

Exhibit A
Amendment No. 2
Scope of Work
City of Oregon City
Hazelwood Drive Sewer Replacement
Phase 2A – Final Design (Area A)

Project No. CI 16-005
January 2018
RH2 Project No. ORC 917.061

On April 5, 2017, the City of Oregon City (City) entered into a Professional Services Agreement authorizing RH2 Engineering, Inc., (RH2) to provide engineering services for the Hazelwood Drive Sewer Replacement project. This Amendment is an authorization to revise the project scope of work and fee estimate, as described below. The work will be performed and invoiced using the terms and conditions listed in the original agreement, plus previous amendments and/or agreements.

Background

As work related to *Phase 1 – Alternatives Analysis* of the Hazelwood Drive Sewer Replacement project is nearing completion, RH2 has recommended that the City perform additional alternatives analysis and geotechnical field explorations for the portion of the project along Hazelwood Drive between the residences located at 923 Hazelwood Drive and 1012 Hazelwood Drive. Within this Scope of Work, this portion of the project has been defined as the “Area B,” whereas the rest of the project area is defined as “Area A.”

Recently, Contract Amendment No. 1 was executed by the City to complete the additional geotechnical work within Area B. While the *Phase 1 – Alternatives Analysis* for Area B cannot be completed prior to the additional geotechnical work, the City has asked RH2 to begin work on the design for Area A to expedite the project schedule. The design phase for Area A is herein referred to as *Phase 2A – Design*, whereas the design for Area B is herein referred to as *Phase 2B – Design*. It is anticipated that *Phase 2B – Design* will be added to the project as part of a future amendment upon the completion of the *Phase 1 – Alternatives Analysis*.

The following amendment to the Scope of Work is intended to provide the engineering services required for design of approximately 1,600 linear feet of 12-inch gravity sewer to replace the existing 10-inch sewer line within Area A, up to the approximate 90-percent completion level. Also included in this amended Scope of Work are engineering services for the additional alternatives analysis and topographic survey necessary to complete the preliminary design task in *Phase 1 – Alternatives Analysis*. Additional engineering services for the final design, bidding, and construction contract administration for the project may be authorized by the City as part of a future contract amendment. Future amendments to this Scope of Work are anticipated, and may include:

- Phase 2B – Design (inclusion of Area B and remainder of design and bidding services)
- Phase 3 – Services During Construction

The following describes the changes and additions to the Scope of Work.

Amended Tasks for Phase 1 – Alternatives Analysis and Preliminary Design

Add Task 1.5 “Provide Additional Topographic and Easement Survey” as follows:

- 1.5 Provide Additional Topographic and Easement Survey:** Subcontract and coordinate with a surveyor to provide additional horizontal and vertical topographical survey for the portion of Hazelwood Drive designated as “Area B” that was not surveyed initially, as well as the existing sewer alignment in Joyce Court where the *Sewer Master Plan* model has predicted flooding to occur. The survey will include surface features, underground utilities, topography, roadway and utility alignments, and rights-of-way. Property lines and existing easement lines and boundaries within the alternatives area also will be located. *Survey shall follow RH2’s standard topographic survey requirements, including 1-foot contour intervals and topographic information.* Review completed additional survey work, format survey, and prepare base alignment for the alternative design. *The additional survey will follow Hazelwood Drive parallel to the existing sewer alignment which runs through the back-yard area, as well as the existing sewer alignment in Joyce Court. It is assumed that the City’s Public Works Department will locate and mark all water, sewer, and stormwater utilities prior to surveying.*

Add Task 2.5 “Additional Preliminary Design” as follows:

- 2.5 Prepare Additional Preliminary Design:** Evaluate additional alternatives for the routing of sewer through the Area B section that deviate from the existing alignment, including evaluation of open-cut, trenchless, and pump station/force main alternatives. Perform additional work as necessary to complete preliminary design plans to the 30-percent design level per **Task 2.3** for the proposed re-alignment.

New Tasks for Phase 2A – Design

Add the following task:

Task 3 – Final Design (Area A)

Objective: Prepare design plans, specifications, and an engineer’s estimate of probable construction costs for the proposed sanitary sewer main improvements within Area A, up to an approximate 90-percent completion level. Perform utility coordination with private and franchise utilities.

Approach:

- 3.1. Prepare 60-percent Design: Prepare preliminary design plans to the 60-percent design level with horizontal and vertical alignment detail of the sanitary sewer main for City review. A preliminary opinion of probable construction cost will be developed for the preliminary design review submittal.
- 3.2. Attend 60-percent Review Meeting: Provide and present 60-percent design, including preliminary plan/profile sheets, details, engineer’s construction cost estimate, and updated project schedule for the City’s review and comment. Attend review meeting with City staff and prepare meeting agenda and minutes.
- 3.3. Perform Utility Coordination: Perform utility coordination work related to the following franchise and private utilities: power, communications, gas, cable television, and other private utilities that may be present within the project limits. Confirm utility owners within the project limits, and assist utility owners with identifying and addressing potential utility conflicts.

- 3.4. Prepare 90-percent Plans and Specifications: Incorporate the City's 60-percent review comments and prepare 90-percent design plans. *The plans will include trench, bedding materials, backfill, compaction, and surface restoration, along with other supporting details and requirements for construction, testing, and permitting. It is assumed that the construction contractor will be responsible for preparing the final traffic control and erosion control plans in accordance with City and project phasing requirements. The plans will include a traffic control overview plan describing general requirements and restrictions relevant to project bidding.* Prepare construction contract documents to the 90-percent level, including both technical and non-technical construction contract requirements, general conditions, and special requirements. *Non-technical front-end specifications will be prepared using the City's most recent standard forms. Technical specifications will be in Oregon Department of Transportation/American Public Works Association format. Work will include a determination of the need for special pre-bid qualifications for contractors, which will be incorporated into final bidding documents if warranted.* Prepare 90-percent engineer's estimate of probable construction costs for the proposed improvements.
- 3.5. Perform Internal Quality Control Review: Perform internal quality assurance and quality control (QA/QC) review of the plans and specifications at the 90-percent design stage.
- 3.6. Attend 90-Percent Review Meeting: Provide and present 90-percent design, including plans, specifications, engineer's estimate of probable construction cost, and updated project schedule for the City's review and comment. Attend review meeting with City staff and prepare meeting agenda and minutes.

Assumptions:

- *All design work under this task will be limited to Area A. Design of Area B will be completed under a separate task.*
- *The designs for Area A and Area B will be combined as part of Phase 2B, which will include the preparation of a single set of bid documents, including all plans and specifications.*
- *The 90-percent review meeting will be held with City staff once both Phase 2A and Phase 2B are complete to the 90-percent design level.*
- *It is anticipated that potential utility conflicts can be avoided with reasonable and timely cooperation from the impacted utility owners. Affected utilities will be responsible for potholing their facilities as requested to assist in developing designs that avoid their facilities to the extent practical and will be responsible for developing their relocation designs to accommodate the project.*
- *City utilities include water, sanitary sewer, and storm sewer facilities. It is assumed the City will locate its utilities by potholing or other means as deemed necessary to resolve conflicts in the construction of the project.*
- *City will provide timely response with review comments transmitted electronically.*

RH2 Deliverables:

- Electronic versions (PDF) of the plans, engineer's estimate of probable construction cost, and project schedule at the 60-percent design stage.
- Attendance at the 60-percent design review meeting, including preparation of meeting agenda and minutes.

- Notice of potential utility conflict letter(s) sent via USPS to each affected utility owner, and letter(s) with project plans and detailed redlines of potential conflict locations sent via email to each affected utility owner.
- Notice of utility conflict letter(s) sent via USPS to each affected utility owner, and letter(s) with project plans and utility relocation requirements sent via email to each affected utility owner.
- Notice of utility relocation time requirements letter(s) sent via USPS to each affected utility owner, and letter(s) with final project plans and project construction schedule sent via email to each affected utility owner.
- Electronic versions (PDF) of the plans, engineer's estimate of probable construction cost, and project schedule at the 90-percent design stage.
- Attendance at the 90-percent design review meeting, including preparation meeting agenda and minutes.
- Electronic versions (PDF) of the bid and construction contract documents, including front-end documents and technical specifications at the 90-percent design stage.

EXHIBIT B

City of Oregon City

Hazelwood Drive Sewer Replacement

Amendment No. 2 - Phase 2A - Final Design

Project No. CI 16-005

Estimate of Time and Expense

Description	Staff Engineer	Project Engineer	Project Manager	Principal	Administrative Support	Total Hours	Total Labor	Total Subconsultant	Total Expense	Total Cost
Classification Rate	Professional II \$151.00	Professional III \$162.00	Professional VII \$207.00	Professional VIII \$216.00	Administrative III \$94.00					

Phase 1 Additional Work

Task 1	Data Collection and Survey	4	2	1	-	2	9	\$ 1,323	\$ 9,430	\$ 156	\$ 10,909
1.5	Provide Additional Topographic and Easement Survey	4	2	1	-	2	9	\$ 1,323	\$ 9,430	\$ 156	\$ 10,909
Task 2	Alternatives Analysis and Preliminary Design	8	24	8	-	-	40	\$ 6,752	\$ -	\$ 521	\$ 7,273
2.5	Prepare Additional Preliminary Design	8	24	8	-	-	40	\$ 6,752	\$ -	\$ 521	\$ 7,273
Subtotal for Phase 1 Additional Work Tasks		12	26	9	-	2	49	\$ 8,075	\$ 9,430	\$ 677	\$ 18,182

Phase 2A Final Design

Task 3	Final Design (Area A)	156	60	40	8	20	284	\$ 45,164	\$ -	\$ 5,150	\$ 50,314
3.1	Prepare 60% Design	60	30	10	-	-	100	\$ 15,990	\$ -	\$ 1,960	\$ 17,950
3.2	Attend 60% Review Meeting	4	-	3	-	1	8	\$ 1,319	\$ -	\$ 129	\$ 1,448
3.3	Perform Utility Coordination	8	-	-	-	2	10	\$ 1,396	\$ -	\$ 200	\$ 1,596
3.4	Prepare 90% Plans and Specifications	80	30	16	-	16	142	\$ 21,756	\$ -	\$ 2,558	\$ 24,314
3.5	Perform Quality Control Review	-	-	8	8	-	16	\$ 3,384	\$ -	\$ 174	\$ 3,558
3.6	Attend 90% Review Meeting	4	-	3	-	1	8	\$ 1,319	\$ -	\$ 129	\$ 1,448
Subtotal for Phase 2A Final Design Tasks		156	60	40	8	20	284	\$ 45,164	\$ -	\$ 5,150	\$ 50,314
AMENDMENT NO. 2 TOTAL		168	86	49	8	22	333	\$ 53,239	\$ 9,430	\$ 5,827	\$ 68,496

EXHIBIT C
RH2 ENGINEERING, INC.
2018 SCHEDULE OF RATES AND CHARGES

RATE LIST	RATE	UNIT
Professional I	\$139	\$/hr
Professional II	\$151	\$/hr
Professional III	\$162	\$/hr
Professional IV	\$172	\$/hr
Professional V	\$182	\$/hr
Professional VI	\$191	\$/hr
Professional VII	\$207	\$/hr
Professional VIII	\$216	\$/hr
Professional IX	\$216	\$/hr
Technician I	\$93	\$/hr
Technician II	\$98	\$/hr
Technician III	\$131	\$/hr
Technician IV	\$139	\$/hr
Administrative I	\$65	\$/hr
Administrative II	\$78	\$/hr
Administrative III	\$94	\$/hr
Administrative IV	\$109	\$/hr
Administrative V	\$130	\$/hr
CAD/GIS System	\$27.50	\$/hr
CAD Plots - Half Size	\$2.50	price per plot
CAD Plots - Full Size	\$10.00	price per plot
CAD Plots - Large	\$25.00	price per plot
Copies (bw) 8.5" X 11"	\$0.09	price per copy
Copies (bw) 8.5" X 14"	\$0.14	price per copy
Copies (bw) 11" X 17"	\$0.20	price per copy
Copies (color) 8.5" X 11"	\$0.90	price per copy
Copies (color) 8.5" X 14"	\$1.20	price per copy
Copies (color) 11" X 17"	\$2.00	price per copy
Technology Charge	2.50%	% of Direct Labor
Mileage	\$0.545	price per mile (or Current IRS Rate)
Subconsultants	15%	Cost +
Outside Services	at cost	

Rates listed are adjusted annually.