

EXHIBIT A
Scope of Work
Amendment No. 2
City of Redmond
10000 Block of Avondale Road Erosion
Phase 2 – Final Design, Permitting, and Services During Bidding
Phase 3 – Services During Construction
August 2020

Background

Bear Creek has migrated to the west edge of the floodplain near 10000 Avondale Road and is beginning to undermine the roadway embankment, resulting in significant toe erosion, settling of the embankment, sidewalk slumping, and damage to stormwater infrastructure. The City of Redmond (Redmond) has been monitoring the embankment since summer 2018 and desires a long-term solution for bank stabilization, one that also will achieve enhancement of Bear Creek in the project reach.

In April 2019, Redmond retained the RH2 Engineering, Inc., (RH2) project team, including subconsultants Axis Survey & Mapping (Axis), Northwest Hydraulic Consultants (NHC), 48 North Solutions (48 North), and Cultural Resource Consultants (CRC) to provide professional environmental and design services for the project. During this initial phase of work, herein referred to as Phase 1, the RH2 team completed, or will complete, topographic and boundary surveys of the project reach, technical analysis and modeling of existing conditions (hydrologic, hydraulic, geomorphic, habitat, critical areas, cultural resources, geologic, and infrastructure), identification and analysis of alternatives, agency coordination, initial long-lead time permit submittals, and preliminary design.

As the Phase 1 efforts near completion, Redmond requested preparation of a Scope of Work and Fee Estimate outlining the professional services needed to complete the final design and permitting and provide services during bidding and construction for the project. The Scope of Work detailed herein describes the RH2 team's anticipated effort for future phases of the project and is based primarily on the Phase 1 work completed to date, as well as meetings with Redmond project staff. *As the Phase 1 efforts are ongoing, there is some difficulty in comprehensively estimating the effort that could be needed to successfully proceed through the Phase 2 and 3 efforts. The RH2 team has attempted to capture the potential nuances and estimated effort to the best of its ability. To this end, the design alternative captured in this Scope of Work is a soldier pile wall at the back of the Avondale Road sidewalk paired with Bear Creek overbank manipulation and floodplain restoration.*

This Scope of Work is arranged into two project phases: 1) Phase 2 – Final Design, Permitting, and Services During Bidding; and 2) Phase 3 – Services During Construction.

Phase 2 – Final Design, Permitting, and Services During Bidding

Task 1 – Project and Team Management (RH2 and NHC)

Objective: Manage the RH2 project team, files, and records. Monitor the scope of work, schedule, and budget. Prepare and provide monthly invoices with progress reports documenting work completed. Communicate project progress with Redmond and subconsultants for the entire project.

Approach:

- 1.1 Review and monitor project progress, schedule, scope, and budget. Manage the RH2 project team and resources. Prepare contract documents and execute contracts with subconsultants. Provide monthly invoices with progress reports documenting work performed and budget status. Communicate with Redmond regarding project progress, invoicing, and schedule. Maintain project files and records in electronic format.

Assumptions:

- *Project submittals, contract documents, invoices, and materials will be transmitted between the project team and Redmond via the Redmond SharePoint Access Portal.*

RH2 Deliverables:

- Schedule, scope, and budget administration and management.
- Project team and resource management.
- Monthly invoices with progress reporting (electronic copies via email and SharePoint).
- Communication with Redmond.

Task 2 – Geotechnical Exploration (RH2 and CRC)

Objective: Complete deep soil sampling and analysis to support a soldier pile wall design.

Approach:

- 2.1 Prepare Right-of-Way (ROW) Use permit application, including a traffic control plan, to access the site via Avondale Road for the purpose of geotechnical exploration. Submit the application to Redmond for ROW Use permit. Coordinate with a local traffic control contractor to implement the traffic control plan during geotechnical explorations.
- 2.2 Call in utility locates via 811 and mark areas in the field.
- 2.3 Conduct a subsurface geotechnical investigation, including up to three (3) soil borings in Avondale Road ROW to evaluate deeper geologic and geotechnical conditions to support the soldier pile wall design.
- 2.4 CRC will perform archaeological review of the boring activities and record findings for updating the Cultural Resources Survey (CRS) Report prepared in Phase 1 (to be completed in Task 5).

2.5 Revise the Phase 1 geotechnical memorandum to include discussion of soil properties pertinent to the soldier pile wall construction, including soil and groundwater characteristics. Provide draft revised memorandum to Redmond for review.

2.6 Finalize the geotechnical memorandum incorporating Redmond comments.

Assumptions:

- *ROW Use permit and a partial lane closure of Avondale Road will be required to conduct subsurface exploration. Redmond will internally coordinate payment of ROW Use permit costs, as needed.*
- *RH2 will hire a traffic control subconsultant (NW Safety Signs) to prepare and submit the ROW Use permit and traffic control plan, install signage, and manage traffic during geotechnical exploration work.*
- *RH2 will hire a soil boring subconsultant (Holocene Drilling, Inc.) to complete the borings, soil testing, and sampling necessary to support geotechnical design. It is assumed borings will be dug to depths of 70 feet below Avondale Road, and the duration of site work will require no more than two (2) full working days.*

Provided by Redmond:

- Payment of ROW Use permit costs.
- Review and comment on revised draft geotechnical memorandum incorporating subsurface investigation and geotechnical design components.

RH2 Deliverables:

- Utility locate coordination and field marking.
- Coordination and completion of subsurface investigation and soil testing with the soil boring and traffic control subconsultants.
- On-site archaeological review of boring excavations and recording of findings in the CRS Report.
- Draft revised and final geotechnical memorandum in electronic (PDF) format.

Task 3 – 70-Percent Design (RH2, NHC, and 48 North)

Objective: Prepare 70-percent plans, specifications, and estimate (PS&E), refining and adding to pre-design work. Perform design site visit for floodplain design. Perform additional hydraulic modeling and geomorphic analysis to guide design and permit compliance. Provide PS&E for Redmond review and conduct design meeting.

Approach:

3.1 Prepare Site, Access, Grading, and Temporary Erosion and Sedimentation Control (TESC) Plans (RH2):

- Refine cover, legend, survey basis, and general notes sheets (up to two [2] sheets).
- Develop and refine existing site and tree preservation plan consistent with Redmond and King County's (County) Land Use submittal requirements (one [1] sheet).
- Consult with Redmond and local contractors regarding site access, staging locations, crane placement, and truck turnaround. Presently, this is envisioned to be downstream of Bend C, an area that also is slated for compensatory mitigation and floodplain enhancement activities. *This subtask assumes RH2 will meet once with Redmond (virtually or via telephone) to discuss these design elements and gather Redmond feedback. RH2 will consult with up to two (2) local contractors to gather their feedback, relay to Redmond, and incorporate into final designs.*
- Develop construction site plan sheet (one [1] sheet).
- Develop and refine site access, grading, and TESC details sheets (up to three [3] sheets).

3.2 Prepare Soldier Pile Wall Plans (RH2):

- Develop and refine soldier pile wall plan and profile, detail sheets for piles, lagging, control of groundwater, top of slope design, and construction notes (up to three [3] sheets).

3.3 Prepare Stormwater Retrofit, Roadway, and Traffic Control Plans (RH2):

- Develop and refine stormwater outfall, utilities relocation, and roadway restoration plans (up to three [3] sheets total). *It is assumed minimal relocation of utilities is needed to accommodate the soldier pile wall, apart from the existing stormwater outfall.*
- Coordinate with Puget Sound Energy (PSE) and other affected utilities (e.g., cable television) for removal of unused infrastructure and construction-related impacts and/or relocations.
- Develop and refine traffic control plan addressing access to the site for construction truck traffic entering and leaving the site, and safety of passing car, bicycle, and pedestrian traffic (up to two [2] sheets).

3.4 Prepare Bear Creek Floodplain, Habitat Enhancement, and Embankment Toe Protection Plans (RH2, NHC, and 48 North):

- Conduct one (1) site visit to survey existing large woody debris (LWD) pieces in the impacted project reach, evaluate functional habitat in the impacted stream reach, and assess opportunities for invasive plant species removal and restoration in the project reach. Data collected from the site visit will be used to guide the design of the habitat improvements, placement of LWD structures, and permitting efforts. *It is assumed the site visit will include one (1) staff person each from NHC, RH2, and 48 North with a duration of one (1) day.*

- Use Phase 1 hydraulic models (1D and 2D) and geomorphic analysis to develop a floodplain design. The 2D hydraulic model will be refined to represent proposed conditions and used to evaluate effects on reach morphology (up and down stream) and site hydrodynamics. The 1D model will be used to evaluate and document that the design meets County no-rise requirements. *Hydraulic modeling will inform the design of the embankment toe protection.*
- Develop and refine plan, profile, and notes and details sheets for slope to creek armoring, LWD layout and anchoring, cut-off channel grading, invasive species removal, and planting (up to five [5] sheets). LWD pre-design will be refined to meet habitat, morphologic, and hydraulic objectives, as well as the guidance of *A Regional and Geomorphic Reference for Quantities and Volumes of Instream Wood in Unmanaged Forested Basins of Washington State* (Fox and Bolton, 2007).

3.5 Prepare Design Report (RH2, NHC and 48 North):

- Prepare basis of design report to document design process and results. *It is assumed the technical memoranda and reports prepared by the RH2 team during the Phase 1 efforts will be appended to the design report.*
- Perform internal review of draft design report and incorporate edits.
- Submit design report to Redmond for review and finalize.

3.6 Prepare 70-Percent Technical Specifications (RH2, NHC, and 48 North):

- Develop technical specifications for 70-percent design plans utilizing RH2 facility specifications format and Redmond construction contract documents. *It is assumed front-end documents will be provided by Redmond.*

3.7 Prepare 70-Percent Estimate (RH2, NHC, and 48 North):

- Develop 70-percent estimate of probable construction cost.

3.8 Perform 70-Percent PS&E Quality Assurance and Quality Control (QA/QC) Review (RH2 and NHC):

- Perform internal 70-percent PS&E QA/QC review. Incorporate review comments and prepare package for Redmond's review.

3.9 Submit 70-Percent PS&E and Attend Meeting (RH2, NHC, and 48 North):

- Submit 70-percent PS&E to Redmond. Prepare meeting agenda and meet once with Redmond staff to review PS&E and discuss review comments and revisions needed. Complete meeting minutes and distribute to the project team.

Provided by Redmond:

- Review and comment on the draft Design Report.
- Redmond construction contract documents in electronic (Word or PDF) format.

- Review and comment on 70-percent PS&E package.
- Attendance at 70-percent design review meeting (RH2 offices or virtual).

RH2 Deliverables:

- Electronic (PDF) copies of the draft, and electronic (PDF) and up to two (2) hard copies of the final Design Report.
- Electronic (PDF) copies of the 70-percent PS&E package.
- 70-percent design review meeting attendance, agenda, and minutes in electronic (PDF) format.

Task 4 – Construction Easement Assistance (RH2 and Axis)

Objective: Prepare temporary construction easement (TCE) legal descriptions and exhibits for Redmond to secure TCEs with the County and LeisureCare®.

Approach:

- 4.1 Determine TCE areas needed for construction and equipment staging/access. Work with Redmond to determine preferred TCE language, template forms, etc. Coordinate with Axis for drafting of TCE agreements.
- 4.2 Prepare draft legal descriptions and exhibits for TCEs. *It is assumed up to three (3) TCEs could be needed for construction and access, with the County and LeisureCare being the primary property owners.* Provide draft TCEs to Redmond for review and comment. Finalize TCEs and provide to Redmond for property owner coordination.

Assumptions:

- *The County will require both the TCEs and Special Use Permit (SUP) for construction, staging, stockpiling, or access on the properties owned and managed as the Lower Bear Creek Natural Area. If the County determines TCEs are not required, effort will not be expended by the RH2 team.*

Provided by Redmond:

- Easement negotiation.
- Meeting with property owners.
- Easement language, template, and signatures.
- Easement filing and payment of fees.

RH2 Deliverables:

- Electronic copies (PDF) of the draft and final TCE template, figures, and legal descriptions.

Task 5 – Final Permitting and Agency Coordination (RH2, NHC, CRC, and 48 North)

Objective: Prepare permitting documents and coordinate with agency staff for permit approvals.

Approach:

- 5.1 Meet with Redmond Planning and project staff to review permit needs and submittal specifics. *It is assumed one (1) RH2 staff person will attend the permit coordination meeting with Redmond project staff and Planning staff.*
- 5.2 Prepare Floodplain Development permit application for County review/approval. Provide to Redmond project staff for submittal. *It is assumed a Floodplain Development permit will be triggered for work in the Bear Creek floodplain; however, if the County determines that the work is exempt after a review of the proposed improvements, this subtask will not be completed.*
- 5.3 Prepare Endangered Species Act (ESA) consultation documentation to address potential direct and indirect impacts of project improvements on listed salmonids utilizing Bear Creek. Coordinate with the US Army Corps of Engineers (USACE), National Marine Fisheries Service (NMFS), and US Fish and Wildlife Service (USFWS) during preparation of ESA documentation. Provide draft ESA documentation for Redmond review and comment, finalize, and submit to USACE. *Based on coordination with the USACE thus far, RH2 anticipates the project could qualify as a restoration activity, achieving ESA compliance through the Programmatic Fish Passage Improvements Biological Opinion (2008); consequently, this subtask assumes RH2 will prepare a Fish Passage and Restoration Project (FPRP) Project Information Form for NMFS consultation and No Effect Letter or Special Project Information Form (SPIF) for USFWS consultation. Consequently, RH2 has included forty-three (43) hours of staff time, two (2) hours for NHC, and forty (40) hours for 48 North. Depending on the work proposed within/adjacent to Bear Creek and interpretation of the project components by USACE and the Services, an abbreviated or full Biological Assessment could be needed, which would require additional RH2 effort and subsequent contract amendment. If needed, RH2 and Redmond will mutually agree on additional effort needed for this subtask and prepare a contract amendment.*
- 5.4 Prepare Hydraulic Project Approval (HPA) application using the Washington Department of Fish and Wildlife's (WDFW) online APPS portal. Coordinate with WDFW engineering and habitat biologist staff ahead of permit submittal. Coordinate with Redmond project staff for submittal and WDFW for permit review and issuance.
- 5.5 CRC will complete a site visit to excavate up to three (3) additional soil probes in the floodplain to reflect proposed final design excavation depths, as needed. CRC will update the CRS Report with results from this floodplain site visit, as well as soil borings completed in Task 2. *This subtask assumes the initial determination of No Adverse Effect to Historic or Cultural Resources will continue to be appropriate, such that no mitigation will be needed for project improvements.* Following submittal of the CRS Report to the Washington Department of Archaeology and Historic Preservation (DAHP) and affected Indian Tribes, CRC will address agency review comments and finalize the CRS Report, as needed.

- 5.6 CRC will prepare a Construction and Archaeological Monitoring Plan to address Phase 1 agency review comments as part of the CRS Report finalization.
- 5.7 Prepare a Habitat Management and Mitigation Monitoring Plan (Monitoring Plan) to direct efforts for post-construction monitoring of LWD structures, floodplain enhancement, compensatory wetland buffer mitigation, and cut-off channel function. Provide draft Monitoring Plan to Redmond, refine, and finalize with Redmond review comments. Submit the Monitoring Plan to agency staff for review and permit issuance. Respond to one (1) round of comments/requests for additional information.
- 5.8 Complete second submittal of permit materials to the regulatory agencies with jurisdiction, intended to reflect 70-percent plans and additional materials for permit reviews (e.g., ESA documentation, the Monitoring Plan, 70-percent plans, etc.). *It is assumed additional documents will be submitted to the agencies in electronic format.*
- 5.9 Provide review support and/or additional submittal elements for Redmond and the County's shoreline permit reviews, as needed. *The effort involved in this subtask is difficult to estimate; RH2 has included up to eight (8) hours of staff time.*
- 5.10 Coordinate with a local certified arborist (Greenforest, Inc.) as a subconsultant to RH2 to assess and document trees on site, perform and prepare a Tree Health Assessment, and prepare a memorandum for compliance with Redmond and the County's permit submittal requirements. Work with arborist to finalize design and protection for trees to be retained. *This subtask assumes Redmond and the County will require completion of this work and preparation of a subsequent memorandum for the purpose of land use approvals.*
- 5.11 Prepare a Clearing and Grading permit application for County review/approval. Coordinate submittal with Redmond project staff. Respond to County review comments or requests for additional information. *It is assumed one (1) resubmittal could be needed.*
- 5.12 Assist Redmond during the completion of the Special Use Permit (SUP) for construction and post-construction monitoring on County property. *It is assumed Redmond will lead SUP preparation and submittal to/review by the County; therefore, this subtask includes six (6) hours of RH2 staff time.*
- 5.13 Respond to Building, Clearing and Grading, and ROW Use permit review comments from Redmond staff to review the project for construction, including typical reviews. *Formal building, clearing and grading, and ROW Use permits will not be required; instead, Redmond will review design plans for consistency with these disciplines. This subtask includes effort for the RH2 team to respond to review comments, which are expected to be minimal; therefore, this subtask assumes no more than six (6) hours of staff time will be needed.*
- 5.14 Coordinate with agency staff for permit reviews and approvals and respond to requests for additional information or edits. *The effort involved in this subtask is difficult to estimate; RH2 has included up to twenty (20) hours of staff time, including ten (10) hours for RH2, six (6) hours for NHC, and four (4) hours for 48 North.*

Assumptions:

- *Redmond acknowledges the time required for agency review of permits is outside the control of RH2. RH2 will endeavor to aid Redmond and reviewing agencies to facilitate timely review and approvals. Redmond will submit and pay all permit fees directly to the applicable agency.*

Provided by Redmond:

- Redmond and County meeting coordination and attendance.
- Review and comment on draft permitting documents, as desired, prior to submittals.
- Redmond and County permit submittals and/or internal coordination, as needed.

RH2 Deliverables:

- Electronic copies (PDF) of questions and post-meeting minutes, and attendance for Redmond Planning staff meeting.
- Electronic copies (PDF) of Floodplain Development permit application and supporting plans, as needed.
- Electronic copies (PDF) of draft and final ESA documentation and USACE submittal and review coordination.
- Electronic HPA application and submittal to WDFW APPS portal.
- Electronic copies (PDF) of the revised and final CRS Report, including Construction and Archaeological Monitoring Plan.
- Electronic copies (PDF) of a draft and final Monitoring Plan.
- Electronic copies (PDF) of second permit submittal packages.
- Electronic copies (PDF) of the Tree Health Assessment Memorandum (PDF).
- County Clearing and Grading Permit application and supporting electronic plans (PDF) for submittal to the County.
- Electronic copies (PDF) of agency correspondence records, additional submittals, shoreline support documents, and other potential final permitting documentation that are requested by the permitting agencies with jurisdiction over this project.

Task 6 – Public Outreach Assistance (RH2 and NHC)

Objective: Support Redmond with public and project stakeholder outreach efforts.

Approach:

- 6.1 Provide design and project information and graphics for Redmond's use in updating the project website and communicating project elements to the public and project stakeholders. *This*

subtask assumes the RH2 team will provide and/or prepare graphics for Redmond's use. Ten (10) hours of staff time, including six (6) hours for RH2 and four (4) hours for NHC, are included.

Assumptions:

- Redmond will lead the public outreach efforts, including website updates, ENews, mailers, and/or other efforts determined to be necessary by Redmond.

RH2 Deliverables:

- Design and project information, and graphics in electronic format for Redmond's use.

Task 7 – 90-Percent PS&E (RH2, NHC, and 48 North)

Objective: Prepare 90-percent PS&E package.

Approach:

- 7.1 Develop 90-percent design plans reflecting Redmond's 70-percent design review comments.
- 7.2 Refine construction specifications for 90-percent design.
- 7.3 Refine estimate of probable construction cost for 90-percent design.
- 7.4 Perform internal 90-percent PS&E QA/QC review. Incorporate review comments and prepare package for Redmond's review.
- 7.5 Submit 90-percent PS&E to Redmond staff for review.

Provided by Redmond:

- Review and comment on 90-percent PS&E packages.

RH2 Deliverables:

- Electronic copies of the 90-percent PS&E packages.

Task 8 – Bid-Ready PS&E (RH2 and NHC)

Objective: Prepare bid-ready PS&E package.

Approach:

- 8.1 Develop bid-ready design plans reflecting Redmond's 90-percent review comments.
- 8.2 Prepare final construction specifications for bidding.
- 8.3 Prepare final estimate of probable construction cost for bidding.
- 8.4 Perform internal bid-ready PS&E QA/QC review. Incorporate review comments and finalize.
- 8.5 Submit final bid-ready PS&E to Redmond.

RH2 Deliverables:

- Electronic copies of bid-ready PS&E package.

Task 9 – Services During Bidding (RH2 and NHC)

Objective: Assist Redmond with bidding the project.

Approach:

- 9.1 Assist Redmond in responding to contractor or supplier questions during a three (3) week bidding period.
- 9.2 Prepare and issue up to three (3) addenda, if needed, to clarify, revise, or change construction plans, technical specifications, or project conditions during the bidding process.
- 9.3 Attend one (1) joint (i.e., Redmond and RH2 team staff) pre-bid walkthrough.

Assumptions:

- *There will be one (1) bid package, award, and schedule for the project.*
- *Contractors can pay for production costs of paper copies, as needed. The bid package will be advertised and accessed via a plan center such as Builder's Exchange.*
- *Redmond will coordinate the bid opening. It is assumed the RH2 project team will not attend.*
- *Redmond will tabulate the bid results and handle construction contract execution.*

Provided by Redmond:

- Submission of the advertisement to the appropriate publications and payment of fees.
- Tabulation of bids received, and award and execution of construction contract.

RH2 Deliverables:

- Responses to contractor or supplier questions over the phone or via email.
- Electronic copies (PDF) of up to three (3) addenda.

Phase 3 – Services During Construction

The Phase 3 – Services During Construction (SDC) Scope of Work has been prepared with the following overarching understanding of Redmond's roles and assumptions.

Assumptions:

- *Redmond will lead SDC efforts for the project with the RH2 team providing targeted technical support.*
- *There will be one (1) contractor working on the project. Special inspections will be performed by others via direct contract with Redmond and are not included in this Scope of Work. Redmond staff will be responsible for scheduling special inspections.*
- *RH2 is not responsible for site safety, or for directing the contractor in their work.*

- *Work described below will be performed to the amount stated and/or outlined in the accompanying Fee Estimate.*

Provided by Redmond:

- Payment for construction plan production by others.
- Provide construction observation personnel to monitor construction progress and respond to questions relating to existing facilities and utilities.
- Provide comments during the submittal process.
- Coordinate, contract, and pay for all special inspection services, such as soil compaction, fill gradation, concrete testing, and hot mix asphalt (HMA) inspection.
- Attendance at the following:
 - Pre-construction meeting.
 - Lead weekly construction meetings.
 - Daily on-site construction observation during active construction.
 - Construction startup.
 - Final project punch list walkthrough.

Task 1 – Construction Contract Administration (RH2 and NHC)

Objective: Provide targeted technical support to Redmond during the construction phase.

Approach:

- 1.1 Attend a Redmond-coordinated pre-construction meeting that will include Redmond, RH2, NHC, and the contractor. *Redmond will provide agenda and minutes for the meeting.*
- 1.2 Attend construction meetings weekly with involved parties at Redmond City Hall or the project site. Coordinate with Redmond's personnel throughout the construction phase, as requested. *Attendance at eight (8) meetings involving sixteen (16) hours of RH2 staff time and twelve (12) hours of NHC staff time is assumed for this effort. Additional effort, as needed, will be mutually determined by RH2 and Redmond.*
- 1.3 Respond to requests for information (RFIs) and/or technical questions submitted by the contractor. *Eight (8) hours of RH2's time and six (6) hours of NHC's time is assumed for this effort. Additional effort, as needed, will be mutually determined by RH2 and Redmond.*
- 1.4 Complete project management review, including schedule, budget, and monthly invoices.

Provided by Redmond:

- Deliver construction plans and specifications to the contractor and Redmond staff. *It is assumed that production of plans will be completed by a print shop and paid for directly by Redmond.*

- Review monthly invoices and provide ongoing progress and scheduling communication.

RH2 Deliverables:

- Attendance at pre-construction meeting and up to eight (8) weekly construction meetings with Redmond and the selected contractor.
- RFI responses in electronic format (PDF).
- Monthly invoices and ongoing correspondence in electronic format (PDF).

Task 2 – Submittal Review (RH2, NHC, and 48 North)

Objective: Provide submittal review during construction.

Approach:

- 2.1 Review and approve or reject, if necessary, shop drawings, equipment submittals, specifications, schedules, and construction sequence regarding access, grading, wall construction, fill, slope restoration, in-water work and fish exclusion, habitat enhancement, LWD, anchoring, native plants, and other equipment/materials, as required for the project. *It is assumed Redmond will lead submittal review efforts, with the RH2 team providing technical support. Therefore, this subtask assumes up to fifty-four (54) hours for RH2 staff, twenty-six (26) hours for NHC, and six (6) hours for 48 North.*

Provided by Redmond:

- Redmond will provide submittals for RH2 review, as needed.

RH2 Deliverables:

- Submittal response forms to Redmond and the contractor in electronic format (PDF).

Task 3 – On-Site Construction Observation (RH2, NHC, and CRC)

Objective: Assist with on-site construction observation and review change orders.

Approach:

- 3.1 Provide engineer(s) on site to observe the progress of construction and construction activities, as requested by Redmond. Construction observation is anticipated for clearing and grading, in-water work area isolation, invasive species removal and native replanting, structural and wall construction, and possibly other elements. A written report of each visit will be prepared and provided to Redmond. *The level of involvement required of RH2 will be re-evaluated during construction and may be adjusted based on contractor qualifications and project schedule. RH2 has estimated one (1) site visit monthly, at three (3) hours duration, to be performed by one (1) RH2 staff person for a total of three (3) months of construction.*
- 3.2 Provide hydraulic engineer on site to observe placement of LWD and anchoring or embedment work. Record LWD placement changes from plan for as-built recording. *The level of involvement required of NHC will be re-evaluated during construction and may be adjusted*

based on Redmond staff involvement, contractor qualifications and project schedule. For the purposes of estimation and Redmond direction regarding time involvement, this subtask assumes one (1) NHC staff will be on site for up to five (5) days or for the duration of LWD placement activities if longer than five (5) days.

- 3.3 Provide professional archaeologist to monitor excavations, as determined necessary through Section 106 [National Historic Preservation Act] consultation with DAHP and the Tribes. The need for archaeological monitoring is anticipated to be limited to excavation activities within the Bear Creek floodplain. A written report of archaeological monitoring activities will be prepared and provided to Redmond and regulatory agencies. *This subtask assumes one (1) CRC staff person will be on site for up to five (5) days of excavation activities.*
- 3.4 Support Redmond in reviewing change orders and supporting information, as requested. Submit change orders and supporting information to Redmond for execution. *This subtask assumes up to eight (8) hours each for RH2 and NHC staff.*

Assumptions:

- *Redmond will contract separately for special inspection of subgrade compaction and fill gradation, specifically.*
- *Changes to the RH2 team's level of involvement in construction observation that affect the assumption of hours stated or shown in the attached Fee Estimate shall be mutually negotiated by RH2 and Redmond.*

Provided by Redmond:

- Lead change order review and coordination of information with RH2 team staff.
- Review and process pay requests from the contractor, including ascertaining quantities and percent completion of the work as stated by the contractor, and preparing progress reports, including contract time remaining statements.
- Shared role in construction observation.
- Coordination and payment of special inspections.

RH2 Deliverables:

- Construction observation reports to Redmond in electronic format (PDF).
- Electronic (PDF) documentation of LWD placement and anchoring or embedment efforts.
- Electronic (PDF) archaeological monitoring report and submittal to DAHP.
- Change order forms, as requested, throughout the construction phase in electronic format (PDF).

Task 4 – Punch List Completion (RH2 and NHC)

Objective: Assist Redmond with final construction punch list coordination with the contractor.

Approach:

- 4.1 Conduct final on-site construction observation and prepare project punch list. Perform final walkthrough for completion of punch list items and specified construction by the contractor. *It is anticipated that the contractor will complete the punch list items prior to the final walkthrough.*

RH2 Deliverables:

- On-site review during final walkthrough.
- Punch list items for the contractor in electronic format (PDF).

Task 5 – Construction Records (RH2 and NHC)

Objective: Prepare construction record drawings.

Approach:

- 5.1 Review field records provided by the contractor to compare with RH2's, NHC's and Redmond's construction observation reports.
- 5.2 Prepare construction record drawings from the contractor-provided as-built drawings.

Assumptions:

- *Design changes will be minimal with no significant changes to site layout, structural, or civil systems.*
- *RH2 will rely on the accuracy and completeness of contractor-, NHC-, and Redmond-provided as-built markups.*

RH2 Deliverables:

- One (1) PDF of the as-built drawings sent via email.
- One (1) half-size set of construction record plans for RH2 records.

Project Schedule

This Scope of Work assumes preliminary design of the selected alternative and permit preparation/submittals will be completed in summer 2020 and will require a minimum of one (1) year of review by the various regulatory agencies with jurisdiction prior to permit issuance. Final design and permitting is anticipated to occur concurrent with permit reviews in late 2020 through mid-2021. Bidding is anticipated to occur in late 2021/early 2022, and construction in summer 2022. The schedule for this project may be modified as mutually agreeable to Redmond and the RH2 team.

EXHIBIT B**Fee Estimate****Amendment No. 2****City of Redmond****10000 Block of Avondale Road Erosion****Phase 2 - Final Design, Permitting, and Services During Bidding****Phase 3 - Services During Construction****25-Aug**

Description	Total Hours	Total Labor	Total Subconsultant	Total Expense	Total Cost
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Phase 2 - Final Design, Permitting, and Services During Bidding

Task 1	Project and Team Management (RH2 and NHC)	33	\$ 6,455	\$ 5,158	\$ 23	\$ 11,636
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Task 2	Geotechnical Exploration (RH2 and CRC)	64	\$ 14,376	\$ 12,833	\$ 252	\$ 27,461
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Task 3	70-Percent Design (RH2, NHC, and 48 North)	300	\$ 55,196	\$ 51,885	\$ 3,637	\$ 110,718
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Task 4	Construction Easement Assistance (RH2 and Axis)	10	\$ 1,898	\$ 2,250	\$ 138	\$ 4,286
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Task 5	Final Permitting and Agency Coordination (RH2, NHC, CRC, and 48 North)	160	\$ 28,110	\$ 17,807	\$ 902	\$ 46,819
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Task 6	Public Outreach Assistance (RH2 and NHC)	6	\$ 1,128	\$ 814	\$ 133	\$ 2,075
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Task 7	90-Percent PS&E (RH2, NHC, and 48 North)	130	\$ 24,566	\$ 16,849	\$ 1,102	\$ 42,517
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Task 8	Bid-Ready PS&E (RH2 and NHC)	120	\$ 22,943	\$ 4,125	\$ 1,195	\$ 28,263
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Task 9	Services During Bidding (RH2 and NHC)	80	\$ 15,575	\$ 4,891	\$ 742	\$ 21,208
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Subtotal Phase 2 - Final Design, Permitting, and Services During Bidding Tasks		903	\$ 170,247	\$ 116,612	\$ 8,123	\$ 294,982
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Phase 3 - Services During Construction

Task 1	Construction Contract Administration (RH2 and NHC)	36	\$ 7,205	\$ 5,057	\$ 400	\$ 12,662
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Task 2	Submittal Review (RH2, NHC and 48 North)	49	\$ 9,109	\$ 4,325	\$ 487	\$ 13,921
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Task 3	On-Site Construction Observation (RH2, NHC and CRC)	23	\$ 4,410	\$ 12,921	\$ 372	\$ 17,703
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Task 4	Punch List Completion (RH2 and NHC)	12	\$ 2,088	\$ 756	\$ 239	\$ 3,083
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Task 5	Construction Records (RH2 and NHC)	27	\$ 4,811	\$ 2,051	\$ 740	\$ 7,602
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Subtotal Phase 3 - Services During Construction Tasks		147	\$ 27,623	\$ 25,110	\$ 2,237	\$ 54,970
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PROJECT TOTAL		1050	\$ 197,870	\$ 141,722	\$ 10,360	\$ 349,952
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Negotiated Hourly Rates

Consultant:
RH2 ENGINEERING, INC

Staff Classification	Negotiated DSC	Overhead Multiplier	Fee Multiplier	Agreed Specific Rates of Pay
		188.54%	25.00%	
Professional I	\$ 47.52	\$ 89.60	\$ 11.88	\$ 149.00
Professional II	\$ 51.99	\$ 98.02	\$ 13.00	\$ 163.00
Professional III	\$ 57.09	\$ 107.64	\$ 14.27	\$ 179.00
Professional IV	\$ 60.92	\$ 114.85	\$ 15.23	\$ 191.00
Professional V	\$ 65.70	\$ 123.87	\$ 16.43	\$ 206.00
Professional VI	\$ 69.85	\$ 131.69	\$ 17.46	\$ 219.00
Professional VII	\$ 75.91	\$ 143.12	\$ 18.98	\$ 238.00
Professional VIII	\$ 77.82	\$ 146.72	\$ 19.46	\$ 244.00
Professional IX	\$ 77.82	\$ 146.72	\$ 19.46	\$ 244.00
Technician I	\$ 35.72	\$ 67.35	\$ 8.93	\$ 112.00
Technician II	\$ 38.91	\$ 73.36	\$ 9.73	\$ 122.00
Technician III	\$ 44.33	\$ 83.58	\$ 11.08	\$ 139.00
Technician IV	\$ 47.84	\$ 90.20	\$ 11.96	\$ 150.00
Administrative I	\$ 23.60	\$ 44.50	\$ 5.90	\$ 74.00
Administrative II	\$ 27.43	\$ 51.71	\$ 6.86	\$ 86.00
Administrative III	\$ 32.85	\$ 61.94	\$ 8.21	\$ 103.00
Administrative IV	\$ 38.91	\$ 73.36	\$ 9.73	\$ 122.00
Administrative V	\$ 44.65	\$ 84.19	\$ 11.16	\$ 140.00

In-House Copies	B/W - 8.5x11	\$ 0.09
In-House Copies	B/W - 8.5x14	\$ 0.14
In-House Copies	B/W - 11x17	\$ 0.20
In-House Copies	Color - 8.5x11	\$ 0.90
In-House Copies	Color - 8.5x14	\$ 1.20
In-House Copies	Color - 11x17	\$ 2.00
CAD Plots	Large	\$ 25.00
CAD Plots	Full	\$ 10.00
CAD Plots	Half	\$ 2.50
CAD System	Per Hour	\$ 27.50
GIS System	Per Hour	\$ 27.50
Mileage	Current IRS Rate	
Subconsultants	At Cost	

Outside direct costs for permit fees, reports, maps, data, reprographics, couriers, postage, and non-mileage related travel expenses that are necessary for the execution of the project and are not specifically identified elsewhere in the contract will be billed at cost.