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| Local Agency A&E Professional Services Supplemental Agreement | Consultant/Address/Telephone Jacobs Engineering Group, Inc. 1100 112 th Avenue NE, Suite 500 Bellevue, WA 98004 | |
| Supplement Number Supplement No. 3 | Contact Name / E-Mail Address Jeff D. Benson / jeff.benson@jacobs.com | |
| Agreement Number CCF01-19 | Telephone 425-233-3234 | Fax 425-468-3100 |
| | Execution Date 12/12/2019 | Completion Date 12/31/2022 |
| Project Title 43rd Ave SE from SR 524 to 180th Street SE | New Maximum Amount Payable \$1,462,446 | |
| Description of Work <i>Provide all design services necessary to complete 60% engineering design, 60% plans and details, and 60% estimate of probably construction costs for improvements to 43rd Ave SE and Sunset Rd between SR 524 and 180th Street SE, east of the Mill Creek city limits, in unincorporated Snohomish County.</i> | | |

The Local Agency of Snohomish County desires to supplement the Agreement entered into with **Jacobs Engineering Group, Inc.** and executed on December 12, 2019, as amended by Supplement No. 1 on August 5, 2020, as amended by Supplement No. 2 on September 24, 2020, and identified as Agreement No. **CCF01-19**. All provisions in the basic agreement remain in effect except as expressly modified by this supplement.

The changes to the Agreement are described as follows:

I

The "Maximum Amount Payable" amount on the Agreement title page is amended as follows:

Maximum Amount Payable \$1,462,446

II

EXHIBIT A-2 Supplemental Scope of Work, attached hereto and by this reference made part of the original Agreement, as additional work to be performed under Exhibit A.

III

EXHIBIT D Prime Consultant Cost Computations – Fee Schedule, attached hereto by this reference made part of the previously amended Agreement, and adds supplemental cost computations for the additional work to be performed under Exhibit A-2 of this Agreement.

IV

EXHIBIT E Subconsultant Cost Computations – Fee Schedule, attached hereto by this reference made part of the previously amended Agreement, and adds supplemental cost computations for the additional work to be performed under Exhibit A-2 of this Agreement.

IV

EXHIBIT H Liability Insurance Increase, attached hereto by this reference made part of the original Agreement, has been amended and hereby replaces the original Exhibit H.

If you concur with this supplement and agree to the changes as stated above, please sign in the appropriate spaces below and return to this office for final action.

By: **JACOBS ENGINEERING GROUP, INC.**

By: **SNOHOMISH COUNTY**

Consultant Signature

Approving Authority Signature

Date

Exhibit A-1

Supplemental Scope of Work

43rd Avenue SE/Sunset Road: SR 524 to 180th Street SE
RC-1592, UPI# 16-0040

SUPPLEMENT NO. 3

Supplement No. 3 includes Final Design Plans, Specifications and Opinion of Cost for construction.

Final Design is based on the proposed improvements shown on the 60% 43rd Avenue SE/Sunset Road: SR 524 to 180th Street SE plans along with the design of Rectangular Rapid Flashing Beacons (RRFBs) at up to four locations that will be determined along Sunset Road – 43rd Avenue SE.

The target for completing final design deliverables is 22 months following the signed amendment. The main design will be put on hold after the 90% plans for approximately four months. During these four months, CONSULTANT will provide Right of Way assistance to the AGENCY as defined in Task 3.

The full impact of the COVID-19 pandemic is not fully known at this time. The schedule and cost estimate for the work outlined in this proposal are based on typical project delivery estimates and assumptions without taking into consideration any schedule or cost impacts resulting from any COVID-19 federal, state, or local restrictions or guidelines. Any schedule delays or cost impacts resulting from COVID-19 restrictions will be assessed by the CONSULTANT and communicated to the AGENCY, and vice versa.

This scope of work describes the work elements to be accomplished by the CONSULTANT as summarized under each Task. This scope consists of the following work elements:

- Task 1 – Project Management and Coordination
- Task 2 – Survey and Basemapping Coordination
- Task 3 – Right-of-Way Assistance and Coordination
- Task 4 – Environmental and Public Involvement Support
- Task 5 – Agency Coordination
- Task 6 – Geotechnical Coordination
- Task 7 – Utility Coordination
- Task 8 – Storm Drainage Design
- Task 9 – Plan Preparation, Specification List and Opinion of Cost
- Task 10 – Roundabout Design
- Task 11 – Project File Management and Electronic Exchange of Engineering and Other Data
- Task 12 – Assistance During Bidding (New Task)

This Scope of Services is defined in the tasks below:

Task 1 – Project Management and Coordination

Overall project management and coordination work elements include:

1.1 Project Administration

(Amend the original scope of work to include services for 18 additional monthly services.)

The CONSULTANT will provide project management and administration (including invoicing, monthly progress reports, and schedule updates) and coordination with AGENCY staff throughout the project's duration. The CONSULTANT will

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provide oversight, direction and management of the project team for execution of work as identified in this scope of services and will monitor the project budget and schedule. For budgeting purposes, the project duration is assumed to be 22 months. However, it is assumed that monthly coordination meetings and schedule updates will occur for 18 months of the contract.

The CONSULTANT will manage the schedule, scope, budget, and quality over the term of the Agreement. Progress report including project progress, upcoming work, schedule status and financial status will be included with each invoice. This work element is intended to help monitor costs and budgets, and to propose corrective actions. This may include formal scope and/or budget modifications if mutually agreed.

The CONSULTANT's Project Manager will maintain communication with the AGENCY's Project Manager and the CONSULTANT's Project Team via informal meetings, telephone discussions, electronic mail and other means necessary.

1.2 Project Coordination Meetings

(Amend the original scope of work to include services for 24 additional meetings.)

Participate in monthly project coordination meetings with the AGENCY (assume 18 meetings). Attend up to six (6) additional coordination meetings with AGENCY resource groups and staff on an as needed basis. Project coordination meetings are anticipated to last approximately 1 hour each. The CONSULTANT will prepare meeting agendas and meeting notes with the assistance from the AGENCY. Utility coordination meetings are not included in this task (see Task 7).

1.3 Project Work Plan

(Amend the original scope of work to update the project work plan.)

The CONSULTANT will update a work plan for the project after the Notice to Proceed which includes a project team communication plan, identification of deliverables, a quality control plan, and procedures for change management.

1.4 Project Schedule

(Amend the original scope of work to update the project schedule.)

The CONSULTANT will create, maintain, and submit a Microsoft Project schedule including milestones dates for each work item and will include AGENCY predecessor tasks (if provided by the AGENCY). The CONSULTANT will update and submit this schedule monthly throughout the life of the project.

Assumptions:

- Project meetings will be held online.
- The number of CONSULTANT's staff attending each meeting are approximately limited to those shown within the project level of effort (budgeting) spreadsheet.
- Hours required for quality control (checking) of all work products are included in the tasks under which those work products are scoped.

Deliverables:

- Project Meeting Agenda and Meeting Notes, when applicable (up to 24 meetings)
- Monthly Invoices and Progress Reports (up to 22 invoices)
- Draft and Final project work plan including the Quality Assurance plan (1 each)
- Project Schedule with Monthly project schedule updates (up to 18 updates in Microsoft Project)

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Task 2 – Survey and Basemapping

(Amend the original scope of work to incorporate limited ground survey request.)

The CONSULTANT will provide supplemental 90% design level topographic mapping services.

Additional Topographic Mapping Services (where mutually agreed by the AGENCY and CONSULTANT): This task includes up to ten (10) days of supplemental field topographic survey work with corresponding office mapping support to be set aside for additional supplemental mapping not included in the above scope of services; only if authorized by the AGENCY. The level of effort to perform this task (if authorized) is limited to a maximum of 80 field staff hours and 110 office staff hours which includes project management, data processing and QC.

Assumptions:

- The CONSULTANT will use existing horizontal and vertical control from the 60% Contract
- Rights-of-Entry, if required, will be organized, granted and confirmed by the AGENCY.
- Survey of wetland delineation/flags is not a part of these services.
- Right-of-Way and parcel resolution are not a part of these services.
- Utility locates is not a part of these services.
- The CONSULTANT will use existing basemap files from the 60% contract.
- The survey control plan will be prepared by the AGENCY for the contract documents with assistance by the CONSULTANT.

Deliverables:

- Supplemental AutoCAD Civil 3D survey base map at 1"= 20' (electronic copy) in Snohomish County Standards.
- Supplemental integrated Land XML-compatible digital terrain model (DTM).
- ASCII file with point numbers, coordinates, elevations, and descriptions for each survey point, with benchmarks and survey control points clearly identified.
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Task 3 – Right-of-Way Assistance and Coordination

(Amend the original scope of work to provide updated base files and attend additional two coordination meetings.)

The CONSULTANT will work with the AGENCY to determine the any changes to Right-of-Way lines or easement areas.

The CONSULTANT will provide figures showing right of way impact to assist the AGENCY with property owner discussions (up to thirty figures).

Assumptions:

- The AGENCY will be responsible for preparing and assembling all the Right-of-Way plans and acquisition documents, including easements.
- Right-of-Way Appraisals, Acquisition and Negotiation Services are NOT included in this scope of services.
- The AGENCY will facilitate and attend all property owner discussions.

Deliverables:

- AutoCAD files, using AGENCY standards, containing proposed line work for permanent right-of-way and easements for road and drainage improvements; and approximate temporary easements for construction of driveways and cut/fill slopes.
- Property owner figures showing proposed impacts (up to thirty figures).

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- Field visit to meet with property owners (assume up to ten field visits for discussions with up to twenty property owners).

Task 4 – Environmental and Public Involvement Support

The CONSULTANT will assist the AGENCY with environmental documentation and public involvement as defined below.

4.1 Support for Environmental Documentation and Permit Requirements

CONSULTANT will provide supporting data for environmental permit development by the AGENCY, based on 90% design development of the project. Additionally, CONSULTANT will provide input for the environmental permit applications developed by the AGENCY. The CONSULTANT will provide permit application fill-in information as request by the AGENCY. The level of effort to perform this task (if authorized) is limited to a maximum of 40 staff hours.

Assumptions:

- The AGENCY will coordinate, create and apply for all environmental permits.
- The AGENCY is proceeding with design as a federally funded project in the event that federal funds are allocated.
- Supporting information provided by the CONSULTANT will be limited to earthwork quantities, areas of existing and new impervious surfaces, and flow control/water quality information associated with the 90% design development.
- The CONSULTANT will provide supporting information to the AGENCY in an AutoCAD file, using AGENCY standards, and excel file. AutoCAD file will include cut/fill lines, disturbed area and quantity boundaries. The excel file will include earthwork quantities, amount of existing and new impervious surfaces and flow control/water quality information.
- Wetland and stream impacts are anticipated. AGENCY staff will provide wetland delineations to the CONSULTANT in AutoCAD. The CONSULTANT will overlay wetland/stream impacts lines in AutoCAD quantifying the extent of critical areas impacts (wetland, stream and buffer impacts).
- The level of effort to complete this task is limited to the 40 hours allocated within the level of effort budgeting spreadsheet.

Deliverables:

- One (1) AutoCAD file, using AGENCY standards, with cut/fill lines, disturbed area, quantity boundaries and wetland/stream impacts lines.
- One (1) excel file with earthwork quantities, amount of existing and new impervious surfaces and flow control/water quality information.
- Environmental support up to the 40 hours allocated within the level of effort budgeting spreadsheet.

4.2 Assistance in Public Involvement

CONSULTANT will provide review of newsletters and web page updates, with effort to be limited to that allocated within the level of effort budgeting spreadsheet.

Assumptions:

- The AGENCY will lead public outreach efforts.
- For budgeting purposed it has been assumed that there will be one (1) newsletter and one (1) web page update during the course of design.

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Deliverables:

- Review comments on one (1) newsletter and one (1) web page updates.

Task 5 – Agency Coordination

(Amend the original scope of work to provide agency coordination.)

The CONSULTANT will update plans showing mailbox information, to be submitted to the US Post Office for review by the AGENCY. All information required in preparation of these plans will be provided to the CONSULTANT by the AGENCY.

Assumptions:

- The AGENCY will coordinate with the Postal Service.
- The AGENCY will provide direction on locations for mailbox relocations when verifying the meeting minutes.

Deliverables:

- Update County mailbox relocation plans.
- Plans at 90% showing proposed mailbox locations associated with the improvements.

Task 7 – Utility Coordination

(Amend the original scope of work to provide continuing utility coordination as well as review of relocation plans developed by the utility companies.)

The AGENCY will coordinate with the various public and private utilities along the route. Coordination will include working with the identified utilities to allow for each to be included under the AGENCY’s project permits and environmental documents.

CONSULTANT will assist the AGENCY by identifying locations of known or probable utility conflicts. AGENCY will provide utility mapping data and CAD files. CONSULTANT’s work tasks will include:

- Site visits to confirm utilities (limited to the 40 hours allocated within the level of effort budgeting spreadsheet).
- Attend twelve (12) virtual coordination meeting (28 staff hours) with utility representatives and the AGENCY to discuss CONSULTANT’s research results.
- Prepare a design that avoids conflicts with existing utilities when feasible and practical. If conflicts are unavoidable, or create significant cost to the AGENCY, and the design requires the relocation of existing utilities, the CONSULTANT will update a list of known utility conflicts spreadsheet and utility conflict plan sheets with proposed pothole locations to be investigated.
- CONSULTANT shall update the utility coordination log (based on County format) limited to communication to follow up action items from the Utility Coordination meeting.
- CONSULTANT shall review the utility relocation plans developed by the various public and private utilities along the route and provide comments on up to 6 plan sets.

Assumptions:

- The following utilities and utility franchises exist along the project corridor:
 - Power (Snohomish COUNTY PUD and Seattle City Light)
 - Communication and Fiber-optics (Frontier/Zipty and Sprint/T-Mobile)
 - Cable (Comcast and Wave Broadband)

- Water (Alderwood Water and Sewer District)
- Water (Silver Lake Water and Sewer District)
- Gas Distribution (Puget Sound Energy)
- Petroleum (Northwest Pipeline)
- Incorporation of any utility franchise design, such as new or upgraded waterlines, into the contract documents is NOT included in this scope of services and considered an Additional Service under a Supplement to this Agreement.
- The AGENCY will prepare meeting agenda, meeting minutes and appropriate figures for the virtual utility coordination meetings.
- The AGENCY will prepare and maintain a utility coordination log.
- The AGENCY will provide 60% utility conflict plans to the CONSULTANT to update.
- The AGENCY will prepare inter-local agency agreements between the AGENCY and the utility agencies for incorporation of contract services to be included in the AGENCY's construction contracts. Examples of the services that could be included are: the adjustment of utilities, removal of abandoned structures and facilities, trenching, relocation of water lines, and traffic control.
- Undergrounding of overhead utilities lines is not anticipated.

Deliverables:

- Site visit to confirm utilities up to the 40 hours allocated within the level of effort budgeting spreadsheet.
- Attendance of virtual coordination meetings (assume 12 meeting total)
- Update utility conflict EXCEL spreadsheet (assume 2 updates)
- Update utility conflict plan sheets showing proposed potholing locations (assume 32 sheets and 2 updates)
- Review and provide comments on utility relocation plans (assume 6 plan sets).

Task 8 – Storm Drainage Design

8.5 Stormwater Quality Treatment

(Amend the original scope of work to provide final Stormwater Quality Treatment calculations and sizing.)

The CONSULTANT will update 60% level calculations to reflect 90% roadway plans for stormwater quality treatment facilities using relevant design software files developed earlier (i.e. Excel spreadsheets and MGS Flood). Budget is based on updating the treatment facilities shown in the 60% plans- ten (10) stormwater quality facilities.

The CONSULTANT will provide support to the County for the environmental documentation and permitting process as needed for siting the stormwater facilities (assume 8 staff hours).

Deliverables:

- Updated Stormwater Quality calculations (to be included in the Final Drainage Report)
- Right-of-Way and Easement needs exhibit (Budgeted in Task 3)
- Environmental documentation and permitting support (Budgeted in Task 4.1)

8.6 Stormwater Flow Control

(Amend the original scope of work to provide final Stormwater Flow Control calculations and sizing.)

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CONSULTANT will update the 60% level calculations consistent with 90% level roadway plans for stormwater flow control (detention and/or infiltration) facilities using relevant software files developed earlier (MGS Flood, a HSPF-based continuous model. Budget for the design is based on updating the facilities shown in the 60% plans- a total of four (4) storm-water flow control facilities.

The CONSULTANT will provide support to the AGENCY for the environmental documentation and permitting process as needed for siting the stormwater facilities (assume 8 hours total)

Deliverables:

- Updated Stormwater Flow Control Calculations (MGS Flood output to be included in the Final Drainage Report)
- Right-of-Way and Easement needs exhibit (Budgeted in Task 3)
- Environmental documentation and permitting support (Budgeted in Task 4.1)
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8.7 Pipe Conveyance Calculations

(Amend the original scope of work to provide final Pipe Conveyance Calculations.)

CONSULTANT will prepare final level storm pipe conveyance capacity calculations for selected critical downstream pipe segment within the road project in accordance with the Snohomish County EDDS Section 5-04 Conveyance Systems-Open Channels, and 5-05 Conveyance Systems – Pipes and Snohomish County Code 30.63.A.740. Calculations will include maximum design flow rate, flow capacity, and velocity.

Supporting calculations will include sizing of three (3) replacement conveyance systems identified during 60% design:

- Replacement cross culvert under 43rd near 204th Ave.
- Replacement culvert under 43rd /new storm drain bypassing Pond 5 south of Jewell Rd.
- Replacement storm drain along north side of Jewell Rd.

Deliverables:

- Conveyance Calculations (to be included in Final Drainage Report).

8.8 Gutter Flow Calculations

(Amend the original scope of work to provide final Pipe Conveyance Calculations.)

The CONSULTANT will update the gutter flow analysis. Analysis will be limited to two areas agreed upon by both the CONSULTANT and the AGENCY. The WSDOT spreadsheet or an equivalent spreadsheet will be used for the analysis. Results of the analysis will be included in the Final Drainage Report. No sag calculations will be performed. However, flanking catch basins will be located on either side of a low point catch basin at distances agreed upon by the CONSULTANT and the AGENCY.

Deliverables:

- Updated Gutter Flow Calculations (to be included in the Final Drainage Report).

8.9 Drainage Report

(Amend the original scope of work to provide Final Drainage Report.)

The CONSULTANT will respond to AGENCY comments on the Draft (60%) Drainage Report and update the Report narrative and appendices. The updated report will include an updated narrative prepared for 60% design, summary of tables, and updated Appendices (Site Assessment Maps, Offsite Analysis, Change in Land Cover Maps, Stormwater Quality Treatment Calculations, Stormwater Flow Control Calculations, Pipe Conveyance Calculations, Gutter Flow Calculations), and supporting exhibits.

This subtask will also include independent QA/QC reviews of the updated drainage report for the final submittal. QA/QC reviews will be conducted by senior staff.

Deliverables:

- 90% County Drainage Report – one (1) electronic copy in Word/Excel (editable) and PDF formats
- Final (Stamped and Signed) County Drainage Report –one (1) electronic copy in Word/Excel (editable) and PDF formats. This report is inclusive of all project limits defined by the 90% plans.

8.10 Stream Culvert (New Task)

The CONSULTANT will design the realignment of “stream 1” to accommodate the new culvert crossings, the 43rd Avenue culvert crossing of “stream 1” (approx. 147+75), and the driveway culvert crossing of “stream 1”(149+25 LT).

The CONSULTANT will:

- Review the AGENCY provided design of stream realignment and culverts. Coordinate with the AGENCY’s stream designer to clarify design data prior to design sheet production.

Assumptions:

- AGENCY will provide the following stream and culvert design data:
 - Hydrologic data and design flow rates (reflecting climate change impacts)
 - Geomorphic and hydraulic design criteria
 - Basis of design memos
 - Reference reach location and summary of reference reach data
 - Pebble counts locations and summary of pebble count data
 - Proposed channel alignment, longitudinal slope, and channel cross sections
 - Streambed mixes for “stream 1” reaches and simulated streams within the two culverts
 - Scour analysis summary and scour countermeasures
 - Streambank erosion analysis summary and erosion countermeasures (including in-stream wood structures per Fox and Bolton Criteria)
 - Gradient stability assessment summary (documenting sediment transport equilibrium for each reach)
 - Bankfull and 100-year design storm hydraulic grade line
- COUNTY provided stream and culvert basis of design will be included in final design package.

Deliverables:

- Memorandum (or email) informing the AGENCY of any concerns regarding the culvert bases of design, and/or additional information required to complete the stream and culvert design.

Task 9 –Plan Preparation, Specification List and Opinion of Cost

(Amend the original scope of work to provide Final Plan Preparation, Specification List and Opinion of Cost.)

9.3 Final Design PS&E (90%)

(Amend the original scope of work to provide Final Plan Preparation, Specification List and Opinion of Cost.)

The CONSULTANT will prepare 90% level plans, details, bid items, quantities, special provisions, and estimate for detailed review by AGENCY staff. Incorporate responses to comments from 60% AGENCY review.

Final Design is based on the proposed improvements shown on the 60% 43rd Avenue SE/Sunset Road: SR 524 to 180th Street SE plans along with the design of Rectangular Rapid Flashing Beacons (RRFBs) at up to four locations that will be determined along Sunset Road – 43rd Avenue SE.

The CONSULTANT will design the realignment of “stream 1” to accommodate the new culvert crossings, the 43rd Avenue culvert crossing of “stream 1” (approx. 147+75), and the driveway culvert crossing of “stream 1”(149+25 LT). The plan view layout of the box culvert presented in the 60% plans will be updated through this task.

The CONSULTANT will:

- Refine the proposed roadway profile to incorporate the proposed culverts (assume within 300 ft of the proposed culvert).
- Refine the proposed driveway profile to incorporate the proposed culvert (assume 1 driveway).

Assumptions:

- All coordination for permitting the new culverts (HPA, etc.) will be provided by the AGENCY.
- All other adjacent private culverts will not be removed or replaced as part of this scope of work and are expected to remain in place as potential barriers to fish passage.
- Culvert wingwalls shall be Reinforced Slope Type 1 Wall for all four corners of both precast concrete culverts.
- All necessary geotechnical engineering for the design of the stream culverts will be performed by the AGENCY.
- The AGENCY shall be the geotechnical engineer of record for all precast concrete culverts and precast concrete culvert wingwalls.

Final Design will provide detailed grading for up to 21 curb ramps. It is assumed that the additional 14 curb ramps proposed along the corridor shall reference a WSDOT standard plan and no detailed grading will be provided at these locations.

Prior to the 90% submittal, the CONSULTANT will provide the AGENCY with over the shoulder of the following plans:

- Stream Plan and Profile (1)
- Stream Channel Typical Sections (1)

The over the shoulder review by the AGENCY design team of three (3) staff will be incorporated into the final design.

Design documents will include the following:

90% Plans:

It is anticipated that the 90% plans will consist of the following sheets (Approximately 231 Sheets):

- Cover Sheet with Vicinity Map and Index (1)
- Survey Control Sheets (8 Provided by the AGENCY)
- Legend, Abbreviations and General Notes (1)
- Temporary Erosion and Sediment Control Plans (18)
- Site Preparation Plans (18)
- Typical Roadway Sections (6)
- Miscellaneous Roadway Details (4)
- Roadway Plans over Profiles (36)
- Drainage Plans over Profiles (36)
- Paving Plans (18)
- Drainage Details (8)

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- Stream Plan and Profile (1)
- Stream Channel Typical Sections (1)
- Culvert Structural Plan and Elevation (2)
- Culvert Structural Details (2)
- Stream Buffer Revegetation Plan (1)
- Plant Schedule and Quantities (1)
- Planting Details (1)
- Roundabout Profiles (5)
- Roundabout Details (4)
- Retaining Wall Profiles (6)
- Retaining Wall Cross-Sections and Details (2)
- Driveway Plan / Profiles (71 driveways = 37 sheets)
- Curb Ramp Horizontal and Vertical Layouts (8)
- Intersection Grading Plans (7)
- Traffic Signal Plans – Sunset Road at 180th Street (6)
- RRFB Plans (3)
- Illumination Plans (6)
- ITS System Plans _WSDOT Roundabout ITS Systems SR 524 at 43rd Avenue (4)
- Roadway Detail Sheets (2)
- Channelization and Signing Plans (13)
- Channelization and Signing Details (4)
- Traffic Control and Detour Plans (6)
- Updated Civil 3D Alignment Cross Sections every 25 feet along the corridor (93).

90% Specifications:

The CONSULTANT will prepare Draft Special Provisions for non-standard bid items; and list of proposed AGENCY and WSDOT standard details.

90% Opinion of Costs:

The CONSULTANT will calculate 90% level quantities and opinion of construction costs based upon the 90% plans and unit bid prices provided by the AGENCY. The cost will be calculated as one (1) control group. *Assume miscellaneous and contingency cost items will be included at this stage.*

Assumptions:

- Channelization Plans scale will be revised to match roadway plan and profile sheets for the channelization and signing plans in the 90% design.
- In providing opinions of cost and schedules for the Project, CONSULTANT has no control over cost or price of labor and materials; competitive bidding procedures and market conditions; time or quality of performance by operating personnel or third parties; and other economic and operational factors that may materially affect the ultimate Project cost or schedule. Therefore, the CONSULTANT makes no warranty that the AGENCY’s actual Project costs or schedules will not vary from CONSULTANT’s opinions, analyses, projections, or estimates.
- The AGENCY will provide a stamped Geotechnical Report for the project. This report will include retaining wall type recommendations and retaining wall design parameters.
- The AGENCY will provide a single document with comments of the 60% submittal.

- Development of tree protection requirements and tables to account for protected trees within the contract plans or creation of an arborist report or memo will be considered extra work.

Deliverables:

- Responses to previous 60% Bluebeam comments (directly on the compiled document provided by the AGENCY) and attend a 60% plan review meeting.
- Over the shoulder 90% stream plan and profile and typical sections.
- Responses to over the shoulder 90% stream Bluebeam comments (directly on the compiled document provided by the AGENCY) and attendance of an over the shoulder 90% plan review meeting.
- One (1) electronic copy of the 90% plan set in PDF format.
- Alignment cross sections at 25-foot intervals with earthwork quantities (electronic PDF)
- Electronic copy of the 90% opinion of cost submitted in PDF format and quantity calculation spreadsheet.
- Electronic copy of the Draft Special Provisions submitted in PDF format and word document.

9.4 Final Design PS&E (99%)

(Amend the original scope of work to provide Final Plan Preparation, Specification List and Opinion of Cost.)

- a. Prepare Final Documents incorporating responses to 90% PS&E comments from COUNTY staff.
- b. Transmit 99% Design Plans, Special Provisions, and Estimate of Probable Construction Cost to AGENCY for final review.

Assumptions:

- AGENCY's review at this stage is for the purpose of verifying that comments transmitted at 90% completion stage were incorporated into the 99% documents, as mutually agreed.
- AGENCY will compile specification package for project.

Deliverables:

- Responses to previous Bluebeam comments (directly on the compiled document provided by the AGENCY) and attend 90% plan review meeting
- One (1) electronic copy of the 99% plan set in PDF format.
- Electronic copy of the 99% opinion of cost submitted in PDF format and quantity calculation spreadsheet.
- Electronic copy of the anticipated Special Provisions submitted in PDF format and word document.

9.5 Final Bid Document (100%)

(Amend the original scope of work to provide Final Plan Preparation, Specification List and Opinion of Cost.)

- a. Prepare Final (Bid-Ready) Construction Documents incorporating responses to 99% PS&E comments from AGENCY staff.
- b. Attend 99% plan review meeting
- c. Transmit Final (sealed/stamped and signed) Full sized Design, Special Provisions, and Estimate of Probable Construction Cost to AGENCY for reproduction and bid advertisement.
- d. The AGENCY will provide reproduction of Construction/Bid Documents, and will transmit 4 half-size copies of plans to the CONSULTANT.

Assumptions:

- PS&E package is final at this stage and no “additional” comments will be generated. Comments are designed only to verify that response to 99% final comments were incorporated as mutually agreed.

Deliverables:

- Final Plans sealed by a Professional Engineer licensed in Washington State in electronic format
- Final Special Provisions
- Final Engineer’s Estimate of Proposal Probable Construction Cost sealed by a Professional Engineer licensed in Washington State
- Quantity take-off calculation sheet (electronically in XLS format)
- Electronic file transfer containing all design files

Task 11 — Project File Management and Electronic Exchange of Engineering and Other Data

(Amend the original scope of work to provide Project File Management and Electronic Exchange of Engineering and Other Data through final design.)

The CONSULTANT will submit in-progress working electronic base files, using AGENCY standards, for the AGENCY’s use, as requested by AGENCY throughout the project duration up to four (4) submittals. AGENCY accepts the risk of using in-progress working basemap files. Files are unchecked and not for construction.

The CONSULTANT will submit final level electronic base files and Civil 3D files at the conclusion of the design phase.

Task 12 — Assistance During Bidding (New Task)

The CONSULTANT shall provide assistance during the bid and award of the construction contract. The following tasks shall be provided by the CONSULTANT on an as-needed basis. The COUNTY shall provide written authorization to the CONSULTANT prior to the CONSULTANT providing any of the following services.

It is mutually agreed that the CONSULTANT’s effort to perform these services is limited to a total budget of approximately 80 staff hours. Once this budget is reached, the CONSULTANT will cease to perform assistance during bid and award. The AGENCY, at its option, may provide additional written work authorization, and corresponding additional budget, to the CONSULTANT to perform additional services.

- If requested, the CONSULTANT shall assist the AGENCY during the bid period to answer any questions that arise concerning the construction bid documents and shall assist the AGENCY in preparing any addenda required.

Deliverables:

- Prepare response to bidder questions
- Prepare bid document addenda.

Time of Completion

(Amend the original scope of work to extend the contract length through final design.)

The CONSULTANT will not begin work under the terms of this Agreement until authorized in writing by the AGENCY. Work under this Agreement will be completed within 18 months from the authorization to proceed of the supplement.

Items to Be Furnished by the AGENCY

The CONSULTANT is entitled to rely on the accuracy and completeness of the following information provided by the AGENCY or others:

- Refer to Assumptions listed in Tasks above.
- Surveying and base mapping.
- Right of entry onto properties as necessary to perform the work.
- An updated electronic base map file for the existing conditions using Civil3D with field survey data, DTM surface, and support files suitable for external referencing into design files.
- All available “As-Built” and design information pertaining to recent development and roadway improvements along 43rd Ave SE / Sunset Rd within the project limits.
- Civil3D files containing field survey data, DTM surface and support files suitable for external referencing into design files for each additional survey completed.
- Drafting standards. Standards include AutoCAD layer/line-type/symbol conventions, font specifications, title blocks, line weights; plot setups, AutoCAD project file naming conventions, and survey collector codes.
- MGS Flood electronic files produced for 30% preferred alternative.
- State and County general special provisions including current amendments, summary of quantities spreadsheet, standard item table and boiler plate requirements.
- Geotechnical information to support the design development of 43rd Avenue, as defined herein.
- All required environmental documentation and permitting.
- Summary of Quantities and Survey Control Plan.
- Copy of existing traffic forecasting information.
- County SWM drainage complaint documentation.
- Slopes and widths for all existing curb ramps in the form of a design matrix and as-built plans.

Design Criteria

The AGENCY will designate the basic premises and criteria for the design. Reports and plans, to the extent feasible, will be developed in accordance with the latest edition and amendments as of the date of signing of this Agreement, of the following documents. Changes in any design standards or requirements after work has begun may result in extra work, necessitating an amendment to this contract.

Measurements will be in English units. Electronic documents will be in AutoCAD version 2018 and Microsoft Office 2010.

1. Snohomish County, “Engineering Design and Development Standards”, 2020 Edition.
2. Snohomish County Title 30, “Unified Development Code”.
3. Snohomish County Drainage Manual, 2016 Edition (project vested)
4. Department of Ecology (DOE) 2012 Low Impact Design Manual
5. Washington State Department of Ecology, “Stormwater Management Manual for Western Washington”, 2005.
6. Washington State Department of Transportation, “Standard Specifications for Road and Bridge Construction”, 2018.
7. Washington State Department of Transportation, “Standard Plans for Road and Bridge Construction (M 21-01)”, August 2018.
8. Washington State Department of Transportation, “Design Manual”, February 2019.
9. Washington State Department of Transportation, “Highway Runoff Manual (M 31-16)”, 2011 Edition.
10. Washington State Department of Transportation, “Hydraulics Manual (M 23-03)”.
11. Washington State Department of Transportation, “Materials Laboratory Outline”.

12. Washington State Department of Transportation, "Construction Manual".
13. Washington State Department of Transportation, "Local Agency Guidelines".
14. Highway Research Board's Manual entitled "Highway Capacity".
15. FHWA and Washington State Department of Transportation, "Manual on Uniform Traffic Control Devices for Streets and Highways".
16. PROWAG, 2005
17. AASHTO 2011, "A Policy of Geometric Design of Highways and Streets."
18. NCHRP Report 672 Roundabouts - An Informational Guide.

Additional Services

The following additional services can be provided as needed. Scope of services and fee determination may be negotiated separately as a supplement to this Agreement.

1. Value Engineering Services
2. Final design topographic survey services.
3. Right-of-Way plan research.
4. Preparation of preliminary and final Right-of-Way plans.
5. Legal descriptions and parcel maps.
6. Right-of-Way acquisition services.
7. Environmental documentation and permitting assistance beyond what is described in the scope of services.
8. Environmental site assessments.
9. Cultural resource investigations.
10. Geotechnical investigations.
11. Pilot Infiltration Testing (PIT) for infiltration.
12. Septic Locate Assistance.
13. Utility franchise designs (i.e. upgraded waterlines)
14. Design and Constructed MEF Documents (written).
15. Public Involvement assistance beyond what is described in the scope of services.
16. Offsite drainage analysis not included or specified in this scope of services.
17. Pond siting, conceptual layouts and water quality options in addition to that specified in this scope of services.
18. Downstream analysis beyond ¼ mile or to level of detail above standard level 1 preliminary downstream analysis.
19. Additional hydrologic analysis not included in this scope of services.
20. Analysis of structural systems not included in this agreement.
21. Planting plans and details for detention/water quality facilities beyond what is described in the scope of services.
22. Irrigation design services.
23. Back of sidewalk planting plans.
24. Construction observation services.
25. Structural design and calculations

Project Deliverables

The documents, exhibits or other presentations for the work covered by this Agreement ("Documents") will be furnished by the CONSULTANT to the AGENCY upon completion of the various phases of the work. Whether the Documents are submitted in electronic media or in tangible format, any use of the Documents on another project or on extensions of this project beyond the use for which they were intended, or any modification of the Documents, or conversion of the

Documents to an alternate system or format will be without liability legal exposure to the CONSULTANT: AGENCY will assume all risks associated with such use, modifications, or conversions. CONSULTANT may remove from the electronic Documents delivered to AGENCY all references to CONSULTANT's involvement and will retain a tangible copy of the Documents delivered to AGENCY which will govern the interpretation of the Documents and the information recorded.

See deliverables under each task for those items the CONSULTANT will provide.

Agreement No: CCF01-19

Exhibit E Sub-consultant Cost Computations

Fehr & Peers

| Position | Principal | Sr. Associate | Associate | Sr. Eng. Tech | Sr. Engineer/Planner | Engineer/Planner | Sr. Admin Assistant | Total Hours by Task | Total Costs by Task |
|---|-------------|---------------|--------------|---------------|----------------------|------------------|---------------------|---------------------|---------------------|
| Task 1: Project Management & Coordination | | | | | | | | | |
| Project Administration (Up to 18 additional months) | | 4 | | 9 | | 18 | | 20 | |
| Project Coordination Meetings (Up to 18 Meetings, Call-in) | | | | | | 18 | | | |
| Total Hours by Staff Role | 4 | 0 | 9 | 0 | 36 | 0 | 20 | 69 | \$ 9,918.94 |
| Task 9.3: 90% Plan Preparation, Specification List & Opinion of Cost | | | | | | | | | |
| Signal Design 180th Avenue SE/Sunset Blvd (4 Sheets) | 0.5 | 0.5 | 2 | 14 | 6 | 18 | | | |
| SR 524/43d Avenue Roundabout ITS Systems (4 Sheets) | 0.5 | 0.5 | 2 | 10 | 6 | 18 | | | |
| 43rd Avenue-Sunset Illumination System (6 sheets) | 0.5 | 0.5 | 2 | 20 | 10 | 24 | | | |
| RRFB Design (4 Locations, up to 5 Sheets) | 0.5 | 0.5 | 2 | 10 | 6 | 10 | | | |
| ITS, Illumination, and Signal Design Special Provisions | | | 1 | | | 4 | | | |
| ITS, Illumination, and Signal Engineer's Opinion of Cost | | | 2 | | | 4 | 4 | | |
| QA/QC Process | | | | | | | | | |
| Total Hours by Staff Role | 2 | 2 | 11 | 54 | 36 | 74 | 0 | 179 | \$ 23,315.04 |
| Task 9.4: 99% Plan Preparation, Specification List & Opinion of Cost | | | | | | | | | |
| Signal Design 180th Avenue SE/Sunset Blvd (4 Sheets) | 1 | 1 | 4 | 12 | 6 | 18 | | | |
| SR 524/43d Avenue Roundabout ITS Systems (4 Sheets) | 0.5 | 1 | 4 | 10 | 6 | 18 | | | |
| 43rd Avenue-Sunset Illumination System (6 sheets) | 0.5 | 1 | 2 | 18 | 8 | 24 | | | |
| RRFB Design (4 Locations, up to 5 Sheets) | | | 2 | 10 | 5 | 10 | | | |
| ITS, Illumination, and Signal Design Special Provisions | | | 2 | | | 4 | 4 | | |
| ITS, Illumination, and Signal Engineer's Opinion of Cost | | | 2 | | | 4 | 4 | | |
| QA/QC Process | | | | | | | | | |
| Total Hours by Staff Role | 2 | 3 | 16 | 50 | 33 | 78 | 0 | 182 | \$ 23,892.94 |
| Task 9.5: 100% Plan Preparation, Specification List & Opinion of Cost | | | | | | | | | |
| Signal Design 180th Avenue SE/Sunset Blvd (4 Sheets) | 2 | 1 | 4 | 14 | 6 | 18 | | | |
| SR 524/43d Avenue Roundabout ITS Systems (4 Sheets) | 1 | 1 | 4 | 8 | 6 | 18 | | | |
| 43rd Avenue-Sunset Illumination System (6 sheets) | 0.5 | 0.5 | 2 | 18 | 8 | 24 | | | |
| RRFB Design (4 Locations, up to 5 Sheets) | 0.5 | 0.5 | 2 | 10 | 5 | 10 | | | |
| ITS, Illumination, and Signal Design Special Provisions | | | 2 | | | 4 | 4 | | |
| ITS, Illumination, and Signal Engineer's Opinion of Cost | | | 2 | | | 4 | 4 | | |
| QA/QC Process | | | | | | | | | |
| Total Hours by Staff Role | 4 | 3 | 16 | 50 | 33 | 78 | 0 | 184 | \$ 24,360.92 |
| Task 11: Project File Management & Electronic Exchange of Engineering & Other Data | | | | | | | | | |
| Electronic Submittals of Signal, Illumination, and ITS Design (up to 4) | 4 | 4 | 8 | 8 | 8 | | | | |
| Final Electronic Submittals of Signal, Illumination, and ITS Design | 2 | 2 | 8 | | | | | | |
| Total Hours by Staff Role | 6 | 6 | 16 | 8 | 8 | 0 | 0 | 44 | \$ 7,820.10 |
| Total Hours | 18 | 14 | 68 | 162 | 146 | 230 | 20 | 658 | |
| Labor Costs | \$ 4,211.82 | \$ 2,870.56 | \$ 12,567.76 | \$ 22,680.00 | \$ 20,235.60 | \$ 24,412.20 | \$ 2,330.00 | \$ 89,307.94 | |
| SUMMARY | | | | | | | | | |
| Labor Costs | | | | | | | | | \$ 89,307.94 |
| Expenses | | | | | | | | | |
| Communication & Reproduction Reimbursables (assumed 4% of contract cost) | | | | | | | | | \$ 3,600.00 |
| TOTAL COST (Labor + Overhead + Expenses + Fee) | | | | | | | | | \$ 92,907.94 |

| | | |
|----------------|---------------|------------------|
| PROJECT | NUMBER | 19-136 |
| | NAME | 43rd to Sunset |
| | CLIENT | JACOBS |
| | OWNER | Snohomish County |

Date 22-Jul-20
by EJV
ckd MG

homish County Approved R:



| TASK | | | Principal Surveyor | Senior Project Manager | Survey Project Manager | Tech 3 | Project Surveyor | TECH 5 | Project Administrator | FEE | |
|---|-----------------------|-----|----------------------------------|------------------------|------------------------|--|------------------|-------------|-----------------------|--------------|---------|
| | | | | | | \$183.86 | \$143.03 | \$127.00 | \$87.49 | \$115.64 | \$97.37 |
| No. | DESCRIPTION | HRS | TASK | | | | | | | FEE | |
| 1 | PM/Admin/QAQC | 20 | 4 | 8 | 2 | 2 | | | 4 | \$ 2,721 | |
| 2 | Supplemental Survey | 164 | 1 | 2 | 1 | | 80 | 80 | | \$ 17,638 | |
| 3 | Field Data Processing | 86 | 1 | 2 | 3 | | 80 | | | \$ 10,102 | |
| 4 | | 0 | | | | | | | | \$ - | |
| 5 | | 0 | | | | | | | | \$ - | |
| 12 | | 0 | | | | | | | | \$ - | |
| 13 | | 0 | | | | | | | | \$ - | |
| 14 | | 0 | | | | | | | | \$ - | |
| 15 | | 0 | | | | | | | | \$ - | |
| 16 | | 0 | | | | | | | | \$ - | |
| 17 | | 0 | | | | | | | | \$ - | |
| 18 | | 0 | | | | | | | | \$ - | |
| TOTAL HOURS | | | 270 | 6 | 12 | 6 | 2 | 160 | 80 | 4 | 270 |
| | | | \$ 1,103.16 | \$ 1,716.36 | \$ 762.00 | \$ 174.98 | \$ 18,502.40 | \$ 7,789.60 | \$ 412.00 | \$ 30,460.50 | |
| TOTAL DIRECT BURDENED SALARY COSTS | | | | | | | | | | \$ 30,461 | |
| OTHER DIRECT COSTS | | | | | | | | | | | |
| MILEAGE (ONE WAY) | 18 | | MILEAGE (TOTAL MILES) | | 361 | \$ 0.58 | DRAFT | | | \$ 209 | |
| number of field days | 10 | | PER DIEM (DAYS) | | | | | | | \$ - | |
| NOTES | | | LODGING (DAYS) | | | | | | | \$ - | |
| | | | MATERIALS & SUPPLIES | | | | | | | \$ - | |
| | | | Terrestrial scanner and software | | | ca P50 or its equivalent and software (Cycle | \$ 4,868 | | | | |
| | | | SUE LOCATES | | | | \$ - | | | | |
| TOTAL OTHER DIRECT COSTS | | | | | | | | | | \$ 5,077 | |
| GRAND TOTAL FEE ESTIMATE | | | | | | | | | | \$ 35,538 | |

Agreement Number: CCF01-19

Exhibit H

Liability Insurance Increase

The professional liability limit of the CONSULTANT to the AGENCY identified in Section XII, Legal Relations and Insurance of this Agreement is amended to \$2,000,000

The CONSULTANT shall provide Professional Liability insurance with minimum per occurrence limits in the amount of \$2,000,000

Such insurance coverage shall be evidenced by one of the following methods:

- Certificate of Insurance.
- Self-insurance through an irrevocable Letter of Credit from a qualified financial institution.

Self-insurance through documentation of a separate fund established exclusively for the payment of professional liability claims, including claim amounts already reserved against the fund, safeguards established for payment from the fund, a copy of the latest annual financial statements, and disclosure of the investment portfolio for those funds.

Should the minimum Professional Liability insurance limit required by the AGENCY as specified above exceed \$1 million per occurrence or the value of the contract, whichever is greater, then justification shall be submitted to the Federal Highway Administration (FHWA) for approval to increase the minimum insurance limit.

If FHWA approval is obtained, the AGENCY may, at its own cost, reimburse the CONSULTANT for the additional professional liability insurance required.

Notes: Cost of added insurance requirements: \$0.00

- Include all costs, fee increase, premiums.
- This cost shall not be billed against an FHWA funded project.
- For final contracts, include this exhibit.