CLACKAMAS COUNTY

DAN JOHNSON
DIRECTOR

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DEVELOPMENT SERVICES BUILDING
150 BEAVERCREEK ROAD OREGON CITY, OR 97045

April 25, 2024 BCC Agenda Date/Item:_____

Board of County Commissioners
Clackamas County

Approval of Amendment #1 to the Intergovernmental Agreement between the City of Happy Valley and Clackamas County relating to the 172nd Ave. Improvement Project. Total project budget is now $44,871,873, decreased from $53,278,800. Funding is through the City/County Transportation System Development Charge Joint District Fund, Cash Acknowledgement Funds, and City of Happy Valley Funds. No County General Funds are involved.

Previous Board Action/Review	4/23/24: Request for consent. 3/02/23: BCC Approval of a Contract with Harper Houf Peterson Righellis Inc. 3/24/22: BCC Approval of an Intergovernmental Agreement between the City of Happy Valley and Clackamas County relating to the 172nd Ave. Improvement Project.		
Performance Clackamas	The project will build a strong infrastructure and ensure safe, healthy and secure communities.		
Counsel Review	Hong Huynh	**Procurement Review**	No
Contact Person	Jonathan Hangartner	**Contact Phone**	503-742-4649

EXECUTIVE SUMMARY: The County signed an Intergovernmental Agreement with the City of Happy Valley that allows Clackamas County to use TSDC Joint District funds, Cash Acknowledgement Funds, and City of Happy Valley funds to administer design, permitting, right of way acquisition, and construction of street widening and intersection improvements along SE 172nd Avenue between SE Misty Drive and SE Maple Hill Lane. The proposed improvements include constructing additional travel lanes, bike lanes, and sidewalks along 172nd Avenue and traffic signals or roundabouts at major intersections. Also, existing culverts at the intersection of 172nd Avenue and Troge Road will be replaced.

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At the request of the City of Happy Valley, the project limits and budget is reduced to align with forecasted funding. The new proposed improvements will now include street widening along 172nd Ave between SE Misty Drive and Scouters Mountain Rd, which stops short of improvements to the Hemrich Rd/172nd Ave and future 190th Connector/172nd Ave intersections. The County received updated estimated project costs associated with the reduced project limits from the consultant performing the design and the total project budget is reduced from $53,278,800 to $44,871,873.

The requested Amendment #1 to the Intergovernmental Agreement between Clackamas County and the City of Happy Valley relating to the 172nd Ave Improvement Project replaces the Exhibit A Project Area, Exhibit B Scope of Work, Exhibit C Project Schedule, and Exhibit D Project Cost with updated exhibits. Exhibit D Project Cost to the Intergovernmental Agreement sets forth Project costs that are the responsibility of the City.

RECOMMENDATION: Staff respectfully recommends that the Board of County Commissioners approve the attached Amendment to the Intergovernmental Agreement between Clackamas County and the City of Happy Valley related to the 172nd Ave Improvement Project as listed in the agreement.

Respectfully submitted,

Dan Johnson

Dan Johnson, Director
Department of Transportation & Development

AMENDMENT #1
TO THE INTERGOVERNMENTAL AGREEMENT BETWEEN THE CITY OF HAPPY VALLEY AND CLACKAMAS COUNTY RELATING TO THE 172ND AVE. IMPROVEMENT PROJECT

This Amendment #1 is entered into between City of Happy Valley, an Oregon municipal corporation ("City"), and Clackamas County, a political subdivision of the state of Oregon ("County"), collectively referred to as the "Parties" and each a "Party."

RECITAL

A. The City and County entered into the Intergovernmental Agreement Relating to the 172nd Ave. Improvement Project effective March 24, 2022 ("Agreement").

B. Section 8.h. of the Agreement requires all modifications and changes to the terms of the Agreement to be in writing and signed by both Parties.

C. The Parties desire to modify the scope of the project that is the subject of the Agreement as set forth below.

AGREEMENT

NOW, THEREFORE, for good and valuable consideration, the receipt of which is acknowledged, the City and the County hereto agree that:

1. **Effective Date**. This Amendment #1 becomes effective on the latest date on which this Amendment is signed by City and County (as indicated below their signatures herein).

2. **Amending Recital B.** Recital B of the Agreement is hereby deleted entirely and replaced with the following:

"The Parties plan to design improvements within the 172nd Ave. transportation corridor. The 172nd Ave. Project (the "Project") is proposed to be a five-lane arterial and will include the work identified in ***Exhibit B*** *to this Agreement, which lies within the Misty Drive/Vogel Road to through the Scouters Mountain Rd roundabout and tapering back into the existing 172nd Ave. public right-of-way to the north as identified in* ***Exhibit A*** *to this Agreement (the "Project Area")."*

3. **Amending Exhibits.** Exhibit A, Exhibit B, Exhibit C, and Exhibit D to the Agreement is hereby deleted in their entirety and replaced with Exhibit A, Exhibit B, Exhibit C, and Exhibit D, respectively, in the form attached to this Amendment #1 as Annex 1.

4. Except as expressly amended above, all other terms and conditions of the Agreement shall remain in full force and effect.

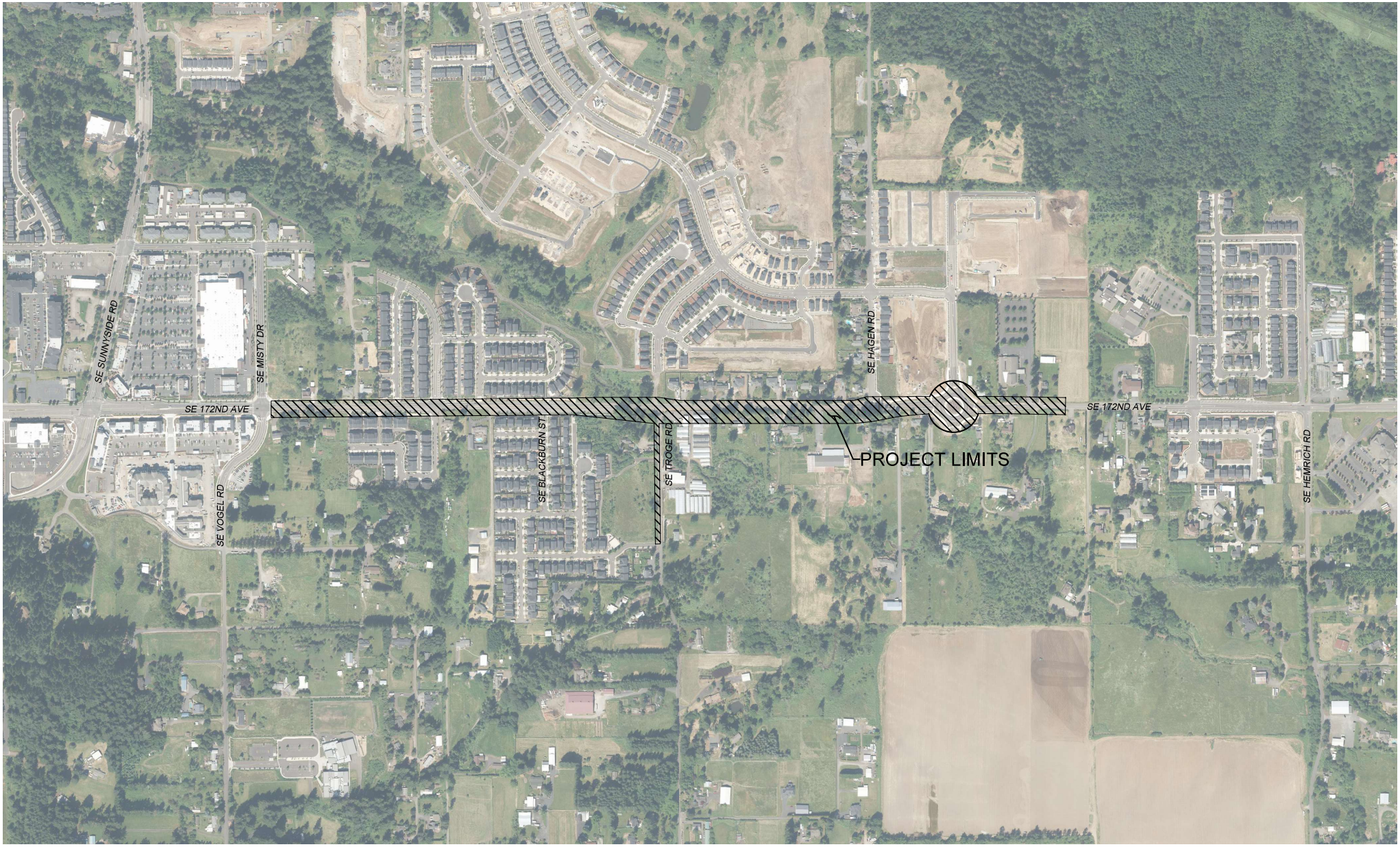
City of Happy Valley	**Clackamas County**
Jason Tuck	
Jason A. Tuck, ICMA City Manager	Tootie Smith, Chair, Board of County Commissioners
03/01/2024	
Date	Date

ANNEX 1

AMENDED EXHBIT A, EXHIBIT B, EXHIBIT C, AND EXHIBIT D
TO THE INTERGOVERNMENTAL AGREEMENT BETWEEN THE CITY OF HAPPY VALLEY
AND CLACKAMAS COUNTY RELATING TO THE 172ND AVE. IMPROVEMENT PROJECT

EXHIBIT A - PROJECT AREA

172ND AVE. IMPROVEMENT PROJECT



CLACKAMAS COUNTY

EXHIBIT B

SCOPE OF WORK

3.1. INTRODUCTION

The City of Happy Valley, hereafter referenced as "City" and Clackamas County Department of Transportation and Development ("DTD"), hereafter referenced as "County", are seeking the services of a qualified consultant to provide project management, survey, environmental studies and permitting services, stormwater and hydraulic services, utility coordination, geotechnical, traffic engineering, public outreach, and the development of both preliminary design criteria and final PS&E (Plans, Specifications and Estimates) design, right-of-way services, and bid assistance for the "SE 172nd Avenue Improvements Project".

BACKGROUND

SE 172nd Ave. is identified as a major arterial roadway and noted as a priority improvement project in the City's and County's transportation system plans (TSP's) to widen to five lanes between Sunnyside Road and Scouters Mountain Road. 172nd Avenue has already been constructed to five lanes between Sunnyside Road and Misty Drive/Vogel Road.

PROJECT UNDERSTANDING

This project will design and identify public right-of-way acquisition along 172nd Ave. between Misty Drive/Vogel Road and Scouters Mountain Road by widening to two travel lanes in each direction, center turn lane (as applicable), bike lanes/cycle track, sidewalks, planter strips, culverts/bridges, roundabouts, signalized intersections, street lighting, undergrounding of utilities, and ADA ramp improvements as necessary at roadway intersections. In addition, the project will include half-street improvements on the south side of Troge Rd. from 172nd Ave. to Olympic Street and the design of a new frontage road south of Hagen Rd to serve the lots along the old golf course.

The project is outlined as follows:

Segment 1 – Vogel Rd/Misty Dr Intersection to Troge Intersection South Leg

- Connection to the existing signalized intersection at Vogel Rd/Misty Dr
- Completing missing segments between Vogel Rd/Misty Dr to Blackburn St
- Widening intersection at Crossroads Ave (For future traffic signal accommodation)

Segment 2 – Troge Intersection and Approach Legs

- New signalized intersection or roundabout at Troge Rd
- New bridge or culvert structure(s) crossing Rock Creek on both 172nd Ave and Troge Rd
- Realignment of 172nd Ave to accommodate Frontage Rd (Hagen Rd connection)
- Realignment of Rock Creek
- Regional stormwater facility for roadway stormwater (accommodating Segments 1-5)

Segment 3 – Troge Intersection North Leg to Northside of Scouters Mountain Roundabout

- Conversion of existing one-lane roundabout to a two-lane roundabout for 172nd Ave movements

Segment 4 – Frontage Rd (Hagen Rd Connection)

- New local frontage road and cul-de-sac to reconnect access for existing lots west of 172nd Ave

Segment 5 – Troge Widening East to Olympic St

- Half-street improvements along Troge Rd to Olympic St

Lane Configuration and Geometry:
Generally, 4-lane (11 to 13-ft wide each) cross section with 14-ft wide center planter median with turn lanes at some intersections, 6-8-ft. wide bicycle lanes/cycle track, planter strips, and 7 ft.-wide sidewalks. Centerline geometry within project corridor to be analyzed for conformance with AASHTO design standards.

Stormwater Management:
Best Management Practices (BMP's) utilized per City of Happy Valley design standards or Water Environment Services Standards as adopted by Clackamas County Department of Transportation and Development.

Lighting:
New street lighting along the corridor – as applicable where adjacent frontage improvements have not already installed lighting.

Franchise Utilities:
Relocate and underground utilities.

Natural Resources:
Environmental permits will be required related to Rock Creek culvert replacement at Troge Rd. /172nd Ave. Additional environmental permit requirements will be determined during design.

Landscaping:
Bark mulch or grass seed shall be shown to match existing landscaping beyond improvements. Low maintenance water quality grass mixes in water quality facilities, although trees and shrubs may be needed for stormwater management facilities. Trees in the center planter median.

Public Involvement and Outreach:
Public involvement will consist of attending community open houses and in-person meetings with adjacent property owners. It is anticipated virtual open houses will be required in addition to in-person open house meetings.

Right-of-Way (ROW):
Assumed 49 files for ROW and easement acquisitions requiring appraisals and appraisal reviews.

SPECIFIC SCOPE OF SERVICES

3.2. SUMMARY OF WORK

Project management, survey, environmental and stormwater/hydraulic services, utility coordination, geotechnical, traffic engineering, public outreach, and the development of both preliminary design criteria and final PS&E (Plans, Specifications and Estimates) design, right-of-way services, and bid assistance up through bid award for this project based on the scope of services described herein.

Task 1.0 Project Management and Project Coordination

Task 2.0 Survey, Field Investigations and Mapping

Task 3.0 Environmental Reconnaissance and Permitting

Task 4.0 Stormwater / Hydraulics Related Services

Task 5.0 Utility Coordination

Task 6.0 Geotechnical and Geologic Services

Task 7.0 Traffic Engineering and Management

Task 8.0 Preliminary Design (30%)

Task 9.0 Public Involvement/Outreach

Task 10.0 Final Design (60%, 90%, and 100% Bid Ready)

Task 11.0 Right-of-Way Research, Descriptions, Appraisals and Acquisitions

Task 12.0 Bid and Award Assistance

The duration of the design of this project is assumed to be from September 2023 through November 2026 for the completion of design and right-of-way tasks. Bidding will occur between December 2026 and January 2027. This scope of services does not include construction engineering or construction support but may be added at the discretion of the County and City towards the end of the design phase through a contract amendment.

Task 1.0 Project Management and Project Coordination

1.1 Project Management

Consultant shall:

- Provide the management and coordination to the consultant team and County management staff. Provide general day-to-day coordination with Clackamas County and project team members.
- Document action items from meetings, comments, and responses in a master comment/response log.
- Document risks, opportunities, and task decisions in individual deliverables such as meeting minutes and memoranda included within each task.
- Prepare monthly invoices and progress reports. Consultant assumes a 42-month timeframe for the project to be designed and bid for construction.
- Maintain document files.

1.2 Project Coordination

The proposed approach to project coordination during design is to hold project meetings with key project team members and representatives from the County and City. The Consultant Project Manager shall direct all meetings and provide direction to the rest of the team as the project progresses. These meetings shall have a specific agenda with a predefined objective and outcome to address and resolve project issues as they are encountered. Consultant shall provide meeting Agendas. The following items are included with this task:

- Schedule and attend a two-hour Project Kickoff Meeting with the County, task leaders, and sub-consultants. Prepare and distribute a team member list, copies of the contract, and draft project schedule. Prepare meeting agenda and summary notes.
- Schedule and Attend Project Management Team Meetings. It is assumed virtual coordination biweekly meetings (1.5 hours each) shall be held during the design phase of the project (42-month time frame for a total of up to 84 meetings). The Project Manager and a senior design engineer and up to two additional project team members as appropriate will attend each meeting. Consultant shall prepare agenda in advance of deliverable review and other meetings as needed and provide minutes after each meeting including action items.
- Attend design coordination meetings with agencies external to the Project team such as Water Environment Services. It is assumed up to 8 virtual meetings with the Project Team (2 hour each) shall be held. Up to 3 consultant personnel are expected to attend each meeting.
- A total of up to 42 monthly telephone check-in meetings with the Consultant PM (1/2 hour each).
- Consultant shall prepare a project schedule at the on-set of design. Consultant shall provide an updated project schedule, as needed, with all major deliverables (30%, 60%, 90%, and 100%).

***Task 1.0 Deliverables**:*

- *Monthly Invoices and Progress Reports*
- *Project Schedule with Periodic Updates*
- *Meeting Agendas and Minutes for Coordination Meetings*

Task 2.0 Survey, Field Investigations and Mapping

2.1 Topographic Survey

Consultant shall complete a topographic survey in English units (International feet) for the project area.

- Features to be shown include trees six inches or more in diameter (dbh), ornamental trees, utilities, utility poles, overhead wires, fences, area lights, culverts, driveways (including width and length), walks, crown line of streets, edge of pavement, ditches, traffic and other permanent signs, and structures as accessible.
- Underground features such as utility line sizes, rim elevations, invert elevations, fuel tanks, wells, septic tanks, and drain fields shall be shown as indicated by surface features and other information including as-built drawings and utility company data.

Consultant assumes County shall vacuum clean all structures prior to survey field work.

- Existing striping shall be located where needed to design the project striping.
- All significant features within 50 feet of the proposed ROW (or up to the face of building, whichever is closer) shall be tied for areas of widening that will occur on private property. For previously developed areas along the corridor (such as a new subdivision), the survey will go up to the face of the fencing in the ROW unless additional survey is needed.
- Create an Ortho corrected UAV flight on coordinate base with 3D lidar model creating a base aerial to be utilized for preliminary design until the final topographic map is completed.
- Photos of site conditions shall also be taken.
- The Horizontal Datum to be NAD 83(2011) epoch 2010.00 PDX Zone, utilizing the Oregon Real Time Network. The Horizontal Network shall be resolved using differential Real Time Kinematic (RTK) GPS observations along with terrestrial ground measurements. The Vertical Datum shall be NAVD 88. Closed loop differential level measurements shall run through all of the on-site Control.
- Collect river cross sections as required to perform HEC-RAS modeling of Rock Creek at 172nd Ave. and Troge Rd. crossings.
- Send out survey notices to the property owners along the corridor.

The project limits shall include:

- 172nd Ave. from Misty Drive/Vogel Road to Coyote Way intersection and along Troge Rd to Olympic St.
- Field topography will go 50 feet on side streets or as needed if determined to go further to supplement the aerial flight up to 500 feet on selected side streets based upon design requirements.

The field topographic data shall be incorporated into a topographic survey base map and digital terrain model utilizing AutoCAD Civil 3D 2019 or newer.

2.2 Horizontal Control, Monument Recovery, and Pre-Construction Record-of-Survey

Consultant shall:

- Retrace all existing ROW within the project corridor. Consultant shall search survey records on file with Clackamas County, to reestablish existing centerlines of each ROW.
- Research deeds and Record Surveys, including but not limited to property surveys, county road surveys, original county road resolutions, public land corner surveys, and Donation Land Claim (DLC) surveys.
- Keep copies of the research data collected, including but not limited to surveys, deeds, assessors' maps, county road maps, government corner surveys, and horizontal and vertical control data sheets Consultant's Project file. Consultant shall provide project-related data and records to the County at the end of the project.
- Identify survey found property corners, property line fences and the existing edges of pavement to establish existing road centerlines and rights-of-way. Consultant shall tie at least one (1) Public Land Survey System (PLSS) corner as necessary to

show a relationship to the road centerlines. Consultant shall provide at least one (1) PLSS corner tie for ROW descriptions and the filing of a Record Survey.

- Obtain preliminary title reports along all fronting properties along the entire project limit including side streets. Research existing easements and show on the overall project base map. Title reports will be obtained under Task 11.2.
- Show adjacent property lines and existing ROW on the Project Base Map using Consultant's ROW retracement. Consultant shall prepare and file a Pre-Construction Record of Survey conforming to applicable County standards with the County Surveyor's office to perpetuate monument locations as required under ORS 209.155. Scale for survey map shall be 1"=40', or as approved.

Task 2.0 Deliverables:

- *Base maps drawings in AutoCAD and PDF*
- *Pre-Construction Record of Survey*

Task 3.0 Environmental Reconnaissance and Permitting

The County will obtain Rights of Entry (ROE) for field reconnaissance work. The Consultant shall provide a list of properties requiring ROEs for research disciplines no less than six (6) weeks before such ROEs are required to perform work on private parcels. Consultant shall provide County with an exhibit map for each property showing the approximate location of any invasive test sites on the property, e.g. anything more than minor shovel sampling, test pits, etc.

The following tasks will be completed by the Consultant to identify issues and ensure compliance with the regulating agencies:

3.1 **Wetland and Waters Delineation**

Consultant shall conduct a site visit of the project's Area of Potential Impact (API) and delineate wetlands, streams, or ditches within the API. The wetland and waters delineation will be conducted in accordance with the routine on-site wetland determination methodology described in the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual: Wetlands Research Program Technical Report Y-87-1, supplemented by the Western Mountain, Valleys, and Coast Regional Supplement, the Code of Federal Register (CFR) Title 33, Part 329.11, and Oregon Administrative Rules (OAR) Chapter 141, Division 85, Section 0515.
In accordance with the USACE Wetland Delineation Manual, Consultant shall:

- Obtain representative soil samples to assess hydric soil conditions and wetland hydrology.
- Determine dominant vegetation for each cover class at these sampling locations.
- Provide flags on site demonstrating wetland and waters feature boundaries to assist surveyors in mapping wetlands.

Consultant shall prepare a draft and final wetland delineation report in accordance with Oregon Department of State Lands (DSL) standards. Consultant shall submit the draft wetland delineation report to the County for review. Consultant shall submit the final, County-reviewed report to the DSL electronically for concurrence. Consultant shall address questions from DSL during concurrence review regarding the wetland delineation report to facilitate DSL concurrence of the wetland delineation.

Assumptions

- The City, County and Consultant will agree to a final project API prior to completion of the wetland delineation field work. Consultant will provide draft and final API maps.
- The County will coordinate property access and entry approval for completion of the wetland delineation.
- Wetland/waters delineation boundary flag locations will be surveyed by a Professional Land Surveyor.
- CADD, Microstation, or GIS data provided to Consultant engineer for surveyed boundaries and sample plot locations will include projection, units (inches, feet, meters, etc.), and the coordinate system.
- The Ordinary High-Water Mark (OHWM) of waters/ditches within the API will be delineated based on field indicators; a hydrologic analysis of stream gage data is not included in this task. No groundwater monitoring or analysis is included in this task.

3.2 Natural Resource Assessment and Report

Consultant shall complete a Sensitive Area Natural Resource Assessment to demonstrate the project's compliance with the Clackamas County Code (Code) Section 4.3 and the City of Happy Valley's Natural Resource Overlay Zone. Consultant shall conduct a field investigation to collect data on the sensitive areas present in the API, as described in the Code 4.3.3: Scope of Assessment. Consultant's assessment of sensitive areas will include a delineation of the OHWM of stream features in the API, per Code 4.3.4.2.2 (top of bank of the defined channel, or the surface elevation of a 2-year, 24-hour storm event). Consultant shall delineate wetland boundaries within the API per Task 3.1. Consultant shall provide flags on site demonstrating wetland and waters feature boundaries to assist surveyors in mapping sensitive areas. Consultant will also determine the existing sensitive area Buffer condition. The Buffer condition assessment will include:

- Identification and characterization of the plant community type(s) (Code 4.3.4.4.1).
- Collection of representative sample points to capture vegetation characteristics including native, invasive, and noxious species (Code 4.3.4.4.2, 4.3.4.4.3, and 4.3.4.4.4).
- A base map depicting the sensitive areas, Buffers, and data collected within the Buffers (Code 4.3.4.4.5).

Consultant shall utilize GPS-enabled handheld digital tablets to collect the Buffer condition data while on-site. Results of the Natural Resource Assessment will be documented in the Natural Resources Assessment report.
Consultant shall prepare a Natural Resources Assessment Report that will include the following to satisfy Code 4.3.4.5:

- Documentation of sensitive area(s) located in the API and within 200 feet on adjacent properties.
- Descriptions of plant communities.
- Data assessment forms from the wetland and water delineation and Buffer analysis.
- Base map depicting the results of the field investigation.

Consultant shall also prepare the Clackamas County Sensitive Areas Certification Form that will be submitted to the City along with the Natural Resources Assessment report. Consultant shall prepare a wetland and stream Buffer variance application due to expected unavoidable

Buffer impacts resulting from the project. The wetland and stream buffer variance application shall be prepared to City of Happy Valley standards.

Assumptions

- The Natural Resource Assessment will be conducted by Consultant biologists.
- Prior to completing this task, the County will attempt to gain permission for Consultant biologists to access 200 feet of properties adjacent to the API to complete assessment per County code. If access is denied by adjacent landowners, Consultant biologists will apply off-site assessment methodology to those areas (e.g. visual observation, reliance on mapped resources, etc.).
- Consultant shall submit the final Natural Resource Assessment report, Sensitive Areas Certification Form, and Wetland and Stream Buffer Variance Application to City planning staff.
- The County will pay fees associated with submittal of Natural Resource Assessment report.

3.3 Stream and Wetland Function Assessments (Contingency)

Consultant shall complete a Stream Function Assessment Methodology (SFAM) assessment of Rock Creek at 172nd Ave. and Troge Rd. within the API to quantify lost stream functions and values if project impacts exceed 0.5 acre of permanent wetland impact and/or the project cannot meet the DSL's criteria for a Transportation-Related Structures General Permit. Consultant shall complete all required office based SFAM work prior to the site assessments. Consultant shall collect all required field data for the SFAM assessments in required DSL format during a two-day site visit for two Consultant staff. If required, Consultant shall post-process all SFAM field data for inclusion in the Joint Permit Application (JPA) for the project (Task 3.4).

Assumptions

If required, stream functional assessments will be conducted by Consultant biologists.

3.4 Joint Permit Application (JPA)

Consultant shall prepare a draft and final JPA to apply for a USACE Clean Water Act Section 404 Nationwide Permit (NWP) and for a DSL General Permit (GP) in accordance with requirements set forth in OAR 141-085-0025. If project impacts to wetlands and waters of the U.S. and State exceed NWP and/or GP thresholds, the JPA will be used to obtain an Individual Permit (IP) from the respective agency requiring an IP.

Clean Water Act Section 401 certification from the Oregon Department of Environmental Quality (DEQ) will be required for the project as pollutant-generating impervious surfaces will be increased a result of project implementation. The 401 certification will be facilitated by Consultant's submittal of the JPA, and a Stormwater Management Plan prepared by Consultant, in DEQ format to DEQ for review and approval.

Preparation of the JPA may include correspondence with regulatory agencies in the form of telephone calls, letters, and memorandums to document permit needs. Consultant shall:

- Prepare brief narratives and descriptions on project purpose and need, potential impacts, and project alternatives using information provided by Consultant and County, as necessary to complete the JPA.

- Provide pre-submittal coordination with representatives of the USACE and DSL to confirm permitting requirements and application procedures. This coordination will include pre-application correspondence.
- Prepare all necessary non-engineering drawings, maps, and photographs for inclusion in the JPA.
- Evaluate potential wetland/waters impacts and methods for avoidance or minimization measures.
- Respond to questions or comments raised by the agencies during their review of the JPA. This task may include correspondence and clarification of the JPA and related tasks as necessary to clarify regulatory agency concerns and to facilitate the issuance of USACE's and DSL's permits for the proposed project.
- Provide the draft JPA to County for review and comment, revise the draft JPA once each per review comments and prepare the final JPA for submittal to the USACE and DSL.

Assumptions

- Wetland impacts will be below 0.2-acre and will therefore not require a Principal Objective Analysis or Oregon Rapid Wetland Assessment Protocol (ORWAP) or Hydrogeomorphic functional assessment. A best professional judgement functional assessment for wetlands and waters impacts is included in preparation of the JPA under this task. If wetland impacts exceed 0.2-acre, Task 3.3 will be authorized.
- If project impacts exceed 0.5 acre of permanent wetland impact and/or the project cannot meet the DSL's criteria for a Transportation-Related Structures General Permit, Task 3.3 will be authorized.
- Additional fieldwork beyond the wetland/water delineation effort (Task 3.1) will not be required for this task.
- Permittee-responsible wetland mitigation or plans will not be required. If necessary, permanent wetland and/or waters impact mitigation will be satisfied through County purchase of environmental mitigation bank credits, in-lieu-fee, or payment in-lieu. If on-site restoration is required for temporary wetland impacts or for any temporary waters impacts, Consultant biologist will provide a simple restoration planting list with selected species. Any formal landscape plans required for the bid package will be provided by Consultant. No monitoring of restoration activities is included.
- USACE/DSL permit conditions will not change during the application phase.
- Consultant will prepare a Stormwater Management Plan in required DEQ format and provide it to Consultant biologist for submittal to DEQ for the project 401 Certification.
- Payment of DEQ Stormwater Management Plan review will be the responsibility of the County.
- Engineering drawings, cross sections, details, impact calculations and project description support for inclusion in the JPA will be provided by Consultant.
- DSL may require a permit fee, depending on the type of authorization required, and the amount of fill or excavation to be performed in wetlands and/or waters. Payment of the DSL permit fees will be the responsibility of the County.
- If compensatory wetland/waters mitigation is addressed by use of a mitigation bank, in-lieu-fee, or payment in-lieu, the County is responsible for any payment required.
- The County will acquire signatures from all appropriate parties as required for completion of the JPA, including applicants, landowners, and local planning officials.
- Permit close-out inspection and reporting services will be provided under a separate contract or an amendment to this contract, if requested in the future.
- The JPA will include all impacts along the entire project corridor.

3.5 SLOPES V Endangered Species Act Compliance Documentation

Chinook salmon and Coho salmon of the Lower Columbia River (LCR) Evolutionarily Significant Unit (ESU) and steelhead of the LCR Distinct Population Segment (DPS) are known to occur in Rock Creek downstream of the project corridor. These ESUs and DPS are listed as Threatened under the federal Endangered Species Act (ESA). The project could affect the water quality in Rock Creek as a result of project-related in-water work activities, increases in impervious surfaces and alterations to existing local drainage patterns. The receipt of a permit from the USACE provides a federal nexus with the ESA and the regulatory need for the project to demonstrate compliance with ESA standards for avoiding or minimizing downstream effects on listed salmon and steelhead.

Consultant shall determine if programmatic ESA compliance processes such as the Standard Local Operating Procedures for Endangered Species (SLOPES V) programmatic Biological Opinion can be used for project ESA compliance. If programmatic ESA compliance cannot be obtained for the project, Consultant shall prepare of a Biological Assessment (BA) to initiate individual consultation with the National Marine Fisheries Service (NMFS).

Assumptions

- The project will not result in impacts on federally listed wildlife or plant species.
- Use of the SLOPES V programmatic ESA compliance process will be determined shortly after the 30% design milestone.
- SLOPES V transportation project compliance standards will not change during project design and construction.
- If the project does not qualify for SLOPES V programmatic ESA compliance, preparation of a BA and individual ESA consultation with NMFS will be required.
- Coordination with NMFS will be conducted via telephone and email transmittals. A site visit or meeting with NMFS will not be required.
- SLOPES V documentation will be submitted to the USACE with the project JPA. USACE will deliver the SLOPES V documentation to NMFS for review.

3.6 Oregon Fish Passage Plan – Rock Creek

Rock Creek is known to support Native Migratory Fish (NMF) per Oregon's Fish Passage Law (OARs 635-412-0005 to 625-412-0040). The replacement of the existing culverts that convey Rock Creek under 172nd Ave. and Troge Rd. will trigger application of the Fish Passage Law. Crossing designs must therefore meet Oregon Department of Fish and Wildlife (ODFW) hydraulic or streambed simulation fish passage design criteria. Consultant shall prepare two fish passage plans in ODFW format that document post-project fish passage conditions in Rock Creek and compliance with applicable fish passage criteria associated with the replacement culverts at 172nd Ave and Troge Rd.

Assumptions

- Delineation of the Rock Creek Active Channel Width (ACW) and streambed sediment grain size analysis will be required for this task.
- Both culvert replacements will be designed and constructed in compliance with applicable Oregon's Fish Passage Laws.
- The replacement crossings at 172nd Ave. and Troge Rd. will not require a fish passage exemption, waiver, or mitigation. If a fish passage waiver and mitigation is required,

an amendment to the Consultant contract would be required to authorize preparation of and coordination for fish passage waiver/mitigation documentation.

3.7 DEQ Erosion & Sediment Control Approval

The County's 1200-CA permit requires review and approval of erosion and sediment control plans for projects greater than 1 acre. Projects greater than 5 acres require a public notice. Consultant shall submit an Environmental Management Plan to "Your DEQ Online" portal for DEQ's review, public notice, and approval.

Assumptions

- The existing Clackamas County DTD 1200-CA permit is applicable to address erosion control requirements and no other 1200 DEQ permit is required.
- Environmental Management plan shall include Erosion & Sediment Control Plans and special provisions, including the following:
  - Location and type of Best Management Practices (BMP) for erosion prevention, sediment control and runoff control for each phase of construction,
  - Perimeter controls, track out controls, stabilization measures,
  - Maintenance procedures for each BMP type,
  - Schedule for installation and duration of BMPs,
  - Seed mix, final stabilization – include 01030 special provision with ESCP, and
  - Sediment basin designs shall be stamped by qualified professional and have calculations available.
  - Erosion Control Plan Preparation included in Task 10.

3.8 City/County Permits

The project may require additional local permits such as compliance with City of Happy Valley land use code requirements in addition to compliance with Clackamas County Code (Code) Section 4.3 of the County's code discussed in this SOW. Consultant shall research local permit jurisdictional requirements and clarify the development review process with County Planning staff to confirm code compliance approval requirements and timelines. Consultant shall document local permit requirements in the design memorandum at the 30% design milestone under Task 8.6 that identifies:

- potential local jurisdictional requirements
- potential County development codes or rules triggered by the project,
- the County agency that is responsible for administration of the code or rules,
- specific permitting pathways for each development review requirement triggered, and
- code compliance/permit issuance timeline for each triggered code compliance requirement.

The memorandum will be used to confirm specific local land use compliance requirements and other potential permits once preliminary design is completed.

Assumptions

- A Habitat Conservation Area Application shall be required as part of this work.
- Buffer Impact and Mitigation Plan Application shall be through the City of Happy Valley.
- Natural Resource and Steep Slope Overlay Process and Wildlife Corridor compliance shall be part of this work.

- Design review application process through the City for any neighborhood walls along an arterial roadway shall be a part of this work.
- A Type II Floodplain Development Permit shall be required as part of this work.
- A City of Happy Valley Erosion Control Permit shall be part of this work.
- A City of Happy Valley Grading Permit shall be part of this work.
- Payment of any local land use permit review fees will be the responsibility of the County.
- Consultant shall submit final local land use compliance documentation to County planning staff.

3.9 Hazardous Materials Corridor Study ("HMCS")

Consultant shall perform the HMCS within the Project Area of Project Impact ("API") and according to accepted environmental procedures as outlined in the Hazardous Waste Guide for Project Development (1990), by the *American Association of State Highway and Transportation Officials (AASHTO)* Special Committee on Environment, Archaeology and Historic Preservation, and the 2020 ODOT Hazardous Materials Program Procedures Guide available on the Agency website at:

https://www.oregon.gov/odot/GeoEnvironmental/Docs_GeologyGeotech/HazMat_Program_Manual.pdf

Consultant shall prepare the HMCS Report per the most recent version of the Level 1 Hazardous Materials Corridor Study report template.

Consultant shall:

- Review available federal and state environmental records for hazardous waste generators, documented leaking or permitted underground storage tanks ("USTs"), sites with known or suspected releases, landfill sites, and Superfund sites using government web-based databases or using a commercial database search report. Consultant shall use the search radii set forth in American Society for Testing and Materials ("ASTM") Standard E1527-21 for these database searches. Consultant shall review Oregon Department of Environmental Quality ("DEQ") file information for all sites that could impact the Project corridor to determine the nature and extent of contamination.
- Conduct a site reconnaissance of the Project API that consists of systematically traversing the Project API and viewing adjacent properties from roadways and public access areas. Consultant shall include photographs documenting Project API observations in the HMCS Report. Consultant shall use the reconnaissance to identify potential sources of contamination that could impact the proposed Project during construction or that could result in Clackamas County acquiring contaminated property.
- Conduct historical research to assess past uses of the Project API and adjacent properties starting in 1920, or the earliest readily available date, and at 10-year intervals to present time. Consultant shall note data gaps in the HMCS Report. Consultant shall make recommendations for additional research if the historical resources are insufficient in describing the Project API land use history for the last 50 years. The historical research must include a review of historic aerial photographs and at least 1 or more of the following:
  - Topographic maps
  - Sanborn Fire Insurance maps

    - Historic property ownership/occupancy records
- Contact local Agency Maintenance and Engineering staff to get an accounting and records relating to prior maintenance activities that have occurred in the Project Area that may relate to hazardous materials.
- Prepare an AASHTO Initial Site Assessment Checklist according to AASHTO guidelines. Consultant shall incorporate the checklist into the HMCA Report.
- Prepare a draft and final HMCS Report to include a description of field observations, information from state and federal environmental databases, DEQ file review information, historic land use, a scaled map showing the location of all identified potential sources of contamination and sample locations and depths (as applicable), photographs, copies of historic data, copies of state and federal databases, results of any testing, and any other relevant documentation. The HMCS Report must include conclusions that identify specific sources of contamination that could impact the Project or the proposed construction work, and recommendations for further investigation or remediation.

Consultant shall prepare a draft HMCS Report for client review and comment. Consultant shall prepare a final HMCS Report based on client review comments and acceptance of the draft document.

3.10 Cultural Resource/Archaeological Survey

Consultant shall perform an alternatives analysis of the project area followed by a cultural resource/archaeological survey of the selected Area of Potential Effect (APE). The work will be directed by Consultant archaeologists and architectural historians who meet the Secretary of the Interior's Standards and Guidelines in Archaeology and Historic preservation. The cultural resource survey will be done to meet federal, state, and local compliance. The study will be designed to meet the requirements of Section 106 of the National Historic Preservation Act, in anticipation of review by the USACE. The survey will also be done to meet the guidelines of the Oregon State Department of Historic Preservation (SHPO).

3.10.1 Alternatives Analysis

A cultural resource review of the study area for the proposed design alignment shall consist of a review of existing information on resources, possible resources, and prior studies; and a field reconnaissance. The study area limits are equal to the Phase 1 project alignment, assumed to extend from SE Misty Drive/SE Vogel Road at the south end to 800 feet north of SE Scouters Mountain Road at the north end, as well as a 50-foot buffer on all sides. The deliverable shall be a memo to support the preliminary design efforts and selection of the preferred alternative. The review shall be performed to inform the selection of a preferred alignment for the road. The review shall include the following sub-tasks.

- The background review shall include cultural resource survey data and records on file with the State Historic Preservation Office (SHPO) and documents in Consultant's library, including survey reports, historical maps (early USGS, regional, etc.) of the area, and General Land Office maps of the project area. The objective will be to identify recorded archaeological and historic resources and areas that have been previously surveyed for cultural resources.
- Consultant shall conduct a reconnaissance by vehicle to assess the existing conditions for the alignment alternatives, and to determine if previously recorded resources may have been removed by developments over the past few years.

- For areas that have not been surveyed for archaeological or historic resources, Consultant shall estimate the probability of encountering a significant resource.
- The results shall be summarized in a short technical memo. The location of any 'red flags' will be noted.

3.10.2 Cultural Resource Survey

After an alternative is selected, a cultural resource survey shall be conducted to support the JPA. The areas under USACE jurisdiction will be considered the project's Area of Potential Effects (APE) for cultural resources review under federal Section 106. The area on each side of the roads will be surveyed within the right of way, and up to 50 feet beyond the right of way may be surveyed, if within the APE and where access is allowed. The base task assumes that USACE jurisdiction will be limited to the parcels at and adjacent to the crossing of SE 172nd Avenue over Rock Creek. A contingency task (3.9.3) for survey of the entire project study area may be triggered if the USACE takes jurisdiction over the entire project.

The archaeological fieldwork shall include a pedestrian survey of the APE, walking each side of the roads within the APE. Up to 26 shovel tests will be excavated where ground-disturbing activities are anticipated to occur, to determine if an archaeological site is present within the APE. Up to 1 archaeological site is anticipated. If the USACE APE expands to encompass the entire study area, additional shovel tests would be needto be authorized. Consultant assumes there are up to 6 historic resources (i.e., buildings, structures, sites, objects, and districts constructed at least 45 years before the date of survey) within the APE. Up to 2 of these may be found eligible for listing in the National Register of Historic Places. If the USACE APE expands to encompass the entire study area, additional historic resource inventory would be needed under contingency task 3.9.3.

The tasks shall include the following.

- Confirmation of the APE.
- Background review of the previous studies conducted in the vicinity (largely completed under the Alternatives Analysis task [3.9.1]).
- A systematic pedestrian archaeological survey of the APE walking each side of the road, up to 50 feet beyond the right of way edge.
- Shovel testing in places not previously impacted where intact archaeological deposits are suspected.
    - Up to 26 shovel tests may be excavated.
    - Shovel tests will be 12 inches (in) (30 centimeters [cm]) in diameter and excavated to a minimum depth of 20 in (50 cm).
    - If artifacts are encountered, SHPO archaeological site/isolate form(s) will be prepared and appended to the cultural resource technical report. It is assumed that up to one resource may be identified and delineated with shovel tests.
    - Artifacts will not be collected if found on the surface or if found during shovel testing on privately owned land.
    - On public land (county road right of way), shovel testing will require an archaeological excavation permit from the SHPO. Up to one permit may be obtained.
    - If artifacts are encountered, they must be collected, if found during excavations under a SHPO permit; artifacts from public land must be curated at the Oregon Museum of Natural and Cultural History; up to 10 artifacts may be collected under a SHPO excavation permit.

- A historic resource inventory of the APE, including resources on parcels crossed by the APE. Up to 6 Section 106 forms for historic resources will be appended to the Cultural Resources Survey report. A database may be used instead of forms, if appropriate.

The deliverable will be a cultural resource report. The report will be provided in draft; comments and questions will be addressed and a final report will be prepared.

If a permit from SHPO was needed for completion of shovel testing, the report will be submitted to SHPO to meet compliance with the permit. The USACE will submit the report for review and concurrence to meet Section 106 review.

This scope of work assumes USACE will not take jurisdiction of the entire corridor.

In the case of Termination, all work related to completion of obligations and requirements taken on behalf of the Client such a SHPO Permit shall be completed by the Consultant and paid per the contract.

3.11 Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR)

Consultant shall perform an analysis of the project area associated with the replacement of the Rock Creek culverts at the intersection of Troge Rd. and 172nd Ave. to determine if a Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) is required by the National Flood Insurance Program (NFIP).

If required by NFIP, prepare draft and final CLOMR and LOMR for County review and submittal to FEMA.

It is assumed that up to one (1) resubmittal of the CLOMR and LOMR to FEMA will be required.

***Task 3.0 – Deliverables**:*

- *Draft and Final Wetland Delineation Report*
- *Draft and Final Natural Resource Assessment Report and Stream Buffer Variance Application*
- *Clackamas County Sensitive Areas Certification Form*
- *Clackamas County Type II Floodplain Development Permit application documentation*
- *Draft and Final SFAM assessment documentations for County review and inclusion in the project JPA*
- *Draft and Final JPA for County review and submittal to USACE and DSL*
- *USACE 404 permit authorization/DSL Removal/Fill Authorization*
- *Draft and Final SLOPES V (or BA) documentation for County review and inclusion in the JPA*
- *Draft and Final Fish Passage Plan in ODFW format for County review and submittal to ODFW*
- *Submittal of Erosion and Sediment Control Management Plan to DEQ*
- *Up to two Draft and Final land use permit applications*
- *Draft and Final HMCA Report*

- *Cultural Resource/Archaeological Alternatives Technical Memo*
- *Draft and Final CLOMR for County review and submittal to FEMA*
- *Draft and Final LOMR for County review and submittal to FEMA*
- *Cultural Resource Report*

Task 4.0 Stormwater / Hydraulics Related Services

4.1 Hydraulic Site Investigation

The purpose of this task is to identify existing information and field conditions. Consultant shall:

- Obtain the Flood Insurance Study ("FIS") report and if applicable to Rock Creek the Flood Insurance Rate Map using the Federal Emergency Management Agency ("FEMA") web site.
- Review local floodplain ordinances to determine if there are any applicable to Rock Creek within the project limits.
- Determine if applicable stream gauge records exist, and obtain them, if possible.
- Locate and obtain existing topographic maps of the tributary drainage basin.
- Visit the bridge/culvert Project site to observe site conditions, physical properties, and collect data needed to perform a thorough hydraulic study.
- Evaluate the site and determine survey data requirements for hydraulic analysis.
- Conduct a pebble count at two locations and collect 2 streambed sediment samples in the vicinity of the bridge for grain size analysis.
- Determine channel and floodplain hydraulic roughness values (document with photographs).
- Record observations with respect to the following:
    - Lateral channel stability.
    - Stream channel hydraulic roughness.
    - Aggradation or degradation of bed material.
    - Existing evidence of scour and/or erosion.
- Coordinate with County and City PM and review geotechnical report with regard to lateral stream stability and scour potential.

4.2 Hydrologic Analysis

The purpose of this task is to perform hydrologic analysis to determine appropriate flow rates for design of various Project elements. Consultant shall:

- Review Clackamas County specific hydrologic data sources to determine the most appropriate 2-, 10-, 25-, 50-, 100-, and 500-year design flows for the proposed Project.
- Analyze available stream gauge records to calculate flood frequency and flow duration values to support hydraulic analysis and design.

  In the absence of stream specific data, Consultant shall delineate the tributary drainage basin utilizing available topographic maps and utilize the regional regression equations described in the U.S. Geological Survey ("USGS") magnitude and frequency of floods in Western Oregon to predict design flows.

- Determine the temporary water management discharge estimates for the portion of the year when construction will take place to be used in temporary water

management design recommendations and included in the technical specifications for the Project.
- Determine the fish passage high flow and fish passage low flow.

4.3 Hydraulic Analysis

The purpose of this task is to perform a variety of hydraulic analyses in support of design and provide hydraulic design recommendations related to the culvert conveying Rock Creek and associated tributaries within the project limits. Consultant shall:

- Analyze the downstream conveyance system in conformance with County and/or SLOPES Programmatic Biological Opinion guidelines.
- Simulate existing hydraulic conditions of the culvert site using a computer model to determine current water surface profiles, velocities, depths, and flow area for the various design flows.
- Provide culvert size and material recommendations for two crossings at 172nd Ave and Troge Rd.

Bridge/Culvert Hydraulics

Consultant shall:

- Create a model for up to 3 alternatives to simulate proposed culvert or proposed bridge at each water way crossing to determine water surface profiles, velocities, depths, and flow area for the various design flows.
- Provide minimum bridge and culvert size and material recommendation.
- Prepare Hydraulic data table.

Scour Analysis

Consultant shall:

- Evaluate up to 3 bridge and culvert scour alternatives following the methods as described in the Federal Highway Administration ("FHWA") publication HEC-18, Evaluating Scour at Bridges, and HEC-23, Bridge Scour and Stream Instability Countermeasures.
- Review past culvert inspection reports that might include evidence of past scour problems.
- Conduct a scour analysis using results from the hydraulic analysis including, evaluation of pier scour and contraction scour.
- Coordinate with the bridge and geotechnical engineers on the design of the bridge foundation
- Provide scour countermeasure design recommendations.
- Conduct supporting design calculations (e.g. riprap size calculations).

4.4 Hydraulics Report

The purpose of this task is to summarize the findings of the hydraulic related services and document the design recommendations. Consultant shall prepare a draft version of the Hydraulics Report per County WES/City guidelines containing preliminary design recommendations for the hydraulic related services.

Consultant shall prepare a final Hydraulics Report to reflect City and County review comments and to include changes to hydraulic related design recommendations that need to be modified due to advancement of the overall Project design.

4.5 Stormwater Design Report

The purpose of this task is to provide stormwater design recommendations and document the final stormwater facility design. Consultant shall prepare documentation per County and/or SLOPES Programmatic Biological Opinion guidelines. Consultant shall:

- Prepare a concept stormwater management plan that includes options for stormwater collection and conveyance to existing and proposed systems.
- Evaluate up to two (2) alternatives and summarize findings within a memorandum. Develop a conceptual cost estimate comparison between a Low Impact Development Approaches (LIDA) facility for water quality and detention and other similar BMP alternatives.
- Stormwater framework should meet current municipal separate storm water sewer system (MS4) permit requirements

Consultant shall prepare a preliminary (prior to 60% plans) and final (with 90% plans) Stormwater Design Report to reflect County and regulatory agency review comments on stormwater facility design recommendations, changes to stormwater facility design due to advancement of the overall Project design and supporting documentation of the final stormwater facility design.

4.6 Stormwater Operation and Maintenance (O&M) Manual

The purpose of this task is to provide an Operations and Maintenance Manual documentation of all proposed stormwater management facilities so that the County has a record of the stormwater facilities that need to be as-built, operated and how to maintain them after the Project is constructed.

Consultant shall prepare up to one (1) Draft Operation and Maintenance ("O&M") Manual, documenting each stormwater BMP facility anticipated for the Project, per Chapter 4, Section 4.6.6 of the ODOT Hydraulics Manual (latest edition).

Consultant shall prepare operational plans as outlined in Technical Bulletin GE 16-01 (B) titled "Stormwater Control Facility Operation and Maintenance Plan Development Drafting Guidance".

4.7 Temporary Water Management Design

The purpose of this task is to prepare temporary water management design recommendations, special provisions, and plan for inclusion in the construction documents.

Consultant shall:

- Identify the construction activities requiring temporary water management
- Determine the timeframe for which each temporary water management effort will need to be in place (often the in-water work period)
- Summarize the requirements for temporary water management due to the chosen environmental permitting method
- Prepare a plan and special provisions for flow and sediment control of surface water and groundwater seepage during construction activities based on site conditions.
- Temporary water management plan and special provisions which will be incorporated into Final Design Documents

***Task 4.0 Deliverables**:*

- *Concept Stormwater Management Plan With Cost Estimate Comparison (30%)*

- *Concept Stormwater Drainage Memorandum (30%)*
- *Preliminary Hydraulics and Stormwater Reports (prior to 60%)*
- *Up to Five Revisions to the Stormwater Report based upon reviews by WES*
- *Final Hydraulics and Stormwater Design Reports (with 90%)*
- *Operations & Maintenance Manual (prior to 60%)*

Task 5.0 Utility Coordination

5.1 Utility Coordination

Consultant shall initiate coordination with utilities and incorporate utility provided relocation plans into the design documents. The locations and elevations of existing utilities and options for resolving conflicts shall be investigated. This work shall include working with the County and utility companies to "pothole" crossings and other areas to identify and eliminate conflicts. It is expected that potholing shall be provided by the utility companies. Once "potholing" data is obtained and mapped, the Consultant shall incorporate the data into any plan changes.

The known utility companies and agencies with facilities in the area are as follows:

- PGE
- NW Natural
- Clackamas County DOT
- Sunrise Water Authority
- Comcast Corporation
- Ziply Fiber
- Lumen Technologies
- Water Environment Services

It is assumed up to two additional utility (10 total) will require coordination.

Consultant shall:

- Develop a utility contact information list and email project information letters (in email format) to utility companies involved to explain the nature of the work.
- Prepare a Utility Conflict Spreadsheet and send utility conflict letters with 30% plans to the affected utility companies describing the conflicts that exist, and the required adjustment to eliminate the conflict. A spreadsheet of centerline reference points and elevations shall be provided to utility companies for use in excavating existing utilities (potholing) at points of potential conflicts. Consultant shall also provide the conflict list to an independent potholing service who shall provide quotes to the utilities and coordinate with the Project team to aid in gathering pothole data. The schedule for making the necessary adjustment ahead of the beginning of road construction shall be identified.
- Provide survey utility staking of the conflict locations to aid utilities in potholing their facilities. Forty crew hours (2-field days) and twelve office hours are assumed.
- Review pothole data provided by the utilities and make recommendations to the project design to minimize utility relocation.
- Prepare and send a Utility Relocation Letter of conflict with 60% plans for each utility notifying them of unavoidable conflicts with a mandatory relocation date.
- Organize and lead three group utility coordination meeting (30%, 60%, and 90% design milestones).

- Conduct up to 12 coordination meetings with individual utilities.
- Perform ongoing coordination with utilities to resolve utility conflicts and finalize utility relocation requirements as appropriate.
- Provide 90% plans to each utility, perform ongoing coordination with utilities to resolve utility conflicts and finalize utility relocation requirements as appropriate.
- Provide County standard 60-day and 30-day utility notice letters (from start of construction).
- Provide Utility Relocation Undergrounding Plans and incorporate into Final Design Documents. This includes the Joint Trench along the corridor and the PGE vault system.
- Pothole key utility crossing. A budget item for potholing will be included in the cost proposal.
- Prepare Sanitary Sewer Improvement and Adjustment Plans. It is assumed that the plans will incorporate adjustment of existing sanitary sewer facilities but not include any new sanitary mains or replacement of the mains as a result of the project. Plans will be prepared to WES format and standards. It is assumed that up to 10 septic systems will be impacted by the roadway construction and abandoned and/or connected to the Sanitary Sewer.
- A budget for potholing has been included in the fee as a reimbursable expense in case potholing of existing facilities are required that are not provided by Utilities.

***Task 5.0 Deliverables**:*

- *Utility contact list*
- *Utility Conflict Spreadsheet(s) and Letter(s)*
- *The final utility relocation plan(s) submitted to the County Project Manager (CPM) within 10 days after acceptance.*
- *Final Notice Letter(s) submitted to each utility and CPM 30 business days after submittal of 90% Plans to County.*
- *Utility Relocation Plans to be included in Task 10*
- *Sanitary Sewer Plans to be included in Task 10*

Task 6.0 Geotechnical and Geologic Services

The County shall obtain Rights of Entry (ROE) for field reconnaissance work. Consultant shall provide a list of properties requiring ROEs for research disciplines no less than six (6) weeks before such ROE's are required to perform work on private parcels. Consultant shall provide County with an exhibit map for each property showing the approximate location of any invasive test sites on the property, e.g. anything more than minor shovel sampling, test pits, etc.

Consultant shall conduct geotechnical field investigations to explore the subsurface conditions of embankments, retaining wall, and traffic signal pole foundations and pavement rehabilitation and new pavement for widening areas. Consultant shall provide a Geotechnical Report summarizing and presenting the results of the investigation, analyses, and recommendations. Assessment of Material Sources and Disposal Sites is not included in these Services.

Consultant shall complete the geotechnical and geological Services in accordance with County design standards, AASHTO, and FHWA. Consultant shall summarize the findings in a Geotechnical Report. County will provide relevant historic geotechnical reports and field investigation data from its prior work for inclusion with the Project Geotechnical Report. Consultant shall perform the following subtasks for the foundation investigation.

6.1 Site Reconnaissance, Exploration and Testing Work Plan

Consultant shall perform site reconnaissance. The site reconnaissance must include the following. Consultant shall:

- Observe surface conditions indicative of subsurface conditions;
- Identify site constraints and staging concerns (for exploration and construction);
- Identify potential exploration locations;
- Attend meetings with County or other parties to discuss, review, and ascertain site conditions relevant to the geotechnical project work.

The site reconnaissance will facilitate understanding of the site constraints for field explorations, construction, and traffic staging. Proposed boring locations will be staked or painted on the ground.

Consultant shall perform visual pavement assessment in accordance with ODOT's Good-Fair-Poor (GFP) Pavement Condition Rating Manual and Distress Survey Manual. The primary goal shall be to identify and map areas of severely distressed existing pavement to determine the cause of the distresses and to determine potential mitigation strategies. Mapping will identify surface manifestation of weak, poor, or failing subgrade, and locations of pavement failure such as longitudinal cracking or raveling; in addition, subsurface drainage conditions shall be assessed based on surface evidence. The mapped locations shall be identified using a measuring wheel.

Consultant shall prepare an Exploration and Site Plan figure to show the proposed exploration locations and Traffic Control Plans (TCPs). The traffic control plan must be prepared by a flagging company licensed to work in the State of Oregon. The TCP must address a minor road encroachment as well as a single lane closure for activities associated with drilling exploratory borings from the roadway. Consultant shall submit the figure and TCPs to the County for approval. Consultant shall obtain ROW permit from the County.

6.2 Field Exploration and Laboratory Testing

Consultant shall perform the geotechnical explorations and reconnaissance for pavement design and at traffic signal pole, culvert/bridge crossings, stormwater facilities, embankments and retaining walls to evaluate subsurface conditions and develop geotechnical recommendations for the foundation designs as shown in the following table.

STRUCTURE	EST # OF BORINGS	ESTIMATED BORING DEPTH
Embankment & Retaining Walls	4	50 feet below ground surface with 10 feet of rock coring if encountered. Obtain pavement core if within pavement area.
Culvert/Bridge crossings	4	80 feet below ground surface with 10 feet of rock coring if encountered. Obtain pavement core if within pavement area.
Pavement design	10	10 feet below ground surface with pavement cores.
Stormwater facilities (infiltration testing)	4	3 to 5 feet below ground surface for infiltration test.

Consultant shall perform geotechnical field explorations to determine the subsurface conditions for the express purpose of characterizing subsurface conditions within the project limits and determining the foundation and pavement design recommendations for the items listed in the table above.

Four (4) infiltration tests will be performed at two locations outside of the existing roadway prism and as part of the geotechnical borings. The infiltration tests will be performed using the Encased Falling Head method, in general accordance with Clackamas County Service District No. 1 Stormwater Standards, Appendix E. The test depth is between 3 and 5 feet bgs.

Falling Weight Deflectometer (FWD): Consultant shall perform FWD testing at 100-foot spacing in the outside wheel path of the outside travel lanes and at 200-foot spacing in the inside travel lanes (where present) to measure existing pavement and subgrade stiffness. The 100-foot test interval spacing will be offset by 50 feet between adjacent lanes and the 200-foot test interval will be offset by 100 feet between adjacent lanes. Therefore a test will be performed for each 50 feet of roadway for the outside lanes and 100 feet of roadway for the inside lanes.

TEST METHOD	EST # OF TESTS	TEST LOCATION(S)
FWD tests	120	Existing 172nd Ave

Consultant shall perform exploration work in accordance with Federal, State, and Local regulations. Consultant shall perform the subsurface exploration work in conformance with the ETWP as described in Task 6.1.

Exploration tasks include following. Consultant shall:

- Obtain a drilling permit from Clackamas County;
- The permit fee will be waived;
- Locate utilities in the vicinity of the proposed borings by and through the One-Call system prior to the fieldwork;
- Drill all geotechnical borings with a truck-mounted drill rig using mud-rotary drilling techniques;
- If rock is encountered above the target depth, switch to HQ-size core drilling;
- Notify the County immediately and place drill cuttings/fluids in separate drums, labeled with the boring #, depth, and date and transport drums to a location designated by the County, if contaminated soil/groundwater is encountered. The geotechnical investigation does not include any services related to environmental or hazardous materials;
- Drill all pavement borings with a trailer mounted drill rig using solid stem auger drilling techniques.
- Place polymer-modified pavement patch in pavement boring. Pavement replacement to be at least to the thickness of adjacent pavement.
- By and through the drilling subcontractor, drum and dispose of all cuttings offsite;
- The field explorations will be performed during weekdays between 8 am and 6 pm;
- Provide traffic control that will be consistent with requirements for shoulder and single lane closures;
- Temporary traffic control (rolling closures) for FWD will be required;

Consultant shall provide an engineer or geologist to supervise the field operations and log the borings. Subsurface explorations must be conducted in general accordance with American Association of State Highway Transportation Officials (AASHTO). Soil samples must be obtained at 2.5-foot to 5-foot intervals using either a standard penetration sampler or a Shelby tube sampler.

Laboratory Testing: Consultant shall conduct water contents, sieve analyses, and Atterberg limits tests on soil samples obtained from the borings to classify the soils and estimate their engineering properties. If soft soils are encountered, a consolidation and direct shear test may be performed by Consultant to assist with the engineering studies.

6.3 Geotechnical Analysis

Consultant shall perform analyses of the field and laboratory test data to develop geotechnical recommendations for embankment and retaining wall, and signal pole foundation design and construction.
The Consultant shall provide the analysis and design for the foundation in accordance with County's design standard, FHWA, AASHTO, design guidelines. Geotechnical analysis must include:

- Embankment stability;
- Internal and external stability of retaining wall structure;
- Lateral sliding, bearing resistance and settlement of retaining wall structure;
- Minimum embedment depth and footing diameter for signal pole foundation;
- Culvert design recommendations;
- Foundation support recommendations for proposed bridge, approach wingwalls, and roadway approach retaining walls;

- Seismic response characteristics of soil and rock in the area of the bridge;Broms or LPile analysis as appropriate for drilled pier type foundation for signal pole; and
- Drainage considerations.

6.4 Geotechnical Report

Consultant shall prepare a Geotechnical Report summarizing the subsurface conditions, design, and construction recommendations. The Geotechnical Report must summarize the field observations, subsurface conditions, laboratory test data, analysis results, construction issues and geotechnical recommendations for the project. Consultant shall prepare the Geotechnical Report in accordance with the Geotechnical Report and Documentation requirements contained in the most current version of the ODOT Geotechnical Design Manual.

Consultant shall provide special provisions relating to the foundation system. Special Provisions shall be per ODOT Standard Specifications format.

6.5 Asphalt Pavement Analysis and Report

Consultant shall conduct field investigations in Task 6.2 to explore the subsurface conditions of the existing roadway and conditions of the existing pavement, perform pavement rehabilitation analyses of the existing pavement section, perform pavement design for roadway widening sections, and provide a report which summarizes and presents the results of the investigation, analyses, and pavement recommendations. The results of pavement design for widening areas should be checked with County standard pavement section. Pavement recommendations and report will be provided in a separate pavement design report. The pavement rehabilitation evaluation and design services shall include:

Data Review
Consultant shall review available existing information to evaluate the geologic and subsurface conditions, construction, and maintenance history of 172nd Ave. Consultant shall review available information from the following sources (as applicable and as provided by the County):

- Existing published and unpublished literature from County records;
- Previous pavement and geotechnical reports from federal, city, County, or other officials, Consultants, groups, or individuals pertinent to the project;
- As-built roadway plans (as available); and
- Maintenance records.

Pavement Analysis and Design
Consultant shall develop pavement design criteria, design parameters, and pavement sections for an acceptable pavement design to be used in this application. Pavement rehabilitation design will be provided for existing roadway. Also, pavement design recommendations will be provided for the widening sections based upon the borings located on the existing roadway. The results of pavement design for widening areas will be checked with County standard pavement section. The pavement design recommendations will use FWD and borings performed as part Task 6.2. Develop preliminary flexible pavement section recommendations for roadway widening sections with a design life of 20 years. Pavement section design will be performed in accordance with the current ODOT

Pavement Design Guide, AASHTO Guide for Design of Pavement Structures, and applicable County requirements.

Assumptions:

- Life cycle cost analysis is not included.
- Portland Cement Concrete (PCC) pavement will not be included as a potential pavement option.
- Consultant will use traffic counts obtained in Task 7.1 and traffic growth rate to compute the equivalent 18-kip single axle loads (ESALs) within the project limits as required for the pavement design analysis.

***Task 6.0 Deliverables**:*

- *Exploration and Site Plan*
- *Draft and Final Geotechnical Report*
- *Draft and final Pavement Report*

Task 7.0 Transportation Engineering Analysis

7.1 Data Collection

- Obtain the five (5) most recent years of crash data at the study intersections and corridor segments.
- Obtain the current base and future traffic demand models from the County or Metro.
- Obtain from recent projects within the study area existing turn movement counts and roadway network traffic volumes.
- Conduct or obtain weekday morning (7-9 a.m.) and evening (4-6 p.m.) peak period traffic counts to include pedestrian counts, bicycle counts, and truck percent, at the following intersections along 172nd Ave.
  - Misty Drive/Vogel Road/172nd Avenue
  - Crossroads Avenue/172nd Avenue
  - Troge Road/172nd Avenue
  - Scouters Mountain Road/172nd Avenue
- Conduct 48-hour bi-directional tube count on 172nd Avenue at three locations on 172nd Ave. The tube count will be conducted for a seven (7) day period and will include hourly traffic volumes, vehicle classifications, and travel speeds.
- Conduct a field visit of the corridor during the weekday morning and evening peak periods to observe general conditions and traffic operations.

Assumptions:

7.2 Transportation Operations Analysis

Consultant shall prepare a traffic analysis to identify existing and proposed conditions. Capacity analysis will be based on current Highway Capacity Manual 6th edition (“HCM”) methodology. Services shall include:

- Evaluate crash data and document safety issues or concerns on the corridor.
- Conduct weekday AM and PM peak hour traffic analysis for existing traffic conditions at study intersections using a Synchro model of the corridor. The analysis will report

delay, level of service and vehicle to capacity ratio at all study intersections. A queuing analysis will be conducted for key intersection movements.

- Refine the Metro travel demand models to a subarea level with the future network based on funded improvements in the City's TSP.
- Forecast future volumes (approximately 20 years after project year of opening) at the study intersections.
- Conduct weekday AM and PM peak hour traffic analysis for future conditions. The analysis will report delay, level of service and vehicle to capacity ratio at all study intersections. A queuing analysis will be conducted for key intersection movements.
- Conduct a pedestrian crossing analysis at up to five locations on the corridor to determine if an enhanced crossing is warranted and the recommended crossing treatments. The analysis will follow NCHRP Report 562 Pedestrian Safety at Unsignalized Crossings and be conducted for future conditions based on forecasted growth and land uses along the corridor.
- Coordinate with Tri-Met and City for locations of future transit route and bus stops.
- The future traffic conditions will be used to confirm or update the recommended needs on the corridor including intersection control type, median treatment, lane configuration, and storage length needs.
- Summarize transportation operations analysis into the Transportation Analysis Report (see Task 7.3).

7.3 Transportation Analysis Report

This task shall combine and summarize the work completed for Tasks 7.1 and 7.2 for all of the intersections into a Draft Transportation Analysis Report. Consultant will incorporate agency comments and submit a Final Transportation Analysis Report.

7.4 Access Management Plan

Consultant shall prepare an access management plan along the corridor. The plan shall show short term, medium term and long-term access management strategies for properties along the corridor. Consultant shall prepare the access management plan and the plan shall be included with the 30% design and Design Report.

Task Deliverables:

- Draft Transportation Analysis Report in PDF format.
- Final Transportation Analysis Report incorporating comments from the City and County in PDF format.
- Draft and Final Access Management Plan

Task 8.0 Preliminary Design (30%)

Consultant shall develop preliminary design plans generally described as follows:

8.1 Design Criteria

Consultant shall prepare draft and final design criteria. Design criteria shall be consistent with AASHTO's A Policy on Geometric Design of Highways and Streets; Clackamas County Transportation System Plan (TSP), Clackamas County Roadway Standards, and City of Happy Valley TSP. Consultant shall present the design criteria in a table or matrix format listing all

conditions, assumptions and minimum standards for the roadway design elements of the Project. This includes the following:

- Determine design speed
- Determine sight distance considerations
- Determine cross slope, horizontal curves, and super-elevation
- Determine maximum grade, vertical curves
- Determine cross section elements:
- Number and width of travel lanes
- Shoulders
- Bikeways
- Sidewalks
- Share use pathway design parameters
- Planter Strips
- Medians
- Truck Aprons
- Design vehicles for turning templates and intersections
- ADA Ramp configuration recommendations
- Urban design details and components
- Guardrail criteria and length of need
- Retaining wall types and design parameters
- Bridge or Culvert types and design parameters
- Stream preservation/restoration criteria
- Signalized intersection criteria and elements
- Multi-lane roundabout criteria and cross sections

8.2 Horizontal and Vertical Alignments (30% submittal)

This task shall develop alternatives to be evaluated based on the design criteria to meet the overall project needs, as well as to reach agreement on the preferred alternative.

Consultant shall:

- Analyze the existing centerline geometry along 172nd Ave. for conformance with the design criteria developed in Task 8.1. For deficient elements with more than one improvement option, assess and provide up to two options for each deficient design element for up to five deficient elements. Assess options in conjunction with widening options. Consolidate chosen options into one horizontal and vertical alignment for the 172nd Ave. corridor.
- Provide roundabout design for the existing roundabout intersection of Scouters Mountain Rd. and 172nd Ave. for expansion to multi-lane roundabout.
- Provide conceptual signal pole layouts for the intersection of Troge Rd. and 172nd Ave.
- Provide conceptual signal pole layouts for the intersection of Crossroads Ave. and 172nd Ave.
- Provide two horizontal and vertical alignment alternatives for required bridge/intersection work at the intersection of Troge Rd. and 172nd Ave.
- Provide design for frontage road along the west side of 172nd Ave. between Hagen Rd. and Troge Rd., per the City's TSP and the 172nd Ave./190th Drive Corridor Management Plan.

- Provide design for half-street improvements along the south side of Troge Rd. from 172nd Ave. to Olympic St.
- Based on the analysis completed under task 7 provide recommendations for marked pedestrian crossings and conceptual layout for up to one (5) Rectangular Rapid Flashing Beacons (RRFB's).
- Provide design for relocation and/or replacement of school zone flashers.
- Collaborate with City/County staff to assist County in determining the overall preferred alternative.

8.3 Stormwater Conveyance Concept Alignment and Grade (30% submittal)

The Consultant shall develop conceptual drainage layout and profile grades for the preferred alternative. This shall validate the stormwater disposal locations and depth of the storm system. This shall also provide locations of potential utility conflicts and potholing needs. Consultant shall:

- Determine the locations of stormwater flow entering and leaving the Project right-of-way.
- Review existing conditions downstream of locations where flow is leaving the Project right-of-way for deficiencies and document observations.
- Delineate on-site drainage basins, calculate peak flow rates for design, model the proposed pipe network, and calculate hydraulic grade line to check that proper freeboard design requirements are being met.
- Check inlet capacity and inlet spacing, calculate gutter flow to check spread, and provide design recommendations for inlet locations.
- Provide design recommendations for pipe network, associated pipe sizes, pipe material recommendations, and manhole access design recommendations (i.e-spacing, location within a travel lane, etc.).
- Provide manhole diameter design recommendations based upon analysis of pipe connections at each manhole.
- Compare pipe network against known utilities in the Project area and provide design recommendations to minimize utility conflicts or to adjust existing utilities.
- Provide Stormwater Outfall design and energy dissipator design recommendations in compliance with applicable Project permits.
- Model ditches to calculate water surface elevation, depth, and velocity and provide channel lining design recommendations per HEC-15, Design of Roadside Channels with Flexible Linings or another acceptable analysis method such as Civil Tools.
- Identify treatment Best Management Practice ("BMP") types applicable for the site.
- Identify potential locations to site facilities within and outside the existing right-of-way.
- Estimate facility size, type and space needs at each of the potential locations.
- Evaluate constraints to siting a stormwater facility (i.e.-drainage area, adjacent grades, roadway safety, presence of existing utilities, protected resource areas, etc.)

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8.4 Retaining Wall Alternatives Analysis

Consultant shall evaluate retaining wall alternatives at needed locations. Consultant shall prepare a Type Size and Location report for walls along the corridor. It is assumed there shall be up to four separate wall types along the corridor. Wall types to be considered include cantilever concrete, gravity block, MSE, rockery, soldier pile and lagging, tie back retaining wall, and other feasible alternatives. The evaluation of each wall section will include an analysis of the wall to determine its dimensions, including footing size, wall thickness, or pile size and embedment length. The wall sections will also be analyzed for sliding, overturning, and soil bearing pressure.

Consultant shall document type, size, and location of each design alternative within the Design Memorandum including typical wall section, potential aesthetic treatments, and a construction cost. The recommended alternative will be identified at the conclusion of the report and shown conceptually in the 30% Strip Map.
Consultant shall design retaining walls in accordance with AASHTO Bridge Design Specifications and/ or applicable County and City of Happy Valley Standards

8.5 Bridge Alternatives Analysis

Consultant shall evaluate two bridge alternatives at two locations, Troge Road and 172nd Avenue. Consultant will evaluate two prestressed concrete alternatives for Troge Road and one prestressed concrete and one steel alternative for 172nd Avenue. Consultant will also review alternatives for the use of a culverts vs bridges. The evaluation will consider staging, constructability, hydraulics, environmental impacts and roadway geometry.

Consultant will also review the option of one bridge or culvert that spans the entire width of Rock Creek as it flows under 172nd and Troge.

Consultant shall prepare a Type Size and Location report for the bridges.

Consultant shall document type, size, and location of each design alternative within the Design Memorandum including typical section, potential aesthetic treatments, and a construction cost. The recommended alternative will be identified at the conclusion of the report and shown conceptually in the 30% Strip Map.

No plan sheets will be developed under this task.

Consultant shall design bridges in accordance with AASHTO Bridge Design Specifications and/ or applicable County and City of Happy Valley Standards

8.6 Construction Estimate

Consultant shall develop approximate costs early in the 30% design process for use in decision making. Consultant shall provide quantities and 30% construction cost estimate for design alternatives considered and the preferred alternative. The Cost Estimate will also provide cost estimate for different alternatives for materials, sections, etc. for agency input.

8.7 Draft Design Report

Consultant shall provide a 30% design memorandum summarizing the preferred alternative. The memorandum will reference the other applicable reports, memorandums, and documents supporting the preliminary design. The Report will identify areas of further study and refinements based upon alternatives provided. The Draft Design Report will also provide recommendations for landscape and urban design elements and concepts for artwork for the medians. It is assumed the final design of the artwork will be completed by others.

8.8 Design Exceptions

Consultant shall develop draft and final design exception memorandums for deviations in the design not meeting the design criteria. Consultant shall use County's template design exception form. It is assumed that up to five (5) design exceptions will be required for documentation with decisions made during the preliminary design process prior to submittal. It is assumed that up to five (5) minor design exceptions for ADA Curb Ramps will be required.

8.9 Final Design Report

Finalize the Design Report with the adopted refinements.

Task 8.0 Deliverables:

- *Draft design criteria electronically (one electronic copy in PDF form)*
- *Final design criteria electronically (one electronic copy in PDF form)*
- *30% Strip Map of Preferred Alternative (one electro nic copy in PDF form)*
- *Cost Estimate (one electronic copy in PDF form and one copy in Excel form)*
- *Design Report – Draft and Final (one electronic copy in PDF form)*
- *Draft (at 30%) and Final (at 60%) Design Exceptions. Note: Some Design Exceptions may be submitted up to the 90% Submittal (i.e. – Curb Ramps and other elements that are detailed out further in the Design Process)*
- *Bridge Type, Size and Location (TS&L) Report*
- *Retaining Wall Type, Size and Location (TS&L) Report*

Task 8.0 Assumptions:

- *No separate signing or pavement marking plans will be provided as part of this task.*
- *No lighting analysis or design is included as part this task and shall be completed as part of the 60% design (Task 10).*

Task 9.0 Public Involvement/Outreach

The Consultant will assist the City and County's community relations specialists with preparation of documents to be distributed or made available to the general public. Tasks related to public involvement include:

- Coordinating with the City's and County's community relations specialists, City and County PMs and other relevant staff.
- Providing up to twelve (12) unique information boards to be used during open house and Community Planning Organization (CPO) meetings. Duplicate information boards to be provided that are translated to Spanish.
- Attend and participate in three (3) in-person open house meetings. Assume up to three (3) consultant staff will attend meetings. County will coordinate and provide venue for meeting.
- Develop a fly-thru animation showing the corridor improvements. The animation will require the following tasks:
    - 3D Development –Utilize CAD design files and any other resources to develop a project 3D model and the surrounding areas. The 3D model will contain the following objects
        - Buildings – All buildings will be generic shapes without textures. The buildings will be used as background context.
        - Vegetation – Trees, plants, and grasses will be added to the scene and closely match the current conditions and/or landscape plans for the corridor
        - Street Collateral –Add key features such as signs, streetlights, etc. to the scene.
        - Pedestrians and Bicyclists
        - Automobiles
    - Texture and Environmental Conditions–Add realistic textures and lighting to objects in the project corridor. Additionally, utilize high-resolution aerial imagery as the base ground for the project and extended areas
    - Animation –Create a storyboard that helps define the desired message from the animation. Work with the team to define a corridor fly-thru path, camera views and the different types of interactions between vehicles, pedestrians, and cyclists that need to be captured along the corridor. The animation length should be between 2 and 3 minutes long, and the video output will be in HD format (1920 x 1080).
    - Video Production –Post-process the animation to include the following
        - Title screen containing project branding, project title, and/or logos
        - Scene transitions
        - Exit screen
        - Video file format will be saved in an industry standard video file format
- Developing an online open house including:
    - Develop a webpage designed to lead the viewer through the project with the ability to jump ahead or navigate back to the start. The webpage shall be designed to allow the user to scroll from top to bottom versus using button links to other pages as this helps lead the viewer through the project versus wandering from page to page. The virtual open house page will contain the following features:

        - Title Screen – The webpage will contain a title screen containing project branding, title, and any contact information.
        - Background – This page will contain text and/or graphics to provide project background.
        - Project Design – Page containing design graphics and visual simulations including a project corridor fly-thru animation.
        - Public Feedback – Viewers will be able to view the different improvement features and provide feedback by clicking on the map and entering comments and other details in a form.
        - Contacts – This page will contain contact information if viewers had additional questions.
    - The Online Virtual Open House service will be created on and maintained using Consultants web services.
    - Provide Spanish translation for webpage including image headings, captions, and text of webpage.

- Attend up to 15 individual or group property owner meetings along with County PM or ROW staff as required during the project to review impacts or answer questions related to the project.

Task 9.0 Deliverables:

- *Public meeting information boards*
- *Project Corridor Fly-thru animation in HD format (1920 x 1080)*
- *Hosted website for up to Three Online Virtual Open Houses*
- *Virtual Open House graphics electronically in PDF format*

Task 10.0 Final Design (60%, 90% and Final Bid Ready) – Plans, Specifications, and Estimate (PS&E)

The Consultant shall advance the recommended alternative from the Preliminary Design (30% design) stage to the 100% complete stage.

Consultant shall:

- Conduct work sessions (per Task 1) with City/County staff.
- Complete engineering drawings for submittal to the County at 60%, 90%, and Final milestones and perform quality assurance and in-house independent design checks and plan review of all drawings and related quantities including constructability reviews. Plans will be drafted with the latest version of AutoCAD Civil 3D software and the final CAD drawings provided through an FTP site.
- Provide relevant plan drawings per the anticipated sheet list below for submittal to County for review. Drawings shall include sufficient information for review and bidding including ROW lines, alignments, elevations, etc. with the assumption that more detailed staking and layout information necessary for construction will be provided electronically to the Contractor after notice of intent to award. Standard details and drawings may be attached at the end of the plan set without the need for a title block but there will be some details included in the plan set. Additional specific plan sheet requirements include:
    - Index of Drawings: Provide a list of the standard details and drawings utilized with a link to the location where they can be found.

- Roadway Plan and Profile: Consultant shall prepare roadway construction plans in accordance with County design standards, AASHTO, and Oregon Standard Specifications for Construction with ROW information shown as applicable.
- Provide detailed geometry plans
- Provide paving plans
- Roadway Cross Sections: Assumes cross sections prepared at intervals and/or at locations of interest for the proposed improvements. Sections will be prepared to display the existing ground, finish grade, subgrade, retaining walls, and right-of-way.
- Driveway Details including detailed grading
- ADA Ramp/Intersection Details: Assumes 2 intersection corners per sheet and all intersections will require ADA Ramps. Prepare Ramp Checklist for submittal to the County on County checklist forms.
- Design shall be in compliance with County's adopted ADA rules including new PROWAG guidelines. This includes the new provisions for two-lane roundabouts.
- Drainage, Utilities & Grading Plans: Consultant shall prepare grading and drainage plans in accordance with County design standards..
- Water, sewer and gas utility relocation designs are excluded from the utility plans. Consultant will coordinate with utility representatives from communications, and County Fiber utilities to include joint trench and undergrounding of power design on these sheets.
- Prepare utility relocation sheets including location of joint trench, PGE vaults, and other required utility adjustments or relocations.
- Bridge or Culvert: Consultant shall prepare bridge/culvert plans, profiles and details in accordance with the most current AASHTO LRFD Bridge Design Specifications.
    - Troge Road Bridge is assumed to be a single span prestressed concrete bridge for budgeting purposes
    - 172nd Avenue Bridge is assumed to be a single span steel girder bridge for budgeting purposes
- Erosion Control: Consultant shall prepare erosion control plans in accordance with the 1200-CA permit, which will require grading plans for each stage of work.
- Retaining Walls: Retaining wall are assumed to be MSE wall or modular block. Up to 6 plan sheets are assumed for each wall. (Total of 18 wall plan sheets).
- Prepare Landscape Plans including median treatments and Urban Design Elements
- Incorporate Bus Stops and Pads into the Project based upon input from Tri-Met
- Private Property Improvements as necessary to construct the roadway
- Temporary staging plans which may require a 3D analysis of each stage
- Temporary water management plans and details
- Temporary Traffic Control: Consultant shall prepare temporary traffic control plans in accordance with County design standards, the MUTCD, and Oregon Standard Specifications for Construction. Plans are anticipated to include staging plans, lane shifts, lane and shoulder widths, temporary barriers, delineation, and signing. 28 total sheets have been estimated for this effort.
- Traffic Signal: Consultant shall prepare traffic signal plans for the intersection of 172nd Ave and Troge Rd, traffic signal modification plans for the intersection of 172nd Ave and Misty Dr/Vogel Rd, and temporary signal modification plans at Misty Dr/Vogel Rd in accordance with County design standards and Oregon Standard Specifications for Construction. Plans are anticipated to include signals, detection, pole entrance chart, details, and cabinet prints.
- Interconnect: Consultant shall prepare fiber optic interconnect plans along 172nd Ave to connect the new traffic signal at Troge Rd and a future signal at Crossroads to the County's existing fiber optic communications system at Misty Dr/Vogel Rd in

accordance with County design standards. Plans are anticipated to include interconnect plans and details, splice diagrams, and communications equipment schedules.
    - Landscaping: Sheets will be prepared by a registered landscape architect.
    - Signing/Striping: Consultant shall prepare signing and striping plans per County and MUTCD standards. A sign inventory will be completed to evaluate existing sign conditions and verify compliance with current MUTCD standards.
    - Illumination: Consultant shall prepare lighting plans along 172nd Ave per County and PGE option A requirements. Consultant shall coordinate with PGE for completion of conduit, wiring, and circuitry design to be included as part of the bid package.
    - RRFB: Consultant shall prepare Rectangular Rapid Flashing Beacons (RRFB's) Plans for up to one (1) location.
- Consultant shall complete a detailed photometric analysis of 172nd Ave using AGI32 software. Results will be summarized in tabular format on the plans. No lighting analysis memo will be prepared. Light pole and luminaire types will be from the PGE approved equipment list. Based on the light pole layout from the analysis, individual street lighting plans will be developed in accordance with PGE Option A requirements.
- Private property impacts will be assumed to be driveway reconnections and minor parking lot modifications.
- Calculate quantities and develop an engineer's construction cost estimate for submittal at each plan development milestone (60%, 90%, Final).
- Develop an anticipated construction schedule (90%, Final)
- Prepare relevant sections of specifications based on the current Oregon Standard Specifications for Construction. Produce special provisions for the project using standard ODOT boilerplate special provisions and County boilerplate special provisions to the specifications in Part 00100 – General Requirements.
- Revise and submit final Special Provisions based on comments received during County reviews.
- Make corrections as required by County and submit final plans to County (both documents and electronic copies).

After the 30% drawings are completed in strip map format, the design team will prepare a proposed sheet layout, title block, and number scheme. The team will obtain County concurrence before producing sheets. It is estimated that up to 470 sheets will be required for the project. Up to 160 standard drawings will be attached as pdf files to the back of the plan set. Roadway plans will be prepared at 1"-20' full size drawings with appropriate sheets prepared at 1"=30' and 1"=40' depending on the clarity required for the drawing. Sheets will be able to be printed on 11"x17" sheets for construction.

Consultant shall provide services for each deliverable per the following subtasks:

10.1 **60% Design, Plans and Estimate**

Provide 60% complete plans and estimate as described above.

10.2 **90% Design, Plans, Specifications and Estimates**

Provide 90% complete plans, specifications, estimate, and construction schedule as described above.

10.3 Final Design and Plans, Specifications and Estimates

Provide Final plans, specifications, estimate, and construction schedule as described above.

***Task 10.0 Deliverables (all electronic)**:*

- 60%, 90%, and Final Engineering Drawings (11"X17")
- 90% and Final Construction Schedule
- 90% and Final Specifications and Bid Schedule
- Documentation of 60% and 90% review comments
- 60%, 90%, and Final Engineer's Estimate
- Updated Comment/Response Log at each milestone
- Roundabout Design documentation figures detailing associated truck turning templates, intersection sight distance and fastest path analysis according to NCHRP 672, 2nd Ed. At 60%, 90%, and Final.

Task 11.0 Right-of-Way Research, Descriptions, Appraisals and Acquisitions

11.1 Right-of-Way and Real Property Acquisition Services

Consultant shall conduct the ROW activities for all properties in accordance with the most current version of the following:

- ORS 35, with reference to the "Uniform Appraisal Standards for Federal Land Acquisitions"
- Uniform Act
- County ROW acquisition policies and procedures (which are guided by the ODOT ROW Manual)
- Hold an initial ROW coordination meeting with City, County and Consultant ROW staff to discuss County policy and procedure and ROW acquisition strategy.

Consultant shall use County versions of all forms, spreadsheets, brochures and pamphlets referenced in the *"ODOT Right of Way Manual"* and needed to complete work associated with Task 11.0. These forms, spreadsheets, brochures and pamphlets shall not be altered without written permission from the County. They may be obtained through the County Right-of-Way Manager or Designee.

Consultant shall track status for all ROW files to be acquired for the project in the Excel spreadsheet format provided by County. Consultant should coordinate the details of this process with the County Right-of-Way Manager or Designee at the ROW Coordination meeting.

Consultant shall provide ROW acquisition services following the State of Oregon's Right-of-Way Manual and County policies and procedures. It is assumed a total of 49 acquisitions are required for the project for which title reports for all permanent easements will be needed in addition to maps and descriptions, General Information Notice (GIN) letters, limited appraisals and reviews, and acquisition and closing assistance. Out of the 49 acquisitions, it is assumed that 10 will be acquired using Value Finding Appraisals and Value Finding Appraisal Reviews. It is assumed that all 49 acquisitions will require appraisals and review appraisals for the acquisition process.

It is assumed that appraisals will be taking and damage appraisal formats.

It is assumed that all acquisitions shall be acquired in the County's name as easement.

11.2 Right-of-Way Research

Consultant shall complete ROW research as needed to locate and identify existing easements and property ownership. Preliminary Title Reports will be necessary for each property from which a Permanent Easement will be required.

Consultant shall prepare a preliminary ROW estimate for use in estimating ROW costs at 30% design. The estimate shall include all Project ROW costs, including separate Consultant, and Agency costs. The estimate shall include dollar amounts for the following items: Land & Improvements; Damages/Cost to Cure; Relocation; Demolition; Personnel & Administration; Legal & Contingencies and totals for all Items. The estimate shall be submitted to the County Right of Way Manager or Designee for review.

Consultant shall update the ROW estimate at 60% design and 90% design.

Consultant shall revise and re-submit estimate, incorporating comments received from the County.

11.3 Right-of-Way Strip Map

Consultant shall develop ROW map showing existing and proposed Right-of-Way lines and permanent and temporary easement lines. ROW maps are to be provided to the ROW staff upon delivery of 60% construction plans. ROW maps are to be updated as construction plans are updated and produced. ROW maps are to be delivered with construction plans. File numbering for the acquisitions will be reviewed and approved by County Right-of-Way Manager or Designee.

- Scale for the ROW maps, shall be in English units, the scale is to be an appropriate Engineering scale such as 1"=20', 1"=40', 1"=60', 1"=100'.
- For each parcel, show map and tax lot number, site address, vested owner name and deed number, and file number.
    - Major improvements within the easement areas and within 20 feet of the outer most area of acquisition shall be shown. If no acquisition is being acquired for a particular parcel, then show major improvements 20 feet from the existing ROW line. (Examples of major improvements to be shown on the ROW map are: houses, outbuildings, driveways, fences and other miscellaneous features needed for determining Just Compensation.)

11.4 Right-of-Way Descriptions, Exhibit Maps, and Impact Maps

Consultant shall:

- Prepare and assemble all title documents, including vesting deeds and preliminary title reports for each impacted property.
- Consultant shall develop and provide a centerline description to be used by County with their Resolution of Necessity for the project. Centerline description shall describe a corridor with maximum offsets for each type of easement with corresponding station ranges. County will provide an example if needed. County will review and provide feedback to Consultant if needed. Consultant will make any necessary changes requested by County.
- Prepare ROW Maps and Descriptions (Exhibits A and B) according to the guidelines and example provided by the County. County will review and provide feedback to Consultant if needed. Consultant will make any necessary changes

requested by County. Maps and descriptions will be made on 8 1/2" x 11" paper. Written legal description should be referenced as "Exhibit A" and the map as "Exhibit B". Each description will include the following:

- Exhibits shall be dated and stamped by a professional land surveyor licensed in the State of Oregon.
- Descriptions for the properties shall reference the last recorded deed by type of deed, owner's name, book and page, and date recorded. This information is to be taken from the last vesting deed.
- Descriptions shall reference easements as "Permanent" i.e. (Permanent Right of Way Easement for Road Purposes, Permanent Slope Easement, Permanent Public Utilities Easement, Permanent Slope and Public Utility Easement, Etc.) or as "Temporary" i.e. (Temporary Construction Easement, Temporary Mitigation Easement, Etc.).
- Descriptions shall reference ROW easements as Parcel 1 and other easements as subsequently numbered parcels. Multiple easements per Parcel are acceptable (e.g. Parcel 2- Permanent Slope and Public Utilities Easement, Parcel 3 - Temporary Construction Easement).
- Descriptions shall reference centerline stations on the map. Show the distance from the centerline to existing ROW line and from centerline to proposed ROW and/or easement line(s) on the parcel map.
- On each parcel map provide a legend showing with a hatch, the areas being acquired. Give the areas for each parcel in square feet rounded up to the nearest foot. Note: Legend should be consistent from file to file. For example, a hatch used for a permanent slope easement would be the same for all files on the project.
- On each parcel map, provide tax lot numbers, last vesting deed number, owners' name, and address if other than situs, and file number.
- Show north arrow, appropriate scale, project name, County project number and date exhibit was prepared.
- Feet are to be shown on all distances in "Exhibit B" (excluding centerline).

- Prepare Right of way Impact Maps according to the guidelines and example provided by the County. An 8.5" x 11" or 11"x17" color Impact Map shall be prepared for each file showing the proposed right of way acquisitions overlaid upon an aerial photo, with the larger improvements (fences, hedges, trees, etc.) being noted as either protect or remove. These are to be used in conjunction with the appraisal/ADJC preparation along with the Exhibits A and B.

11.5 Right-of-Way Staking

Consultant shall stake proposed and existing ROW and easements for appraisals and acquisition process as requested by the County and ROW Agent.

11.6 Preliminary Activities

Upon receipt of authorization to proceed with ROW Acquisition, Consultant shall set up ROW parcel files and deliver a General Information Notice (GIN), acquisition and relocation brochures, and a copy of the applicable portion of the ROW Acquisition map (marked Preliminary and showing the right of way to be acquired) to all owners and occupants of affected properties. Consultant shall mail GINs via regular mail. Consultant shall use County GIN form. Consultant shall email a copy of each GIN as a separate file to the

County ROW Program Manager or Designee. County shall provide GIN form and brochures.

Consultant shall prepare and maintain a chronological Diary of Personal Contact for each file. The Diary of Personal Contact must include dates associated with the mailing of the GIN in addition to the date, place of contact, parties contacted, what was delivered and explained, and a summary of what was discussed, for all contact with affected property owners and/or their representatives.

Consultant shall inform County immediately if property owner is represented by legal counsel. Reference to legal counsel and their contact information will be documented in the ROW Status Report spreadsheet and the Diary of Personal Contact.

11.7 Appraisal and Appraisal Review – Full Appraisals

Consultant shall use appraisers who are licensed in the State of Oregon, experienced and competent in eminent domain appraising, and on ODOT's Qualified Appraisers List. Appraisals for this purpose shall be made in accordance with ORS Chapter 35 and USPAP. One appraisal and appraisal review for each type of property and/or each property considered to be complex and outside the scope of the Value Finding Appraisal process will be needed. Appraisal and Appraisal Review shall be made by different appraisers. It is assumed that appraisals will be taking and damage appraisal formats. It is assumed that appraisal reviews will include a field review of subject and sales used in the valuation process. Special Benefits, if any, must be quantified by the appraiser whether or not there are any compensable damages to the property. Tenant owned improvements included in the acquisition must be identified and segregated in the appraisal.

An initial analysis will be made to determine which files will need appraisals. The analysis will be based on the Exhibits A and B produced in Task 11.4. Consultant will bring the results of the analysis to County ROW Program Manager and CPM for discussion and decision. An appraisal will be needed for all files wherein the acquisitions are estimated to be valued above $10,000.

Consultant shall provide 1 hard copy and 1 digital copy of each appraisal and appraisal review to the County for review. The County shall recommend Just Compensation based on the appraisal. Just Compensation shall be no less than the reviewed appraisal amount. Consultant shall also ensure the appraiser produces two additional hard copies of the appraisal for the Consultant's acquisition process.

Assumption: 39 files will require full appraisals and appraisal review.

11.7.1 Appraisal and Appraisal Review – Value Finding Appraisals

If through the process of initial analysis of files needing appraisals outlined in Section 11.7, it is estimated that the acquisition is less than $10,000 than the Consultant shall preform a value finding appraisal and review appraisal. Assumption: 10 files will utilize value finding appraisals and review appraisals.

11.7.2 Appraisal and Appraisal Review – Additional Full Appraisals (Contingency Task)

This contingency task is provided to be authorized by the County if some or all of the assumed value finding appraisals require a full appraisal. These would be authorized to

be completed if it is estimated that the acquisition is valued above $10,000. It is assumed that up to 10 files may utilize the additional Full Appraisals.

11.8 ROW Acquisition

All ROW shall be acquired in the name of the County as easement. Consultant shall conduct negotiations, on behalf of the County, in good faith and in compliance with all state laws and regulations and County policies and procedures. Consultant shall conduct negotiations for acquisition of real property based on Just Compensation issued by County. Consultant shall use Acquisition Agents who are licensed in the State of Oregon to conduct real estate transactions and who are experienced and competent in negotiating and acquiring real property rights under the rules and regulations related to the power of eminent domain.

Consultant shall consult with County to determine the extent to which Consultant will be responsible for clearing title encumbrances identified on the Preliminary Title Report or making the offer subject to clearing title encumbrances. Consultant shall discuss the condition of the title with the property owner at the offer presentation or as soon as possible after the offer is mailed. The discussion will address the County's intention to clear the lender's interest in the acquisition, if any. Consultant shall present any requests for taking title subject to one or more outstanding interests to County for approval. Fee owners' and contract purchasers' ownership interests must be addressed. Lender's interests must be addressed. When impacted by the taking, lessees' interests must also be addressed.

Consultants shall prepare and present to County a draft Offer Packet for review before any offers are made. All offers will be made by consultant as County's Buyer's Agent. These Offer Packets shall include, but are not limited to, acquisition and relocation brochures, offer-benefit letter, acquisition and relocation summary statements, County's Obligations Agreement if appropriate, copy of appraisal, map of acquisition, instruments of conveyance, construction plan sheet showing the file, W-9 form (if money is exchanged), and Title VI Survey Card. Offers will be made to all owners and all negotiations shall be conducted with all owners unless all owners have designated a representative in writing or are represented by legal counsel. Consultant shall notify the County as soon as possible when legal counsel enters the acquisition process.

To every reasonable extent possible, Consultant shall make offers in person, especially where the acquisition involves either a major impact to the property or the displacement of persons occupying the property. If this is deemed not possible, Consultant shall send offer via certified mail with return receipt request. Dates of delivery and an accounting of the events leading to the decision to mail the offer must be documented in the Diary of Personal Contact and the file. It is recommended that delivery be periodically tracked to ensure there are no problems. When offers are mailed, Consultant shall make every reasonable effort to contact the owners ahead of delivery to make introductions and alert them of the mailing. No less than weekly communication with owners until agreement is reached is expected.

Consultant shall make every reasonable effort to acquire the ROW expeditiously by negotiation. Consultant shall give property owners reasonable opportunity to consider the offer (statutorily 40 calendar days). Counter offers from the owner should be accompanied by information the owner believes is relevant to determining the value of the property and reviewed with the County Right of Way PM promptly. Consultant shall attempt to negotiate

an approved administrative settlement, but shall not take any coercive action in order to induce an agreement on the price to be paid for the property (49 CFR 24.102(h)).

- IF the OFFER is ACCEPTED, Consultant shall present a Final Report Packet covering the acquisition of ROW to County for final approval, acceptance, payment, conveyance of title and recording. The Final Report Packet shall include County's Final Report and Transmittal of Documents form and all other documentation associated with the ROW activities conducted for this file. Consultant shall include satisfactory documentation of signer's authority to sign if Grantor is a Trust, Corporation, Partnership, or Non-Profit. Consultant shall mail or deliver the Final Report Package and email a digital scan of the Final Report Package to the County Right-of-Way Program Manager or Designee in a reasonable amount of time after all signed offer documents have been received by Consultant.
- IF a COUNTER OFFER is received, Consultant shall submit the proposed COUNTER OFFER (exceeding the estimate of just compensation) with a written justification and owner supplied supporting documentation to County for approval. If accepted see above.
- IF an acceptable agreement is not reached within the timeframe set by County, Consultant shall prepare and submit a Recommendation for Condemnation (RC) Packet. The RC Packet shall include County's RC form and all other documentation associated with the ROW activities conducted for this file. Consultant shall mail or deliver the packet and email a digital scan of the packet to the County Right of Way Program Manager or Designee in a reasonable amount of time after the decision to RC the file is made. Consultant shall also provide to County the Microsoft Word (editable) versions of any and all documents upon request (e.g. Diary, Obligations Agreement, Conveyance Documents, Offer Letter, Acquisition and Relocation Summaries).

Consultant shall continue documenting the Diary of Personal Contact for each file until the file is transmitted to the County. The Diary of Personal Contact must include a dated record in chronological order of all contact with property owners and or their representatives and all occupants and or their representatives, including but not limited to the means by which the communication took place (email, fax, telephone, in person, etc.), the location of the contact, efforts to achieve amicable settlements, owners' suggestions for changes in plans, responses to owners' counterproposals, etc.

No communications with property owners or occupants and/or their representatives are to be made via text. The County is to be notified as soon as possible upon engagement with a property owner's legal representation.

11.9 Relocation

Consultant shall use the forms, formats and brochures in relocation advisory assistance and the preparation of relocation studies, reports and claims available on ODOT's R/W Guidance webpage (https://www.oregon.gov/ODOT/ROW/Pages/ROW.aspx).

Consultant shall complete up to fifteen (15) personal property only relocations and three (3) residential relocations.. Consultant shall ensure that relocations take place in accordance with regulatory notification time frames and terms. Consultant shall inform Agency as soon as schedule issues are known, if applicable.

Consultant shall, at a minimum, conduct the following relocation activities:

- Conduct occupant interviews to determine relocation eligibility and needs including: names, number of occupants, and certification of legal residency in the United States. If the relocation involves a tenant, the displacee's income may need to be considered. Occupant interview documentation shall include but is not limited to any contacts, discussions, e-mails, letters & phone calls with the displacee or anyone regarding the relocation file.
- Provide relocation advisory assistance and information regarding available benefits, available replacement housing and non-residential benefits.
- Establish initial determination of relocation benefits.
- Advise displaced persons of procedures for applying for benefits.
- Provide Move Plan to Agency Reviewer for approval.
- Complete Move Agreement in conjunction with displaced persons and submit to Relocation Reviewer for approval prior to obtaining signatures from displaced persons.
- Compute replacement-housing payments for owners and tenants and submit them to Agency for review. Agency will submit to the Relocation Reviewer for approval before presenting the benefits to the displaced persons.
- Determine type and amount of move payments according to current procedures.
- Obtain move estimates, as needed, and advise displaced persons in choosing the most appropriate moving method. Any moving estimates need to be approved by Agency prior to offers being made.
- Offer transportation, as needed, to all displaced persons to inspect potential replacement housing.
- Monitor move of personal property as required.
- Inspect and certify that all replacement dwellings meet Decent, Safe and Sanitary criteria.
- Verify displaced persons have relocated to replacement dwelling prior to submittal of any tenants housing payment claims.

Consultant shall assemble Relocation Closing report to include appropriate claim forms and documentation, obtain signatures and submit all relocation claims to County Right of Way Manager or designee for review, approval and payment. The County Relocation Reviewer will review all relocation studies and approve all relocation claims.

11.10 Consultant Deliverables and Schedule:

Consultant shall provide the following deliverables to the APM within 1 week of receipt from the owner and/or owner occupant:

- Project Relocation Plan (up to 3 files)
- Relocation Move Plan and Move Agreement for individual displacees (up to 3 files)
- Occupant Interview Documentation (up to 3 files)
- Relocation Studies, Reports and Claims (up to 3 files)
- Replacement Housing Study and Calculation (up to 3 files)
- Type and amount of Move Claims including Move Estimates (up to 3 files)
- Income Verification (up to 3 files)
- Mortgage Interest Differential calculation (up to 3 files)
- Move Monitor Report (up to 3 files)
- Inventory of Personal Property to be moved (up to 3 files)
- Replacement Dwelling Decent, Safe and Sanitary inspection report (up to 3 files)
- Relocation Appeals Documentation (up to 3 files, if requested by Agency)

- Attendance at pre-hearing appeal and/or appeal conference (up to 3 files, if requested by Agency)
- Photographic evidence and visual confirmation that acquisition area is clear of personal property (up to 15 files)
- Report of Personal Interview to Agency ROW Agent and APM within 3 business days of request. If the displacee is a tenant a separate personal interview shall be maintained (up to 15 files)

Task 11.0 Deliverables:

- *Preliminary Title Reports and supporting documents*
- *Preliminary Right-of-Way Estimate*
- *Right-of-Way Strip Map (one strip map per plan submittal)*
- *Right-of-Way Descriptions and Maps (49 files)*
- *Right of Way Impact Maps (49 files)*
- *Right-of-way Staking (49 files)*
- *General Information Notice Letters (49 files)*
- *Appraisals and Appraisal Reviews (49 files)*
- *Acquisition/Negotiation/RC files (49 files)*

Task 12.0 Bid and Award Assistance

This task includes the preparation of up to four addenda, as needed, and responding to questions during the bidding phase. Consultant shall respond to questions from County and Construction Contractors about the plans and specifications during the bidding process.

Consultant's Project Manager, or Consultant's designee(s) approved by County, shall assist County with questions regarding the bid documents and bid process. Consultant shall respond to all questions in writing within 3 days to the CPM.

Consultant shall, during the bidding process, assist the County with the communications with Construction Contractors and suppliers in a manner that assures that no Construction Contractor or supplier is provided with information not in the bidding documents and that could provide a bidding advantage or disadvantage. Consultant shall prepare a written log to document conversations and questions asked by construction contractors or suppliers and the answers provided to the County. Consultant shall maintain the written log in the project file and provide upon request of the CPM.

Task 12.0 - Consultant Deliverables

- *Written log of conversations, questions and answers, provided to the CPM upon request.*
- *Up to four addenda*

EXHIBIT C

PROJECT SCHEDULE

1. Execution of Intergovernmental Agreement – March of 2022
2. Notice to Proceed to Consultant – March of 2023
3. 30% Submittal – March of 2024
4. 60% Submittal – March of 2025
5. Final Exhibit Maps and Descriptions and Permit Applications – April of 2025
6. Initiate ROW – April 2025
7. 90% PS&E Submittal – March 2026
8. Complete ROW – December 2026
9. 100% PS&E Submittal – November 2026
10. Signed PS&E Submittal – December 2026
11. Advertise for Bids – January 2027

EXHIBIT D - PROJECT COST

172nd Ave. Improvement Project

November 22, 2023

SEGMENT BREAKDOWN	SEGMENT #1 Vogel/Misty to Troge	SEGMENT #2 Troge Intersection and Approach Legs	SEGMENT #3 Troge to Northside of Scouters Mountain RAB	SEGMENT #4 Frontage Rd (Hagen Rd)	SEGMENT #5 Troge Widening to Olympic	1 THRU 5 TOTALS
ESTIMATED CONSTRUCTION PHASE COSTS						
Estimated Contractor's Construction Bid	$ 3,844,780	$ 13,691,130	$ 6,061,990	$ 1,928,920	$ 750,140	$ 26,276,960
Construction Contingency & Escalation (20%)	$ 768,956	$ 2,738,226	$ 1,212,398	$ 385,784	$ 150,028	$ 5,255,392
City & County Construction Management & Inspection (9%)	$ 427,350	$ 1,521,777	$ 673,794	$ 214,401	$ 83,379	$ 2,920,700
CONSTRUCTION PHASE TOTAL	**$ 5,041,086**	**$ 17,951,133**	**$ 7,948,182**	**$ 2,529,105**	**$ 983,547**	**$ 34,453,052**
ESTIMATED RIGHT-OF-WAY PHASE COSTS						
Total Land Value	$ 517,933	$ 620,339	$ 627,743	$ 366,022	$ -	$ 2,132,036
Total Damages	$ 150,000	$ 300,000	$ 1,000,000	$ 400,000	$ -	$ 1,850,000
Contingency (11.5%)	$ 135,681	$ 86,343	$ 172,685	$ 160,351	$ -	$ 555,060
# Acquisition Files	$ 11	$ 7	$ 14	$ 13	$ -	$ 45
Consultant Acquisition Fees	$ 173,070	$ 110,135	$ 220,271	$ 204,537	$ -	$ 708,013
County ROW Review & Management ($3,500 per File)	$ 38,500	$ 24,500	$ 49,000	$ 45,500	$ -	$ 157,500
RIGHT OF WAY PHASE TOTAL	**$ 1,015,195**	**$ 1,141,324**	**$ 2,069,713**	**$ 1,176,422**	**$ -**	**$ 5,402,654**
ESTIMATED DESIGN PHASE COSTS						
Consultant Engineering and Design	$ 591,872	$ 2,107,634	$ 933,192	$ 296,941	$ 115,478	$ 4,045,117
City & County Design Management (3%)	$ 142,082	$ 505,948	$ 224,017	$ 71,282	$ 27,721	$ 971,050
DESIGN PHASE TOTAL	**$ 733,953**	**$ 2,613,582**	**$ 1,157,210**	**$ 368,223**	**$ 143,199**	**$ 5,016,167**
PROJECT TOTAL - with Contingency	**$ 6,790,234**	**$ 21,706,039**	**$ 11,175,105**	**$ 4,073,750**	**$ 1,126,745**	**$ 44,871,873**