LRFD design criteria. Design of the stormwater water infiltration rates will be based on the Department of Ecology 2012 Stormwater Management Manual for Western Washington.
- Pilot infiltration tests (PITs) and groundwater mounding analyses are not included in this AGREEMENT.
- The site soils will support standard WSDOT plan signal pole and luminaire foundation design. Non-standard signal pole or luminaire foundation design will not be required.
- The SEWs will be designed by the contractor. Internal stability and facing analyses will not be performed as part of this AGREEMENT.
- Pavement design analyses and recommendations will be performed as part of Task 13 of this AGREEMENT and are not included under geotechnical services.
- The new water utility line will be installed above the water table and at a location in which a temporary trench box shoring system can be utilized without causing damage to nearby utilities and structures. All temporary shoring system for the utility line will be designed by the contractor.
- Temporary groundwater control during construction, where required, will be designed by the contractor and will not be performed as part of this AGREEMENT.
- A single set of consolidated comments on the Draft Geotechnical Engineering Report will be provided.

Deliverable(s):

- Geotechnical TS&L Documents (Electronic copy as Microsoft Word)
- Draft Geotechnical Engineering Report (Electronic copy as Adobe PDF)
- Final Geotechnical Engineering Report (Electronic copy as Adobe PDF and 3 paper copies)
- Plans and Specification markups (Comments and edits to Adobe PDF or Microsoft Word document)
- Review Conformance Letter at 100% Project Milestone (Electronic copy as Adobe PDF)

TASK 7. WATERMAIN & SANITARY SEWER DESIGN

The objective of this task is to prepare the design for the replacement of the existing ACP watermain with a new ductile iron water main the length of the project, and replace the adverse-grade sanitary sewer main at the south end of the project corridor, near the Quilceda Creek crossing. The design efforts will include temporary bypass watermain and sanitary sewer pipes to facilitate the construction of the Quilceda Creek crossing embankment.

7.1. 30% Submittal

CONSULTANT shall prepare 30% design drawings complying with the Plans Preparation Manual and industry standard level of detail at this stage of project development. The delivery package of the 30% submittal shall include the Plans and Opinion of Cost Estimate for the watermain replacement.

Assumption(s):

- The level of effort and fee estimate for this task is based on the number of sheets for the watermain and sanitary sewer pipe replacements, as shown in the sheet list provided in Task 10. The sheet list was prepared based on CONSULTANT's current knowledge of the project scope and anticipated work elements.
- Replacement of the adverse-grade sanitary sewer pipe will extend to a maximum of two (20 Manholes north of the Quilceda Creek crossing. Should that distance not contain all of the adverse-grade pipe, the design will maximize the flow potential within the replacement section by oversizing the pipe and detailing it to be laid at as flat a slope as practical.
- CONSULTANT shall consult with the CITY prior to developing any sheets if the actual number of required sheets varies from the original sheet count estimate. If the CITY and CONSULTANT concur that total number of sheets required to detail the project exceeds the original estimate, the budget for this task may be amended.

Deliverable(s):

- 30% Watermain and Sanitary Sewer Pipe Replacement Plans (incorporated into the overall 30% plans submittal)

7.2. 60% Submittal

The CONSULTANT will further develop the 30% plans to a 60% plan level including the sheets listed in the table, shown in Task 13.

Deliverable(s):

- 60% Watermain and Sanitary Sewer Pipe Replacement Plans (incorporated into the overall 60% plans submittal)

7.3. 90% Submittal

The CONSULTANT will use the 60% design plans and progress to the 90% design and plan level. The CONSULTANT will take into consideration the 60% design review comments from the CITY while advancing to the 90% level.

7.3.1. 90% Plans

The CONSULTANT will further develop the 60% plans to a 90% plan level including the sheets listed in the table, shown in Task 13.

7.3.2. 90% Specifications

The CONSULTANT will update the specifications with any new or additional special provisions from the advancement of design and incorporation of CITY comments. The CONSULTANT shall run the "run-list" prior to submittal.

7.3.3. 90% Engineer's Opinion of Cost

CONSULTANT's Engineer's Estimate shall develop an opinion of cost for the watermain replacement and document the estimate with backup quantity calculations. Backup calculations (including quantity takeoff sheets), showing assumptions made in determining quantities for each bid item, shall be made available upon request. Backup calculations shall specifically include items measured by the appropriate unit. The Engineer's Estimate will include an itemized list in tabular form, describing; section, item, and number of units (quantity), estimated unit costs, and total cost, with the understanding that any cost opinion or Engineer's Estimate provided by the CONSULTANT will be on the basis of experience and judgment. The estimate shall be prepared using standard unit costs and lump sum prices. Ott- Sakai subconsultants will provide recommendations for unit costs and estimate items. The 90% opinion of probably cost shall include contingencies for elements not yet fully defined. The "Bid Proposal" within the boilerplate specifications shall be prepared from this information by the CONSULTANT.

Deliverable(s):

- 90% Watermain and Sanitary Sewer Pipe Replacement Plans (incorporated into the overall 90% plans submittal)

7.4. Ad-Ready Submittal

CONSULTANT will use the 90% design plans and progress to the Ad-Ready design and plan level. The CONSULTANT will take into consideration the 90% design review comments from the CITY while advancing to the Ad-Ready level.

7.4.1. Ad-Ready Plans

The CONSULTANT will further develop the 90% plans to an Ad-Ready plan level without the addition of any new sheets.

7.4.2. Ad-Ready Specifications

The CITY will supply the CONSULTANT with the current version of the CITY's Special Provisions. The CITY's boilerplate specifications are supplied in a Microsoft Word format. CONSULTANT will be required to create a "run-list" and edit the boilerplate version by supplementing project specific information. Since the CITY updates the boilerplate specifications, the CONSULTANT shall keep a current project "run-list" and rerun the batch program prior to each plan submittal.

7.4.3. Ad-Ready Engineer's Opinion of Cost

CONSULTANT's Engineer's Estimate shall develop an opinion of cost and document the estimate with backup quantity calculations. Backup calculations (including quantity takeoff sheets), showing assumptions made in determining quantities for each bid item, shall be made available upon request. Backup calculations shall specifically include items measured by the appropriate unit. The Engineer's Estimate will include an itemized list in tabular form, describing; section, item, and number of units (quantity), estimated unit costs, and total cost, with the understanding that any cost opinion or Engineer's Estimate provided by the CONSULTANT will be on the basis of experience and judgment. The estimate shall be prepared using standard unit costs and lump sum prices. Ott- Sakai subconsultants will provide recommendations for unit costs and of estimate items. The Ad-Ready opinion of probably cost will not include contingencies as all elements of work are defined. The "Bid Proposal" within the boilerplate specifications shall be prepared from this information by the CONSULTANT.

Deliverable(s):

- Ad-Ready Watermain and Sanitary Sewer Pipe Replacement Plans (incorporated into the overall final plans submittal)

TASK 8. TRAFFIC ANALYSIS

The purpose of this task is to analyze recent and relevant traffic data on existing conditions to best define and further develop the corridor design.

8.1. Data Collection

8.1.1. Traffic Counts

The ten public street intersections in the study corridor will be subject to detailed analysis, but the CITY has requested consideration of traffic volumes and operations at one intersection beyond the corridor study limits at the northern and southern ends. To accommodate this request, CONSULTANT will collect new a.m. and p.m. peak hour intersection turning movement counts (with heavy vehicles, bicycles, and pedestrians quantified) at the following 15 locations (bold = existing signal):

- 122nd St NE/State Ave NE
- **116th St NE/38th Ave NE**
- **116th St NE/State Ave NE**
- 116th St NE/46th Ave NE
- 116th St NE/State Ave NE
- 113th Pl NE/State Ave NE
- 109th Pl NE/State Ave NE
- 106th Pl NE/State Ave NE
- 105th Pl NE/State Ave NE
- 104th Pl NE/State Ave NE
- 104th St NE/State Ave NE
- 103rd Pl NE/State Ave NE
- **100th St NE/State Ave NE**
- 100th St NE/Shoultes Rd
- **99th Pl NE/State Ave NE**

8.1.2. Origin-Destination Data

Large-scale origin-destination (O-D) data will be collected for each end of the corridor. These data will be collected for a continuous 24-hour period summarized hourly, and will identify the proportion of vehicles that use the entire corridor ("through traffic") in each direction.

8.1.3. Field Observations

Field investigations of traffic movements and operations will be conducted during a typical afternoon peak hour, with attention to typical queue extents, any cycle failures, and yielding interactions between vehicles and non-motorized traffic. All data will be summarized in spreadsheet form with a short summary.

8.1.4. Other Data

Signal timing data for the signalized intersections listed above will be provided by the CITY. Basic intersection and roadway geometric data will be gathered in direct partnership with the roadway design team, and, if gaps remain afterward, measured either in the field or using publicly available online resources. Transit stop usage information will be requested from Community Transit, coordinated through CITY staff.

8.2. Operations Analysis

8.2.1. Software

CONSULTANT will update the Synchro files from the CITY's Transportation Element completed by Transpo in 2015. Any study intersections not included in the Transportation Element analysis will require development in Synchro. CONSULTANT will use Synchro to evaluate and determine reasonable lane configurations at each study intersection.

8.2.2. Scenarios

The analysis will be conducted on either AM or PM peak hour data (whichever counts indicate higher volumes in the corridor) for existing and 2020 conditions. The 2020 scenario will be used to assess construction conditions and short-term needs, when capacity is limited but traffic is expected to be higher than in the existing condition. Consideration of a single pedestrian hybrid beacon ("HAWK") location will be included in the 2020 analysis.

8.2.3. Traffic Growth Estimates

Future traffic growth percentage estimates for 2017-2020 will be furnished by the CITY.

8.2.4. Measures of Effectiveness

The AM or PM peak hour traffic measures of effectiveness (MOEs) for each of the two signalized intersection (100^{th} Street NE and 116^{th} Street NE) will include (1) LOS and average delay at signalized intersections, (2) average queue lengths for each intersection approach, and (3) the estimated left turn pocket lengths required to prevent spillback into the roadway through lanes. These measures will be indicated in detailed software output reports for each intersection under each scenario and peak hour.

8.2.5. Traffic Technical Memo

CONSULTANT will produce a draft and final traffic technical memo up to 5 pages long documenting basic assumptions, methods, and summary results from the traffic analysis.

Assumptions:

CITY to provide:

- Synchro file used for most recent update to the Comprehensive Plan Transportation Element

- Signal timing data for existing signals listed previously, if separate from Synchro file
- Annual traffic growth rates for 2017-2020

Deliverable(s):

- Data Collection Summary
- Traffic Technical Memo including Synchro MOE Summary Tables
- Detailed Operations Analysis Output Report Sheets for Each Intersection
- Electronic Synchro Files

TASK 9. PRELIMINARY ENGINEERING

The objective of this task is to evaluate and document possible design alternatives to develop an optimal design resulting in a preferred alternative that improves safety for all users, enhances corridor mobility, minimizes ROW acquisition needs, and is supported by the community.

9.1. Preliminary Engineering

The CONSULTANT shall prepare one horizontal and vertical alignment for State Avenue, including typical roadway sections, fish passable culvert, and project limits to approximately a 5% design level, to aid the evaluation and screening efforts of available widening options and confirm project.

9.1.1. WDFW and Tulalip Consultation on Quilceda Creek crossing

The CONSULTANT shall meet with WDFW and the Tulalip Tribe to discuss design criteria prior to starting design. Once the design criteria is established the CONSULTANT shall analyze and develop preliminary engineering plans for two proposed alternatives for the fish passage culvert. The CONSULTANT shall develop a one-dimensional hydraulic model using HEC-RAS. The CONSULTANT will share the preferred alternative concept for the fish passage culvert with WDFW and the Tulalip Tribe for feedback.

9.1.2. Documentation

The preliminary engineering work for the roadway design will include completion of the design criteria memorandum which will document the standards to be followed on the project.

9.1.3. Design Roll Plot

The design team will work together to collaborate on the overall design of the project. This collaboration will include a design workshop to resolve potential issues and coordination elements and result in the 5% preliminary design.

Preliminary Roadway Design will include the following proposed linework:

- Pavement, Sidewalk, Curb and Gutter
- Barriers, Pedestrian Railing, Retaining Wall, and Fencing Locations
- Channelization of roadway and side streets
- Locations of Proposed Bus Stops

Fish Passage and Environmental Design will include the following proposed linework:

- Typical Section of Proposed Culvert Configuration
- Wetland Boundaries and OHWM Location
- Proposed Locations for On-Site Mitigation and Plantings

Utility Design will include the following proposed linework:

- Proposed Locations for new Water Main
- Proposed Location of Stormwater Conveyance and Treatment/Detention Facilities
- Proposed Relocation of Overhead Communication Conduits
- Proposed Relocation of Overhead Power.

Traffic Design will include the following proposed linework:

- Location of Illumination Poles
- Proposed Location of HAWK Signal.
- Location of Proposed Traffic Operations Improvements (Loops / Video Detection on Existing Signals)

Assumption(s):

- The CONSULTANT will evaluate one alternative.
- Only one alternative (preferred alternative) will come out of the preliminary engineering design phase after review by the CITY. This will include recommendations for areas to adjust the typical design section to minimize ROW and environmental impacts and reduce project risk.
- Right of way impacts and acquisition needs will be identified for the preferred design alternative.
- Environmental impacts and will be identified for the preferred design alternative.
- Two proposed alternatives will be modeled for the fish passage culvert.
- A hydrologic model to determine basin hydrology will not be developed for Quilceda Creek the fish passage culvert. The 2002 Snohomish County Drainage Assessment will be used for hydrology, unless newer data exists.
- Attend 2 meetings with the CITY to discuss alternatives. Up to 2 CONSULTANT staff shall attend.
- Attend one on-site meeting with WDFW and the Tulalip Tribe.
- The CONSULTANT and the CITY will select the preferred alternative for the fish passage culvert.

Deliverable(s):

- Roll plot including existing basemapping, right of way, alignment, channelization, fish passage structure type configuration, profile, and roadway typical sections will be developed.
- Roadway Design Criteria Memorandum.

TASK 10. 30% DESIGN

10.1. 30% Design Plans

CONSULTANT will advance the design of the Preferred Alternative from the work completed under the Preliminary Design of the PROJECT. The Preliminary Design effort established the PROJECT footprint for roadway improvements, basic channelization, conceptual design for utility and drainage systems, and structural features.

Assumption(s):

- Symbols used by the CONSULTANT in the plans shall follow APWA standards. If the symbols are not in the APWA standards, then WSDOT standard symbols shall be used.
- Plans shall be prepared on the CITY's alignment survey for the ROW. Each sheet shall contain design elements, with line work for items detailed on other sheets screened back or drawn in light pen weight. The CONSULTANT is expected to the Industry Standard of Care in the design planning and layout, with elements shown as close as possible to where they are to be installed.
- General Construction Notes will be noted on plan sheets. General Notes will be numerically ordered and consistent throughout the plan set. Note and leader shall call out unique Construction Notes. Bubbles with leaders will be acceptable only for recurring Construction Notes and wiring notes for Signal and Illumination plans as they are numerically ordered and consistent throughout the applicable sheets.
- If additional detail is required to provide clarity, the Plans and Details shall include an exploded view. Cross-sections and profiles shall reflect existing features and proposed facilities, both above and below ground.

10.2. Engineer's Opinion of Cost

The CONSULTANT's shall produce 30% Engineer's Estimate to include in the 30% submittal documents. Unit Quantity calculations will be determined using measurement tools in AutoCAD and documented on excel worksheets, showing assumptions made in determining quantities for each bid item. Backup calculations shall specifically include items measured by the appropriate unit. The Engineer's Estimate will include an itemized list in tabular form, describing; section, item, and number of units (quantity), estimated unit costs, and total cost, with the understanding that any cost opinion or Engineer's Estimate provided by the CONSULTANT will be on the basis of experience and judgment. The estimate shall be prepared using standard unit costs and lump sum prices with input from Ott-Sakai Constructability Sub-Consultants.

Assumption(s):

- The project will be constructed in 2019. The Opinion of Probably Cost will include contingencies for 30% design level and adjustments to overall cost to reflect 2019 construction.

10.3. Roadway Design

10.3.1. Horizontal and Vertical Alignment Plans

CONSULTANT will prepare horizontal alignment plans and vertical profile drawings for the project. Maximum superelevation rates will be noted on the drawings where applicable utilizing superelevation diagrams. Preliminary horizontal and vertical alignment plans will be produced for the mainline of State Avenue.

10.3.2. Typical Roadway Sections

CONSULTANT will prepare preliminary typical roadway section plans not to scale (NTS) for the project. The sections will denote roadway widths, sidewalks, walls, and landscape areas.

10.3.3. Paving

CONSULTANT will prepare paving plans for the project. The plans will show dimensions for roadway outlines and sidewalks. The plans will also show curb returns, tapers, intersection layouts, and proposed driveway accesses, which are typically shown at the preliminary phase. A preliminary layout of property conform limits will be developed and shown in the form of cut/fill lines. Intersection grading is not to be shown at the 30% design level.

10.3.4. Pavement Marking

CONSULTANT will prepare pavement marking plans for the project. The plans will show dimensions for lanes, crosswalks, stop bars, pavement marking symbols and tapers and meet the requirements of the MUTCD and City standards.

10.3.5. Construction Access Roadway Design

CONSULTANT will prepare preliminary plans showing construction access routes for the CONTRACTOR to reach the creek elevation for work to reconstruct the culvert and remove the existing culvert. This will include one access roadway on the southwest side of the existing roadway and one access roadway on the northeast side of the existing roadway.

10.4. Traffic Design

This task involves the preliminary planning of traffic signal modifications including confirmation with the CITY of design standards to be used with a signal modification design memo, Plans and Engineer's estimates of traffic signal modifications and street illumination up to 30% design.

CONSULTANT will meet with CITY to determine the desired system requirements and to identify the major system components, significant conflicts and challenges (if any), and other items that have the potential to significantly affect construction costs.

Assumption(s):

- The illumination project limits shall extend approximately 1000 feet north to extend to the previously completed phase of State Avenue.

10.4.1. Inventory Signal Equipment

A complete inventory of the existing traffic signal systems at three intersections will be conducted.

The inventories will include: the length of mast arms and existing signal head locations, signal head configurations, push button and pedestrian head locations, existing phasing, existing controller and cabinet types and their ability to operate in changed configurations. We will also evaluate the existing conduit and wiring to determine if major reconstruction will be necessary to implement revised phasing or pole relocations. Location and condition of existing safety lighting and street lighting will be documented. ADA deficiencies will be observed and documented.

10.4.2. Signal Design

CONSULTANT will design, calculate, and document signal system modifications at three intersections. Traffic signal design as part of the 30% design package will include:

- Pole location
- Vehicle and non-motorized detection type
- Emergency vehicle preemption type
- Traffic signal interconnect

CONSULTANT will locate one (1) HAWK pedestrian signal along the corridor.

10.4.3. Illumination Design

CONSULTANT will prepare preliminary illumination design plans as part of the 30% design package. The street lighting design will meet the Illuminating Engineers Society (IES) standards for a principal arterial roadway.

Illumination design will be based on the width of the roadway and the potential for placing luminaires on the outside of the roadway along the corridor segment. CONSULTANT will work with the CITY to determine the general layout, configuration, and type of light fixture(s) for the roadway and pedestrian lighting to be used on this project and match previously completed projects along the corridor. CONSULTANT will model photometrics that match the chosen fixture using AGi32 software. The use of LED lighting will be considered.

CONSULTANT will provide a preliminary lighting design (1) that shows the spacing of luminaires, meeting lighting requirements. The preliminary design layout will show the lane configuration, type of luminaire configuration, spacing between luminaires, and the light level results. Plan sheets will indicate luminaire locations. CONSULTANT will summarize the analysis, for the CITY, in an Illumination Design Memorandum.

10.5. Fish Passage Culvert Design

The CONSULTANT shall advance the design of the preferred alternative selected in preliminary engineering. The design will follow WDFW guidelines. Data and models developed in preliminary engineering will be used to complete the design. The design will include development of a stream cross-section within the culvert, upstream and downstream of the culvert; calculations for the streambed material; and placement of wood within the reach. A brief (3-page) technical memorandum will be prepared to document the design criteria, assumptions and the 30% design.

10.6. Retaining Wall Design

This task involves structural engineering work to evaluate structures alternatives and to identify preferred structure types for the purpose of selecting retaining wall concepts and fish passable structure to be carried forward into final design.

10.6.1. Data Collection and Review

CONSULTANT will assemble and review the data needed to perform the structures work elements which includes:

- Review of available site survey and geotechnical data.
- Review of existing reports, maps, utilities, and plans.
- Review of proposed alternative roadway alignments, profiles and related geometrics.

10.6.2. Design Criteria

CONSULTANT will perform structural studies to evaluate and recommend the wall types to be carried forward into final design. CONSULTANT will identify and evaluate concepts for up to three (3) wall alternatives for the purposes of selecting the preferred wall type, size, and location. CONSULTANT will determine preliminary geometric requirements, elevations, clearances, and foundation types. CONSULTANT will develop construction staging/sequencing concepts including requirements for temporary works including the temporary 2-way shoring wall at the Quilceda Creek crossing, and identify existing site constraints. CONSULTANT will identify advantages and disadvantages of each concept and potential constraints from a structure, constructability, and maintenance perspective. CONSULTANT will develop comparative-level costs for the major cost elements of each alternative.

CONSULTANT will coordinate development of the preliminary structures design with applicable disciplines as follows:

- Coordinate with the roadway and civil design engineers related to the roadway geometry, construction staging, utilities, surveying and basemapping and right of way impacts.

- Coordinate with the geotechnical engineer for establishing design criteria for soil loads and foundations, identification of foundation types, and selection of preferred foundation types for the retaining walls.

10.6.3. Structures Technical Memorandum

A brief Retaining Wall and Culvert Memorandum that documents the justification for the preferred alternative determined by the CITY in coordination with the CONSULTANT shall also be prepared and submitted. The considerations listed below shall be addressed in the Report where applicable and the Report shall discuss how these factors led to the preferred alternative and show how the constraints eliminated or supported the alternatives.

- Aesthetics
- Cost Estimates
- Right-of-way Impacts
- Geometric Constraints
- Project Staging and Stage Construction Requirements (if applicable)
- Traffic Impacts and Public Access During Construction
- Utility Coordination
- Feasibility of Construction
- Structural and Foundation Constraints
- Long-term Structure Maintenance
- Environmental Compliance with Fish Windows

10.7. Landscaping Design

Based on the landscaping alternatives developed as part of the preliminary design, as well as CITY and public feedback, CONSULTANT will further develop the preferred design to a 30% design level including more details, and exact locations for streetscape and landscaping elements to be implemented along the corridor.

Landscaping will include mitigation planting areas to be restored from temporary impacts to wetlands and wetland buffers during construction.

10.8. Utility Design

CONSULTANT will develop a utility corridor plan showing the location of the existing utilities within the roadway corridor. The utility corridor plan will identify potential utility conflict locations and be provided to affected utilities to aid in potholing efforts to be completed by the CITY and Franchises. CONSULTANT will coordinate with affected utilities to identify type, size and location of future utilities. CONSULTANT will work with the Franchises to locate their proposed facilities but will not design their work. Franchise Utility design will be completed by the Franchises. CITY utilities will include replacement of the existing ACP watermain

with a new ductile iron water main the length of the project and relocation of the sewer line through the Quilceda Creek crossing area.

Assumption(s):

Non-CITY Utilities may include:

- Puget Sound Energy – Natural Gas Main
- Snohomish PUD – Transmission and Distribution Power
- Comcast – Cable TV / Fiber Optics
- Century Link – Telephone Communications/Fiber Optic
- Frontier – Telephone Communications/Fiber Optic

CITY Utilities Include:

- Water Main
- Sanitary Sewer
- Storm Water (Included under separate task)
- Traffic and Illumination Conduit / Fiber (Included under separate task)

10.9. 30% Submittal

CONSULTANT shall prepare 30% design drawings complying with the Plans Preparation Manual and industry standard level of detail at this stage of project development. The delivery package of the 30% submittal shall include the Plans, Opinion of Cost Estimate, Design Memorandums for each discipline documenting the design decisions shaping the project and preliminary reports from geotechnical, drainage, and structures.

Assumption(s):

- The level of effort and fee estimate for this task is based on the number of sheets for each discipline as shown in the sheet list provided. The sheet list was prepared based on CONSULTANT's current knowledge of the project scope and anticipated work elements.
- CONSULTANT shall consult with the CITY prior to developing any sheets if the actual number of required sheets varies from the original sheet count estimate. If the CITY and CONSULTANT concur that total number of sheets required to detail the project exceeds the original estimate, the budget for this task may be amended.

Deliverable(s):

- Survey and Existing Data Collection.
- 30% Plans
- Existing Sign Inventory

- Structures Memorandum
- Roadway Design Criteria Memorandum
- Engineer's 30% Opinion of Cost.
- Draft Geotechnical Report
- Draft Fish Passage Culvert Design Memorandum

The anticipated sheet list is:

30% Submittal Sheet List	# Sheets Included in Each Submittal
Sheet Description	**30%**
Cover Sheet with Vicinity Map and Index	1
Legend, General Notes, Abbreviations, and Project Key map	2
Roadway Typical Sections	3
Alignment, Profile, and ROW Plans	19
Site Preparation Plans	---
TESC Notes	---
Temporary Erosion & Sedimentation Control (TESC) Plans	---
TESC Details	---
Temporary Access Road Plans	2
Paving Plans	12
Paving Details	--
Intersection & Curb Ramp Grading Details	---
Driveway & Property Interface Plans	---
Drainage Plans (No profiles at 30%)	12
Drainage Details	---
Fish Passage Culvert Plan & Profile	1
Fish Passage Culvert Sections	1
Fish Passage Culvert Details	---
Retaining Wall Notes	---
Retaining Wall Plan and Profiles	6
Retaining Wall Details	---
Stream Restoration Details	2
Pavement Marking & Signing Plans	12
Pavement Marking Details	---
Signing Schedule & Details	---
Signals, Illumination & ITS Plans	16
Signal Details (3 Intersections)	---
Illumination Schedule & Details	---
ITS Details	---
Landscaping and Irrigation Plans	---
Landscaping Details	---
Irrigation Details	---
Utility Plans and Profiles	14
Utility Details	---
Staging and Traffic Control Sequencing Notes	---

Staging and Traffic Control Plans	---
Total # Sheets	103

TASK 11. VALUE ENGINEERING (VE) STUDY

The CONSULTANT shall facilitate, organize and conduct a Value Engineering Study, in accordance with the procedures required by the WA State Transportation Improvement Board. The VE Study will be conducted at completion of the 30% Design. Specifically, the CONSULTANT will provide a professional staff person (VE Facilitator) certified to conduct VE studies to organize and facilitate the effort. The VE Facilitator will provide a list of qualified potential VE Team participants to the City. The candidates will be competent individuals, knowledgeable in the appropriate technical fields, with previous experience serving on VE Teams.

Individuals to serve on the VE Team will be vetted and selected by the CITY. VE Team members will be contracted and compensated (as may be required) directly by the CITY.

The CONSULTANT shall provide 30% Level Design plans, and a VE Study Information Document, consisting of available environmental documentation, the Design Report, Geotechnical Report, Preliminary Engineer's Opinion of Probable Cost and Project Schedule, for use by the VE Team. The CONSULTANT Project Manager, Design Manager and up to two (2) Technical Design Leads will provide the initial briefing to the VE Team. The CONSULTANT Project Manager and Design Manager will attend the VE Team's final review and suggestions meeting.

CITY Responsibilities:

- Coordinate with the VE Facilitator in timely fashion so as not to delay the completion of the VE Study.
- Review the list of candidates for the VE Team and select, contract and compensate VE Team members, as may be required.
- Provide meeting facilities and supplies for the VE Team study efforts.
- Participate, as necessary, in the VE Study initial briefing, site visit, study efforts, and final review meeting.

Assumption(s):

- CONSULTANT staff participation in the VE Study initial briefing will include the Project Manager, Design Manager and appropriate Technical Discipline Leads (up to 2).
- CONSULTANT staff participation in the VE Study recommendations and findings briefing will include the Project Manager and Design Manager.
- The VE Study will be held at the CITY Public Works Department Offices or City Hall.

Deliverable(s):

- 30% Design documents, electronic (PDF) and hard copies (5 sets of plans)

- VE Study Information Document consisting of available environmental documentation, the Design Report, Geotechnical Report, Preliminary Engineer's Opinion of Probable Cost and Project Schedule, electronic (PDF) and hard copies (2 sets).

TASK 12. ENVIRONMENTAL DOCUMENTATION & PERMITTING

The purpose of this task is to engage the regulatory agencies, conduct fieldwork, prepare documentation, and prepare SEPA, City Permits and JARPA permit application packages.

12.1. Organize an Environmental Kick-off meeting and site visit.

Attendees should include the CONSULTANT team technical staff, design team leads, and CITY staff.

12.2. SEPA/Permitting Stakeholder Meetings and Agency Coordination

A. Organize and conduct up to three project overview and site visit meetings with agency permitting staff. Attendees may include staff from the Corps, WDFW, CITY planning, and representatives from tribal interests.
B. Participate in one (1) CITY-hosted public open house by two environmental/permit staff.
C. Coordinate with regulatory agencies on a consistent basis during reviews to facilitate the process and quickly respond to agency requests or comments.
D. Participate in design team coordination meetings by up to two environmental/permit staff.

12.3. Wetlands, Streams, Fish, Wildlife & Habitat Baseline Fieldwork

A. Field staff will review pertinent background information including the Soils Survey of Snohomish County Area, Soil Conservations Service, NWI maps, CITY maps and critical area code sections, as well as database information from WDFW, WDNR, USFWS, and NOAA Fisheries.
B. CONSULTANT wetland biologists (two teams of two) will delineate wetlands and stream bank/ OHWM over 3 days within the study area using the three parameter methods described in the Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987), as updated by the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (U.S. Army Corps of Engineers2010).
C. Wetlands found within the Quilceda Creek waterway Corridor as well as approximately 300-feet upstream and downstream one stream within the corridor will be delineated and assessed
D. To support the endangered species act evaluation and critical area report, baseline assessment of fish and wildlife use of the existing embankment area of the stream corridor will be conducted by up to one qualified CONSULTANT biologists
E. Identified wetlands will be documented with appropriate data sheets and boundaries marked with visible plastic flagging for pickup by the survey team. Wetlands will be rated according to City and Ecology methods.

12.4. Wetland and Stream Delineation Report Preparation

This report will document existing conditions of the project area, assessment and location of existing on-site wetlands and description of habitat structures and surface water features (ditches and streams) in a Wetland and Stream Delineation Report suitable for the Corps permit application. Wetland classifications and data forms will be included.

12.5. Cultural Resources Assessment

In support of the JARPA Permitting with the US Army Corp of Engineers (USACE) and WDFW, as related to wetlands and work below the Ordinary High Water Mark (OHWM), this work would include the preparation of the section 106 report in accordance with the published Department of Archaeology and Historic Preservation (DAHP) standards and guidelines, as well as those of the Secretary of the Interior. The CONSULTANT, utilizing a SUBCONSULTANT, SWCA, shall accomplish the work to include the following subtasks:

12.5.1. Background Research and Mobilization

SWCA will conduct a check of records at the Department of Archaeology and Historic Preservation's (DAHP) Washington Information System for Architectural and Archaeological Records Data (WISAARD) for information on previous projects and identified archaeological sites in the project area prior to any field activity. Other background information will be collected from ethnographic and historic accounts, previous regional cultural resource investigations, local historical societies and informants, maps, and photographs.

Field mobilization efforts will be led by the SWCA Geoarchaeologist and will include: 1) communication with appropriate tribes, 2) arranging a utilities' locate, and 3) completing job-specific safety forms. The Tulalip Tribes and the Stillaguamish Tribe of Indians will be contacted about the project to solicit any additional concerns about heritage resources and to inform them when field investigations will take place. This communication is a technical inquiry and does not constitute any formal consultation that may be needed. A utilities locate will be arranged by SWCA prior to archaeological field work, pursuant to RCW 19.122 "Underground Utilities," which requires notification to the State Public Works Office at least 3 days before digging but no more than 10 days before digging. Note that delays in utility flagging have the potential to delay the project. A Job Hazard Analysis will be completed, which identifies potential hazards associated with the project, as well as hazard controls to reduce these hazards to an acceptable risk level.

12.5.2. Archaeological Monitoring of Geotechnical Investigations

An archaeologist will monitor project geotechnical investigations. The archaeological monitor will visually and, if possible, manually inspect the sediment samples in the field. If the geotechnicians do not need to retain sediment samples, the available spoils may be screened through ¼ inch mesh for artifacts prior to disposal in drums or backfilling. The exact amount of field time needed for archaeological monitoring of the borehole will

be dictated by the schedule of geotechnical field crew. The cost estimate below assumes two days of work. Additional days can be added under a separate budget.

Any artifacts identified during geotechnical investigations will be described, photographed, and reburied in the borehole in which they were identified. Notes about content and sediments encountered in the borings will be kept on standard forms. UTM coordinates of all borings will be recorded with a Trimble hand-held GPS unit. If an archaeological site is identified, additional work will likely be necessary to delineate site boundaries and evaluate significance. In addition to identifying cultural resources, an important part of fieldwork will be to document current conditions and recent disturbance in the project area. Results of archaeological monitoring of geotechnical investigations will help plan the archaeological field survey.

12.5.3. Archaeological Field Survey

Archaeological field survey will be completed in two days by the SWCA Project Archaeologist and two field archaeologists, who will conduct a pedestrian survey of the project area. At the discretion of the Project Archaeologist up to 30 shovel probes will be excavated in accessible portions of the project area that have not undergone significant modern disturbance at roughly 100 foot (30 meter) intervals. Spoils from the probes will be screened through ¼ inch mesh. In alluvial (creek) depositional environments, a hand auger will be used to extend the shovel probes up to 8.2 feet (2.5 meters) below the surface, beyond the depth of traditional shovel probe excavation. Any artifacts will be described, photographed, returned to the probe of origin, and reburied. Notes about content and sediments encountered will be recorded on standard forms. All shovel probes will be recorded with a GPS. The survey will verify field conditions and identify historic properties. An important part of the fieldwork will be to document historic and modern disturbance and to document the specific locations of any newly discovered cultural resources. SWCA anticipates that most of the shovel probes will be concentrated around the Quilceda Creek crossing.

12.5.4. Architectural History Survey

Section 106 of the NHPA requires consideration of indirect project effects on the built environment. A quick check of the Snohomish County Assessor website indicates that ten historical buildings are immediately adjacent to the project area. Since the buildings may have historical significance, SWCA's architectural historian will record and photograph all buildings and structures constructed within or adjacent to the project area prior to 1967, or older than 50 years in age. This documentation will be combined with the results of background research under Task 1 to evaluate the integrity of the historical buildings. The architectural history survey will be conducted at the preliminary level. A Washington State Historic Property Inventory Form (HPI) will be generated for each building that is recorded and the forms will be submitted to DAHP as part of SubTask 12.5.5, as needed.

12.5.5. Analysis and Reporting

The results of SubTask 12.5.1 background research, SubTask 12.5.2 archaeological monitoring of geotechnical investigations, SubTask 12.5.3 archaeological field survey, and SubTask 12.5.4 architectural history survey will be presented in a report suitable for submission to DAHP, appropriate agencies, tribes, and other concerned parties. The report will include recommendations for ways to complete evaluation of any sites encountered and to avoid or minimize damage to any archaeological properties should they be encountered during fieldwork. Due to confidentiality requirements for archaeological site location, distribution of the report may be restricted. Due to the extensive asphalt cover in the project area, a recommendation of the report may include archaeological monitoring during construction. In that event, SWCA can prepare a project-specific monitoring and discovery plan (MDP) to guide monitoring activities and to provide steps to take should a discovery be made during construction. If recommended, monitoring plan preparation and construction monitoring will be addressed under a separate scope and budget.

Assumption(s):

- CITY will ensure access to the entire project area prior to field work, including the exterior of any historical buildings to be recorded even if they are on private property.
- Up to two days of field time for archaeological monitoring of geotechnical investigations. If geotechnical investigations go beyond two days, then a fee adjustment may be required.
- Up to 10 historical buildings or structures may be affected by the project. SWCA will compile an inventory of the historical buildings that will not include in depth statements of significance or historical context statements. If any of the historical buildings in the project area retain integrity, then additional architectural history investigations may be required to fully assess the significance of the property under Section 106 of the NHPA, as determined necessary buy the lead federal agency overseeing the project.
- No archaeological resources are present within the project area. Discovery of an archaeological site during survey may require additional work beyond the present scope and budget to establish boundaries, evaluate significance, and arrive at appropriate assessments of adverse effects and treatment measures.
- If at any time human remains are encountered, work will cease, and notification of affected parties will proceed as directed by RCW 27.44.

Deliverable(s):

- Draft Report, 1 pdf version
- Final Report, 1 pdf version

12.6. Endangered Species Act Compliance – Biological Assessment Preparation

The Biological Assessment (BA) is to evaluate the PROJECT in terms of its potential impacts to any species listed or proposed for listing as threatened or endangered under Section 7 of the Endangered Species Act (ESA).

The BA will be prepared by a WSDOT certified author (to cover any potential future NEPA process) and include detailed descriptions of all project activities, status and occurrence of listed species in project area, direct and indirect effects to all listed species and critical habitat, and conservation measures. The BA will include an effects determination for each listed species and critical habitat. If required, an analysis of Essential Fish Habitat (EFH) will be completed as part of the BA and will also include an effects determination.

12.7. Critical Area Report Preparation

The Critical Area Report (CAR) documents impacts and identify mitigation. The CAR builds upon information already developed for the Wetland and Stream Delineation Report, Geotechnical Report and Biological Assessment.

The CAR will be developed to address the best available science requirements. The report will identify the general extent and location of PROJECT critical areas as defined by the CITY including wetlands, streams, liquefaction zones, habitat areas and their buffers in the study area.

CONSULTANT will work with CITY planners to develop up to three mitigation options for consideration. The options will be developed in GIS and will be supplemented with a brief narrative descripting the concept pros and cons to facilitate the screening to a preferred option.

A general description of the mitigation required and the preferred conceptual level mitigation option will be presented in the CAR.

12.8. Hazardous Materials

CONSULTANT will conduct a regulatory agency database review to identify sites with potential hazardous substances that could have an effect on the environmental conditions of the project area. For Hazardous Materials, CONSULTANT will:

Obtain and review the results of a federal, state and local environmental database search provided by an outside environmental data service for listing of information on confirmed and suspected contaminated sites or nearby structures specified by the Section 8.2, Standard Environmental Record Sources of American Society for Testing and Materials (ASTM) International E1527-13 Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process. Subject to the availability, CONSULTANT will review the following environmental records:

- Federal National Priority (NPL) Site List
- Federal CERCLIS List
- Federal CORRACTS TSD Facilities List
- Federal RCRA non-CORRACTS TSD Facilities List
- Federal ERNS List
- Washington States' Lists of Hazardous waste Sites Identified for Investigation or Remediation (State Confirmed and Suspected Contaminated Sites List (CSCL)
- Washington State's Landfill or Solid Waste Sites List
- Washington State's Leaking UST Lists
- Washington State's Registered UST Lists.

The evaluation will focus on sites that are within ¼ mile from the alignment or as required by ASTM International Standard.

12.9. Floodplain Analysis

The CONSULTANT will analyze the impacts to the floodplain of Quilceda Creek within the project limits. The CONSULTANT will use the hydraulic model that is developed for the fish passage culvert design. The 100-year event will be used to demonstrate compliance with the CITY's floodplain regulations.

Assumption(s):

- A CLOMR will not be required for this project.
- The Technical Memorandum will be no longer than 5 pages including model summary and figures.
- One meeting will occur with the CITY to discuss the analysis preparation.

Deliverable(s):

- Draft and Final Floodplain Analysis Technical Memorandum

12.10. SEPA checklist preparation

- Prepare a draft and final SEPA checklist consistent with the requirements of WAC 197-11.
- Provide SEPA response to comment support with up to 10 unique responses to public comments.

12.11. Permit Support

- The PROJECT is likely to trigger a US Army Corps of Engineers permit and a Hydraulic Permit Application (HPA) for wetland impacts, stream impacts, and work below the OHWM. The CONSULTANT will prepare a Joint Aquatic Resource Protection Application (JARPA) for review and signature by the City.

- THE CONSULTANT will prepare up to 20 JARPA specific graphics using CADD and GIS to support the application package and submittal to Corps and Ecology.
- Prepare on behalf of the CITY the WDFW on-line JARPA form.
- Prepare the City of Marysville Critical Area Permit Application package.
- Coordinate with the agency permit reviewers to facilitate review and comments.

CITY Responsibilities:

- Provide any existing project data or environmental reports prepared for previous work along the State Avenue Corridor and the Quilceda Creek crossing area, or nearby development projects.
- CITY will handle SEPA processing based on SEPA checklist drafted by the CONSULTANT.
- The SEPA checklist and SEPA determination will be signed by the CITY
- Public notification will be handled by CITY staff. Copying, distribution, signage, postage etc. are not covered in this scope of work.
- Conduct review and provide comment on the draft SEPA checklist.
- Provide timely review of all deliverables and a consolidated list of review comments to the CONSULTANT, in accordance with the project schedule.

Assumption(s):

- Rights-of-entry (ROE) to private properties shall be in writing prior to any initiation of field efforts.
- SEPA checklist preparation will not require separate field work, study or analysis by the CONSULTANT. Information to prepare the checklist will be gathered from known data sources, mapping, and online research and existing documents provided by the CITY.
- The CITY will formally issue the SEPA determination and distribute public notice and supporting materials to the appropriate agencies and the public.
- Mailing lists and postage fees will be provided by the CITY.
- Public notification mailing, distribution, posting at public facilities (library, City Hall, county facilities etc.), on-site posting as required will also be handled by the CITY.
- Coordination and payment for the public notice in the local newspapers will be handled by the CITY.
- A Mitigation Plan for the wetlands and stream will be an add-on task for the final design.
- Scope and budget to support a SEPA appeal is not included and is considered Extra Work.
- Roadway plans in Microstation format for the proposed alignment will be provided for use with GIS in TNM modeling.
- Design year traffic data will be provided by the CITY or CONSULTANT traffic engineers.
- Interim year and design year traffic volumes (or growth rates) including turning movements and signal timing data will be provided by the CITY or CONSULTANT traffic engineers.
- Suitable design-level information for modeling will be provided.
- An Air and Noise evaluation is not included in this scope of services.
- The regulators (CITY, Tulalip Tribe and Natural Resource Agencies) all agree on the logical termini and independent utility.
- Each document is limited to two review and revision cycles by CITY and Natural Resource Agencies.

- Changes to the project description and/or project area may necessitate modifications to this scope of services; such changes will be considered as Extra Work.

Deliverable(s):

- Draft and Final Wetland and Stream Delineation and Buffer requirement Report.
- Draft and Final Biological Assessment.
- Draft and Final Critical Area Report.
- Draft and Final SEPA Checklist.
- Draft and Final JARPA for Corps/Ecology.
- Draft On-Line JARPA for WDFW.
- Draft and Final Hazardous Material technical memorandum
- Draft and Final Critical Area Permit Package.
- Draft and Final Cultural Resources Assessment Report (electronic PDF).
- City Permits (Shoreline Permit and Floodplain Permit).

TASK 13. FINAL DESIGN - PS&E

The CONSULTANT shall follow the guidelines set forth in the CITY's Design Standards and Plans Preparation Manual when preparing the 60%, 90%, and Ad-Ready plans, specifications, and estimate.

Assumption(s):

- The level of effort and fee estimate for this task is based on the number of sheets for each discipline as shown in the sheet list provided. The sheet list was prepared based on CONSULTANT's current knowledge of the project scope and anticipated work elements.
- CONSULTANT shall consult with the CITY prior to developing any sheets if the actual number of required sheets varies from the original sheet count estimate. If the CITY and CONSULTANT concur that total number of sheets required to detail the project exceeds the original estimate, the budget for this task may be amended.

13.1. General

CONSULTANT will prepare the contract drawings in accordance with the CITY's design standards. Unless otherwise noted or directed by the CITY, CONSULTANT will prepare plan view sheets at a 1"= 20' scale (full size) and 1" = 40' scale (half size).

CONSULTANT will prepare a cover sheet including an index of drawings. The list of plan sheet titles in the indices will exactly match the titles as they appear on the plan sheets.

CONSULTANT will prepare a vicinity map showing the project limits. The vicinity map will include the beginning and ending of construction, stations, major cross streets, waterways, and critical areas.

CONSULTANT will prepare a sheet layout index for each scale used showing the sheet layout for the various disciplines. CONSULTANT will prepare general notes, abbreviations, and symbols sheet.

13.2. Survey, Control and Alignment

CONSULTANT will prepare a set of alignment tables and plan sheets for survey control, monumentation, and alignments. The alignment tables will list necessary curve details for both existing and proposed centerline alignments. The plan sheets will include alignment centerline, horizontal and vertical control data.

13.3. Typical Roadway Sections

Roadway sections will be developed for State Avenue denoting roadway widths, right-of-way widths, sidewalks, medians, landscaping, pavement design, wall locations, and traffic lanes. It is assumed that all cross street work will be minor and will be able to be built using plan and detail sheets only – no roadway section will be required. The typical sections cover typical work throughout sections of the project and will not include every minor change in section dimensions and features. Where there are anomalies the appropriate discipline plans will be referenced for concurrence.

13.4. Site Preparation

CONSULTANT will define the site preparation and demolition activities, including items to be abandoned, salvaged, recycled or removed, and identify facilities that need to be protected during construction. Site Prep plans will include surface feature items, such as pavements (by type), sidewalk, curbs, walls, and miscellaneous structures. Demolition required for utilities, drainage features, signing, signalization and illumination will not be included in these drawings and will be shown on the relevant discipline drawings. Cut/fill lines will be shown on the site preparation plans.

13.5. Temporary Erosion and Sedimentation Control (TESC)

CONSULTANT will prepare temporary erosion control details which show erosion and sedimentation controls measures to be used for this project. Cut/Fill lines will be shown on the TESC plans.

The TESC drawings will be prepared in accordance with the CITY requirements and by reference the requirements written in the 2012 ECOLOGY Stormwater Management Manual for Western Washington and will also be included with the SWPPP.

13.6. Alignment, Profile, and ROW Plans

CONSULTANT will prepare horizontal and vertical profile drawings for State Avenue within the PROJECT area. Superelevation rates and transitions will be shown in cross-slope diagrams and will be included on the profiles. ROW information will be included on these plan sheets for proposed limits post acquisitions.

13.7. Paving Plans

CONSULTANT will prepare roadway paving plans that will show dimensions for roadway outlines, curb and gutter, and sidewalks. The plans will also show curb returns, tapers, intersection layouts, proposed driveway access, and other pertinent surface features. The paving details will include design details of atypical curbs, paving, and layout of flatwork features not captured by the standard plans.

13.8. Intersection Grading Plans

CONSULTANT will design intersection grading to tie into the existing cross street's existing terrain. Intersection curb radii will be designed including curb radii tables with locations and elevations for PC, PT, quarter points, low points, and curvature staking information including radius, length of curve, tangent, and delta. Curb ramp grading will be performed for each curb ramp in the corridor and will be designed on curb ramp detail sheets to meet ADA requirements.

It is assumed that an ADA Maximum Extent Feasible (MEF) may be required on this PROJECT. Because the exact number of curb ramps that will need an MEF is not known, it is assumed that 8 ramps will require the documentation. .

It is assumed the following intersections will have associated intersection and curb ramp grading sheets:

INTERSECTION	HALF/FULL GRADING	# CURB RAMPS
103RD PL NE	Half	2
104TH ST NE	Full	4
QUILCEDA BLVD	Half	2
105TH PL NE	Half	2
106TH PL NE	Half	2
108TH PL NE	Half	2
109TH PL NE	Half	2
113TH PL NE	Half	2
UNNAMED DRIVEWAY	Half	2
116TH ST NE	Half	4

13.9. Driveway & Property Interface Grading & Details

CONSULTANT will design grading to tie into the existing terrain at private properties adjacent to the corridor. This includes driveway grading, private sidewalks, and parking modifications to match into existing properties. Relocations of private signage and mailboxes will be shown on the plan. Profiles will be created for each of these driveway locations with accompanying plan view at a scale of 1"=5'.

13.10. Drainage System Plans & Details

CONSULTANT will prepare plans and details for the LID and gravity drainage design, including plan views of drainage pipes and structures, LID features, connections to the existing stormwater systems, and nonstandard drainage details. These storm system layouts will include catch basin and manhole locations, and the details required to describe the stormwater facilities. Stormwater detention and treatment facilities on the City Maintenance Site will be included in the stormwater plans and details.

These plans will include profiles for the storm drains required within the project limits. Pipe elevations on all inverts, size, length, and type as well as drainage structures will be included. Profiles of the stormwater facilities will also be included. Existing and proposed utility crossings will be depicted based on pothole data and utility profiles.

13.10.1. Stormwater Pollution Prevention Plan (SWPPP)

The CONSULTANT shall prepare a SWPPP application package to accompany the earthwork and temporary erosion control plan sheets for submittal to the CITY for review. The SWPPP will be in accordance with the CITY's Municipal Code and WA State Department of Ecology standards. The CONSULTANT will incorporate the CITY's comments, as applicable, in the Final SWPPP. The SWPPP will be prepared to level that is sufficient to support of the NPDES NOI permit process. One SWPPP with will be prepared for the entire project.

Deliverable(s):

- The Draft SWPPP will be submitted with the 90% design.
- The Final SWPPP will be submitted with the Ad-Ready design.

13.10.2. Drainage Design Report

CONSULTANT shall prepare a Drainage Design Report in accordance with the requirements of the City of Marysville's municipal code and by reference the 2012 WA State Department of Ecology (ECOLOGY) Surface Water Management Manual for Western Washington. The Drainage Design Report will document the minimum stormwater management requirements that apply to the project; BMP selection; calculations to support complete BMP and conveyance sizing; and a summary of long-term operations and maintenances plan components.

CONSULTANT will evaluate and select Best Management Practices (BMPs) to provide permanent stormwater management for the project in accordance with the CITY requirements. Where feasible, LID techniques that promote stormwater infiltration will be used. LID techniques will be the preferred BMPs to provide on-site stormwater flow control and water quality treatment. In areas of poorly drained soils or where full infiltration is not feasible, partial infiltrating BMPs that utilize under drains may be used. Traditional flow control and water quality treatment BMPs, such as surface detention ponds or flow-through cartridge treatment devices, will be considered in areas such as the City Maintenance Property.

BMP selection will be based on infiltration capacity, topography, the amount of space available within the right of way, life-cycle cost and aesthetic considerations, and the CITY's overall sustainability goals for the project.

Hydrologic modeling will be performed using an Ecology approved continuous simulation hydrologic model to size BMPs and evaluate the expected performance of each in terms of meeting Minimum Requirements from the ECOLOGY Manual, as they apply to the project. Results from the modeling will be used to evaluate design parameters, such as the amount of flow to divert to each BMP; and preliminary facility depths, surface areas, and slopes needed to meet the applicable minimum requirements.

Assumption(s):

- The Draft Drainage Design prepared under this task will correspond to the 60% complete designs.
- There will be only one version each of a Draft Drainage Design Report and Final Drainage Design Report.
- The 60% Draft Drainage Design Report will be subject to one round of CITY review. The CITY will provide one consolidated set of synthesized comments on the draft memorandum to the CONSULTANT. The CONSULTANT will incorporate the CITY's comments, as applicable, in the Final Drainage Design Report submitted during 60% and 90% Design Submittals.
- Western Washington Hydrology Model (WWHM) or MGS Flood modeling software will be used.
- The default rainfall gage with a site specific correction factor and model parameters will be used.
- Model calibration or validation will not be performed.

Long-term design infiltration rates from the geotechnical report will be used modeling infiltrating BMPs

Deliverable(s):

- The Draft Drainage Design Report will be submitted with the 60% design.
- The Final Drainage Design Report will be submitted with the 90% design.

13.11. Retaining Wall Plan, Profile & Details

This task involves final design and contract documentation preparation for permanent and temporary retaining walls designs and miscellaneous structures. Plan, profiles and details will be included in the plans, including the excavation limits required to construct each of the structures. Retaining wall systems are proprietary products and final design of the walls will be completed by the Contractor as described in the WSDOT specifications.

13.12. Fish Passage Culvert Design and Details

The CONSULTANT will design the fish passage structure meeting the structural requirements of AASHTO LRFD. The Fish Passage is assumed to be a precast box culvert design. The size of the precast box culvert is assumed to be 20' in width and 12' in height, and 90' in length. CONSULTANT will design plan, profile, and detail sheets including the design parameters and construction sequencing.

The CONSULTANT will prepare plans, sections and details for the fish passage culvert and upstream and downstream of the culvert where grading is required to match the existing channel. The plans will include typical sections of the channel within the reach, the depth and placement of the streambed material, and placement and details on wood within the reach.

13.13. Pavement Marking

CONSULTANT will prepare plans and details for the channelization, including lane and edge stripes, stop bars, pavement markings, crosswalks, and geometry of striped medians and turn pockets. Limits of channelization will match paving limits.

13.14. Signing Plans, Schedules & Details

CONSULTANT will prepare signing plans that show the location of new signs and associated sign design details. Signing will conform to the current edition of the MUTCD and the CITY'S signing guidelines.

13.15. Signals, Illumination, & ITS

CONSULTANT will prepare the signal modification plans, and details showing proposed locations for the signal equipment, electrical hardware, and wiring diagrams for all three intersections located within the PROJECT limits:

- 100th Street NE and State Avenue
    - Minor detection modifications to opticom system and advanced loops.
- 116th Street NE and State Avenue
    - Minor modification to the advanced loops and video detection systems.
    - Assumed Relocation of the existing Signal Pole in the SW quadrant.
- 104th Pl NE and State Avenue
    - Work at this intersection includes only installation of the conduit across the roadway. No signal poles or signal heads will be installed at this time.

Based on the selection of preferred illumination design from the CITY, CONSULTANT will prepare the illumination plans, and details. CONSULTANT will submit to the CITY a set of illumination plans showing proposed locations for the new illumination, wiring diagrams, illumination base type and electrical hardware.

Illumination improvements will consist of new facilities from the intersection at 100th Street to the first decorative luminaire north of 116th Street.

CONSULTANT will include ITS elements per direction from CITY staff and CITY standards. The CITY will provide standard details and specifications for the ITS system components. The CONSULTANT will design conduit runs for future ITS fiber between 100th Street and 116th Street.

13.16. Landscape and Irrigation

CONSULTANT will develop landscape and irrigation plans based on CITY's direction and input.

The objective of this task is to include landscaping elements where they provide a necessary buffer to pedestrians along residential frontages. The CONSULTANT will:

- Design Landscaping and Irrigation of 2 City blocks of planter strips, working with the City to select appropriate plantings meeting the look and feel of the corridor.
- In support of the restoration of sensitive areas, the landscaping design will include mitigation design around the Quilceda Creek Crossing Improvements to restore areas disturbed by construction.
- Identify and design barrier designs to add an urban design component to the barriers in the Quilceda Creek Crossing area.

Landscape plans shall include tree placement, size and species, areas where shrubs and groundcover shall be planted, slope stabilization measures and stream enhancement, where applicable. Details and schedules for planting shall be included.

Where focused areas of planting occur, irrigation plans shall include layouts for project required irrigation head and pipe layout, zone schedules, irrigation controller, irrigation meter location/type/size, and power

source. Detail sheets will include details for items such as connections for the irrigation lines to water and power sources.

13.17. Traffic Control

CONSULTANT will develop basic traffic control narrative and sequencing plan for construction of roadway, utility, and stream crossing improvements utilizing lane closures. Traffic control plan will provide basic information to facilitate contractor prepared detailed traffic control plan for stream crossing improvements. No detour plans will be provided based on the assumption that there will be no road closures.

13.18. Utility and Concrete Panel Potholing

CONSULTANT will develop a potholing program to verify existing utility location, depth and size. Critical pothole locations will be determined during the design phase and coordinated with the various utility owners. Documentation will consist of pothole locations shown on plan drawings with additional information in tabular form. Tabular information will include utility type, size, location, depth and additional detail as determined. It is assumed that the City and franchise utilities will perform the potholing of utilities and concrete roadway panel locations.

Potholing will be performed after the 30% submittal. Utility information either gathered from pothole data or from utility as-built plans will be 3D modeled and used to identify conflict locations as well as shown in the drainage and retaining wall profiles. Utility data and any franchise utility relocations will incorporate into the 60% plans and profiles. All utility design work will be done by the affected utility owners.

Deliverable(s):

- Utility Plans to support utility relocation by others

13.19. 60% Submittal

The CONSULTANT will use the 30% design plans and progress to the 60% design and plan level. The CONSULTANT will take into consideration the 30% design review comments from the CITY while advancing to the 60% level.

13.19.1. 60% Plans

The CONSULTANT will further develop the 30% plans to a 60% plan level including the sheets listed in the following table.

The anticipated sheet list for final design includes:

60%, 90%, 100% & Ad-Ready Submittal Sheet List

Sheet Description	60%	90%	AD
Cover Sheet with Vicinity Map and Index	1	1	1
Legend, General Notes, Abbreviations, and Project Key map	2	2	2
Roadway Typical Sections	6	6	6
Alignment, Profile, and ROW Plans	19	19	19
Site Preparation & TESC Plans	12	13	13
TESC Notes	1	1	1
TESC Details	2	2	2
Temporary Access Road Plans	2	2	2
Paving Plans	12	12	12
Paving Details	2	4	4
Intersection & Curb Ramp Grading Details	6	6	6
Drainage Plans and Profiles	14	14	14
Drainage Details	2	4	4
Retaining Wall Notes & Sequencing Plan	1	1	1
Retaining Wall Plan and Profiles	6	6	6
Retaining Wall Details	2	4	4
Fish Passage Culvert Plans	2	2	2
Fish Passage Culvert Details	3	3	3
Stream Restoration Details	2	2	2
Pavement Marking & Signing Plans	12	12	12
Pavement Marking Details	1	1	1
Signing Schedule & Details	1	2	2
Signals, Illumination & ITS Plans	16	16	16
Signal Details (3 Intersections)	3	3	3
Illumination Schedule & Details	2	2	2
ITS Details	2	2	2
Landscaping and Irrigation Plans	6	6	6
Landscaping Details	-	2	2
Irrigation Details	-	1	1
Utility Plans and Profiles	14	14	14
Utility Details	4	4	4
Staging and Traffic Control Sequencing Notes	1	1	1
Staging and Traffic Control Plans	2	2	2

Total # Sheets	161	172	172

13.19.2. 60% Specifications

The CITY will supply the CONSULTANT with the current version of the CITY's Special Provisions. The CITY's boilerplate up front and division 1 specifications are supplied in a Microsoft Word format. CONSULTANT will be required to create a "run-list" and edit the boilerplate version by supplementing project specific information. The CONSULTANT shall keep a current project "run-list" and rerun the batch program prior to each plan submittal.

13.19.3. 60% Engineer's Opinion of Cost

CONSULTANT's Engineer's Estimate shall develop an opinion of cost and document the estimate with backup quantity calculations. Backup calculations shall specifically include items measured by the appropriate unit. The Engineer's Estimate will include an itemized list in tabular form, describing; section, item, and number of units (quantity), estimated unit costs, and total cost, with the understanding that any cost opinion or Engineer's Estimate provided by the CONSULTANT will be on the basis of experience and judgment. The estimate shall be prepared using standard unit costs and lump sum prices. Ott- Sakai subconsultants will provide recommendations for unit costs and of estimate items. The 60% opinion of probably cost shall include contingencies for elements not yet fully defined. The "Bid Proposal" within the boilerplate specifications shall be prepared from this information by the CONSULTANT.

13.20. 90% Submittal

The CONSULTANT will use the 60% design plans and progress to the 90% design and plan level. The CONSULTANT will take into consideration the 60% design review comments from the CITY while advancing to the 90% level.

13.20.1. 90% Plans

The CONSULTANT will further develop the 60% plans to a 90% plan level including the sheets listed in the previous table.

13.20.2. 90% Specifications

The CONSULTANT will update the specifications with any new or additional special provisions from the advancement of design and incorporation of CITY comments. The CONSULTANT shall run the "run-list" prior to submittal.

13.20.3. 90% Engineer's Opinion of Cost

CONSULTANT's Engineer's Estimate shall develop an opinion of cost and document the estimate with backup quantity calculations. Backup calculations (including quantity takeoff sheets), showing assumptions made in

determining quantities for each bid item, shall be made available upon request. Backup calculations shall specifically include items measured by the appropriate unit. The Engineer's Estimate will include an itemized list in tabular form, describing; section, item, and number of units (quantity), estimated unit costs, and total cost, with the understanding that any cost opinion or Engineer's Estimate provided by the CONSULTANT will be on the basis of experience and judgment. The estimate shall be prepared using standard unit costs and lump sum prices. Ott- Sakai subconsultants will provide recommendations for unit costs and of estimate items. The 90% opinion of probably cost shall include contingencies for elements not yet fully defined. The "Bid Proposal" within the boilerplate specifications shall be prepared from this information by the CONSULTANT.

13.21. Ad-Ready Submittal

CONSULTANT will use the 90% design plans and progress to the Ad-Ready design and plan level. The CONSULTANT will take into consideration the 90% design review comments from the CITY while advancing to the Ad-Ready level.

13.21.1. Ad-Ready Plans

The CONSULTANT will further develop the 90% plans to an Ad-Ready plan level without the addition of any new sheets.

13.21.2. Ad-Ready Specifications

The CITY will supply the CONSULTANT with the current version of the CITY's Special Provisions. The CITY's boilerplate specifications are supplied in a Microsoft Word format. CONSULTANT will be required to create a "run-list" and edit the boilerplate version by supplementing project specific information. Since the CITY updates the boilerplate specifications, the CONSULTANT shall keep a current project "run-list" and rerun the batch program prior to each plan submittal.

13.21.3. Ad-Ready Engineer's Opinion of Cost

CONSULTANT's Engineer's Estimate shall develop an opinion of cost and document the estimate with backup quantity calculations. Backup calculations (including quantity takeoff sheets), showing assumptions made in determining quantities for each bid item, shall be made available upon request. Backup calculations shall specifically include items measured by the appropriate unit. The Engineer's Estimate will include an itemized list in tabular form, describing; section, item, and number of units (quantity), estimated unit costs, and total cost, with the understanding that any cost opinion or Engineer's Estimate provided by the CONSULTANT will be on the basis of experience and judgment. The estimate shall be prepared using standard unit costs and lump sum prices. Ott- Sakai subconsultants will provide recommendations for unit costs and of estimate items. The Ad-Ready opinion of probably cost will not include contingencies as all elements of work are defined. The "Bid Proposal" within the boilerplate specifications shall be prepared from this information by the CONSULTANT.

13.21.4. Construction Schedule

The CONSULTANT shall update the Mock Bid construction schedule to reflect anticipated construction advertisement dates. The Construction Schedule shall show the sequencing and durations of all construction activities. All constraints, such as wet weather conditions, utility work coordination, etc., shall be identified and factored in the schedule. The number of working days for the construction contract shall be based on the overall construction duration shown in the schedule.

TASK 14. CONSTRUCTABILITY ANALYSIS / MOCK BID EXERCISE

The CONSULTANT shall provide constructability input and review of the culvert and wall construction, and proposed maintenance of traffic (MOT) plans. The CONSULTANT will review the constructability, construction requirements, forward compatibility and complete the bid form with a contractor-style estimate of project costs (Mock Bid), including procuring quotes from construction service providers for elements of the project to inform cost.

The CONSULTANT shall develop a critical path method construction schedule. The Construction Schedule shall show the sequencing and durations of all construction activities. All constraints, such as wet weather conditions, utility work coordination, etc., shall be identified and factored in the schedule. The number of working days for the construction contract shall be based on the overall construction duration shown in the schedule.

The Mock Bid exercise of the 90% Level construction documents will include a review of the completeness and clarity of the plans and special provisions, constructability, and schedule. The Mock Bid will be conducted by experienced construction professionals using current market information regarding labor, materials, fabrication, and delivery information available to the local construction industry. The exercise will be performed in a similar manner as the project would be bid in order to provide an independent quality control check of the Engineer's Estimate of Probable Cost. Results of the Mock Bid Exercise will be summarized in the form of a report memorandum.

Assumption(s):

- Current Project schedules to remain as assumed at beginning of contract.
- Mock Bid shall utilize insurance, overhead, and price quotes at time of Mock Bid relative to the current construction climate.

Deliverable(s):

- Mock Bid Construction Schedule
- Mock Bid Constructability Analysis and Bid Summary Memorandum
- Mock Bid Cost Estimate

TASK 15. REAL ESTATE SERVICES

The objective of this task is to provide assistance to the CITY in acquiring the necessary right-of-way, permanent easements and temporary construction easements to construct the roadway and utility improvements.

CONSULTANT will provide the following:

15.1. Real Estate Services Management. Provide overall management for all appraisal and real estate services (RES).

1. Prepare a monthly status report in excel format beginning when appraisals are commenced on the project.
2. Attend periodic RES project status meetings.
3. Provide quality control and quality assurance for work products.
4. Establish clear lines of communication with the CITY in order to determine and document the appropriate decision making process to achieve project goals and to provide open access to all available data that is pertinent to the project.

15.2. Property Descriptions and Valuations. Manage the preparation of a PFE, AOS reports, Appraisals for up to thirty-eight (38) parcels.

1. Review and quality control (QC) legal descriptions, exhibits, and right-of-way plans prepared by Survey Subconsultant (1-Alliance) for the transfer of the property rights needed for construction, including fee interests, permanent and temporary easements, for use by the right of way acquisition team.
2. Prepare an appraisal schedule for delivery of a PFE, AOS reports, and appraisal reports.
3. Assemble all needed appraisal data and appraisal scope for each assigned parcel.
4. Send out landowner contact letters to all affected parcels to be appraised in advance of the appraisal.
5. Agents will attend appraisal inspections, where possible.
6. Manage the delivery of a PFE, AOS reports, appraisals, and prepare OC checklist for PFE and appraisal reports.

15.3. Right-of-Way Acquisitions and Negotiations.

1. Prepare *offer* packages, present offers and negotiate purchases, prepare administrative settlement memos and condemnation packages, and prepare executed documents for agency approval and

processing for a maximum of thirty-eight (38) parcels. All acquisition files will be transmitted to the CITY with all original documents at the completion of negotiations.

2. Prepare all documents required for the assigned parcels including Offer Letters, Deeds, Easements, W 9's, Real Property Vouchers, Real Estate Tax Affidavits, Escrow Agreements, and Negotiator Diaries.
3. Act as the agent for CITY in all negotiations.

Provide justification in the negotiators diary for any settlement above the approved offering price.

4. Prepare administrative settlement memos and condemnation packages as needed.
5. Transmit completed files to CITY at the completion of negotiations.
6. Assist CITY with Right-of-Way pre-certification file review and final Right-of-Way Certification by preparing final certification-ready files and overview spreadsheet,, and attend a maximum of two (2) certification meetings with the CITY (as necessary).

CITY Responsibilities:

1. Provide HDR with a copy of WSDOT approved Right-of-Way acquisition procedures.
2. Approve the form and content of the status reports.
3. Attend all RES project status meetings.
4. Review and approve the appraisal schedule.
5. Review all valuation materials and sign AOS reports and the determination of value statements.
6. Review and approve all form documents and deed forms prepared by CONSULTANT.
7. Approve all administrative settlements.
8. Process all landowner payments, clear all encumbrances, and manage escrow or in-house closing for all acquisitions.
9. Make prompt payment to the owner or Escrow Company for all approved acquisitions.
10. Review and approve all transmitted files, and files and documents prepared by HDR for any required WSDOT right-of-way pre-certification and certification reviews.

Assumption(s):

1. HDR shall follow the Uniform Relocation Act, WSDOT Local Agency Guidelines (LAG) manual, all applicable State and local laws, and CITY administrative rules for right of way acquisition for all real estate services provided for this project.
2. CITY will provide all real estate forms that CONSULTANT will use and those forms shall be consistent with CITY acquisition practice.
3. CITY will provide HDR with available project information such as but not limited to the CITY's State approved right of way procedures, and environmental documentation.
4. There will be a maximum of thirty-eight (38) parcels impacted by this project with thirty-eight (38) parcel valuations prepared under the following assumptions:

5. All valuation services will be performed by a WSDOT certified independent appraiser to WSDOT LAG manual standards.
    a. One (1) final Project Funding Estimate (PFE) will be completed.
    b. Twenty-three (23) parcels will be valued as Administrative Offer Summary (AOS) reports.
    c. Fifteen (15) parcels to be valued as appraisal reports.
    d. Fifteen (15) appraisal reviews.
    e. The appraisals include a maximum of five (5) non-complex and ten (10) complex parcels. If the preliminary funding estimate identifies parcels as valued at $25,000 or less, AOS reports will be used and valuation costs may be reduced accordingly.
    f. Any additional appraisals or additional complex appraisals not anticipated in this scope will result in additional costs to CITY.
    g. Notice to Proceed (NTP) for PFE, AOS reports and appraisals will be the date sufficient right of way plans or exhibits are provided with title and landowner contact info to the appraiser. This is scheduled to be near the completion of the preliminary design phase.
    h. Notice to proceed (NTP) for the appraisal reviews will be the day the appraisals are delivered to the reviewer.
    i. The anticipated delivery date for all appraisals is seventy-five (75) days from NTP and for all reviews is forty-five (45) days from NTP.
    j. Appraisal reviews will be desk reviews of a maximum of six (6) parcels.
6. For real estate services the HDR's title review responsibilities shall be limited to identifying the correct vesting from the title report and inputting that information into the appropriate acquisition documents. All encumbrances to be cleared will be identified by the CITY, and cleared by the CITY or in escrow.
7. HDR shall make a maximum of three (3) good faith attempts at negotiations for each parcel assigned with those attempts being defined as an in-person visit with landowner, a detailed phone conversation or a substantive correspondence or email exchange.
8. The initial offers to purchase will be delivered by mail; and that letter along with the associated RES documents shall be considered a good faith landowner contact.
9. If negotiations cannot be concluded within 60 days of the offer date on any given parcel or if an appraisal is requested by a landowner for any AOS parcel then the hours to complete those parcels will be re-negotiated and adjusted accordingly.

10. This scope of services and associated budget is based on a level of effort not to exceed 30 hours per parcel for negotiations. Should a parcel require negotiation services beyond this basis, it will be considered Extra Work.
11. Acquisition activities on any given parcel shall be deemed completed if any of the following occurs; a negotiated settlement is reached, a second or updated offer is made, the offer is rescinded, the parcel is transmitted for condemnation, or the 60 day negotiation period has been exceeded.
12. The CITY will contract directly with the escrow company for closing and title reports. When the CITY receives acceptable documents from the HDR, they will be signed by the CITY and forwarded to the title/escrow company tor processing, recording and closing. The escrow company will be responsible for the preparation and receipt of all signatures for all documents such as Waivers of Compensation, Requests for Partial Re-conveyance, and satisfaction of all liens and encumbrances for each acquisition.
13. HDR will transmit completed files at the time or immediately after signed documents are submitted to the CITY for processing or when a file is returned to CITY at completion of negotiations as defined within this scope with any documents or other information needing to be added to the file noted in a checklist at the time of transmittal.
14. There will be a maximum of thirty-eight (38) parcels where right of way and temporary construction easements for feathering in existing driveways will need to be acquired for this project. However there will be no compensation due to the landowner if it is determined that any minor acquisition is a mutual benefit to the landowner and the City.
15. It is anticipated that there will be a maximum of six (6) RES status reports produced and six (6) RES status meetings to be held via conference call, with a maximum of two (2) HDR staff participating in each conference call. Staff time commitment is estimated at 2 hours per conference call for preparation, participation in the call and notes.
16. HDR shall have a minimum of one and a maximum of three staff attending any scheduled meetings.
17. All meetings are anticipated to be held via conference call.
18. There will be one (1) WSDOT pre-negotiation and one (1) WSDOT post-negotiation right-of-way certification meeting with a maximum of two (2) HDR staff in attendance. WSDOT meetings are anticipated to be held at the City of Marysville Public Works Offices. There will be a maximum of one round of responses for clarification, changes, or additional information after each right-of-way certification meeting.

Deliverable(s):

1. RES Status Reports (maximum of 6).

2. Meeting summary notes (electronic PDF).
3. Redline review and quality control (QC) of legal descriptions, survey exhibits, and for right-of-way plans.
4. Appraisal management and schedule.
5. Landowner Appraisal Site Inspection Contact letters.
6. PFE & AOS reports and QC Checklist.
7. Appraisal Reports, Appraisal QC Checklists, and Appraisal Reviews.
8. Completed acquisition documents.
9. Administrative Settlement Memos.
10. Process executed acquisition documents to CITY for closing and payment.
11. Completed files or condemnation packages.
12. Right-of-Way Certification overview report and meeting summary notes

TASK 16. FUNDING SUPPORT

CONSULTANT will provide support to the CITY in its application efforts for local grant funding, with focused policies and benefits favorable to the criteria of the specific funding sources, to seek additional project funding. Work includes supplying graphics and data to support the application and documentation. Grant funding agencies will include Transportation Improvement Board (TIB) and Department of Ecology (ECOLOGY). It is assumed that this work will be on an as needed basis. The budget for this task is limited to that amount shown in the project budget. Work beyond the budgeted amount will be considered extra work.

TASK 17. BIDDING PHASE ASSISTANCE

The objective of this task is to provide assistance to the CITY during the advertisement for construction and bidding phase in order to provide information to prospective bidders to support a competitive bidding environment.

CONSULTANT will provide written responses to questions and requests for clarifications to the contract documents submitted to the CITY during the bidding period. Responses will be provided in Microsoft Word format and submitted to the CITY for inclusion in contract addenda.

CONSULTANT will evaluate Bidder requests for alternative ("or equal") approvals during the bidding phase.

CONSULTANT will prepare, attend and participate in the Pre-Bid Conference.

CONSULTANT will assist the CITY in preparing all addenda.

CITY Responsibilities:

Record, consolidate and deliver Bidder questions and requests for contract document interpretations to the CONSULTANT in timely fashion.

Schedule, organize and conduct the Pre-Bid Conference.

CITY will issue all addenda.

Assumption(s):

1. This PROJECT will be bid as one construction project.
2. Pre-Bid Conference will be held at the City of Marysville Public Works Offices and include a site visit – maximum labor effort for two CONSULTANT staff of 4 hours per staff member.
3. The budget for this task is limited to that amount shown in the project budget. Work beyond the budgeted amount will be considered extra work.

Deliverable(s):

1. Written responses to Bidders' questions and requests for interpretations and evaluation of acceptable alternate ("or equals").
2. Pre-bid addenda.
3. Conformed set of contract documents.

FEE ESTIMATE

City of Marysville: State Avenue Corridor Widening Project (100th Street NE to 116th Street NE)

		From "Labor Budget" Tab	From "Expenses" Tab	
Task #	**Task Description**	**Billable Labor**	**Billable Expenses**	**Total From Spreadsheet**
1	Project Management & Administration	$ 74,729.98	$ 1,720.00	**$76,449.98**
2	Client Communications & Coordination	$ 18,194.96	$ 1,252.30	**$19,447.26**
3	Quality Assurance / Quality Control	$ 40,182.48	$ 292.75	**$40,475.23**
4	Data Collection / Review of Existing Information	$ 8,862.88	$ 542.00	**$9,404.88**
5	Survey and Mapping	$ 5,673.08	$ 150,099.80	**$155,772.88**
6	Geotechnical Engineering	$ 2,303.52	$ 163,054.68	**$165,358.20**
7	Watermain Design	$ 55,161.56	$ 204.10	**$55,365.66**
8	Traffic Analysis	$ 15,529.96	$ 7,766.35	**$23,296.31**
9	Preliminary Engineering	$ 47,743.12	$ 76.24	**$47,819.36**
10	30% Design	$ 127,654.88	$ 621.94	**$128,276.82**
11	Value Engineering (VE) Study	$ 15,752.84	$ 1,755.47	**$17,508.31**
12	Environmental Documentation & Permitting	$ 71,321.22	$ 25,324.60	**$96,645.82**
13	Final Design - PS&E	$ 425,061.54	$ 3,155.90	**$428,217.44**
14	Constructability Analysis	$ 1,521.76	$ 23,390.34	**$24,912.10**
15	Real Estate Services	$ 240,060.72	$ 98,636.40	**$338,697.12**
16	Funding Support	$ 3,384.72	$ 50.00	**$3,434.72**
17	Bidding Phase Assistance	$ 9,481.48	$ 194.45	**$9,675.93**
				$1,640,758.02
	Escalation			$24,787.07
				$1,665,545.09