ATTACHMENT A

Contract Statement of Work
Delivery Schedule and Summary of Estimate for Services

MOLALLA AVENUE PHASE 3
(BEAVERCREEK ROAD – OR HWY213)
City Project #: CI 18-004

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PROJECT UNDERSTANDING AND WORK SCOPE FOR COMPLETE PROJECT

Background
The purpose of this project is to create a complete street and provide a safe corridor for biking, walking and transit along Molalla Avenue.

Existing Conditions
The existing roadway alignment is a key corridor for all travel modes connecting the Oregon City Downtown and Regional Center with Clackamas Community College and Clackamas County Red Soils Campus; as well as connecting the residential areas on the west side to the commercial areas on the north & east sides. Currently, the corridor is uncomfortable, unwelcoming and unaccommodating for those who are walking, biking or accessing transit.

Proposed Improvements

Project elements include the following:

Streetscape Improvements will include:
Molalla Avenue from Beavercreek Road to OR213 has a major arterial classification. The total length of roadway to be improved is approximately 4,400 feet. The majority of the project work will occur on the west side of Molalla Avenue, with some work occurring on the east side. The roadway design intent is to generally hold the existing east curb line and design the project from there, identifying where the project will need right-of-way along the west side. The cross section of the roadway shall be (starting from the existing east curb line) bike lane, travel lane, center turn lane/median, travel lane, bike lane, curb, and sidewalk. Streetscape improvements include the following:

- The west side of corridor will include ten (10) foot wide sidewalks, with pedestrian-level LED street lighting and street trees located within tree wells in the furniture zone.
- Both sides of the corridor will include Americans with Disabilities Act (ADA) compliant curb ramps and continuous bike lanes, as well as streetscape amenities such as trash receptacles, benches, and transit stop amenities.
- Enhanced pedestrian actuated crosswalks in three (3) key locations, preliminarily identified at Adrian Way, Char Diaz Drive, and Garden Meadow Drive.

- Full replacement of two (2) existing traffic signals at Clairmont Way and Gaffney Lane, including a review of the geometric design of these intersections.
- Potential new traffic signal at Fir Street; including a warrant analysis per the Manual on Uniform Traffic Control Devices (MUTCD) standards.
- Access management to better establish safer access to businesses that includes right sizing existing driveways and construction of raised center medians with landscaping where appropriate.
- New pavement along the entire corridor.
- TriMet shelter improvements
- New welcome/gateway feature at the south end of the corridor.

Streetscape improvements shall generally follow the Molalla Avenue Streetscape Standards. Additionally, the Molalla Avenue Boulevard & Bikeway Improvements Plan, and the Safety & Enhancement Plan.

Public Utility Improvements will include:

Water System
Molalla Avenue has approximately 1,200 lf of existing 8" cast iron distribution pipe that will be replaced with new 8" ductile iron, located at the north end of the project between Beavercreek Road & Clairmont Way. The project will also include waterline work near Lazy Creek Lane to address abandonment of the existing 2" public water main and reconnection of the services to a public waterline. Additionally, the project will include impacts to fire hydrants and water services along the corridor due to streetscape improvements.
The project will also include construction of approximately 4,800 lf of a new 24" ductile iron water transmission line.

Sanitary Sewer System
A condition assessment of the existing sanitary sewer will be completed, and structural deficiencies will be identified and repaired if necessary.

Stormwater System
It is anticipated that stormwater improvements will be necessary along the corridor, the extent of the improvements will need to be determined as part of the design.

Private Utility Improvements will include:
Relocation of overhead power and telecommunications to accommodate the proposed improvements. The extent of the relocation will be identified as part of the design.

Specific Scope Of Services

The following services are for the entire project which is to be completed by OBEC Consulting Engineers (OBEC) and its consultant team [Kittelson & Associates, Inc. (KAI), Murraysmith (MSA), Jeanne Lawson (JLA), Hart Crowser [HC]), Universal Field Services (UFS), Greenworks (GW). The deliverables are listed for each task. Tasks include surveying, public involvement, geotechnical investigation, traffic engineering, engineering design, landscape design, and street lighting design, with work continuing through the final design phase. Work performed under this contract will be done in accordance with all applicable federal, state, and local design standards.

The design services work scope outlined is as needed to complete the design including the preparation of plans up to the final design (100%) submittal.

Task 1.0	Project Management and Administration
Task 2.0	Surveying
Task 3.0	Public Involvement Assistance
Task 4.0	Design Studies and Reports
Task 5.0	Environmental Permits
Task 6.0	Utility Location and Coordination
Task 7.0	Right of Way
Task 8.0	Preliminary Design (30%)
Task 9.0	Final Design (60%, 90% & 100%)
Task 10.0	Bid Support
Task 11.0	Quality Assurance
Task 12.0	Construction Engineering (Reserved)

CONSULTANT RESPONSIBILITIES

TASK 1.0 Project Management and Administration

Task 1.1 Project Management

The duration of the project planning and design effort through the final design level is assumed to be 12 months.

Provide project management and design oversight for the consultant team. Maintain a project decision log using an established format for use in collecting City design input, documenting key decisions and tracking the resolution of design issues. Keep the City apprised of work progress, project issues, resolutions and changes affecting the design, schedule or project budget by providing a monthly progress report with each monthly invoice. Submit project invoices monthly, including a breakdown of hours spent by each individual on each task. Maintain a comprehensive project file, which must include engineering computations, assumptions, meeting agendas and minutes, working drawings, correspondence and memoranda.

Task 1.1 Deliverables:

- Consultant shall provide monthly invoices and progress reports.

Task 1.2 Schedule

Consultant shall prepare and maintain a milestone delivery schedule in Microsoft Project format. Consultant will revise schedule up to three (3) times based on City input.

Task 1.2 Deliverables:

- Submit Electronic (PDF) copy of the project schedule.

Task1.3 Project Coordination and Meetings

The proposed approach to project coordination during design is to hold project meetings with key project team members and representatives from Oregon City and others as needed. These meetings will have a specific agenda addressing and resolving project issues as they are encountered. Consultant shall prepare an agenda and distribute a meeting summary for each meeting.
Meetings to be conducted include:

- Schedule and attend a four-hour Project Kickoff Meeting with the City, task leaders, and subconsultants (up to 7 staff (2 OBEC, 1 KAI, 1 MSA, 1 JLA, 1 HC, 1 GW) are included. KAI, MSA, JLA, HC, and GW will attend for two of the four hours.
- Schedule and attend up to four two-hour Utility Coordination Meeting with the City, task leaders, and subconsultants (up to 4 staff [2 OBEC, 2 MSA]) are included.
- Schedule and attend Project Management Team (PMT) meetings for design phases. Ten (10) one-hour meetings with up to two (2) OBEC staff, one (1) MSA staff, and one (1) KAI staff attending are included. One (1) JLA staff, one (1) HC staff, and one (1) GW staff will attend up to three (3) PMT meetings each as deemed appropriate.
- Conduct periodic technical team meetings with Oregon City and design staff to coordinate the project details. Four (4) two-hour meetings with OBEC and subconsultant team members up to two (2) OBEC staff, one (1) MSA staff and one (1) KAI staff are included. Additional consultant support will be enlisted as appropriate.
- Conduct design review meetings after the submittal of the 30%, 60% and 90% design deliverables. Three (3) two-hour meetings with City, OBEC and subconsultant team members (up to 4 consultant staff) are included.
- OBEC PM will attend up to two, two-hour Public Involvement (2) open houses at 30% and after 60% design milestones as described in Task 3.1.3
- OBEC PM will attend a two-hour utility coordination meeting as described in Task 6.0
- OBEC PM will attend a two-hour pavement design workshop as described in Task 4.2.3

Task 1.3 Deliverables:

Consultant shall provide:

- Meeting agendas, 2 business days prior to meeting (up to 19).
- Meeting summaries, decisions and action items 5 business days following meeting (up to 19).

Task 1.4 Success Indicators

Consultant will be responsible for all success indicators for the project as required for the Metro Regional Flexible Funds Allocation program. The consultant shall be responsible for all items required by Metro to show the success of the project.

A report summarizing the success indicators required will be completed at project completion, and for three consecutive years after completion of projected.

Task 1.4.1 Multimodal

(a) Transit Access – Station Quality. Comparison of the before and after conditions related to the Transit Station Quality along the corridor (*at completion only*).
(b) Facility Use – Transit Use – Comparison of the before and after counts related to Transit Station use (Boardings/Alrightings) along the corridor (*for three consecutive years after completion of project*).

(c) Facility Use – Bike & Pedestrian Use. Comparison of the before and after bike & pedestrian counts at key intersections along the corridor (*for three consecutive years after completion of project*).

Task 1.4.2 Health and Safety

a) Personal Safety – Lighting Quality. Comparison of the before and after conditions related to foot candles of the lighting within the corridor for pedestrians and bicycles (*at completion only*).
b) Corridor Safety – Distance Between Marked Crosswalks. Comparison of the before and after conditions related to spacing between marked crosswalks along the Corridor (*at completion only*).
c) Corridor Safety – ADA Accessibility. Comparison of the before and after conditions related to ADA accessibility within the corridor for pedestrian and bicycles (*at completion only*).
d) Corridor Safety – Crash Data. Comparison of the before and after crash data along the corridor (*for three consecutive years after completion of the project*).
e) Corridor Safety – Pavement Condition. Comparison of the before and pavement condition along the corridor (*for three consecutive years after completion of the project*).

Task 1.4.3 Placemaking

a) Public Art - Wayfinding. Comparison of the before and after conditions related to wayfinding along the corridor (*at completion only*).
b) Overall Perception – Community Survey. Comparison of the before and after results of a community survey related to the overall perception of the neighborhood & business community along the corridor (*at completion only*).

Task 1.4.4 Final Report and Annual Success Indicators Report

Consultant shall submit a Final Report within forty-five days of the project completion data that includes the following:

- Full and final accounting of all expenditures
- The value and source of all grant matching funds
- A description of work accomplished
- Volunteer hours and participation (if applicable)
- Project photos (including a photo of the signage of acknowledging Metro during construction).
- Data on success indicators of the project as summarized in Task 1.4.1, Task 1.4.2, and Task 1.4.3.

Assumptions:

- City will provide information required under Task 1.4.4 for the Final Report.

Task 1.4 Deliverables

- 'Before' Assessment of Success Indicators for all areas identified in Task 1.4 above.
- Final Report and Project Completion Success Indicators Summary Report including:
    - Project completion data included in Task 1.4.4.
    - Project Completion Success Indicators
        - Transit Access
        - Facility Use –Transit Use
        - Facility Use – Bike and Pedestrian Use

- Personal Safety – Lighting Quality
- Corridor Safety – Distance between marked Crosswalks
- Corridor Safety – ADA accessibility
- Corridor Safety – Crash Data
- Corridor Safety – Pavement Condition
- Public Art – Wayfinding
- Overall Perception – Community Survey

- Year 1, Year 2, and Year 3 Post-Completion Success Indicator Reports
  - Facility Use – Transit Use
  - Facility Use – Bike and Pedestrian Use
  - Corridor Safety – Crash Data
  - Corridor Safety – Pavement Condition

TASK 2.0 Surveying

The project limits for topographic surveying are as follows:

- Starting at the intersection of Molalla Avenue and Beavercreek Road, and running from said centerline-centerline intersection 200 feet west, north, and east.
- Also, from said centerline-centerline intersection running southeast along Molalla Avenue 4,400 feet to the right of way of Oregon 213.
- The width of the topo along Molalla Avenue shall extend 20 feet past the edge of sidewalk on the northeast side of the road, and 50 feet past the edge of the sidewalk on the southwest side of the road.
- Extents of topo on other roads at the start and end of the project shall extend 10 feet past the edge of sidewalk on roads with sidewalks, and 20 feet past the edge of pavement in other areas.

Due to the high volume of traffic along OR213 the Consultant shall engage a local certified flagging company to provide traffic control when we need to work within the roads for Task 2.3.

Task 2.1 Horizontal and Vertical Control

Consultant shall establish horizontal and vertical control points. Consultant shall use the Oregon Coordinate Reference System – Portland Zone using the horizontal datum of NAD83 (2011) Epoch 2010.00 and the vertical datum of NAVD 88 (Geoid 12A).) Epoch 2010. Consultant shall establish primary control monuments and maintain line of sight throughout the entire Project limits. Consultant shall place these control monuments in locations such that they can be utilized during construction.

Task 2.1 Deliverables:

The following deliverables are part of this task:

- ASCII File containing the OCRS coordinates for all network control points.
- One scanned copy of the original field notes in *.pdf format.

Task 2.2 Pre-Construction Record of Survey

Consultant shall perform right-of-way research (surveys, plats, deeds, etc.) to locate existing monuments and to resolve existing roadway centerlines and right-of-way lines within the project limits.

Consultant shall obtain Lot Book Reports for each of the properties adjoining Molalla Avenue. Assumed forty-five (45) properties.

Consultant shall perform a field survey of existing monuments subject to disturbance by the project or needed to resolve existing right-of-way lines. If the initial search is inconclusive, a second search will be made utilizing coordinates calculated from nearby found monuments and/or additional measurements. Consultant shall survey at least one Public Land Survey System (PLSS) corner tie for ROW descriptions and future filing of the survey.

Consultant shall resolve the existing centerline and right-of-way lines for Molalla Avenue and OR 213. Existing side street centerline and right-of-way lines will not be resolved, as necessary, in the project areas. Existing property lines will not be resolved, but will be calculated from survey and deed records, as necessary. Parcel tax lot ID numbers, owner names, property addresses (if applicable), existing property lines (entire property), and existing right-of-way lines will be compiled on a right-of-way map.

Consultant shall prepare a pre-construction record of survey to show the existing centerlines and right-of-way lines as resolved in Task 2.2 to document the factors pertaining to this resolution, and to show control established in Task 2.1. This survey will also dimension the location of all monuments located in Task 2.2 that may be disturbed by construction. This survey will conform to ORS 209.155 and ORS 209.250. The units will be in International Feet. File the record of survey with the Clackamas County Surveyors Office.

Task 2.2 Deliverables:

The following deliverables are part of this task:

- Pre-Construction Record of Survey, in AutoCAD V2018 compatible format, to be filed with the Clackamas County Surveyors Office.
- One scanned copy of the original field notes in *.pdf format.
- One pdf file for each of the forty-five (45) Lot Book Reports.

Task 2.3 Topographic Survey and Base Mapping

Consultant shall perform a topographic survey for the project area for the roadway alignment as described in Task 2.0, and the intersection work or other areas where Consultant's design engineers request information. Project limits are stated above.

Consultant shall prepare a Survey Notification Letter and mail it to the adjoining property owners.

Consultant shall survey existing surface features including but not limited to: face of buildings, fences, utilities, ditches, driveways, structures, culverts, trees, and signs within areas selected for topographic surveys. Consultant shall survey the existing centerline and edge of pavement and existing traffic striping with elevations consistent with the Project vertical datum. Consultant shall tie trees 8 inches or larger in diameter at chest height.

The Consultant will clear all areas of brush and blackberries within the topographic survey project limits as required to collect adequate data and coordinate with adjacent property owners.

Consultant shall gather the field data necessary to show utility locations in the base mapping for the roadway design. Consultant shall request underground utilities to be marked in the field (known as "field locates") within the immediate Project area as identified. Consultant shall use the statewide "One-call" utility notification system and submit a "pre-survey" locate request. All utility operators with buried facilities subscribe to the One-Call system (OUNC-Oregon Utility Notification Center). When

surveying marked lines, Consultant shall record in the field notes the utility ownership when describing the line data points. Consultant shall tie all non-tangent markings (i.e. survey shots shall be of sufficient frequency to accurately record each facility's alignment and deviation). Consultant shall indicate aerial line alignments by rotating cell elements for poles, such that the small line that bisects the square or round symbol is arranged to the wire alignment.

Consultant shall measure vertically the lowest wires that cross street or road intersections, and shall calculate a true elevation of those wires. Consultant shall note this in the field notes and survey basemap.

Consultant shall record all visible utility identifications in the field notes and survey basemap. Such numbers shown on power and/or telephone poles, vault tags, telephone pedestals (also known as risers), cabinets, meters, fences or screened enclosures for gas regulators, and sanitary sewer pump stations are examples of what is needed for City or Consultant to communicate with the utility operator, as to what facility may be in conflict with the Project.

Consultant shall locate geotechnical bore holes and wetland field markings and incorporate that data into the topographic base map.

Consultant shall create a Digital Terrain Model (DTM). Consultant's DTM shall depict the actual surface shape in each section. Consultant shall gather topographic data for this Project by techniques consistent with preparing a DTM. Consultant shall use a combination of survey data at break lines, features, and spot locations to develop the DTM model. Consultant shall perform the topographic survey to establish the configuration of the ground and the location of natural and man-made objects.

Consultant shall collect confidence points with the intent to verify surface modeling within triangles created during development of the DTM surface, striving for intervals of no greater than 200 feet. Consultant shall collect confidence points over the DTM at approximately two percent (2%) to five percent (5%) of total contourable points.

Consultant shall produce a confidence report to verify the accuracy of the DTM.

Task 2.3 Deliverables:

The following deliverables are part of this task:

- Survey Notification Letter.
- 1"=40' scale topographic survey base map and DTM in AutoCAD v2018 compatible format
- OUNC locate request
- Copy of original survey field notes
- Confidence Point Report

TASK 2.4 CONSTRUCTION SURVEYING

Consultant's licensed Land Surveyor shall provide land surveying Services and deliverables that conform to all state statutes pertaining to survey and land boundary laws. These include, but are not limited to, the following Oregon Revised Statutes (ORS):

- ORS Chapter 92 - Subdivisions and Partitions
- ORS Chapter 93 - Conveyancing and Recording
- ORS Chapter 209 - County Surveyors
- ORS Chapter 672 - Professional Engineers; Land Surveyors; Photogrammetrists; Geologists

Consultant's survey personnel shall perform all construction surveying tasks in accordance with the most recent version of the ODOT Construction Surveying Manual for Contractors (available on line at: **http://www.oregon.gov/ODOT/ETA/Pages/Manuals.aspx** as required to ensure conformance of the Project construction with the approved plans and specifications. Consultant shall provide qualified personnel to verify the Project is constructed to the lines and grades as shown, specified, or established.

Task 2.4.1 Locate, Recover & Reference Monuments

Consultant shall recover and reference monuments (as indicated below) in the location of the ROW identified in the control, recovery and retracement survey. Consultant shall document in field notes the monuments either found, or not found during the search phase. Consultant shall ensure compliance with the requirements of ORS 209.155.

For all monuments not destroyed during construction activities, Consultant shall note in the field notes that:

- All monuments were recovered (include date),
- All monuments exist per the control, recovery and retracement survey, or
- All monuments are within the new ROW and do not need to be reset

The monuments may or may not be retied to confirm their original surveyed positions. This decision will be made based on Consultant surveyor's professional judgment.

Consultant shall:

- Recover monuments shown on the control, recovery and retracement survey to confirm they either still exist or were destroyed during construction. Consultant shall note destroyed monuments that are within the Project limits.
- Locate and recover any new monumentation within the Project work zone which were placed after the original field search and survey ties, which may include research of county records as appropriate.

Deliverables

☒ Submit the deliverables below to the LAPM.

- ASCII File of located monuments with monument point numbers and coordinates and any other electronic files (such as .fwd, .alg, ASCII, etc.) created or produced for the Project documenting Monumentation surveying - Submit within (2) weeks after recording of the survey filing map (SFM) with the appropriate County Surveyor's office
- Original field notes and (1) electronic .pdf copy - Submit within (2) weeks after recording of the SFM with the appropriate County Surveyor's office

Task 2.4.2 Right of Way Monumentation

Consultant shall document the location of the ROW lines at the completion of the Project construction. Consultant shall perpetuate the location of the monuments found prior to construction and shall document the ROW lines for all property acquired for the Project.

Unless otherwise approved by the Local Agency, Consultant shall monument the new ROW using the Boundary Method in conformance with the ODOT Monumentation Policy and the Survey Filing Map Standards, available on the Internet at http://www.oregon.gov/ODOT/ETA/Pages/Manuals.aspx

Consultant may be assigned the method of monumentation, which could be the Network Method, Boundary Method, or a combination of both methods which are defined in the ODOT Monumentation Policy.

Consultant shall set control and/or ROW monuments within 45 days of the completion of construction.

Deliverables

☒ Submit the deliverables below to the LAPM.

- AutoCad Civil 3D file displaying the control and/or monuments – Submit within (2) weeks after recording of the SFM with the Clackamas County Surveyor's office
- AutoCad Civil 3D file with centerline(s), control and monument data, and report of alignment(s) showing coordinates, bearing, stations, etc., per AutoCad Civil 3D reports – Submit within (2) weeks after recording of the SFM with the Clackamas County Surveyor's office
- Final report of monument station and offset relationship to the alignment(s) – Submit within (2) weeks after recording of the SFM with the Clackamas County Surveyor's office
- Agency ROW files and copies of all deeds, court judgments, etc., from the Clackamas County – Submit within (2) weeks after recording of the SFM with the Clackamas County Surveyor's office
- Original field notes and (1) copy in .pdf format – Submit within (2) weeks after recording of the SFM with the Clackamas County Surveyor's office
- Final ASCII file of all control and monument points set – Submit within (2) weeks after recording of the SFM with the Clackamas County Surveyor's office

Task 2.4.3 Post Construction Monumentation Survey Filing Map (SFM)

Consultant shall create SFM in accordance with Agency Survey Filing Map Standards, County and ORS 209 requirements. Consultant shall ensure preservation of existing survey markers in conformance with Chapter 6.2 of the ODOT Construction Survey Manual for Contractors, available on line at:

http://www.oregon.gov/ODOT/ETA/Pages/Manuals.aspx
Consultant shall monument any newly acquired ROW in accordance with Survey Filing Map Standards for Right of Way Monumentation, available on line at

http://www.oregon.gov/ODOT/ETA/Pages/Manuals.aspx
Consultant shall submit the survey to Clackamas County for filing on archival Mylar or acceptable media per county requirements.

Deliverables

- SFM –File at the appropriate County Surveyor's office within (45) days after setting monuments.

☒ Submit the deliverables below to the LAPM

- Final recorded SFM and narrative regarding methodologies used – Submit within (2) weeks after recording of the SFM with the Clackamas County Surveyor's office

TASK 3.0 Public Involvement Assistance (JLA)

The primary purpose of the public involvement task is to provide assistance to the City for public meetings and communications. The project team will work with the City Project Manager to complete the following subtasks:

Task 3.1 Public Outreach Plan

- Existing Conditions Plan
- Opportunity/constraint diagram

Task 3.1.1 Public Involvement and Outreach Plan

Consultant shall work with City to develop and implement a public involvement plan that includes key messages about the project, project process and schedule, decision-making, stakeholders, and public involvement strategies and tools to be used to engage stakeholders during design.

Assumptions:

- City will provide property owner/site addresses for the project for purposes of any mailed information materials
- City staff will serve as point of public contact on all communications materials and respond to community email and phone inquiries
- City shall provide and manage a webpage for the project
- City shall be responsible for printing and mailing any public information that goes out to public, i.e newsletters, factsheets, meeting invite postcards.
- City shall use internal stakeholder email distribution lists and City social media for the purposes of outreach on this project.

Task 3.1.1 Deliverables:

The following deliverables are part of this task:

- Draft and Final public involvement and outreach plan, which includes key messages, stakeholder lists, and key messages
- Project information/fact sheet with contact information and process/schedule information
- Design of all newsletters, factsheets, postcards, and mailings in pdf format and original software format (ie MS Word)

Task 3.1.2 Public Information Materials

The Consultant shall work with the City to develop initial content for City website and create a social media plan to supplement public information sharing. The Consultant shall develop public information materials for print at key milestones that serve to inform and invite stakeholders to participate in the design process. Consultant shall draft and design up to two (2) 11x17 project newsletters/mailers and one (1) 8.5x11 mailer for the purposes of inviting the general public to two general open houses and also communicating final design and next steps for construction. Consultant shall also draft and design up three (3) letters to adjacent neighbors for the purposes for an additional personal introduction to the project, knowledge of field activities, and invite immediate neighbors to small group or one-on-one discussions related to geography.

Assumptions:

- City shall be responsible for printing and mailing any public information that goes out to public
- City shall use internal stakeholder email distribution lists and City social media for the purposes of outreach on this project.
- City shall post public information materials to city website

Task 3.1.2 Deliverables:

The following deliverables are part of this task:

- Initial web content for use by City and up to four (4) updates
- Social media plan to support the distribution of additional public information (City implements and tracks)
- Up to three (3) letters tailored to closest properties introducing project and inviting to smaller group meeting or in advance of canvassing in pdf format and original design software format
- Two (2) 11x17 mailers for the two open house events in pdf format and original design software format
- One (1) updated 11x17 mailer or an 8.5x11 mailer to share final design and prepare for next steps in pdf format and original design software format

Task 3.1.3 Public Meetings

The Consultant shall design and host up to three small group sessions for nearest neighbors, related by geography/land use. These would occur early for the design team to better understand issues and concerns by those most affected by the project. The Consultant shall also design and host up to two (2) open houses at 30% and after 60% design milestones. Gateway treatments, aesthetics, landscaping, and access will be major topics. The community "before survey" (see task 3.2) will be coordinated with the initial open house.

Assumptions:

- City shall post materials for public information materials to city website after the meeting
- City shall provide meeting space for the open house and meetings or pay for any room/refreshments costs

Task 3.1.3 Deliverables:

The following deliverables are part of this task:

- Meeting plans/agendas and summaries for up to 3 small group meetings, including comment forms, sign in sheets
- Meeting plans/agendas and summaries for up to 2 open house events, including comment forms, sign in sheets and necessary graphics or displays to supplement landscape architectural graphics or project maps

Task 3.2 Community Survey

The Consultant team shall work with the City to design two surveys, one early in design and one for post construction, that seek to collect information from the public and in the field about the before and after conditions of the design and project. The "Before Survey" would be administered to the public online or through the first public meeting.

Assumptions:

- Consultant shall develop and implement an online "Before Survey"
- City shall be responsible for printing/mailing/distributing paper surveys to supplement the online survey.
- Consultant shall draft a "Post Construction Survey" that would need to be revised and implemented later by the City, assumes public involvement support services for construction not included in this contract.

Task 3.2 Deliverables:

The following deliverables are part of this task:

- "Before Survey" questions in paper and online formats
- Summary of "Before Survey"
- Draft "Post Construction/After Survey" questions that can be finalized later by City.

Task 3.3 Oregon City Metro Enhancement Grant

Consultant shall lead development and administration of the Oregon City Metro Enhancement Grant to provide wayfinding signage and or/art installations along the corridor.

- Identify possibly group to be applicant and determine who will be applicant
- Work with identified group on the concept for the grant application
- Complete grant application on behalf of the group identified
- Manage and oversee all aspects of the grant once awarded

Assumptions:

Task 3.3 Deliverables:

- Draft Metro Enhancement Grant Application
- Final Metro Enhancement Grant Application

TASK 4.0 Design Studies and Reports

Task 4.1 Preliminary Traffic Signal Analysis and Vehicle Classification Counts (Kittelson)

Consultant shall include the study of Molalla Avenue to support the design of the proposed facility.

- 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 ten (10) intersections along Molalla Avenue:
  - *Beavercreek Road*
  - *Adrian Way*
  - *Clairmont Way*
  - *Gaffney Lane*
  - *Fir Street*
  - *Garden Meadow Drive*
  - *Char Diaz Drive*
  - *OR213*
  - *Up to two (2) driveways*
- Conduct 24-hour bi-directional tube count on Molalla Avenue between Beavercreek Road and OR213. The tube count will be conducted for a seven (7) day period and will include hourly traffic volumes, vehicle classifications, and travel speeds.
- Summarize the traffic counts and determine the existing year 2018 traffic volumes at the study intersections for the weekday a.m. and p.m. peak periods.
- It is assumed that the City will provide assigned in-process traffic volumes associated with any planned developments within the project area that may not be reflected within the travel demand forecasts.

- Obtain and review travel demand forecasts for the study intersection from for the model base year and the future design year.
- Evaluate the buildout year 2019 forecast levels-of-service and queues at the study intersections during both weekday a.m. and p.m. peak hours.
- Conduct signal warrant analysis per MUTCD standards for the Fir Street intersection
- Review City provided year 2035 volumes for both weekday a.m. and p.m. peak hours.
- Future year 2039 analysis at the study intersections during both the weekday a.m. and p.m. peak hours:
    - Evaluate the 20-year buildout forecast levels-of-service
    - Conduct a queuing analysis of projected traffic conditions to determine storage length needs at the study intersections.
- Develop an estimate of year 2039 average daily traffic volume on Molalla Avenue for the purpose of pavement design.
- Evaluate up to three (3) pedestrian crossings along Molalla Avenue per the guidelines outlined in the National Cooperative Highway Research Program (NCHRP) Report 562 to determine the appropriate crossing treatment. The following crossing locations are:
    - Adrian Way
    - Char Diaz Drive
    - Garden Meadow Drive
- Prepare a summary technical memorandum describing the methodology and results of the data collection, operational analyses, and key findings and recommendations.

Assumptions:

- 2035 traffic volumes will be provided by the City
- Traffic demand forecasts will be provided by the City

Task 4.1 Deliverables:

- Draft Traffic Analysis Memorandum
- Final Traffic Analysis Memorandum

Task 4.2 Geotechnical and Pavement Design (Hart Crowser)

Geotechnical and pavement design services for the project will be completed by OBEC's subconsultant, Hart Crowser (HC). HC shall perform geotechnical field explorations, laboratory testing, and engineering analyses to support the final design of Molalla Avenue, stormwater systems, signal and sign foundations, and pavement sections.

Task 4.2.1 Field Exploration

HC shall complete a field exploration program, including:

- Conducting a site reconnaissance and mark proposed boring locations in the field.
- Notifying the "One Call" service for public utility locates.
- Preparing a field exploration work plan including exploration layout and schedule, and health and safety plan.
- Obtaining the required City permits for working within City ROW, including submission of traffic control plans. Other permits, such as environmental, shall be obtained by others.
- Completing subsurface exploration, including:

- Implementation of traffic control during exploration work.
- Advance a total of 3 borings to a depth of approximately 30 feet below ground surface (bgs) for signal pole foundations design at the Clairmont, Gaffney, and Fir intersections. Borings will be completed with a truck mounted rig.
- Advance up to 15 borings to depth between 5 and 10 feet bgs along the alignment for existing pavement evaluation and utility design. Pavement cores will be collected to assess pavement condition.
- Advance up to 5 borings to depths up to 10 feet for new pavement, gateway sign, and stormwater infiltration design. Falling head infiltration tests will be completed at locations designated by OBEC and MSA in accordance with the appropriate City standards. Infiltration tests will be completed at depths between 2 and 4 feet bgs.
- Advance up to 20 dynamic cone penetrometer (DCP) tests adjacent to the above boring locations to collect information regarding subgrade strength for pavement design.
- Perform falling weight deflectometer (FWD) testing at a 200 to 300-foot spacing in the travel lanes along the existing corridor.

Subsurface explorations will be conducted during daytime hours using a truck or trailer-mounted drill rig. Drilling will be conducted using mud-rotary and solid stem auger drilling techniques. Soil samples will be obtained at 2-1/2 foot to 5-foot intervals using either a standard penetration sampler or a thin-walled Shelby tube. No rock coring is anticipated for the project. Drill cuttings and drilling mud will be drummed and removed from the project vicinity. The borings will be abandoned, backfilled, and patched according to Oregon Water Resources Department and ODOT regulations.

Task 4.2.1 Assumptions:

- The City will negotiate, acquire, and provide all necessary site access and any necessary right of entry permits to all proposed exploration locations as shown on HC's Subsurface Exploration Work Plan.
- Field exploration work within the ROW, including within the roadway, can occur during normal working hours from 8am to 5pm.
- The subsurface soil and groundwater materials are not contaminated and no testing will be performed to investigate the possible presence of toxic or hazardous materials and petroleum products.
- HC will acquire the necessary City ROW and hydrant use permits, City will provide the permits for no cost to the consultant.

Task 4.2.1 Deliverables/Schedule:

- HC shall submit Field Exploration Work Plan within two weeks after NTP.
- The field exploration schedule will be confirmed within one week of approval of the Field Exploration Work Plan. Due to long lead times with drilling subcontractors the field exploration work has tentatively scheduled for October 29-November 3 and November 19-21. The schedule will be confirmed as soon as we receive verbal NTP to do so.

Task 4.2.2 Laboratory Testing

HC shall perform laboratory tests on disturbed and undisturbed soil samples obtained from the explorations to characterize the subgrade soils and to develop soil properties for the signal foundation design, infiltration system design, and roadway section design. The laboratory testing program may consist of up to thirty moisture content tests; ten Atterberg limits tests, ten sieve analysis tests, and three suites of corrosion potential analytical tests.

Task 4.2.2 Deliverables/Schedule:

- HC shall incorporate laboratory testing results into the Geotechnical Report (Task 4.2.4)

Task 4.2.3 Geotechnical Evaluation and Analyses

HC shall evaluate the collected data, perform engineering analyses, and develop design parameters and construction recommendations for the project. The engineering evaluation and analyses shall be performed in accordance with the ODOT Geotechnical Design Manual (2014 with 2018 updates), the ODOT Bridge Design and Drafting Manual (2004 with 2010 Updates), ODOT Pavement Design Guide, and the AASHTO LRFD Bridge Design Specifications (2015).

Work to be performed under this task includes, but is not limited to the following:

- Review readily available geologic, groundwater, and soil survey maps that cover the project vicinity.
- Evaluate the suitability of soils along the project alignment to support the proposed improvements;
- Evaluate roadway subgrade improvement alternatives, if needed, and develop flexible pavement design and construction recommendations.
- Attend a two hour pavement design workshop with the City to review recommendations and compare costs vs. performance alternatives.
- Provide geotechnical recommendations for traffic signal and sign foundation design and construction;
- Provide preliminary stormwater infiltration suitability discussion and design recommendations;
- Provide recommendations for design and construction of the proposed waterline and other utility improvements.
- Provide foundation data sheets for signal poles.

Task 4.2.3 Assumptions:

- Pavement design will be limited to two full-depth reconstruction and two rehabilitated pavement sections for up to three different sections of roadway;
- Development of design parameters for retaining walls will not be required.

Task 4.2.3 Deliverables/Schedule:

- HC shall incorporate results into the Geotechnical Report (Task 4.2.4)

Task 4.2.4 Geotechnical Design Report

HC shall prepare a draft geotechnical and pavement design report for the Molalla Avenue Project for OBEC and the City to review and comment. A final report will be developed based upon the City review comments. The final design geotechnical report will summarize all field explorations and engineering analyses and provide recommendations for design and construction of the roadways and signals.

HC will attend one meeting to discuss results and conclusions presented in the draft report with design team.

Task 4.2.4 Deliverables/Schedule:

- One (1) electronic copy of the Draft Geotechnical and Pavement Design Report and Draft Foundation Data Sheets for the signals. **Target Date: Eight (8) weeks after completion of field explorations.**
- One (1) hard copy and one (1) electronic copy of the Final Geotechnical and Pavement Design Report and Final Foundation Data Sheets for the signals. **Target Date: Three (3) weeks following receipt of comments from City.**

Task 4.2.5 Plan and Specification Review and Design Consultations

HC shall review all geotechnically related plans and specifications for signal poles, pavements, and other relevant roadway improvements. If requested, HC will prepare a memorandum summarizing comments associated with the plan and specification review. HC shall provide up to 8 hours of general geotechnical consultation during design and preparation of plans and specifications to address review comments and to provide any additional information that may be required.

Task 4.2.5 Deliverables/Schedule:

- One (1) hard copy and one (1) electronic copy of plan/specification review memorandum. **Target Date: One week following receipt of the plans and specifications.**

Task 4.2.6 Geotechnical Project Management and Meetings

HC shall provide geotechnical project management and support services, including coordinating staff and subcontractors and conducting telephone consultations and email communications with the design team. Hart Crowser will attend one kick-off meeting at the City and up to 2 design-team meetings at OBEC's office.

Contingency Task C4.2

HC shall provide additional infiltration testing for final design once stormwater facility locations are known. The scope shall consist of the following:

- Conducting a site reconnaissance and mark proposed boring locations in the field.
- Notifying the "One Call" service for public utility locates.
- Preparing a field exploration work plan including exploration layout and schedule, and health and safety plan.
- Obtaining the required City permits for working within City ROW, including submission of traffic control plans. Other permits, such as environmental, shall be obtained by others.
- Completing subsurface exploration, including:
  - Implementation of traffic control during exploration work.
  - Advance up to 8 borings to depths up to 10 feet bgs for stormwater infiltration design. Falling head infiltration tests will be completed at locations designated by OBEC and MSA in accordance with the appropriate City standards. Infiltration tests will be completed at depths between 2 and 4 feet bgs.
- Evaluate field rates and complete up to 8 grain size analysis on samples from the infiltration test locations.
- Provide updated infiltration information in the final geotechnical report for the project.

This work will be completed with the conditions and assumptions noted in the scope above.

Task 4.3 Level 1Hazardous Materials Assessment (Hart Crowser)

HMA services for the site will be completed by OBEC's subconsultant, Hart Crowser (HC). HC will conduct a Level I HMA to assess and identify known or potential environmental conditions within or adjacent to the project alignment (the Area of Potential Effect [APE]) that may impact the project. HC's scope of work for completing the Level I HMA will be in general conformance with the All Appropriate Inquiries Final Rule (AAI Rule) per 40 CFR 312, ASTM Standard Practice for Environmental Site Assessments (ASTM E 1527-13), and generally accepted procedures as outlined in the American Association of State Highway and Transportation Officials (AASHTO) Hazardous Waste Guide for Project Development guidance document (AASHTO, 1990).

HC's scope will include historical characterization, regulatory agency list and file review, site reconnaissance, interviews, data analysis and report preparation. HC's work will address the following potential areas of environmental concern for the project work areas: aboveground storage tanks (ASTs) and underground storage tanks (USTs); contamination of soil, surface water, groundwater, and soil vapor; and solid and hazardous wastes. If obvious during site reconnaissance (no invasive measures will be used), the Level I HMA may also note other environmentally-related information outside of the ASTM standard, such as the potential presence of asbestos-containing materials and water wells.

Task 4.3 Assumptions

- OBEC or others will provide a AutoCAD- or GIS-based plan outlining the project's APE.
- Oregon City or OBEC personnel will contact property owners within the APE to explain the project, arrange access and identify representatives of each property and their associated contact information.
- HC's scope of work does not include sampling or testing of soil, water, building materials, etc.
- Hart Crowser's project management and support services for the Level I HMA are included with Task 4.2.6 Geotechnical Project Management and Meetings.

Task 4.3 Deliverables

- One (1) electronic copy of the Draft Level I HMA Report. **Target Date: Eight (8) weeks after obtaining project APE.**
- One (1) hard copy and one (1) electronic copy of the Final Level I HMA Report. **Target Date: Three (3) weeks following receipt of comments from City.**

Task 4.4 Stormwater Analysis and Report (Murraysmith)

Consultant will complete a drainage analysis and flow rate calculations in a Stormwater Management Report according to the City's design standards and reporting format requirements. Consultant will delineate the areas of runoff within and tributary to the project area, characterize runoff conditions, discuss existing soil infiltration rates, downstream conveyance capacity, and recommend appropriate stormwater facilities to address stormwater runoff. Consultant will analyze existing drainage system to accept off-site flow entering the project, and coordinate with the City to confirm appropriate off-site tributary areas.

Consultant will meet with project team to present the preliminary design results and revise the drainage analysis to address issues identified in this meeting.

Consultant will submit the draft Stormwater Management Report for review by the City. Consultant will respond to review comments, and revise or amend the Stormwater Management Report based on one set of review comments.

Task 4.4 Assumptions:

- Work at this level will be equivalent to conceptual design, and used to advance the 30% design
- Profiles, catch basin spacing analysis and manhole locations are excluded from this task
- Modeling results will be included as an appendix to the drainage report
- The conveyance system outfall is a hydraulically stable discharge location. Increased flows from the project discovered during this analysis that require outfall remediation and downstream conveyance system upgrades outside of the project limits will require an amendment to the scope of work.
- Downstream capacity review will use GIS data and will be limited to the existing detention ponds on the south side and the 48-inch storm sewer outfall on the north side of Beavercreek Road.
- The report will be finalized following 90% design submittal. The final design will follow the recommendations in the report requiring less than 16 hours for report revision

Task 4.4 Deliverables:

- One (1) electronic copy in PDF format of Draft Stormwater Management Report prior to 30% design submittal.
- One (1) electronic copy in PDF format of Final Stormwater Management Report addressing agency comments following 90% design submittal.

Task 4.5 Storm and Sanitary Sewer Condition Assessment (RESERVED)

Task 4.5 Deliverables:

- Condition Summary and Repair Plans, (8 sheets total).
- Cost Estimate for recommended repairs.

Task 4.6 Preliminary Design Report

For the 30% Design, Consultant shall compile and prepare a narrative of the preliminary evaluation with environmental, site and design constraints and opportunities, and present to the City those alternatives that best provide cost-effective, readily constructible solutions for the Project. Consultant shall summarize significant task work completed to-date in a Preliminary Design Report. The narrative shall discuss the findings of the design studies along with recommendations.

Consultant shall prepare cost estimates for the design elements. The estimates will be based on quantity take-offs and current construction costs for each bid item. Consultant shall develop a preliminary construction schedule.

Consultant shall summarize the following in the Preliminary Design Report:

- Utility identification & conflict assessment
- Environmental features & constraints
- Geotechnical Recommendations
- Traffic Study and Analysis
- Hazardous Materials Assessment
- Preliminary Cost Estimate
- Signal Design
- Signing and Striping
- Stormwater Management
- Preliminary Waterline layout
- Sanitary and Storm Assessment and Recommendations
- Overhead Relocation Opportunity Assessment
- Preliminary Roadway Design
- Pavement Analysis and Report

- Illumination
- Considerations for planting design
- Considerations for gateway location
- Erosion and Sediment Control Plan
- Temporary Traffic Control
- Preliminary construction schedule

Consultant shall submit a Design Report to document each discipline's preliminary work and findings.

Task 4.6 Assumptions:

- No revisions to the Report will be required as the project will move into 60% design incorporating City comments accordingly.

Task 4.6 Deliverables:

- Preliminary Design Report with strip map

TASK 5.0 Environmental Permits

Task 5.1 Coordination, Accumulation, and Review of Information

Consultant shall obtain and review existing environmental information related to the Project site. Consultant shall coordinate and communicate with Consultant's subconsultants, project team, and City to begin environmental tasks, verify schedule, and estimate impacts of proposed project. Consultant shall verify that assumptions made in this SOW are valid and shall investigate any data gaps.

Consultant shall list review results, progress of environmental tasks, and estimated Project impacts in the environmental section of the Preliminary Design Report (Task 4.5). Consultant shall identify any data gaps and recommend a proper course of action.

City may, in its sole discretion, prepare written amendments to this WOC to request Consultant's services if further research or action is required to fill identified data gaps

Task 5.1 Consultant Deliverable/Schedule:

- Consultant shall provide a brief narrative discussion and bullet list of the environmental documentation prepared or in progress for the Project to be included in the Preliminary Design Report prepared under Task 4.5.

Task C5.2 Wetland/Waters of the U.S./State & Natural Resources Field Work (CONTINGENCY TASK)

Consultant shall complete a wetland field determination and OHWM demarcation for the PSA. Consultant shall complete all field work for development of the natural resources overlay district (NROD) permit. Field work shall not begin before rights-of-entry have been received for properties outside of existing R/W.

Consultant shall use available data (including but not limited to: soil surveys, aerial photos, National/Local Wetland Inventory maps (NWI/LWI), and City maps) as well as data gathered in the field to document the presence or absence of wetlands/waters and NROD resources within the project study area (PSA).

Consultant shall:

- Determine wetland boundaries within the PSA in accordance with the criteria and methods described in the *1987 Corps of Engineers Wetland Delineation Manual (Environmental Laboratory Technical Report Y-87-1)* and appropriate Regional Supplements. Delineate NROD boundaries per Oregon City standards and requirements listed in municipal code section 17.49.
- Identify and delineate areas adjacent to the project area acceptable for wetland and NROD mitigation.
- Place flags in the field to show wetland and upland sample plot locations, the wetland boundaries, NROD boundaries, and boundaries of vegetation groupings. Label and number the flags to identify their function. Identify all species of trees within the project area over 6-inches DBH. Consultant shall survey all trees over 6-inches DBH and survey location of vegetative communities
- Place flags in the field to show the OHWM elevation of all jurisdictional surface waters. Assess the OHWM elevation using agency accepted field indicators. The two (2) year flood event elevation (calculated) may be used in the absence of field indicators. Place flags in the field to identify and locate all NROD resources.
- Prepare sketch maps of approximate wetland, OHWM, and NROD boundaries with numbering of flags or stakes.

Task 5.2 Consultant Deliverables and Schedule

Consultant shall prepare and submit:

- Information collected during the field survey will be included with the deliverables for the wetland delineation report and NROD permit as applicable.

Task C5.3 Wetland/Waters of the U.S./State Delineation Report (CONTINGENCY)

Consultant shall prepare a Wetland/Waters of the U.S./Delineation Report (Wetland Delineation Report) in accordance with DSL and U.S. Army Corps of Engineers (USACE) requirements and standards. The Wetland Delineation Report must include all required information outlined in Oregon Administrative Rules (OAR) 141-090-035, as well as all wetland data sheets obtained in the field under Task 5.2.

Consultant shall prepare appropriate graphics required by USACE and DSL to accompany the Wetland Delineation Report. This shall include a site location map, tax lot map, National Wetland Inventory or Local Wetland Inventory map (if available), soil survey map, and aerial overlay map. Consultant's Wetland Delineation Report must also include wetland delineation boundary mapping (figures) as finalized by Consultant and as per the requirements of DSL, and a color photographic record depicting existing conditions.

Consultant shall also complete the appropriate DSL cover page for submitting the Wetland Delineation Report to for review and approval. Consultant shall attend one site visit with agency representatives if determined necessary by USACE and/or DSL, and shall respond to their comments.

Consultant will submit the Wetland Delineation Report to DSL and USACE on behalf of the City. City will be responsible for signing the wetland delineation report cover page. City will be responsible for payment of any associated fees.

Task 5.3 Consultant Deliverables and Schedule

Consultant shall prepare and submit:

- Electronic copy (Word) of the Draft Wetland Delineation Report to City for review per the schedule in Task 1.

- Electronic copy (PDF) of the Final Wetland Delineation Report to City two weeks following receipt of draft review comments per the schedule in Task 1.
- Final Wetland Delineation Report to DSL and the USACE per the schedule in Task 1.

Task C5.4 Wetland Functional Assessment Report (CONTINGENCY)

Consultant shall prepare a Wetland Functional Assessment Report if wetland impacts are unavoidable. The report shall be submitted as a component of the Joint Permit Application to both USACE and DSL.

Consultant shall calculate wetland impact areas by wetland type, including permanent and temporary impacts, based on the wetland survey and project design. If the impacted wetlands are classified under the Hydrogeomorphic (HGM) classification as within the slopes/flats subclass, the assessment shall be conducted in accordance with the methodologies outlined in the appropriate guidebook for HGM-based assessments. All other wetlands will be assessed using the methodologies outlined in the Oregon Rapid Wetland Assessment Protocol (ORWAP). The Best Professional Judgment method (BPJ) may be used if impacts do not exceed 0.2 acre. No stream functional assessment will be prepared as part of this task.

Consultant shall prepare a standalone Functional Assessment Report that includes, at minimum, the following information:

- A description of the impacted wetlands, including the HGM and Cowardin classifications.
- A discussion of the proposed Assessment Unit for each wetland.
- A summary table depicting the results of the HGM or ORWAP assessment.
- A discussion of each assessed function, including rationale for the resulting scores.
- A wetland values assessment for each impacted wetland.
- A discussion of the anticipated functions and values impacts, and the appropriate means by which to mitigate for those impacts.
- A copy of all prepared data sheets for the HGM or ORWAP assessment.

Task 5.4 Consultant Deliverables and Schedule

Consultant shall prepare and submit:

- Electronic copy (Word) of the draft Wetland Functional Assessment Report to City for review per the schedule in Task 1.
- Electronic copy (PDF) of the final Wetland Functional Assessment Report to City two weeks following receipt of draft review comments.
- Copy of Final submitted to the USACE and DSL with the JPA.

Task C5.5 USACE/DSL Joint Permit Application (JPA) and DEQ Section 401 Certification (CONTINGENCY)

Consultant shall prepare a complete one JPA meeting all the applicable requirements of the most recent version of the Oregon Department of State Lands Removal-Fill Guide and USACE permit application standards. Consultant shall submit the JPA and Stormwater Management Plan to the Oregon Department of Environmental Quality (DEQ) to obtain Section 401 Water Quality Certification.

City will select the preferred design for the Project prior to the preparation of the JPA.

Consultant shall:

- Prepare JPA for a USACE Section 404 Nationwide Permit and a DSL Individual Permit, to authorize work within the jurisdictional waters and any wetlands found in the project area.
- Provide pre submittal coordination with DEQ to inform them of the project and verify requirements and documentation necessary to apply for Section 401 Water Quality Certification.
- Provide pre-submittal coordination with representatives of the USACE and DSL to confirm permitting requirements and application procedures. Consultant shall coordinate and attend one pre-submittal site visit with DSL and the USACE to discuss the project and address the resource agencies concerns.
- Verify that features and impacts are correctly identified for the permit application.
- Prepare all JPA required drawings, maps, photographs, site descriptions, and visual information required by DSL or the USACE for inclusion in the JPA.
- Prepare narratives and descriptions on Project purpose and need and Project alternatives using project development information provided by City as necessary to complete the JPA.
- Respond to questions or comments raised by the USACE and DSL following the submission of the JPA. This task may include correspondence and clarification of the JPA in the form of telephone calls, letters, or e-mails, to clarify regulatory agency concerns and to facilitate the issuance of the USACE and DSL permits for this Project. No regulatory agency site visit or in person meetings will be required following submittal of the JPA.
- Submit the complete JPA package to the DSL and USACE on behalf of the City.
- Submit to DEQ a copy of the complete Joint Permit Application, Stormwater Management Plan, and provide a transmittal letter to DEQ requesting Section 401 Water Quality Certification for the project.

All required wetland and/or waters mitigation will be satisfied with the purchase of available wetland mitigation banking credits.

Due to the varied nature of post-submittal coordination, it is expected that the Consultant shall not expend more than eight hours for office review and coordination time for post-submittal coordination with DSL, USACE, and DEQ. City will be responsible for obtaining Land Use Planning Signature on the JPA. City will be responsible for payment of any associated fees for DSL, USACE, and DEQ to review and approve the submittals.

Task 5.5 Consultant Deliverables and Schedule

Consultant shall prepare and submit:

- Electronic copy of the Draft JPA Submittal Package to City for review per Task 1 Project Design Schedule.
- Electronic copy (PDF) of the Final JPA Submittal Package to City 2 weeks following receipt of draft review comments.
- Paper copy of the Final JPA Submittal Package to both the DSL and USACE 2 weeks following receipt of draft review comments.
- Paper copy of the Final JPA and Final Stormwater Management Plan to DEQ 2 weeks following receipt of draft review comments on the JPA.

Task 5.6 Oregon Department of Environmental Quality (DEQ) 1200-C Permit Application

Consultant shall provide pre-submittal coordination with representatives of the DEQ to confirm permitting requirements and application procedures. Consultant coordination includes correspondence

in the form of telephone calls, e-mail, letters, and memos to document permit needs. Consultant shall assemble permit application materials including the application forms, plans, drawings, memos, details, and specifications to support the permit application. It is assumed ground disturbance will exceed five acres.

Consultant shall provide support to successfully transfer the 1200-C permit to the eventual construction contractor by providing a detailed technical memorandum to City fully describing all steps, processes, and timeline to transfer the Permit to the Contractor.

City will be responsible for payment of any associated fees. City will acquire Planning Department Signature and City will be listed as applicant on the 1200-C application.

Task 5.6 Consultant Deliverables and Schedule

Consultant shall prepare and submit:

- Electronic copy of the Draft 1200-C Permit Application Package to City for review per Task 1 Project Design Schedule.
- Electronic copy (PDF) of the Final 1200-C Permit Application Package to City 2 weeks following receipt of draft review comments. Submittal to DEQ per schedule developed under Task 1.
- 1200-C Permit Transfer Technical Memorandum to City due per the Project Design Schedule

Task C5.7 - Natural Resource Overlay District (NROD) and Tree Protection Standard Compliance (CONTINGENCY TASK)

It is assumed that a Type II land use review will be required for compliance with Oregon City Municipal Code (OMC) sections 17.41 (Tree Protection) and 17.49 (NROD).Consultant shall prepare a Type II Land Use Application. Consultant shall plan and attend one pre-application meeting with the Planning Department.

Consultant shall prepare a draft and final NROD report and mitigation plan report pursuant to the Oregon City Municipal Code 17.49.220 and 17.49.230. Consultant shall submit the NROD report along with the Type II Land Use Application. The NROD Report shall address all of the applicable requirements detailed on the Oregon City Natural Resources Overlay Review Checklist available at the following web address:

http://www.orcity.org/sites/default/files/fileattachments/planning/page/4347/nrod_checklist_0.pdf

Consultant shall coordinate with City to locate an acceptable mitigation location for any NROD impacts. It is assumed that no NROD, tree replacement, or wetland/waterway mitigation will be available on site. Consultant shall prepare NROD Mitigation Plans and Specifications meeting the applicable requirements detailed in Oregon City Municipal Code Section 17.49.180 and/or Section 17.49.190.

As part of this task, Consultant shall also prepare and submit a tree protection and mitigation plan to demonstrate compliance with the applicable standards and requirements under OMC section 17.41.

Assumptions:

- City shall be responsible for payment of all fees.
- It is assumed that the project can be developed to meet all applicable design standards and the NROD will be processed with a Type II permit.

- It is assumed that public hearings in front of the Planning Commission will not be required to process this as a Type II application.

Task 5.7 Deliverables/Schedule:

Consultant shall provide:

- Draft Type II Land Use Application with NROD Report and Tree Protection Plan submitted for review and comment due per the project schedule developed under Task 1.
- Final Land Use Application incorporating review comments due two (2) weeks after receipt of City comments.

TASK 6.0 Utility Location and Coordination (Murraysmith)

Task 6.1 Preliminary Utility Coordination

Consultant will establish communication and provide private utility coordination to support project development. This task includes initial coordination with private utility owners to request mapping and as-builts mapping. Prepare contact list of all utilities within the project area. Prepare and deliver a Project Information email to each utility within the project area describing the project and project schedule. Review documents for consistency with actual or marked utility locations collected with the topographic survey. Document discrepancies between utility documents and located facilities and coordinating with the utilities for clarification and resolution.

Task 6.1 Assumptions:

- Up to five private utility owners will be identified through utility locate requests and pole owner permits.
- Deliverables provided with 30% design submittal.
- City will locate public utilities.
- Private locators will be hired by the City if needed.
- City will establish or verify documentation of prior rights by private utilities.

Task 6.1 Deliverables:

- Private Utility Notice and contact list for the project area.

Task 6.2 Review Utility Data and On-Going Coordination

Consultant shall review project plans relative to existing utilities to determine potential conflicts with the proposed improvements. A Composite Utility Plan will be provided to all utility companies identified within the project area at the 30% design stage for its review for accuracy and of potential conflicts. The plan will include recommended potholing locations. These plans will be updated with each design submittal stage.

Consultant will then coordinate with each private utility during each design stage to resolve conflicts and coordinate utility relocation work to be completed with the project. A special provision outlining the relocation work performed by private utilities will be prepared. Telephone conversations will be documented in emails with the utility owners.

Task 6.2 Assumptions:

- Potholing will be completed by the affected utilities or their designated contractor(s). Potholing reports will be provided to the consultant noting the depth from the surface to

the top and bottom of the utility structure. A survey pin will be numbered and installed to provide a reference mark for survey.
- OBEC will survey all utility pothole reference marks (not completed by Murraysmith).
- Composite Utility Plans will be prepared with the 30%, 60% and 90% design submittals to identify proposed utilities, existing utilities, and identify conflicts. Plans will be scaled at 1"=40' on a half size sheet.
- Conflict letters, utility relocation coordination, and utility coordination meetings will be completed with the development of the 60% and 90% design submittals.
- Design of existing utility relocations will be completed by the utility owners and reviewed by Murraysmith to confirm that the proposed relocations will resolve the identified conflicts. Design reviews are limited to up to two iterations per utility conflict.
- Budget assumes a maximum of 15 utility conflicts will require relocation on this project.

Task 6.2 Deliverables:

- Recommended potholing plan identifying pothole location and utility owner.
- Updates to the project base map for surveyed pothole information.
- Composite Utility Plans at the 30%, 60% and 90% design submittals. (4 sheets with each submittal).
- Special provision outlining private utility relocation work to be completed with the project.

Task 6.3 Overhead Utility Service Crossing Review

Consultant will examine overhead power and telecommunication services crossing Molalla Avenue for opportunities to underground and reduce the number of poles along the corridor. Each crossing will be examined for conflicts with proposed improvements and evaluated to identify the general scope of work to underground the service lines from the pole on the west side of Molalla Avenue to the building on the east side. This evaluation will be coordinated with the utility owners for review and agreement. A plan view figure, applicable photos, and budget cost will be provided. Utilities with conflicts will be notified under Task 6.2.

Task 6.3 Assumptions:

- OBEC will survey overhead utility lines, and heights will be measured at the pole and mid-point of each overhead utility.
- There are five existing individual service crossings to be examined.
- Additional design needed to underground the services will be provided by the utility owner or through a contract amendment.

Task 6.3 Deliverables:

- Overhead Utility Crossing Figures (9 total)
- Review comments on relocation plans prepared by the utility owners

TASK 7.0 Right of Way Research, Descriptions, Appraisals, and Acquisitions

It is anticipated that up to 15 files will require the acquisition of Right-of-Way which may include Temporary Construction Easements. UFS will provide the Right-of-Way services and Consultant will manage the process.

Consultant will complete the following tasks:

Task 7.1 Determine Type of Easements

- Determine any partial or full acquisitions of right-of-way or easements required based on the preferred alignment. Revise as directed by City. This task is budgeted as part of Task 7.1.

Task 7.2 Preliminary ROW Budget Estimates

- Develop confidential budgetary right-of-way and easement cost that will be used to evaluate any project alignment alternatives. Consultant will provide a spreadsheet of potential right-of-way acquisitions, listing phone numbers, site addresses and type(s) of acquisitions from each parcel: parcel maps, and right-of-way acquisition and preliminary cost estimates for each parcel.

Task 7.3 Right of Way Strip Map and Field Staking of Easements

- Prepare a right-of-way strip map showing the required easements for the project.
- Stake the location of the required new easements in the field prior to the real estate appraisal process. Assumes staking is batched so there are 5 separate field trips to stake easements.

Task 7.4 Legal Descriptions

- Prepare roadway centerline description. To be incorporated into the Legal Descriptions.
- Prepare Legal Descriptions and Exhibits for acquisition of ROW and Easements required for the project. Descriptions will be based upon station overcalls and offsets from the roadway centerline description.
- It is assumed up to 15 properties will affected.

Task 7.5 Title Reports and Title Insurance

- Consultant shall obtain one (1) title report the property to be acquired.
- Review title reports for issues that need to be resolved before or at closing.
- Order title insurance as needed.
- Deliverable(s)
- Fifteen (15) Preliminary Title Reports.

Task 7.6 Real Estate Appraisals

- Produce real estate appraisals in accordance with the ODOT Right-of-Way Manual and the Uniform Relocation Act for each parcel identified for which a property interest is to be acquired. Provide the City with two copies of each real estate appraisal.
- Deliverable(s)
- Fifteen (15) Real Estate Appraisals

Task 7.7 Review Appraisals

- Hire an independent review appraiser to review the completed appraisal. Consultant will prepare a Memorandum of Just Compensation and obtain City's agreement to just compensation as determined by the appraisal process. Documentation of independent review appraisal will be provided to the City.
- Deliverable(s)
- Fifteen (15) Appraisal Reviews

Task 7.8 Acquisitions

- Consultant shall conduct negotiations, on behalf of the City, for the acquisitions in accordance with City acquisition guidelines and applicable State and Federal law.
- Consultants shall compile and/or prepare all essential documents to be submitted to owners and tenants as required by the Federal Uniform Act and State Law. These include, but are not limited to project information letters, acquisition and relocation brochures, offer-benefit letters, acquisition summary statements, copy of appraisal, map of acquisition (if not included in appraisal), and City's deed or easement documents. Consultant shall make all offers in person or by certified mail.
- City to provide documentation format for purchase (Deed or easement).
- Consultant shall present offer to property owner using 40-day format for purchases under ORS 35.
- Consultant shall provide property owner with a copy of the appraisal.
- Consultant shall provide written documentation of conversations with owners and tenants during negotiations.
- Consultant shall prepare obligation agreements for items not included on construction plans (need to be preapproved by the City of Oregon City).
- Consultant shall obtain tax payer identification number (W-9).
- Consultant shall provide completed file to the City of Oregon City.
- Consultant shall make every reasonable effort to acquire the property expeditiously by negotiation. Property owners must be given reasonable opportunity to consider the offer and present material the owner believes is relevant to determining the value of the property. Consultant shall conduct negotiations for acquisition of real property in accordance with applicable City, State and Federal law as related to voluntary and involuntary acquisitions.
- Consultant 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)).
- Closing shall be done at a Title and Escrow Company.

Assumptions

- City will pay closing costs
- City will provide formats of documents to be used for acquisition.
- No relocation activity is anticipated.

Deliverable(s)

- Fifteen (15) completed negotiation packets with documents for final closing.
- If negotiations do not result in an agreement, the Consultant is to submit a "recommendation for condemnation" packet to the City for further action

Task 7.9 Coordinate Project Closings

- Coordinate project closings. Right-of-way agent(s) shall possess the ability to notarize documents in the field.

Task 7.10 Right-of-Way Status Updates

- Develop a Right-of-Way Status Report and update and submit to City on a monthly basis.

Task 7 Deliverables:

- Right-of-Way cost estimates
- Prepare Legal Descriptions
- Right-of-Way Impact Maps
- Title Reports
- Real estate appraisals
- Review appraisals and Recommendation for setting Just Compensation
- Completed right of way files with signed documents for each parcel
- Right-of-Way Status Reports

Task 7 Assumptions:

- If Right-of-Entries (ROE) are required for fieldwork, City will obtain the ROE's.
- There are up to 15 files for this project.
- Fees do not include condemnation services or expert witness services.

TASK 8.0 Preliminary Design (30%)

The design will consist of the roadway, utility and related improvements for Molalla Avenue between Beavercreek Road and OR Highway 213. This task is composed of design to the 30%design level. Level of detail and expectations for preliminary design are described in subsequent tasks below.

30% Design: Summarize design criteria. Prepare a strip map with a plan that depicts existing features, traffic signals, pedestrian crossings, water distribution and transmission mains, stormwater management facility opportunities, sanitary sewer repairs and potential structures retaining walls. General layout of anticipated right-of-way needs. Depict primary typical sections. Identify design exceptions.

Prepare and compile an estimate of construction costs broken down in a standard bid items list utilizing applicable unit prices. Quantities for each item shall be calculated and independently checked by the consultant. The cost estimate will be based on the preliminary design alternative chosen during the preliminary design phase. A preliminary design report shall be prepared to explain the cost estimate and document any revisions required of the original project construction budget. Prepare an outline of the necessary special provisions.

Task 8.1 Roadway Design

Consultant shall develop a preliminary roadway layout including lane configuration, sidewalk layout, and median recommendations. The objective of this subtask is complete an approximately 30% design for a plan view roll map.

Task 8 .1 Deliverables:

- 30% Design roll map
- Roadway typical section plan sheets
- Information from this Task will be used in preparation of plan sheets for Task 9 of this contract.

Task 8.3 Traffic Control Concept Design

Consultant shall investigate conceptual temporary traffic control staging for the Project. Conceptual design shall be developed by Consultant to accommodate vehicle, bicycle and pedestrian traffic and developed to the level required to detail general traffic control sequencing and staging concepts. Traffic control design shall be prepared by Consultant in accordance with ODOT TCP Design Manual, applicable Standard Drawings, and the Manual on Uniform Traffic Control Devices ("MUTCD").

Traffic control roll plot exhibits shall be created by Consultant to facilitate preliminary design meetings and traffic control discussions. Consultant shall coordinate with the Agency Project Manager in development of the preliminary traffic control conceptual design. Consultant shall identify any traffic control design elements needing Design Concurrences or Design Exceptions. Cross sections at key stations shall be included. One meeting with up to two roll plot exhibits are required. In the event that a design exception is required for traffic design elements, Consultant shall perform this work in accordance with Task C12.5 Exception Requests (Contingency Task).

Assumptions:

- Conceptual design will not involve modeling for temporary widening.

Deliverable(s):

- Preliminary Traffic Control Exhibits (roll plots) submitted with preliminary design report

Task 8.2 Stormwater Design (Murraysmith)

Consultant will develop stormwater concepts to City design standards and coordinate surface water treatment and flow control measures with the City early in design. Consultant will submit copies of drainage calculations and drainage basin maps for review. This will include determining the need for detention facilities.

Consultant will evaluate the hydraulic capacity of the existing City drainage conveyance facilities under Tasks 4.4. If replacement is required, Consultant will design drainage conveyance improvements to the City's standards. The drainage system will be sized for the affected drainage basins. Consultant will include preliminary drainage concepts on the roadway strip map at 30% Design based on preliminary findings. The design information will be limited to main pipe sizes and location along with locating inlets, manholes, and critical grades as needed.

Consultant will investigate at grade options for detention. Stormwater details will be prepared during 90% design.

Consultant will prepare 30% storm drain concepts, and cost estimate based on the direction received following project kick-off. This task will include design, independent checking, and drafting associated with the proposed utilities.

Task 8.2 Assumptions:

- Plans from storm report will be used for this deliverable with additional updates for inlet locations, manhole connections, and treatment facility outlines.
- The City will identify structural deficiencies of the existing storm sewer and provide the consultant with a graphic summary of deficiencies.
- Design of downstream improvements identified in Task 4.4 will be completed under a separate agreement.

Task 8.2 Deliverables:

- Identified stormwater management facilities will be included on the strip map with Task 8.1. Concepts will be included in a written narrative with task 4.6
- Cost Estimate for drainage quantities will be included with the project estimate

Task 8.3 Temporary Traffic Control Concept Design

Consultant shall investigate conceptual temporary traffic control staging for the Project. Conceptual design shall be developed by Consultant to accommodate vehicle, bicycle and pedestrian traffic and developed to the level required to detail general traffic control sequencing and staging concepts. Traffic control design shall be prepared by Consultant in accordance with ODOT TCP Design Manual, applicable Standard Drawings, and the Manual on Uniform Traffic Control Devices ("MUTCD").

Traffic control roll plot exhibits shall be created by Consultant to facilitate preliminary design meetings and traffic control discussions. Consultant shall coordinate with the Agency Project Manager in development of the preliminary traffic control conceptual design. Consultant shall identify any traffic control design elements needing Design Concurrences or Design Exceptions. Cross sections at key stations shall be included. One meeting with up to two roll plot exhibits are required. In the event that a design exception is required for traffic design elements, Consultant shall perform this work in accordance with Task C12.5 Exception Requests (Contingency Task).

Assumptions:

- Conceptual design will not involve modeling for temporary widening.

Deliverable(s):

- Preliminary Traffic Control Exhibits (roll plots) submitted with Task 4.6

Task 8.4.1 Water Distribution Design (Murraysmith)

Consultant shall develop a preliminary waterline alignment and design to update the water distribution system within the corridor to abandon old materials and meet current City Standards. Consultant shall identify a preferred line and grade for the proposed waterline, locate connections and modifications to the existing water distribution system necessary to construct the improvements and transfer the water system, coordinate new or existing hydrant locations with the proposed improvements, and phasing requirements to minimize service disruption during construction.

Task 8.4.1 Assumptions

- Design will include a new 8-inch diameter waterline, services, hydrants, and identify connection locations to the existing system along Molalla Avenue between Beavercreek Road and Clairmont Street (1,200 LF).
- Design will include additional improvements to abandon the existing 2-inch water main serving two properties along the west side of Molalla Avenue near Lazy Creek Lane.
- Existing meters will remain and will connect to new meter stops on the public side of the meter.
- 30% design is limited to horizontal layout

Task 8.4.1 Deliverables

- 30% design of horizontal alignment will be included on the strip map included with Task 4.6
- Unit quantities for the cost estimate will be provided.

Task 8.4.2 Water Transmission Design (Murraysmith)

Consultant shall complete hydraulic engineering and preliminary design for a proposed 24-inch water transmission main that will extend the length of the project area. This will include hydraulic modeling to confirm the pipe diameter, confirm limits of construction, identify connections to the existing water system to optimize efficiency, and identify the risk and mitigation for transient pressures. A meeting with City staff will be facilitated to review the modeling results and collect input from staff. A technical memo will be prepared to summarize the basis of design. City staff comments will be incorporated into a final memorandum. A preferred alignment for the water main will be developed in coordination with other improvements. Soil tested for corrosivity under the Geotechnical Engineering Task 4.2 will be reviewed and mitigation needs will be identified.

Task 8.4.2 Assumptions

- Design will include a new 24-inch diameter transmission main that extends along Molalla Avenue between Beavercreek Road and Sebastian Way (4,800 LF).
- The alignment will be within existing City right of way.
- 30% design is limited to horizontal layout only

Task 8.4.2 Deliverables

- Draft and final technical memo for basis of design.
- 30% design of horizontal alignment will be included on the strip map included with Task 4.6.
- Unit quantities for the cost estimate will be provided.

Task C8.5 Sanitary Sewer Design (CONTINGENCY TASK)

Consultant will show repairs to the existing sanitary sewer to correct deficiencies identified by City Staff.

Task 8.5 Assumptions

- Budget allotted to this task includes 3 sections between manholes at 400 LF each of which may be either replaced or rehabilitated.
- Design shall be in accordance with City design standards.

Task 8.5 Deliverables

- 30% design of horizontal alignment will be included on the strip map included with Task 4.6.
- Unit quantities for the cost estimate will be provided.

Task 8.6 Traffic Engineering

Consultant shall prepare a narrative describing the proposed traffic engineering design elements. Items covered in the narrative will include:

- Traffic Signals
- RRFD Locations
- Fiber Optic Communications/Interconnect
- Permanent Signing and Striping Design
- Pavement Markings
- Street Lighting

Consultant will also provide a preliminary cost estimate for each of the elements discussed in the narrative. Costs will be based on assumed equipment configuration and layout. No detailed analysis or plan development will be completed as part of this task.

Task 8.6 Deliverables:

- Narrative and cost estimate as part of Task 4.6.

Task 8.7 Landscape and Irrigation

Consultant shall provide a narrative describing the proposed gateway elements, project furnishings as identified, street tree and stormwater planting design strategy.

Task 8.7 Deliverables:

- Narrative and cost estimate

Consultant shall complete the following studies for inclusion in outreach event 1

- Existing Conditions Plan
- Opportunity/Constraint Diagram

Consultant shall complete the following studies for inclusion in outreach event 2

- Preliminary plant palette
- Rendered Plan
- Proposed section/perspectives

Consultant shall engage in the following gateway review process with the city. Associated deliverables may be included in outreach event 2:

- Consultant shall generate 3 preliminary gateway designs
- Consultant shall attend one (1) two-hour review meeting with the city to gather feedback on the preliminary designs.
- Consultant shall incorporate feedback into one (1) preferred gateway alternate.
- Consultant shall attend one (1) two-hour review meeting with the city to confirm the preferred gateway design prior do documentation at 60%.

Task C8.8 Retaining Wall Design (Contingency)

Consultant shall identify locations for potential retaining walls may be required to avoid right of way impacts and include a cost/benefit discussion as part of task 4.6.

Task C8.8 Deliverables:

- Retaining wall locations will be included on the strip map with task 7.1

TASK 9.0 Final Design Plans (60%, 90% and 100% Design)

The design will consist of the roadway, and related improvements for Molalla Avenue for approximately 4400 feet. Consultant shall perform an independent design check and Quality Control/Quality Assurance (QC/QA) review of drawings, specifications and quantities in conformance with OBEC's written Quality Program prior to each submittal. Level of detail and expectations for each milestone is described below:

60% Design: Prepare design plans after the alignment and roadway section have been finalized. The plan scale will be as indicated below. The appropriate plans include: plan and profiles, traffic control, grades, driveway locations, stormwater concepts (no details or pipe data sheets), proposed ROW by type of acquisition, intersection geometry, traffic signal layout. Obtain identified design exceptions.

90% Design: The appropriate plans include: plan and profiles, driveway details, storm drainage and water quality plans and details, final design of structures and details, final staging plans, final landscape and irrigation plans and details, final signal plans and details, preliminary street lighting plans and details, final signing and striping plans and details and final waterline plans and details.

100% Design: Final signed plans ready for bidding.

Consultant shall update cost estimates for the design elements. Consultant shall prepare special provisions using redline/strikeout and utilizing the 2018 Oregon Standard Specifications for Construction and Oregon City boilerplate special provisions. Consultant shall write additional specifications, as required.

Consultant team shall prepare and submit the following plan drawings for submittal to the City for review as applicable.

Table 1: Molalla Avenue Plan List

TITLE	FULL-SIZE SCALE (22"x34")	#	60%	90%	100 & Bid
1 - Title Sheet	NTS	1	X	X	X
1A - Index Sheet	NTS	1	X	X	X
1B – Sheet Layout Plan	NTS	1	X	X	X
2 Series - Typical Sections	NTS	4	X	X	X
2B Series – Roadway and Standard Details	NTS	10	X	X	X
2C Series - Stormwater Conveyance Details	1" = 20'	2		X	X
2D Series – Roadway Details	1" = 10'	10		X	X
2E Series – Ped crossing, Intersection, and Driveway Details	1" = 10'	23		X	X

2F Series – ADA Ramp Details	1” = 10’	18		X	X
2G Series - Pipe Data Sheets	NTS	2		X	X
2H Series – Traffic Control	1” = 100’ Stacked	40	X	X	X
2I Series – Pedestrian Traffic Control	1” = 100’ Stacked	15	X	X	X
2J Series – Demolition Plan	1” = 20’ Stacked	6		X	X
XX Series – Composite Utility Plan	1” = 20’	4	X	X	X
# Series - Roadway Notes*	NTS	11	X	X	X
#A Series - Roadway Plan and Profiles	1” = 20’	11	X	X	X
#B Series - Drainage Notes**	NTS	1	X	X	X
#C Series - Drainage Plan and Profiles**	1” = 20’	10	X	X	X
GA Series - Erosion Control Plans	1” = 60’ Stacked	6	X	X	X
GA Series - Erosion Control Details	NTS	4		X	X
GB Series – Geotechnical Data	As appropriate	3		X	X
GJ Series - Water Quality / Quantity / Grading Plans and Details	1” = 20’	10	X	X	X
GN Series – Landscape and Irrigation	1” = 20’	30	X	X	X
GN Series – Landscape Site Details	As appropriate	8	X	X	X
SS Series - Signing and Pavement Marking Plans	1” = 40’ Stacked		X	X	X
SS Series - Signing and Pavement Marking Details	NTS			X	X
TS Series – Traffic Signal & RRFB Plans	1” = 20’ & 1” = 10’	15	X	X	X
TS Series – Traffic Signal & RRFB Details	NTS	6		X	X
IC Series – Interconnect Plans	1” = 40’ Stacked	6	X	X	X
IC Series – Interconnect Details	NTS	6		X	X
IL Series - Illumination Plans	1” = 40’ Stacked	8	X	X	X
IL Series - Illumination Details	NTS	2		X	X
W Series – Water Distribution Plan and Profile	1" = 20'	3			
W Series - Water Transmission System P&P	1” = 20’	10	X	X	X
Water Connection Details	NTS	2	X	X	X
SAN Series – Sanitary Sewer***	1" = 20'	1	X	X	X
RW Series – Wall Plan and Elevation***	1” = 20’	4	X	X	X
RW Series – General Notes***	NTS	1	X	X	X
RW Series – Typical Sections and Details***	As Appropriate	2	X	X	X
RW Series – Wall Elevation ***	1” = 20’	4	X	X	X
Supplemental Design Cross Sections****	1" = 20' Stacked	35		X	X

*Notes may be shown on plan sheets.

Drainage design is shown on roadway plan and profile sheets

***If determined to be needed

****Appended to plan sheets

Task 9.1 Roadway Design

60% Design: Consultant shall prepare plan sheets per Table 1. This task does not include detailed curb return profiles or driveway details. Approximate grading limits will be determined for driveways and side street connections for estimation purposes.
Consultant shall submit requests for design modification approvals, should any be required. Consultant shall identify applicable design exceptions.

90% Design: Consultant shall incorporate all comments received following the 60% design submittal. Consultant shall complete design of curb return profiles, islands and intersection grading. Consultant shall finalizing grading limits. Consultant shall prepare advanced construction plans, notes and typical sections to the 90% design level, including earthwork brackets by construction staging.

100% Design: Consultant shall prepare and submit the Final plan drawings for submittal to the City for bidding as applicable. Consultant shall perform an independent design check and Quality Control/Quality Assurance (QC/QA) review of drawings, specifications and quantities in conformance with OBEC's written Quality Program. Consultant shall prepare and submit engineer's construction cost estimate of roadway construction quantities and costs for Final Plans. Consultant shall make corrections as required following City review of 90% Plans, Estimates, and Specifications. Responses to comments shall be documented in a comment log spreadsheet.

Task 9.1 Deliverables:

60% Plans and Estimate

- 60% plans and cost estimate as part of Task 9.9

90% PS&E

- Completed comment form with responses to City comments from 60% submittal as part of Task 9.9
- Plans, specifications and estimate as part of Task 9.9

Final PS&E

- Completed comment form with responses to City comments from 90% submittal
- Plans, specifications and estimate as part of Task 9.9

Task 9.2 Stormwater Design (Murraysmith)

60% Design: Consultant will design stormwater management facilities to the City standards. Water Quality Treatment will include investigating the use of surface water treatment.

Consultant will design drainage improvements to the City's standards. The drainage system will be sized for the affected drainage basins. Consultant will include drainage design on the drainage plan and profile sheets at 60% Design based on findings from Task 8.2. The design information will be limited to main pipe sizes and location along with locating inlets and manholes, and profile grades and elevations.

Consultant will prepare conceptual plans for the water quality and detention systems. Consultant will investigate both below-ground and at grade options for detention. Stormwater details will be prepared for the 90% design submittal.

90% Design: Consultant will incorporate comments received following the 60% design submittal and prepare 90% storm drainage plans, specifications and cost estimate based on the direction received

following the 60% design review meeting. Task will include design, independent checking, and drafting associated with the proposed utilities.

Final Design: Prepare Final storm drainage plans, specifications and cost estimate based on the direction received following the 90% design review. Task will include design, independent checking, and drafting associated with the proposed utilities.

Task 9.2 Assumptions:

- Up to 6,500 LF of existing or proposed storm sewer mains will be profiled.
- OBEC will receive and compile PS&E packages to be submitted to the City.

Task 9.2 Deliverables:

- Development of 60% design package PS&E in electronic format
- Development of 90% design package PS&E in electronic format
- Development of Final design package PS&E in electronic format

Task 9.3 Traffic Control Plans

60% Design: Consultant shall prepare traffic control plans in accordance with City design standards, the MUTCD, and APWA Oregon Standard Specifications for Construction. Plans include the following information: staging plan, lane shifts, lane and shoulder widths, temporary barriers, delineation and signing. Consultant shall develop staging sections at critical areas with dimensions and other relevant information.

Assumptions:

- One lane must be maintained in each direction at all times.
- No traffic control details will be prepared with this task.

90% Design: Consultant shall incorporate all comments received following the 60% design submittal and prepare advanced 90% detailed traffic control plans.

Consultant shall incorporate all comments received following the 90% design submittal. Consultant shall prepare final signed plan sheets for bidding purposes.

Final Design: Prepare Final traffic control plans, specifications and cost estimate based on the direction received following the 90% design review. Task shall include design, independent checking, and drafting associated with the proposed traffic control.

Task 9.3 Deliverables:

60% PS&E

- Plans and estimate as part of Task 9.9

90% PS&E

- Completed comment form with responses to City comments from 60% submittal as part of Task 9.9
- Plans, specifications and estimate as part of Task 9.9

Final PS&E

- Completed comment form with responses to City comments from 90% submittal
- Plans, specifications and estimate as part of Task 9.9

Task 9.4 Waterline Design (Murraysmith)

60% Design: Consultant shall prepare 60% waterline plan and profiles, specifications and cost estimate based on the direction received following the 30% design review meeting. Task shall include design, independent checking, and drafting associated with the proposed utilities.

90% Design: Consultant shall incorporate all comments received following the 60% design submittal and prepare 90% waterline plan and profiles, connection details, specifications and cost estimate based on the direction received following the 60% design review meeting. Task shall include design, independent checking, and drafting associated with the proposed utilities.

Final Design: Prepare Final waterline plans, specifications and cost estimate based on the direction received following the 90% design review. Task shall include design, independent checking, and drafting associated with the proposed utilities.

Task 9.4 Assumptions:

- Road section and driveway locations will be set at 30% design.
- Up to six connections to the existing system will be designed.
- Corrosion mitigation design will be provided under a separate agreement if needed.
- OBEC will receive and compile PS&E packages to be submitted to the City.

Task 9.4 Deliverables:

- Development of 60% design package PS&E in electronic format
- Development of 90% design package PS&E in electronic format
- Development of Final design package PS&E in electronic format

Task C9.5 Sanitary Sewer Design (CONTINGENCY TASK)

60% Design: Consultant shall prepare 60% sanitary sewer plan and profiles, specifications and cost estimate based on the direction received following the 30% design review meeting. Task shall include design, independent checking, and drafting associated with the proposed utilities. Attend design review meeting to discuss City comments.

90% Design: Consultant shall incorporate all comments received following the 60% design submittal and prepare 90% sanitary sewer plan and profiles, specifications and cost estimate based on the direction received following the 60% design review meeting. Task shall include design, independent checking, and drafting associated with the proposed utilities. Attend design review meeting to discuss City comments.

Final Design: Prepare Final sanitary sewer plans, specifications and cost estimate based on the direction received following the 90% design review. Task shall include design, independent checking, and drafting associated with the proposed utilities. Attend design review meeting to discuss City comments.

Task 9.5 Assumptions:

- Budget allotted to this task includes 5 sections between manholes at 400 LF each may be replaced or rehabilitated.
- OBEC will receive and compile PS&E packages to be submitted to the City.

Task 9.5 Deliverables:

- Development of 60% design PS&E in electronic format
- Development of 90% design PS&E in electronic format
- Development of Final design package PS&E in electronic format

Task 9.6 Traffic Engineering (Kittelson)

Traffic Signal

Consultant (KAI) shall incorporate all comments received following the 30% design submittal. Consultant shall prepare traffic signal plans for the intersections of Molalla/Clairmont, Molalla/Gaffney Lane, and Molalla/Fir Street. Plans will include a layout of the traffic signal poles, signal heads, traffic signal controller cabinet, and vehicle detection. The design shall meet Clackamas County and MUTCD standards.

Assumptions:

- Fir Street intersection will meet MUTCD traffic signal warrants.

Fiber Optic Communications/Interconnect

Consultant shall develop fiber optic communications/interconnect plans along Molalla Avenue from Beavercreek Road to OR213. Plans will include conduit, hand holes, fiber cable, and communications equipment. Fiber optic details and splice diagrams will be included at the 90% design-level for the control cabinet. The design shall meet current Clackamas County and ODOT standards.

Signing & Striping Design

Consultant shall prepare signing and striping plans within the project limits along Molalla Avenue from Beavercreek Road to OR213. Included shall be the appropriate enhanced treatment for the pedestrian crossings as determined in Task 4.1. The design will be completed per Oregon City and MUTCD standards. A sign inventory will be completed to evaluate existing sign conditions and verify compliance with current MUTCD standards.

Assumptions:

- Signing and Striping will be combined on the same plan sheets.

Street Lighting Design

Consultant shall complete a detailed photometric analysis along Molalla Avenue from Beavercreek Road to OR213 of the roadway and sidewalk areas using AGI32 software. Light pole and luminaire types will be from the PGE approved equipment list. The lighting analysis results will be shown on the plan sheets. Consultant shall perform one site visit to verify existing street lighting equipment. Based on the light pole layout from the analysis, street lighting plans will be developed. Consultant will locate poles to minimize conflicts with trees and utilities.

It is assumed that the lighting system will be PGE Option A.

60% Design: Consultant shall prepare and submit plan drawings, excluding details, and prepare a detailed cost estimate for submittal to the City for review.

90% Design: Consultant shall prepare and submit plan drawings for submittal to the City for review as listed in Table 1. Consultant shall provide responses to City and County review comments. Consultant shall prepare and submit engineer's traffic-related construction cost estimate of construction quantities

and costs for 90% Plans. Consultant shall prepare and submit project special provisions for traffic related items as required per Task 9.9.

Final Design: Consultant shall prepare and submit the Final plan drawings for submittal to the City for bidding as applicable. Consultant shall prepare and submit traffic-related engineer's construction cost estimate of construction quantities and costs for Final Plans. Consultant shall make corrections as required following City review of 90% Plans, Estimates, and Specifications. Responses to comments shall be documented in a comment log spreadsheet.

Task 9.6 Deliverables:

60% Plans and Estimate

- Plans and estimate as part of Task 9.9

90% PS&E

- Completed comment form with responses to City comments from 60% submittal as part of Task 9.9
- Plans, specifications and estimate as part of Task 9.9

Final PS&E

- Completed comment form with responses to City comments from 90% submittal
- Plans, specifications and estimate as part of Task 9.9

Task 9.7 Landscape and Irrigation (Greenworks)

60% Design: Consultant shall prepare and submit plan drawings, preliminary gateway graphics as generated and reviewed in task 8 and a detailed cost estimate for submittal to the City for review as applicable.
Consultant shall provide a list of special provisions to be incorporated in 90% and 100% documentation.

90% Design: Consultant shall prepare and submit plan drawings and preliminary section/details for submittal to the City for review as listed in Table 1.
Consultant shall prepare and submit a construction cost estimate of construction quantities and costs for 90% Plans.
Consultant shall prepare and submit project special provisions for landscape and irrigation related items as required.

Final Design: Consultant shall prepare and submit the Final plan drawings and details for submittal to the City for bidding as applicable. Consultant shall prepare and submit applicable construction cost estimate of construction quantities and costs for Final Plans. Consultant shall make corrections as required following City review of 90% Plans, Details, Estimates, and Specifications. Responses to comments shall be documented in a comment log spreadsheet.

Task 9.7 Deliverables:

60% Plans and Estimate

- Plans and estimate as part of Task 9.9

90% PS&E

- Completed comment form with responses to City comments from 60% submittal as part of Task 9.9
- Plans, details, specifications and estimate as part of Task 9.9

Final PS&E

- Completed comment form with responses to City comments from 90% submittal

- Plans, details, specifications and estimate as part of Task 9.9

***Task 9.7 Assumptions*:**

- Planting along Molalla Ave shall be unirrigated street trees only
- Planting design and Irrigation will be designed for one (1) regional stormwater facility and the gateway feature.
- Gateway feature shall consist of planting, irrigation and grading work. Documentation of signage, hardscape and public art are not included. Their inclusion may require additional services.

Task C9.8 Retaining Wall Design (Contingency)

Consultant shall design up to four retaining walls along the west side of Molalla Avenue. The retaining walls are estimated to be less than 50 feet in length, and less than 5 feet in height.

60% Design: Consultant shall prepare plan sheets per Table 1.

90% Design: Consultant shall incorporate all comments received following the 60% design submittal. Consultant shall complete design of retaining walls and foundations and handrails as required. Consultant shall prepare advanced construction plans, notes, details and typical sections to the 90% design level.

100% Design: Consultant shall prepare and submit the Final plan drawings for submittal to the City for bidding as applicable. Consultant shall perform an independent design check and Quality Control/Quality Assurance (QC/QA) review of drawings, specifications and quantities in conformance with OBEC's written Quality Program. Consultant shall prepare and submit engineer's construction cost estimate of retaining wall construction quantities and costs for Final Plans. Consultant shall make corrections as required following City review of 90% Plans, Estimates, and Specifications. Responses to comments shall be documented in a comment log spreadsheet.

Task 9.1 Deliverables:

60% Plans and Estimate

- 60% plans and cost estimate as part of Task 9.9

90% PS&E

- Completed comment form with responses to City comments from 60% submittal as part of Task 9.9
- Plans, specifications and estimate as part of Task 9.9

Final PS&E

- Completed comment form with responses to City comments from 90% submittal
- Plans, specifications and estimate as part of Task 9.9

Task 9.9 Specifications, Cost Estimate and Submittals

60% Design: Compile plan sheets and cost estimate for all technical disciplines associated with the project. Assemble a list of special provision sections to be included with the project.

Assumptions

- Cost estimate will be completed with a target accuracy of +/- 10% with a construction contingency of 30% of the total construction costs

- A list of special provisions will be included with the 60% submittal

90% Design: Compile 90% specifications and cost estimate for all technical disciplines associated with the project. Prepare Special Provisions utilizing APWA/ODOT 2018 Standard Specifications for Construction, and City boiler plate special provisions. Write any additional special provisions needed and prepare construction cost estimates based on the 90% design drawings. Review the City's boiler plate general conditions and bid documents and provide edits, as necessary.

Assumptions

- Cost estimate will be completed with a target accuracy of +/- 10% with a construction contingency of 15% of the total construction costs
- Cost estimate will include all external construction costs including construction engineering costs
- City shall provide all non-technical specifications and general conditions in .doc format for review by the consultant

Final Design: Compile final specifications and cost estimate for all technical disciplines associated with the project. Prepare final stamped special provisions and cost estimate based on direction obtained at the 90% review meeting. Address all City comments received at the 90% submittal in preparing the final specifications and cost estimate.

Assumptions

- Cost estimate will be completed with a target accuracy of +/- 10% with a construction contingency of 10% of the total construction costs
- Cost estimate will include all external construction costs including construction engineering costs
- City shall be responsible for producing all non-technical specifications and general conditions; consultant shall provide an overall review of non-technical specifications and general conditions and will provide feedback regarding potential sources of conflict with technical specifications.

Task 9.9 Deliverables:

60% PS&E

- Completed comment form with responses to City comments from 30% submittal
- Specifications list delivered electronically in .doc format
- 60% Cost estimate delivered electronically in .xls format
- One 11 x 17 hard copy and electronic PDF copy of 60% plan set

90% PS&E

- Completed comment form with responses to City comments from 60% submittal
- 90% Specifications delivered electronically in .doc format
- 90% Cost estimate delivered electronically in .xls format
- One 11 x 17 hard copy and electronic PDF copy of 90% plan set
- One set of review comments on non-technical specifications and general conditions
-

Final PS&E

- Completed comment form with responses to City comments from 90% submittal
- Final technical specifications delivered electronically in .doc format
- Final Cost estimate delivered electronically in .xls format
- One 22 x 34 signed paper copy and one electronic PDF copy of final plan set
- One paper copy of the stamped final specifications

Schedule

- City shall provide non-technical specifications for review 4 weeks prior to Final PS&E Submittal. Consultant shall return review comments 2 weeks prior to Final PS&E Submittal

TASK 10.0 Bid Support

Provide engineering services necessary to facilitate bidding the final PS&E documents for construction.

Task 10.1 Pre-Bid Services

Provide engineering services necessary to support the bidding that includes answering questions, attending the pre-bid meeting, and assisting the city with evaluating estimates and selecting a prospective bidder.

Assumptions

- Anticipated level of effort is limited to 20 hours of total engineering services.

Task 10.1 Deliverables:

- None

Schedule

- Respond to any requests for service during the bidding process within two (2) days of request

Task 10.2 Prepare Technical Addenda

Prepare technical addenda, as required, to address contractor questions and resolve documented inconsistencies in the plans and specifications.

Assumptions

- Effort assumes up to two technical addenda
- One addendum may require modifications of up to 2 plan sheets and 2 specification sections

Task 10.2 Deliverables:

- Addenda shall be submitted, as required, to the city electronically in .pdf format

Schedule

- Addenda will be provided to city within five (5) days of request

TASK 11.0 Quality Assurance

Provide senior level quality assurance (QA) of all major deliverables in accordance with Consultant's Quality Management Plan (QMP) and project specific Project Quality Plan (PQP). All major deliverables shall be reviewed internally by senior level discipline experts, a principal level engineer, and construction inspection staff. The QMP has been included as an attachment to the scope of work.

Assumptions

- Complete a formal internal QA process for the following deliverables:
    - Preliminary Design Report
    - 60% PS&E

- 90% PS&E
- Final (100%) PS&E

- All QA related comments shall be reviewed and verified to the satisfaction of the reviewer

Task 11.0 Deliverables:

- The QA comment logs, and PQP documentation shall be available to the city, at any time, in electronic format within 5 days of request.

Schedule

- QA will be completed prior to submitting all deliverables listed above for city review.

TASK 12.0 Construction Engineering (RESERVED)

Assumptions:

The City will perform the following tasks:

1. Provide a Project Manager/Engineer responsible for the overall project management and coordination between the Consultant and the City, and with any of the City's other service providers.
2. Provide legal review of all contract documents.
3. Make available City policies, regulations, guidelines and records such as as-built information and geographically referenced GIS maps, as available.
4. Assemble and transfer all required information and data, both hard copy and electronic, at no charge to the Consultant.
5. Coordinate communication among City staff and provide a unified guidance/direction to the Consultant.
6. Coordinate staff review. Staff review time for the 30%, 60% and 90% deliverables will be three weeks.
7. Ensure that City staff members provide timely responses to questions, and be available for any meetings requested by the Consultant. Meetings between City staff and the Consultant take place at the Oregon City, City Hall Building, 625 Center Street, Oregon City, OR 97045.
8. Review construction plans, specifications and cost estimates.
9. Review and process Consultant's monthly payment requests.
10. Complete all coordination with Metro related to the grant funding.
11. Negotiate any contract amendments, as needed.
12. Perform other tasks as negotiated.