

**TOWN OF JOHNSTOWN
PROFESSIONAL SERVICES AGREEMENT**

THIS PROFESSIONAL SERVICES AGREEMENT (the “Agreement”) is made and entered into this 6th day of March 2023 (the “Effective Date”) by and between the Town of Johnstown, Colorado, a Colorado home-rule municipal corporation (the “Town”) and, JWO Engineering a Colorado LLC (“Contractor”) (collectively, the “Parties”).

RECITALS

WHEREAS, the Town desires to engage the services of Contractor and Contractor desires to provide those services more fully described on Exhibit A, attached hereto and incorporated herein by reference (“Services”), to the Town; and

WHEREAS, the Parties wish to memorialize their contractual relationship.

AGREEMENT

NOW, THEREFORE, incorporating the foregoing Recitals herein and in consideration of the mutual promises, agreements, undertakings and covenants set forth herein and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby mutually agree as follows:

SECTION 1: PARTIES

1.01 Town. The Town is a home-rule municipal corporation located in Johnstown, Colorado.

1.02 Contractor. Contractor is a private, independent business entity who will exercise discretion and judgment of an independent contractor in the performance and exercise of its rights and obligations under this Agreement.

SECTION 2: SERVICES, COMPENSATION AND TERM

2.01 Services. Contractor agrees to perform the Services for the Town.

2.02 Compensation. In consideration of Contractor’s performance of the Services contemplated herein, the Town agrees to pay Contractor the compensation set forth on Exhibit A. Contractor shall submit detailed invoices reflecting the portion of the Services completed to the date of the invoice. The Town shall provide payment for Services to Contractor within thirty (30) days of receipt of the invoice. In its discretion, the Town may withhold payment for disputed portions of invoices on the condition that the Town provides written notice to Contractor of the dispute. Upon delivery of notice, the Town and Contractor shall promptly endeavor to resolve such dispute.

2.03 Expenses: Contractor shall not incur any expense or debt on behalf of the Town

without the Town's prior written authorization.

2.04 Term. Unless otherwise terminated in accordance with Section 5, the term of this Agreement shall be from the Effective Date through December 31, 2023, and shall not extend beyond that date absent the written approval of the Town.

SECTION 3: OPERATIONS

3.01 Contractor Status. Contractor avers that it has the background, expertise and education to provide the Services. Contractor shall be responsible for the proper performance of the Services in accordance with the terms hereof. Contractor shall obtain the necessary permits, if any, and maintain all required licenses, including but not limited to a Town business license.

3.02 Schedule. Unless otherwise set forth in Exhibit A, Contractor shall provide the Services in accordance with the timeline requested by the Town

SECTION 4: INSURANCE AND INDEMNITY PROVISIONS

4.01 Insurance.

A. Contractor understands and agrees that Contractor shall have no right of coverage under any existing or future Town comprehensive or personal injury liability insurance policies. As a material term of this Agreement, Contractor agrees to maintain and keep in force during the term of this Agreement one or more policies of insurance written by one or more responsible insurance carrier(s) authorized to do business in the State of Colorado in the following amounts:

1. Workers' compensation insurance as required by law;
2. Commercial general or business liability insurance with minimum combined single limits of ONE MILLION DOLLARS (\$1,000,000.00) each occurrence and TWO MILLION DOLLARS (\$2,000,000.00) general aggregate;
3. Automobile liability insurance with minimum combined single limits for bodily injury and property damage of not less than ONE MILLION DOLLARS (\$1,000,000) for any one occurrence, with respect to each of Contractor's owned, hired or non-owned vehicles assigned to or used in performance of the Services. In the event that Contractor's insurance does not cover non-owned automobiles, the requirements of this paragraph shall be met by each employee of Contractor who utilizes an automobile in providing services to Town under this Agreement; and
4. Professional liability insurance with minimum limits of ONE MILLION DOLLARS (\$1,000,000.00) each claim and TWO MILLION DOLLARS (\$2,000,000.00) general aggregate.

B. Contractor shall procure and maintain the minimum insurance coverages

listed herein. All coverages shall be continuously maintained to cover all liability, claims, demands and other obligations assumed by Contractor pursuant to this Agreement. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage. The Town shall have the right to request and receive a certified copy of any policy and any endorsement thereto. Except for workers compensation insurance, the Town shall be listed as an additional insured party on Contractor's insurance policies.

C. A certificate of insurance shall be completed by Contractor's insurance agent(s) as evidence that policies providing the required coverages, conditions and minimum limits are in full force and effect, and, upon request by the Town, shall be subject to review and approval by the Town. The certificate shall identify this Agreement and shall provide that the coverages afforded under the policies shall not be canceled, terminated or materially changed until at least thirty (30) days prior written notice has been given to Town. If the words "endeavor to" appear in the portion of the certificate addressing cancellation, those words shall be stricken from the certificate by the agent(s) completing the certificate. The completed certificate of insurance shall be provided to the Town.

4.02 Damage and Indemnity. Contractor assumes full responsibility for any and all damages caused by Contractor's exercise of its activities, or failures to act, under this Agreement. Contractor agrees that it will at all times protect, defend, indemnify and hold harmless the Town, its elected officials, employees, agents, and their successors and assigns, from and against all liabilities, losses, claims, demands, actions and costs (including reasonable attorneys' fees), arising from or related to loss or damage to property or injury to or death to any persons arising from or resulting in any manner from the actions or failures to act of Contractor or any invitees, guests, agents, employees or subcontractors of Contractor, whether brought by any of such persons or any other person.

SECTION 5: TERMINATION

5.01 Termination. The Town or Contractor may terminate this Agreement, with or without cause, by providing thirty (30) days prior written notice to the other Party. Notwithstanding the foregoing, if the Town terminates this Agreement for cause and determines that a notice period is not in the best interests of the Town, the Town may terminate this Agreement by providing written notice to Contractor effective immediately.

SECTION 6: INDEPENDENT CONTRACTOR

6.01 Independent Contractor. Contractor understands and agrees that Contractor is an independent contractor and not an employee of the Town. The Town shall not provide benefits of any kind to Contractor. The Town shall not be responsible for withholding any portion of Contractor's compensation for the payment of Federal Insurance Contributions Act (FICA) tax, workers' compensation, or other taxes or benefits. **CONTRACTOR IS NOT ENTITLED TO UNEMPLOYMENT COMPENSATION COVERAGE FROM THE TOWN. CONTRACTOR IS OBLIGATED TO PAY FEDERAL AND STATE INCOME TAX ON MONEYS PAID PURSUANT TO THIS AGREEMENT.** As long as there is not a conflict of interest with the

Town, Contractor may engage in any other lawful business activities during the term of this Agreement.

SECTION 7: NOTICE

7.01 Notices. All notices required under this Agreement shall be in writing and shall be: 1) hand-delivered; 2) sent by registered or certified mail, return receipt requested, postage prepaid, to the addresses of the Parties herein set forth; or 3) sent by electronic mail (“email”) return receipt or written acknowledgment requested and received. All notices by hand-delivery shall be effective upon receipt. All notices by mail shall be considered effective seventy-two (72) hours after deposit in the United States mail with the proper address as set forth below. All notices by email shall be effective upon acknowledgment of receipt by the intended recipient. Either party, by notice to be given, may change the address to which future notices shall be sent.

TO THE TOWN:
Town of Johnstown
Attn: Matt LeCerf
450 S. Parish Avenue
P.O. Box 609
Johnstown, CO 80534
Email: MLeCerf@johnstownco.gov

TO CONTRACTOR:
JWO Engineering
Johnny Olson
1953 40th Ave
Greely, CO 80634
Email: jdolsons33@gmail.com

SECTION 8: MISCELLANEOUS

8.01 Time. Time is of the essence of this Agreement and of each covenant hereof.

8.02 Non-Appropriation of Funds. Pursuant to Section 29-1-110, C.R.S., as amended, financial obligations of the Town payable as set forth herein, after the current fiscal year, are contingent upon funds for that purpose being budgeted, appropriated and otherwise made available. This Agreement shall be terminated effective January 1 of the first fiscal year for which funds are not budgeted and appropriated.

8.03 Laws and Regulations. In the conduct of the Services, Contractor shall comply with all applicable laws, rules and regulations, and the directives or instructions issued by the Town or its designated representatives.

8.04 Assignment; Third Party Rights. Contractor may not assign, delegate or subcontract any part of its rights, duties or obligations under this Agreement. The Parties do not intend to confer any benefit hereunder on any person or entity other than the Parties hereto.

8.05 Amendment. This Agreement may not be amended or modified except by a subsequent written instrument signed by the Parties. Course of performance, no matter how long, shall not constitute an amendment to this Agreement.

8.06 Severability. If any part, term or provision of this Agreement is declared unlawful or unenforceable, the remainder of this Agreement shall remain in full force and effect, except that, in the event any state or federal governmental agency or court determines that the relationship between the Town and Contractor is one of employment rather than independent contractor, this Agreement shall become null and void in its entirety.

8.07 Waiver. No consent or waiver, express or implied, by the Town to or of any breach or default by Contractor in the performance by Contractor of its obligations hereunder shall be deemed or construed to be a consent or waiver to or of any other breach or default by the Town. Failure on the part of the Town to complain of any act or failure to act or to declare Contractor in default, irrespective of how long such failure continues, shall not constitute a waiver by the Town of its rights hereunder.

8.08 Governmental Immunity. The Parties agree that the Town is relying on, and does not waive or intend to waive by any provision of the Agreement, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, §§ 24-10-101 *et seq.*, C.R.S., as amended from time, or otherwise available to the Town, its elected officials, employees or agents.

8.09 Applicable Law and Venue. This Agreement shall be construed according to the laws of the State of Colorado. Venue for any claim, proceeding or action arising out of this Agreement shall be in Weld County, State of Colorado.

8.10 Mediation. In the event of any dispute arising under this Agreement, except in the case of an action for injunctive relief, the Parties shall submit the matter to mediation prior to commencing legal action and shall share equally in the cost of the mediation.

8.11 Costs and Attorney's Fees. If any judicial proceedings may hereafter be brought to enforce any of the provisions of this Agreement, the Town, if the prevailing party, shall be entitled to recover the costs of such proceedings, including reasonable attorney's fees and reasonable expert witness fees.

8.12 Entire Agreement. The provisions of this Agreement represent the entire and integrated agreement between the Town and Contractor and supersede all prior negotiations, representations and agreements, whether written or oral.

8.13 Public Official Personal Liability. Nothing herein shall be construed as creating any personal liability on the part of any elected official, employee or agent of the Town.

8.14 No Presumption. Each Party acknowledges that it has carefully read and reviewed the terms of this Agreement. Each Party acknowledges that the entry into and execution of this Agreement is of its own free and voluntary act and deed, without compulsion. Each Party acknowledges that it has obtained, or has had the opportunity to obtain, the advice of

legal counsel of its own choosing in connection with the negotiation and execution of this Agreement and with respect to all matters set forth herein. The Parties agree that this Agreement reflects the joint drafting efforts of all Parties and in the event of any dispute, disagreement or controversy arising from this agreement, the Parties shall be considered joint authors and no provision shall be interpreted against any Party because of authorship.

8.15 Controlling Document. In the event of a conflict between the provisions in this Agreement and Exhibit A, the provisions in this Agreement shall control.

8.16 Headings. The headings in this Agreement are inserted only for the purpose of convenient reference and in no way define, limit or prescribe the scope or intent of this Agreement or any part thereof.

8.17 Counterparts. This Agreement may be executed in counterparts, each of which shall be an original, but all of which, together, shall constitute one and the same instrument.

8.18 Data Security. If Contractor has access to personal identifying information during the term of this Agreement, Contractor shall, pursuant to Section 24-73-101, *et seq.*, C.R.S., destroy all paper and electronic documents containing such personal identifying information within six months of termination of this Agreement, unless otherwise required by law. During the term of this Agreement, Contractor shall implement and maintain reasonable security procedures that are appropriate to the nature of the personal identifying information disclosed or maintained and that are reasonably designed to help protect the information from unauthorized access, use, modification, disclosure or destruction. If Contractor discovers or is informed of a security breach, Contractor shall give the Town notice in the most expedient time and without unreasonable delay, no later than ten (10) calendar days after it is determined a security breach occurred. Contractor shall cooperate with the Town in the event of a security breach that compromises computerized data, if misuse of personal information about a Colorado resident occurred or is likely to occur. Cooperation includes sharing with the Town information relevant to the security breach.

8.19 Right to Injunction. The Parties hereto acknowledge that the Services to be rendered by Contractor and the rights and privileges granted to the Town under the Agreement are of a special, unique, unusual and extraordinary character which gives them a peculiar value, the loss of which may not be reasonably or adequately compensated by damages in any action at law, and the breach by Contractor of any of the provisions of this Agreement may cause the Town irreparable injury and damage. Contractor agrees that the Town, in addition to other relief at law, shall be entitled to injunctive and other equitable relief in the event of, or to prevent, a breach of any provision of this Agreement by Contractor.

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EXHIBIT A
SERVICES



February 21, 2023

Troy White
450 S. Parish Ave
Johnstown, CO 80534

Subject: Scope and Fee for Design of SH60 and CR13 Intersection Improvements

Dear Troy,

Please find attached the Prime JWO Engineering Scope and Fee for the project listed above. This scope of work and fee is for the Consultant (team of JWO Engineering, Benesch, UMS, Tiglas, Rocksol and Horrocks) to provide the following scope. The Consultant proposes to perform this work on a time and materials basis not to exceed \$431,435.00. All the work will be performed to meet the CDOT Access Permit process for CDOT approvals. (No State or Federal Funding included in project)

1. Administration and Coordination
2. Concept design for the ultimate intersection to allow the Town and developers to plan future right-of-way and improvements.
3. Project will add northbound and southbound left turn lanes on Colorado Blvd and replace the signal. Signals will be placed based on SH 60's ultimate configuration from the SH 60 System Feasibility Study. The team will provide engineering services included in this scope of work for the Town of Johnstown and Includes roadway design, roadway drainage, traffic design, traffic signal design, geotechnical design (roadway and signal), environmental clearance, survey/ROW plans and ROW equations for 5 parcels for the geometric improvements at the intersection of SH 60 /Colorado Blvd (CR13)
4. Subsurface Utility Engineering plans/report pursuant to SB 18-167 is required.
5. The team will deliver final Plans, Specification Estimate for advertisement of the project.

If you have any questions or correction, please let me know. Thanks for allowing us to support you on this project.

A handwritten signature in black ink, appearing to read 'Johnny Olson', is written over a horizontal line.

2/21/2023

Johnny Olson, JWO Engineering

Date

SH 60 / Colorado Blvd Design Fee (Interim Left Turn Lanes)

Town of Johnstown	BENESCH												JWO			
2/17/2023	Sabo	Kenny	Salek	Stahr	Larsen	Moschovicl	Hebert	Floyd	Benesch Total Hours	Benesch Labor Fee	Benesch Mileage / ODC	Benesch Sub-Task Fees	Olson	JWO Labor Fee	Sub Consultants	JWO Sub-Task Fees
	Senior Project Manager	Project Assisist II	Senior Project Manager	Project Engr II	Project Manager I	Project Manager I	Designer II	Designer II					Principal			
Hourly Rates:	\$ 215	\$ 89	\$ 215	\$ 132	\$ 150	\$ 150	\$ 115	\$ 115					\$ 200			
Subs																
Eugene Lynne (survey/ROW)													1	\$ 200	\$ 79,728	\$79,928
Rocksol (geotech)													1	\$ 200	\$ 24,129	\$24,329
UMS Inc. (utility investigations)													1	\$ 200	\$ 82,686	\$82,886
Tiglas Environmental													1	\$ 200	\$ 12,992	\$13,192
Horrocks (property owner coord)													1	\$ 200	\$ 68,850	\$69,050
1) Project Management																
a) Initial Project Meetings	4		4			4			12	\$2,320	\$ 73	\$ 2,393	6	\$ 1,200		\$1,200
b) Progress Meetings	10		18			18			46	\$8,720		\$ 8,720	18	\$ 3,600		\$3,600
c) CDOT Meetings	16		16			16			48	\$9,280	\$ 260	\$ 9,540	16	\$ 3,200		\$3,200
d) Identify Design Criteria			1			1			2	\$365		\$ 365		\$ -		\$0
e) Project Management	2	2	30						34	\$7,058		\$ 7,058	30	\$ 6,000		\$6,000
2) Ultimate Intersection Concept Design																
a) Alternative Development			2	20		8			30	\$4,270		\$ 4,270	2	\$ 400		\$400
b) Risk Matrix			8	2					10	\$1,984		\$ 1,984	2	\$ 400		\$400
c) Preferred Alternative	1		2	2		2			7	\$1,209	\$ 400	\$ 1,609	2	\$ 400		\$400
d) Concept Design Exhibits			2	12					14	\$2,014		\$ 2,014	2	\$ 400		\$400
3) Preliminary Design																
a) Survey				1					1	\$132		\$ 132		\$ -		\$0
b) Subsurface Utility Engineering				1					1	\$132		\$ 132		\$ -		\$0
c) Roadway Engineering												\$ -		\$ -		\$0
i) Review existing data			1	1		1			3	\$497		\$ 497		\$ -		\$0
ii) Site Investigation	4		4	4		4			16	\$2,848	\$ 73	\$ 2,921	3	\$ 600		\$600
iii) Preliminary Horizontal / Vertical			2	12					14	\$2,014		\$ 2,014		\$ -		\$0
iv) Templates / Modeling			2	16					18	\$2,542		\$ 2,542		\$ -		\$0
v) Cross Sections							12		12	\$1,380		\$ 1,380		\$ -		\$0
vi) Ongoing Coordination	1		8	4					13	\$2,463		\$ 2,463	4	\$ 800		\$800
d) Right-of-Way									0	\$0		\$ -		\$ -		\$0
e) Landowner Coordination									0	\$0		\$ -		\$ -		\$0
f) Traffic Engineering						2	16		18	\$2,140		\$ 2,140		\$ -		\$0
g) Signal Design						8	30		38	\$4,650		\$ 4,650		\$ -		\$0
h) Geotech									0	\$0		\$ -		\$ -		\$0
i) Environmental									0	\$0		\$ -		\$ -		\$0
j) Hydrology and Hydraulics												\$ -		\$ -		\$0
i) Review existing data						8			8	\$1,200		\$ 1,200		\$ -		\$0
ii) Minor Structures				8	16				24	\$3,456		\$ 3,456		\$ -		\$0
iii) Irrigation Structures			8	4	16				28	\$4,648		\$ 4,648		\$ -		\$0
iv) Prelim Drainage Report					12				12	\$1,800		\$ 1,800		\$ -		\$0
k) Utility Conflicts			4	4					8	\$1,388		\$ 1,388		\$ -		\$0
k) Preparation for FIR												\$ -		\$ -		\$0
i) Plan Packaging			4	8	8	8	8		36	\$5,236		\$ 5,236	1	\$ 200		\$200
ii) FIR Estimate			4						4	\$860		\$ 860	1	\$ 200		\$200
iii) Submit FIR Plans			4						4	\$860		\$ 860	1	\$ 200		\$200
l) FIR												\$ -		\$ -		\$0
i) Attend the FIR	4		4	4	4	4			20	\$3,448	\$ 73	\$ 3,521	4	\$ 800		\$800
ii) Compile Comments / Minutes			4						4	\$860		\$ 860	4	\$ 800		\$800
4) Final Design																
a) Project Review			1	1		1			3	\$497		\$ 497	2	\$ 400		\$400
b) Roadway Engineering												\$ -		\$ -		\$0
i) Final Horizontal/Vertical				12					12	\$1,584		\$ 1,584		\$ -		\$0
ii) Final Detailed Design				12					12	\$1,584		\$ 1,584		\$ -		\$0
iii) Final Modeling				16					16	\$2,112		\$ 2,112		\$ -		\$0

SH 60 / Colorado Blvd Design Fee (Interim Left Turn Lanes)

Town of Johnstown	BENESCH												JWO				
2/17/2023	Sabo	Kenny	Salek	Stahr	Larsen	Moschovic	Hebert	Floyd						Olson			
	Senior Project Manager	Project Assisist II	Senior Project Manager	Project Engr II	Project Manager I	Project Manager I	Designer II	Designer II	Benesch Total Hours	Benesch Labor Fee	Benesch Mileage / ODC	Benesch Sub-Task Fees	Principal	JWO Labor Fee	Sub Consultants	JWO Sub-Task Fees	
Hourly Rates:	\$ 215	\$ 89	\$ 215	\$ 132	\$ 150	\$ 150	\$ 115	\$ 115					\$ 200				
iv) Cross Sections							8		8	\$920		\$ 920		\$ -		\$0	
c) Right-of-Way									0	\$0		\$ -		\$ -		\$0	
d) Hydrology/Hydraulics												\$ -		\$ -		\$0	
i) Data Review						2			2	\$300		\$ 300		\$ -		\$0	
ii) Minor Structures						12			12	\$1,800		\$ 1,800		\$ -		\$0	
iii) Drainage Details						8			8	\$1,200		\$ 1,200		\$ -		\$0	
iv) Irrigation Structures			4			8			12	\$2,060		\$ 2,060	1	\$ 200		\$200	
v) Plans						8			8	\$1,200		\$ 1,200		\$ -		\$0	
vi) SWMP						8		32	40	\$4,880		\$ 4,880		\$ -		\$0	
vii) Final Report						12			12	\$1,800		\$ 1,800		\$ -		\$0	
e) Utility Conflicts			2	2					4	\$694		\$ 694		\$ -		\$0	
f) Utility Test Holing			2						2	\$430		\$ 430		\$ -		\$0	
g) Major Structures									0	\$0		\$ -		\$ -		\$0	
h) Construction Phasing							4		16	\$2,440		\$ 2,440		\$ -		\$0	
i) Traffic Engineering										\$ -		\$ -		\$ -		\$0	
i) Signing/Striping Plans							2		16	\$2,140		\$ 2,140		\$ -		\$0	
ii) Signal Design							8		24	\$3,960		\$ 3,960		\$ -		\$0	
j) Plan Preparation for F.O.R.										\$ -		\$ -		\$ -		\$0	
i) Plan Packaging			4	8	4	4	16		36	\$4,956		\$ 4,956	1	\$ 200		\$200	
ii) Specifications			8						8	\$1,720		\$ 1,720		\$ -		\$0	
iii) FOR Estimate			4						4	\$860		\$ 860	1	\$ 200		\$200	
iv) QA/QC	2		8			2	2		14	\$2,750		\$ 2,750	2	\$ 400		\$400	
v) Submit FOR			2	1					3	\$562		\$ 562	1	\$ 200		\$200	
k) Final Office Review										\$ -		\$ -		\$ -		\$0	
i) FOR Meeting	4		4	4	4	4			20	\$3,448	\$ 73	\$ 3,521	4	\$ 800		\$800	
ii) Meeting Minutes			4						4	\$860		\$ 860	4	\$ 800		\$800	
iii) FOR Revisions			4	8	4	4	8		28	\$4,036		\$ 4,036	2	\$ 400		\$400	
l) Construction Plan Package			8	4			4	4	20	\$3,308		\$ 3,308	2	\$ 400		\$400	
m) Record Plan Set			1	1	1	1			4	\$647		\$ 647	1	\$ 200		\$200	
n) Advertisement Support										\$ -		\$ -		\$ -		\$0	
a) Contractor Questions			4						4	\$860		\$ 860	1	\$ 200		\$200	
b) Revisions Under Ad			4	8	4	8			24	\$3,716		\$ 3,716	2	\$ 400		\$400	
Subtotal	48	2	196	180	141	118	158	32	875	\$ 137,098	\$ 952	\$ 138,050	125	\$ 25,000	\$ 268,385	\$ 293,385	

BENESCH FEE SUBTOTAL \$ 138,050

JWO FEE SUBTOTAL \$293,385

COMBINED FEE TOTAL \$ 431,435

**ALFRED BENESCH & CO.
 SCOPE OF WORK
 SH 60 & COLORADO BLVD INTERSECTION IMPROVEMENTS**

INTRODUCTION

Alfred Benesch & Company (CONSULTANT) will provide engineering services included in this scope of work to JWO Engineering (CLIENT) and the Town of Johnstown (OWNER). The CONSULTANT will provide roadway, drainage and traffic design for geometric improvements at the intersection of SH 60 / Colorado Blvd (CR13) in Johnstown.

The CONSULTANT, CLIENT and other subconsultants will split tasks for the project generally as follows:

Scope of Work Item	JWO (CLIENT)	Benesch (CONSULTANT)	Eugene Lynn	UMS	Rocksol	Tiglas	Horrocks
Project Management	X						
Environmental Investigations						X	
Geotech & Pavement Design					X		
Roadway Design		X					
ROW Mapping			X				
ROW Plans			X				
Property Owner Coordination							X
Subsurface Utility Engineering Plans				X			
Topographic Survey			X				
Survey Control Diagram			X				
QL-A Test-Holing				X			
Hydrology & Hydraulics		X					
Signing		X					
Striping		X					
Traffic Signal Design		X					
Cost Estimates		X					

PERFORMANCE PERIOD

It is assumed this scope of work will be completed by December 31, 2023.

ASSUMPTIONS

- Project will add northbound and southbound left turn lanes on Colorado Blvd and replace the signal.
- Signals will be placed based on SH 60's ultimate configuration from the SH 60 System Feasibility Study.
- Subsurface Utility Engineering plans/report pursuant to SB 18-167 is required.
- Signal structures will follow S-614-40 and S-614-40A standards.
- Project will be approved by CDOT through an Access Permit process.
- Concept design for the ultimate intersection is also included to allow the Town and developers to plan future right-of-way and improvements.

CLIENT or OWNER will be providing:

- Adjacent development plans

Tasks by the CONSULTANT include the following:

1. PROJECT INITIATION AND CONTINUING REQUIREMENTS

As part of the project initiation and continuing requirements, CONSULTANT will perform the following:

- a. Initial Project Meetings. The CONSULTANT will conduct an internal project kick-off meeting in accordance with our quality management requirements. Select team members will attend an initial project meeting with CLIENT/OWNER.
- b. Progress Meetings. CLIENT and the CONSULTANT will meet weekly. A total of 36 progress meetings **by video** are included in this scope of work. These progress meetings will be used to coordinate and track the work effort and resolve problems.
- c. CDOT Meetings. CONSULTANT will meet with CLIENT and CDOT for coordination. Three meetings at CDOT R4 Greeley are assumed.
- d. Identify Design Criteria. Review and confirm design criteria.
- e. Project Management. The CONSULTANT PM will coordinate the work tasks being accomplished by the CONSULTANT to ensure project work completion stages are on schedule. Project staffing and assigning of tasks, scheduling and invoicing are included within this task.

2. ULTIMATE INTERSECTION CONCEPT DESIGN

CONSULTANT will perform the following:

- a. Alternative Development.
 - i. Review existing data and proposed development plans.
 - ii. Conceptual horizontal layout of up to three alternatives for roadway alignments, utilizing different lateral shifts in Colorado Blvd near the SH 60 intersection to investigate differences in impacts.
 - iii. Concept design will take place on publicly available aerial photos. Right-of-way will be based on Weld County GIS data.
- b. Risk Matrix. Utilize a matrix to list and rank impacts and risks of the alternatives.
- c. Preferred alternative. Select a preferred alternative based on assessments of the impacts and CLIENT/OWNER feedback.
- d. Complete concept design exhibits for the preferred design for submittal to the CLIENT/OWNER.

3. PRELIMINARY DESIGN

This task includes the preliminary design of NB/SB left turn lane and signal improvements at SH 60 / Colorado Blvd in Johnstown.

OpenRoads Designer 10.10 software will be used in the development of the preliminary design plans.

As part of this preliminary design, CONSULTANT will perform the following activities:

- a. Survey. Performed by separate subconsultant.
- b. Subsurface Utility Engineering. QL-B SUE investigation will be performed by separate subconsultant.
- c. Roadway Engineering. CONSULTANT will perform various roadway engineering tasks associated with the design of the selected preferred alternative:
 - i. Review of design criteria and existing topographical survey.
 - ii. Site visit to investigate existing conditions in conjunction with topographical survey.
 - iii. Preliminary horizontal and vertical alignment design of centerlines, islands, and turn lanes, including running truck turn simulations.
 - iv. Preliminary design of typical templates, and preliminary modeling to determine roadside grading and toes-of-slopes.
 - v. Creation of preliminary cross sections at 50' interval.
 - vi. Ongoing coordination with right-of-way and environmental efforts.
- d. Right-of-Way. Performed by separate subconsultant.
- e. Landowner Coordination. Performed by separate subconsultant.
- f. Traffic Engineering. Develop preliminary signing and striping plans for the proposed roadway and intersection improvements.
- g. Signal Design. CONSULTANT will develop a preliminary proposed signal design based on current MUTCD and Region 4 requirements. It is assumed all traffic signals will be replaced and the new poles will be placed in a location where the current signals can still operate during construction of new infrastructure. The preliminary signal design will include poles, heads, detection, pedestrian buttons and signals, new controller and its location and emergency vehicle preemption.
- h. Geotech. Performed by separate subconsultant.
- i. Environmental. Performed by separate subconsultant.
- j. Hydrology/Hydraulic Engineering.
 - i. Data Review. Obtain and review existing drainage data from available sources.
 - ii. Minor Structures. Determine locations, sizes, and alignment based on preliminary hydraulic design. Prepare preliminary structure cross-sections and determine elevations, flow lines, slopes and lengths of the structures.
 - iii. Irrigation Structures. Coordinate with ditch companies and determine locations, sizes, and alignment based on preliminary hydraulic design. Prepare preliminary structure cross-sections and determine elevations, flow lines, slopes and lengths of the structures.
 - iv. Prepare preliminary Hydraulic Design Report in accordance with the CDOT Drainage Design Manual.

- k. Utility Conflicts. CONSULTANT will identify potential conflicts based on topographic base files and site visits. Any potential conflicts identified will be coordinated with the Town and shown on the plans and a Utility Conflict Matrix. Utility relocation design is not included.

- l. Preparation for the FIR:
 - i. Coordinate, complete, and compile the plan set. The FIR plans shall comply with CDOT requirements and shall include a title sheet, M&S index, typical sections, general notes, SUE plans, plan/profile sheets, preliminary intersection layouts, preliminary minor drainage structures and preliminary signal design. The plan/profile sheets will include all existing topography, survey alignments, projected alignments, profile grades, ground line, existing ROW, rough structure notes (preliminary drainage design notes, including pipes, inlets, ditches and channels), and existing utility locations. Typical plan sheets scales will be 1"=40'. Cross sections will be 1"=20'.
 - ii. Prepare the preliminary cost estimate for the work described in the FIR plans based on estimated quantities.
 - iii. Submit the FIR plans in electronic PDF format to the CLIENT/OWNER for review 2 weeks prior to the FIR.

- m. Field Inspection Review:
 - i. Attend the FIR.
 - ii. The FIR comments shall be compiled in a comment review log and meeting minutes submitted.

4. FINAL DESIGN

This task includes the final design activities of NB/SB left turn lane and signal improvements at SH 60 / Colorado Blvd in Johnstown.

OpenRoads Designer 10.10 software will be used in the development of the final design plans. As part of this final design, CONSULTANT will perform the following activities, except as noted:

- a. Project Review. CONSULTANT will update the project schedule based upon the results of the FIR, coordinate activities required for final design, initiate design decisions and discuss variances as they affect FOR activities.

- b. Roadway Engineering. CONSULTANT will perform the following final design roadway engineering tasks associated with the design of the improvements:
 - i. Final design of horizontal and vertical alignments.
 - ii. Final detailed design of islands, curb ramps, medians and turn lanes.
 - iii. Final detailed modeling of proposed roadway and roadside slopes and ditches.
 - iv. Updated cross sections with final earthwork quantities.

- c. Right-of-way. Included in Preliminary Design.

- d. Hydrology/Hydraulic Engineering.
 - i. Data Review. Review data and information developed under the Preliminary Hydraulic Investigation and update in accordance with decisions made at the FIR.
 - ii. Minor Structures.
 - Complete final design for minor drainage structures. Finalize horizontal and vertical locations and sizes for all drainage structures based on hydraulic design.
 - Finalize structure cross-sections and profiles to determine the elevations, flow lines, slopes and lengths of structures.
 - iii. Complete final design for all drainage details required for minor drainage structures.
 - iv. Irrigation Structures. Finalized locations, sizes, and alignment. Finalize structure cross-sections and determine elevations, flow lines, slopes and lengths of the structures.
 - v. Prepare final construction plans in accordance with requirements in the CDOT Drainage Design Manual.
 - vi. Storm Water Management Plan. Initiate a Storm Water Management Plan in accordance with Municipal Separate Storm Sewer Systems (MS4), CDPHE's Construction Discharge Permit System requirements, CDOT's Erosion Control and Storm Water Quality Guide, local agency SWMP/GESC/EC requirements, CDOT's Standard Specifications, CDOT Standard Plans and other appropriate documents.
 - vii. Prepare a Final Hydraulic Design Report in accordance with the requirements of the CDOT Drainage Design Manual.
- e. Utility Conflicts. Following the finalization of the roadway horizontal alignment and profile grade and the horizontal and vertical location of drainage structures, sewers, and other underground structures, update the Utility Conflict Matrix, and coordinate with the Town to identify and resolve any conflicts to finalize utility clearances. Utility relocation design is not included in this scope of work.
- f. Utility Test-Holing. Coordinate with the SUE investigator to identify test hole locations of the proposed signal pole caisson locations to check for utility conflicts (2' wide). An additional 10 QL- A small test holes are assumed to check other possible conflict locations. Actual test-holing will be performed by separate subconsultant.
- g. Final Major Structural Design. Not included.
- h. A final construction phasing plan will be developed which integrates the construction of all project work elements into a practical and feasible sequence. This plan shall accommodate the existing traffic movements during construction, and a final traffic control plan will be developed which shall be compatible with the phasing plan.
- i. Traffic Engineering.

- i. Prepare and provide permanent signing/pavement marking plans according to MUTCD and CDOT criteria.
- ii. Signal Design. CONSULTANT will finalize proposed signal design based on current MUTCD and CDOT requirements. CONSULTANT will develop:
 - A removals sheet will identify the existing traffic signal equipment to be removed. Existing features to remain will also be identified on this sheet. The sheet will establish quantities of removals for the signal location.
 - A signal design sheet will identify the proposed traffic signal installation. The signal design will include all proposed traffic signal equipment, poles, heads, vehicle detection zones, existing interconnect connections and the resulting item quantities necessary to complete traffic signal installation. Other signal plan features shown will include detection, pedestrian buttons and signals, new controller locations and emergency vehicle preemption.
 - Obtain new signal structure identification numbers from CDOT Staff Bridge.
- j. Plan Preparation for the Final Office Review
 - i. Coordinate the Packaging of the Plans. Collect plans from all design elements and collate the plan package. Calculate plan quantities and prepare the tabulations.

The Final Office Review (FOR) plans prepared by CONSULTANT shall include the following sheets (as appropriate):

- Title Sheet
 - Standard Plans List
 - Typical Sections
 - General Notes
 - Summary of Approximate Quantities
 - Appropriate Individual Quantity Tabulations
 - Survey Control (by other subconsultant)
 - SUE Plans (by other subconsultant)
 - Roadway Plan & Profile
 - Intersection Details
 - Drainage Plan
 - Drainage Structure Cross Sections
 - Stormwater Management Plan
 - Signal Plans
 - Signing & Striping Plans
 - Construction Phasing/Traffic Control Plan
 - Cross Sections With Earthwork Quantities
- ii. Specifications. In addition to the plan sheets, the Special Provisions shall be provided. This will consist of any unique Project Special Provisions which have to be written specifically for items, details and procedures not adequately covered by CDOT's Standard Specifications and Standard Special Provisions. The Project Special Provisions shall be provided in the CDOT format and submitted with the project plans.

- iii. Prepare the FOR estimate. Item numbers, descriptions, units and quantities shall be listed and submitted.
 - iv. QA/QC. Perform QA and QC for plans and specifications. This task includes interdisciplinary review and crosschecks.
 - v. Submit the FOR plans and specifications in electronic PDF format to the CLIENT/OWNER for a review 2 weeks prior to the FOR.
- k. Final Office Review.
- i. FOR Meeting. CONSULTANT will attend the FOR.
 - ii. Prepare meeting minutes and comment resolution log and distribute within one week of the meeting.
 - iii. FOR Plan Revisions. The FOR plan sheets and the specifications shall be revised in accordance with the FOR meeting comments and submitted to the CLIENT/OWNER within 3 weeks after the FOR.
- l. Construction Plan Package. Submit the final revision of the plans and specifications incorporating all comments received at the FOR meeting. The bid plans shall consist of the revised FOR plans and will completely describe the work required to build the project including project special provisions and detailed quantities.
- m. Record Plan Sets. CONSULTANT will electronically seal record documents.
- n. Advertisement Support. Provide the following when requested by the CLIENT/OWNER:
- i. Contractor Questions. Assist OWNER with answering questions on the plans and specifications during the advertisement period.
 - ii. Revisions Under Ad. Provide revisions to plans and specifications when clarifications or changes are required on the advertisement package.

5. BENESCH EXCLUSIONS

The following are not included in Benesch's scope and their inclusion is subject to a change in scope, schedule and/or fee: Environmental studies and reports, Value Engineering workshops, topographic survey, right-of-way research and plans, geotechnical investigation and design, pavement design, utility design, railroad coordination and submittals, structural design, signal timing plans, and permit applications. Some of the preceding tasks are being performed by separate subconsultants.



2023 Employment Classification and Rate Schedule

<u>Classification</u>	<u>Billable Rate</u>
Project Manager I	\$150.00
Project Manager II	\$185.00
Senior Project Manager	\$215.00
Project Principal	\$250.00
Project Engineer I	\$125.00
Project Engineer II	\$132.00
Senior Project Engineer	\$165.00
Designer I	\$102.00
Designer II	\$115.00
Technologist I	\$68.00
Technologist II	\$95.00
Senior Technologist	\$120.00
Technical Specialist I	\$90.00
Technical Specialist II	\$100.00
Senior Technical Specialist (per quote)	\$128.00
Intern	\$70.00
Project Scientist I (Environmental)	\$75.00
Project Scientist II (Environmental)	\$86.00
Project Scientist III (Environmental)	\$97.00
Senior Project Scientist	\$145.00
Office Assistant	\$52.00
Project Assistant I	\$64.00
Project Assistant II	\$89.00
Division Administrative Assistant I	\$55.00
Division Administrative Assistant II	\$70.00

<u>Classification</u>	<u>Billable Rate</u>
Resident Project Manager I	\$126.00
Resident Project Manager II	\$164.00
Sr. Resident Project Manager	\$184.00
Construction Manager I	\$135.00
Construction Manager II	\$164.00
Sr. Construction Manager	\$200.00
Construction Engineer I	\$115.00
Construction Engineer II	\$128.00
Sr. Construction Engineer	\$139.00
Construction Representative I	\$94.00
Construction Representative II	\$102.00
Construction Representative III	\$110.00
Senior Construction Representative	\$138.00
Construction Technical Representative I	\$76.00
Construction Technical Representative II	\$88.00
Construction Technical Representative III	\$112.00
Sr. Construction Technical Representative	\$125.00
Inspector I	\$70.00
Inspector II	\$80.00
Inspector III	\$98.00
Inspector IV	\$120.00
Sr. Inspector	\$135.00
Field/Lab Technician I	\$65.00
Field/Lab Technician II	\$75.00
Field/Lab Technician III	\$85.00
Senior Field/Lab Technician	\$110.00

Eugene Lynne

Mr. Johnny Olson
JWO Engineering
1953 40th Avenue
Greeley, CO 80634

Amara L. Hildebrand
Eugene Lynne, LLC
PO Box 27691
Lakewood, CO 80227

February 16th, 2023

RE: State Highway 60 & CR 13 (Colorado Blvd) Intersection/Signal Improvements

Eugene Lynne (Consultant) is pleased to submit the following scope of services to JWO Engineering (Client) for survey services related to the SH 60 and CR 13 Intersection Improvement Project for the Town of Johnstown (Town). Scope of services will include establishing horizontal and vertical project control monitoring stations and developing the topographic and planimetric design survey. Other tasks include may include temporary and permanent easements or ROW plans. Scope of services is based on draft scope of services provided via e-mail by Client on 12/29/23, coordination call on 1/18/23 and 2/13/23 as well as survey control discussions on 1/27/23. Design survey footprints shown in Figure 1 and Figure 2 are based on the kmz's provided by Benesch.

Scope of Services:

Phase 1 – Coordination and Meetings

- Assume 2 Coordination meetings (virtual)
- Assume 1 Coordination meeting (in person)

Phase 2 – Alternatives Analysis

- Densify Project Control from SH 60/Carlson Blvd Project
 - Modified Colorado State Plane Coordinate System
 - At least four project control points will be set for collection and construction purposes;
 - Translate existing conditions survey for development to the North
 - Triggers
 - Project Control Diagram
- Design Level Roadway Planimetric Mapping
 - Limits @ intersection of SH60 & CR 13 (see Figure 1)
 - ~1350' west x 60' wide
 - ~1370' east x 50' wide
 - ~1600' north x 30' wide
 - ~850' south x 45' wide
 - Approximately 5.8-acre footprint

Eugene Lynne

- Design Level Intersection Planimetric & Topographic Mapping
 - Limits @ intersection of SH60 & CR 13 (see Figure 2)
 - ~150' west x 130' wide
 - ~100' east x 100' wide
 - ~450' north x 90' wide
 - ~600' south x 90' wide
 - Approximately 2.6-acre footprint

Phase 3 – 30% Design for Ultimate Build

- Retracement Row – SH 60 and CR 13
 - Triggers:
 - Land Survey Control (Aliquots)
 - Right-of-Way Line Work (dgn format)
- Temporary Construction Easements (assumed 4 total impacted parcels)
 - Triggers
 - Parcel Line Work (dgn format)
 - Title (Owner & Encumbrance Report, by others)
- Permanent Easements/Fee Acquisition (assumed 4 total)
 - Triggers
 - Parcel Line Work (dgn format)
 - Title (Owner & Encumbrance Report, by others)

Phase 4 – Interim Design to Improve Intersection

- ROW Plans (Paper)
 - Triggers
 - Right-of-Way Plans (Paper)
 - 1 Right of Way Plan Review Meeting (ROWPR)
- Temporary Construction Easements (assumed 4 total)
 - Triggers:
 - TCE Description
- Permanent/Access Line (AL) Easement (assumed 4 total)
 - Triggers:
 - Easement/Property Description

Assumptions/Exclusions

- Client will deliver existing conditions survey for property to the north in Civil 3D. CAD file will depict at least four (4) survey control points (x,y,z). Benchmark and basis of bearings will be provided. Consultant will utilize and densify project control from SH60 and Carlson Blvd Signal Improvements and translate one existing survey (northern development) to our system for reference one time.

Eugene Lynne

- Eugene Lynne (Consultant) will obtain CDOT Special Use and Utility Permit for non-invasive survey within SH60.
- Utility designating, manhole dips, potholes and utility surveying will be by others. Title research is required but will be performed by others.
- Plan & Topo features will be collected utilizing TMOSS and files will be delivered in a Bentley MicroStation format.
- Traffic control is not anticipated for Phase 1 or 2 but will be required for Phase 3. MHTs are required for the CDOT Permit(s) and traffic control.
- TCEs, PEs, & Fee Parcels will be staked one, if needed, for appraisal purposes.

Deliverables:

1. Design Level Planimetric & Topographic Bentley MicroStation file.
2. Project Control Diagram (Paper).
3. Translated Northerly Development file (delivered format)
4. Design Level ROW/Parcel Bentley MicroStation file.
5. Land Survey Control Diagram.
6. ROW Plans with Temporary Construction Easements, and Permanent Easement &/or Fee Acquisitions depicted (Paper).
7. Four Temporary Construction Descriptions.
8. Four Permanent Easements or Fee Acquisitions Descriptions.

Fee:

<i>Phase I - Coordination Meeting(s)</i>	<i>Fee Subtotal</i>
<i>Management</i>	\$800
<i>Sub-Total Fee</i>	\$810
<i>Mileage</i>	\$98
<i>Fee Total</i>	\$898

<i>Phase II - Control and Mapping</i>	<i>Fee Subtotal</i>
<i>Management</i>	\$2,240
<i>Office Survey</i>	\$16,240
<i>Field Survey</i>	\$17,850
<i>Sub-Total Fee</i>	\$36,330
<i>Aerial Mapping</i>	\$5,500
<i>MHTs</i>	\$125
<i>Mileage</i>	\$1,562
<i>Fee Subtotal</i>	\$43,517

Eugene Lynne

Phase III - Existing ROW	Fee Subtotal
<i>Management</i>	\$1,280
<i>Office Survey</i>	\$8,120
<i>Field Survey</i>	\$7,050
Sub-Total Fee	\$16,450
MHTs	\$500
Traffic Control	\$1,500
Mileage	\$660
Fee Subtotal	\$19,079

Phase IV - Proposed ROW	Fee Subtotal
<i>Management</i>	\$1,600
<i>Office Survey</i>	\$11,600
<i>Field Survey</i>	\$2,700
Sub-Total Fee	\$15,900
Mileage	\$334
Fee Subtotal	\$16,234

Phases I, II, III, IV Combined	Fee Subtotal
<i>Management - Combined</i>	\$5,920
<i>Office - Combined</i>	\$35,960
<i>Field - Combined</i>	\$27,600
Sub-Total Fee	\$69,480
Aerial Mapping	\$5,500
MHTs	\$625
Traffic Control	\$1,500
Mileage	\$2,623
Fee Total	\$79,728

Eugene Lynne

Thanks for your time and consideration.

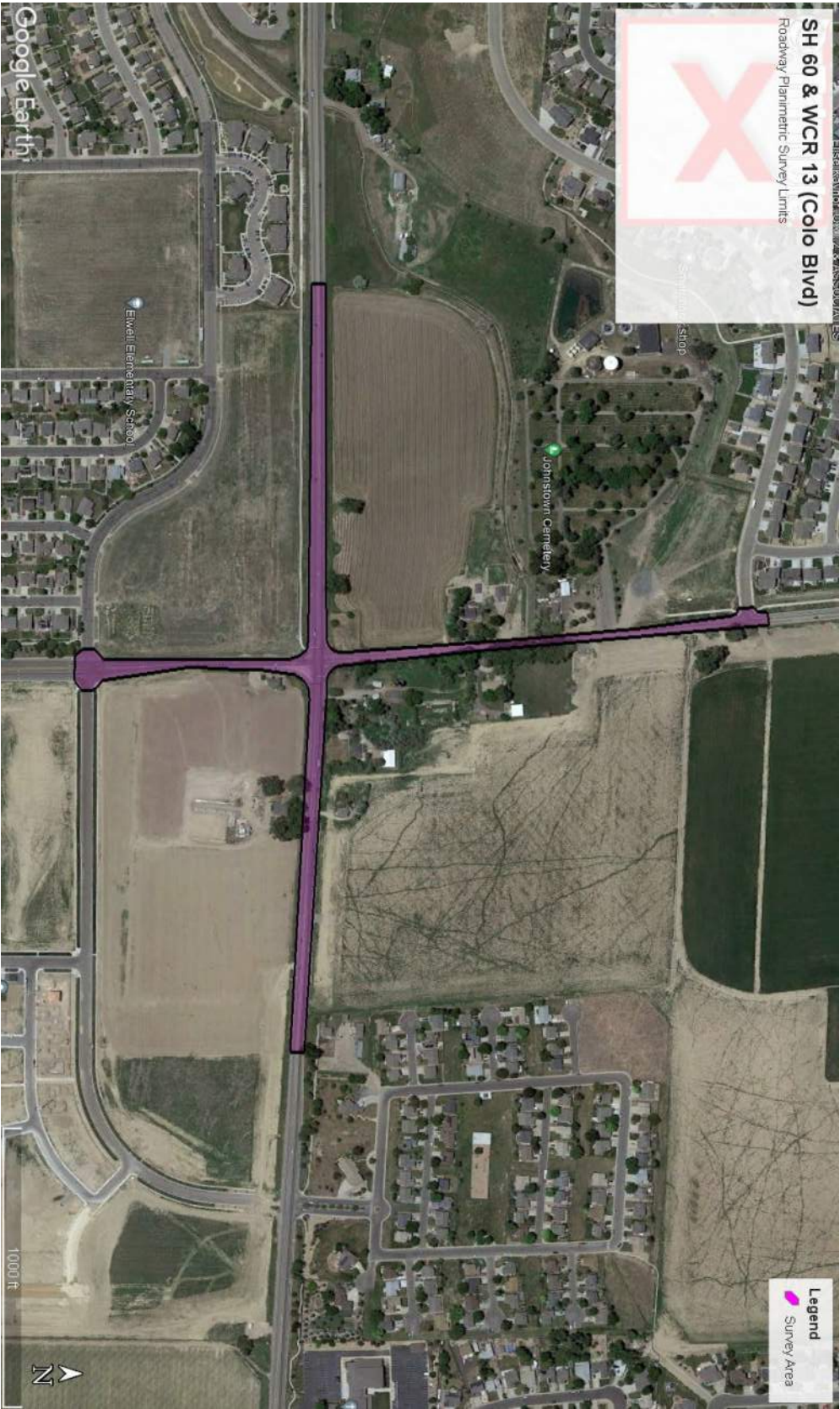
Sincerely,

A handwritten signature in cursive script, appearing to read "Amara L. Hildebrand".

Amara L. Hildebrand
Partner

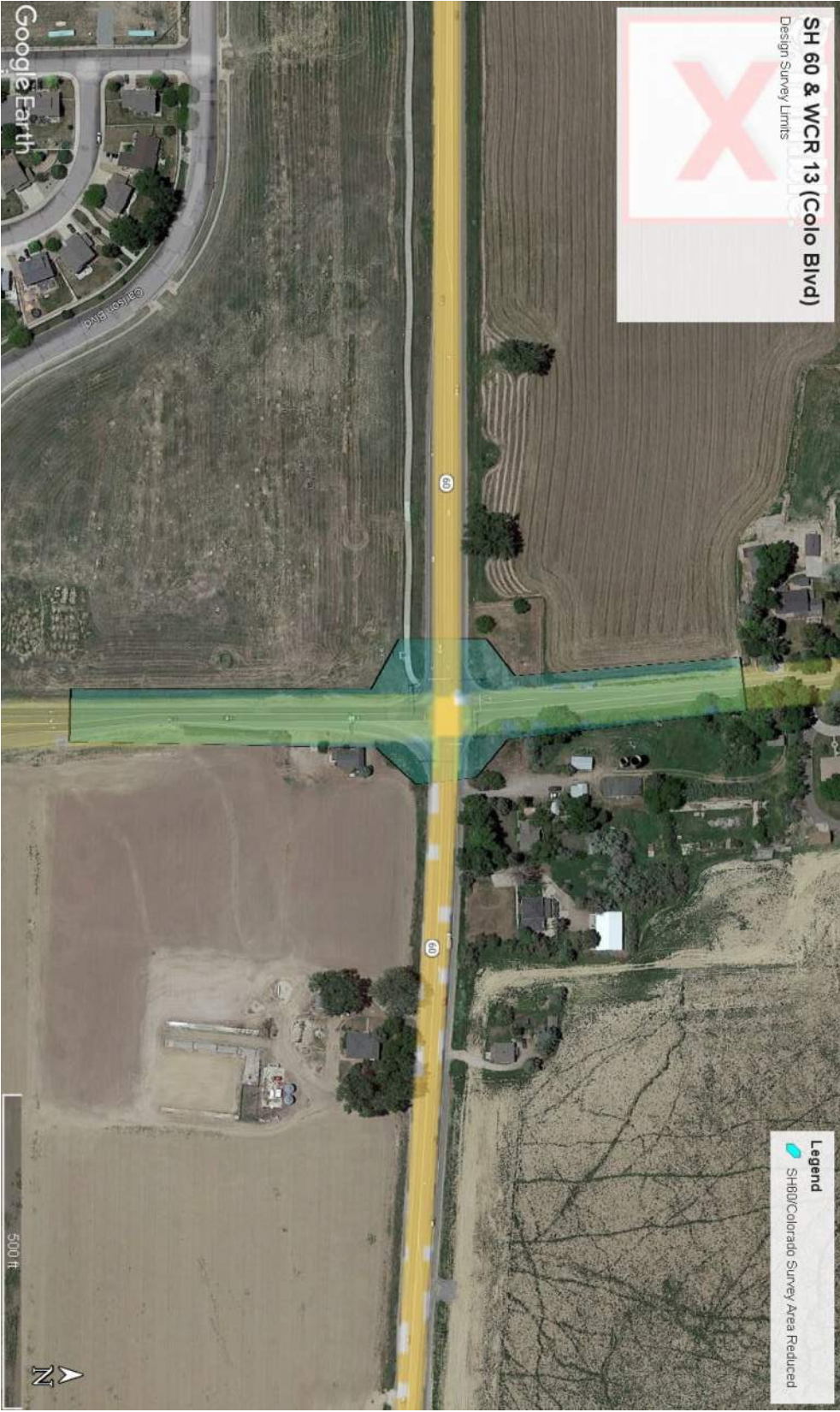
Eugene Lynne

Figure 1



Eugene Lynne

Figure 2



February 20, 2023

Johnny Olson, PE
JWO
1953 40th Ave
Greeley, CO 80634

SUBJECT: Scope and Fee Proposal: SH 60/CR 13 Intersection Improvements

Dear Mr. Olson:

Thank you for opportunity to submit a scope and fee proposal for the Intersection Improvement and Road Widening design of SH 60 and WCR13. Background/understanding:

- Project will affect stakeholders on both sides of the current road right-of-way, in all quadrants of the intersection.
- Johnstown has asked the project team to submit a cost for 30% design.
- At this time, there are no federal funds for the project, and it is the hope of Johnstown that developers will support full build of the project.
- The Town would like to be able to apply for funds in the future thus interaction and engagement with stakeholders and landowners should follow the Federal process.

This scope and fee responds to your request for fees associated with 30% and 100% levels.

**SUMMARY OF SERVICES PROVIDED BY HORROCKS
LAND ACQUISITION AND PUBLIC ENGAGEMENT
SPECIALIST**

1. Support project team, including Town representatives in Public Engagement initiation; letters, open houses, social media, etc. Serve as POC for affected and adjacent landowners, developers, stakeholders.
2. Send Permission to Enter letters and obtain written record to allow for land surveys, SUE, lidar placement, Geotech, appraisal or valuation services.
3. Coordination of utility providers and communication between providers and project team, as needed
4. Shared spreadsheets with project status
5. Order Ownership/Encumbrance or Informational title reports
6. Document preparation, mailing and recording, as well as QA/QC of all documents
7. Conduct good faith negotiations as needed



8. Waiver valuations, offer preparation and delivery. Appraisals can be contracted through Horrocks for an additional fee as needed. Any easement or fee parcel acquisition valued over \$10,000 requires an appraisal.
9. Closing and recording of conveyance documents. Fee parcel takes will require title insurance unless the Town will be seeking parcel via a deed of dedication rather than conveyance via warranty deed. Title insurance and associated closing costs can be set up and paid to selected title provider for a separate fee.

SERVICES NOT PROVIDED BY HORROCKS LAND ACQUISITION

1. Engineering and ROW design plans
2. Project staking
3. Legal review of documents

ASSOCIATED FEES 30% DESIGN PHASE

• Stakeholder engagement	60 hours x \$165/hr	\$ 9,900.00
• Permission to Enter Letters/Form	5 x \$100	\$ 500.00
• Title reports	5 x \$550	\$ 2,750.00
• Expenses (mileage, postage, printed materials)		\$ 1,000.00
Total		<u>\$14,150.00</u>

ASSOCIATED FEES 100% DESIGN PHASE (ADD TO TOTAL FROM ABOVE)

• Good faith negotiations, URA standards	140 hours x \$165/hr	\$23,100.00
• Appraisals	5 x \$5000	\$25,000.00
• Utility coordination	40 hours x \$165/hr	\$ 6,600.00
• Recording Fees/closing costs		TBD
Total		<u>\$54,700.00</u>

TOTAL CONTRACT:

30 % DESIGN - \$14,150.00

100% DESIGN - \$54,700.00

TOTAL - \$68,850.00

In the event negotiations are prolonged due to unforeseen difficulties or additional requests by the Town or JWO, then the costs associated with those additional efforts may require an amendment to this



Cost Proposal. If work assignments are completed prior to reaching the total estimated cost, then the JWO would not be liable for paying the entire quoted price.

Sincerely,

Courtney Wallace

Courtney Wallace, RWA

ROW Acquisition and Utility Coordination



5670 Greenwood Plaza Boulevard, Suite 100W
Greenwood Village, CO 80111

Direct 720-577-1741

Mobile 970-999-4165

Email Courtney.wallace@horrocks.com

Web www.horrocks.com



February 16, 2023

JWO Engineering
1953 40th Avenue
Greeley, Colorado, 80634

Attention: Mr. Johnny Olson, P.E.
Principal, JWO Engineering

Subject: Proposal for Geotechnical Services, State Highway 60 and County Road 3
Intersection Improvements, Johnstown, Colorado, RockSol Proposal No.
010.23.07

Dear Mr. Olson:

RockSol Consulting Group, Inc. is grateful for the opportunity to submit this proposal for geotechnical services for the State Highway 60 (SH 60) and County Road 3 (CR 3) Intersection Improvements Project in Johnstown, Colorado.

Based on information provided by JWO Engineering and the Town of Johnstown (Town) for the proposed intersection improvements at SH 60 and CR 3, the Town is planning the design and construction of new traffic signals and new pavement/roadway widening along a portion of CR 3 and modifications on SH 60 to accommodate intersection improvements. The Project includes design of a signalized intersection at SH 60 and CR 3, widening CR 3 to two through lanes in each direction through the intersection, and adding turns lanes where necessary. Ancillary items such as striping modifications, signage installation, curb ramp installations and upgrades, landscape modifications, and grading/earthwork are also planned for the improvements project.

Four geotechnical boreholes are proposed for characterization of the subsurface conditions to assist the design team with the proposed improvements project. Soil sampling and analysis will be performed for signal foundations, existing pavement thickness, and earthwork recommendations. Two additional pavement cores are proposed within SH 60 to determine existing pavement thickness. The geotechnical boreholes and pavement cores will be located within Town right-of-way (ROW).

Two boreholes near the intersection will be advanced to an approximate depth of 30 feet below existing grades for pavement thickness design and traffic signal pole foundation recommendations and two boreholes will be advanced to an approximate depth of 10 feet below existing grades for pavement thickness design. Four pavement cores will be taken from the existing pavement, two at borehole locations, and two at separate locations within SH 60. Preliminary borehole and pavement core location plans are shown in Attachment A.

Subsurface samples will be obtained from each borehole and selected samples will be tested for pertinent engineering properties including, but not be limited to, moisture content and dry density, Atterberg Limits, grain size (sieve) analysis, swell/consolidation potential, R-Value, water-soluble sulfate and chloride content, and electrical resistivity. Subgrade soil samples will be classified per the American Association of Highway and Transportation Officials (AASHTO) soil classification methods and USCS soil classification methods.

RockSol will prepare logs of the subsurface conditions encountered at the time of drilling. Due to the location of the boreholes within existing right of way, each borehole will be backfilled at the completion of sampling operations. The geotechnical task will be broken into two phases. For Phase I, a preliminary report summarizing geotechnical findings, drilling and sampling operations,

laboratory testing, preliminary asphalt and concrete pavement design, and traffic signal foundation design recommendations will be prepared. Pavement design will be done in accordance with current CDOT M-E Pavement Design Criteria. Traffic signal pole foundation recommendations will conform to CDOT requirements for soil identification parameters required to satisfy current CDOT M&S Standards. For Phase II, a report with final pavement design and roadway subgrade preparation requirements will be prepared based on final design requirements, stamped, and signed by a Colorado Licensed P.E.

Special Considerations (Geotechnical Investigation)

- All work performed by RockSol will be performed by or under the direct supervision of a registered professional engineer in the State of Colorado.
- If required, RockSol will obtain a ROW permit from the Town of Johnstown and/or CDOT for the geotechnical work within Town or CDOT right-of-way. A traffic control plan per the MUTCD will be prepared as part of the permit application.
- RockSol will contact the Utility Notification Center of Colorado to obtain clearance of utilities for the borehole locations. Use of a private utility locator is not anticipated by RockSol.

A fee estimate for each phase has been prepared by RockSol for the geotechnical services identified in the scope of work for this proposal and are attached.

The proposed fee estimate is based on 1 day of drilling and sampling operations with traffic control and assumes attending two project coordination meetings per project phase.

If you have any questions pertaining to this proposal, please contact our office.

Respectfully submitted,
RockSol Consulting Group, Inc.,

Alec Moens, E.I.T.
Geotechnical Engineering Associate

Donald G. Hunt, P.E.
Senior Geotechnical Engineer

Attachments:

Attachment A: Preliminary Borehole Location Plan
Attachment B: Fee Estimate (Phase I)
Attachment C: Fee Estimate (Phase II)

Borehole Location Map

US 60 and SH 3 Intersection Improvements Project

Legend

- ⊙ Borehole Location
- ▣ Pavement Core Location



RockSol Consulting Group, Inc.
Fee Estimate for Geotechnical Investigation Services (Phase I)
SH 60 and CR 3 Intersection Improvements, Johnstown, Colorado
Prepared February 16, 2023

<i>Classification</i>	<i>Hours</i>	<i>Rate/Hour</i>	<i>Total Estimated Fee</i>
Administrative Assistant	6	\$98.70	\$592.20
Senior Manager	2	\$258.76	\$517.52
Senior Geotechnical Engineer	4	\$242.52	\$970.08
Senior Pavment Design Engineer	4	\$242.52	\$970.08
Geotechnical Engineering Staff (EIT II)	45	\$109.13	\$4,910.85
Senior Geologist	12	\$152.94	\$1,835.28
Technician I	20	\$73.53	\$1,470.60
Technician II	20	\$88.44	\$1,768.80
Technician IV - Lab Manager	4	\$129.87	\$519.48
Total Labor			\$13,554.89
<hr/>			
Other Direct Costs			
<hr/>			
Mileage	252	\$ 0.655	\$165.06
Drilling (2 shallow boreholes to 10 ft and 2 deep boreholes to 30ft using solid-stem auger drilling method and a truck mounted drill rig for pavement and traffic signal design purposes and obtaining 4 pavement cores in the existing pavement)			\$2,000.00
Borehole Backfill Materials			\$200.00
Outside Lab (R-Value and Chlorides)			\$450.00
Traffic Control			\$2,500.00
Total Other Direct Cost			\$5,315.06
Total			\$18,869.95

RockSol Consulting Group, Inc.
Fee Estimate for Geotechnical Investigation Services (Phase II)
SH 60 and CR 3 Intersection Improvements, Johnstown, Colorado
Prepared February 16, 2023

<i>Classification</i>	<i>Hours</i>	<i>Rate/Hour</i>	<i>Total Estimated Fee</i>
Administrative Assistant	4	\$98.70	\$394.80
Senior Manager	2	\$258.76	\$517.52
Senior Geotechnical Engineer	4	\$242.52	\$970.08
Senior Pavement Design Engineer	6	\$242.52	\$1,455.12
Geotechnical Engineering Staff (EIT II)	12	\$109.13	\$1,309.56
Senior Geologist	4	\$152.94	\$611.76
Total Labor			\$5,258.84
<hr/>			
Other Direct Costs			
<hr/>			
Total Other Direct Cost			\$0.00
Total			\$5,258.84

DARCY A. TIGLAS
5015 Swainsona Drive
Loveland, Colorado 80537
970-635-9183 (H)
970-222-2151 (C)

February 17, 2023

Mr. Johnny Olson
JWO Engineering
1953 40th Avenue
Greeley, Colorado 80634

RE: Revised Proposal for an Intersection Improvement Project at Weld County Road 13 and Highway 60 near Johnstown, Colorado in Weld County

Dear Mr. Olson:

This letter serves as a revised proposal for Environmental Clearances and Surveys for a proposed intersection improvement project at Weld County Road 13 (WCR 13) and Highway 60 (Hwy 60) near Johnstown, Colorado in Weld County. This project does not include State or Federal funding.

Preparation of an Environmental Review Document- I understand the scope of work for this task will include:

- Site visit,
- Obtain a sensitive species list from the U.S. Fish and Wildlife Service's Information for Planning and Consultation website, the Colorado Department of Wildlife website, and the Natural Heritage Program list and determine any impacts to listed species,
- A birds-of-prey survey since large mature trees lie adjacent to the proposed project area,
- Review the National Wetland Inventory Map for information on adjacent Waters of the United States,
- List any noxious weeds identified within the project area,
- Review air and noise resources for the proposed project, and
- Prepare an Environmental Review Document for JWO Engineering.

COST: \$2,500.00

Cultural and Historic Resources- A preliminary Compass search on January 18, 2023, revealed that no field surveys have been conducted in the immediate vicinity of the Area of Potential Effects (APE). One historic site, the Elwell Cemetery, is adjacent to the northwestern boundary of the proposed APE. Because the site lies outside the boundary of the APE and at least 830 feet from the intersection, it is unlikely that it will be affected by the project.

A review of online county assessor records indicated that four parcels within the APE contain buildings greater than 45 years old. The Waggoner parcel (northwest of the intersection) contains five buildings greater than 45 years old, including a residence built in 1947 and three sheds/outbuildings built in 1932. The Massey Farms parcel (southeast of the intersection) contains two buildings greater than 45 years old, including two residences built in 1902. The Lee parcel (northeast of the intersection) contains one residence built in 1900. The 6037 Johnstown parcel (northeast of the intersection) contains at least five buildings greater than 45 years old, including a residence built in 1902, a residence built in 1920, and three shed/outbuildings built in 1930. Both SH 60 and Weld County Road 13 have been evaluated for NRHP eligibility and have been concurred "not eligible."

This task proposes the performing of the following tasks: (1) define an APE with respect to both physical impacts and potential impacts to visual setting; (2) prepare architectural inventory forms (with background historical research) for historic buildings on all parcels around the intersection containing structures greater 45 years in age from which a right of way will be required for the project; and (3) conduct an archaeological survey within the proposed project area footprint.

COST: \$9,591.28

Meetings/Consultation- I understand that a scope of work for meetings and consultation with JWO Engineering might be needed.

COST: \$900.00

The total cost for this project for environmental tasks is **\$12,991.28**. This cost estimate and scope includes the tasks outlined in this proposal and drafting, review, and other direct costs. If you have any questions, or require additional information, please feel free to call me at 970-635-9183 or 970-222-2151.

Sincerely,



Darcy A. Tiglas, Biologist
Tiglas Ecological Services



February 14, 2023

DETAILED WORK PLAN FOR UTILITY ENGINEERING
Phase 1 – SUE Utility Designating
Phase 2 – Caisson Clearance Holes and SUE Utility Locating (Vacuum Excavations)

SH-60 and CR-13 – Johnstown, CO

Submitted to:



JWO Engineering, LLC
 1953 40th Avenue
 Greeley, Colorado 80634
 p. 970.381.2206

Submitted by:

Utility Mapping Services

www.umsi.us

15065 W. 44th Ave.
 Golden, CO 80403
 p. 720.230.0780



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DETAILED WORK PLAN FOR UTILITY ENGINEERING
Phase 1 – Project Corridor Utility Investigation, 2-D QL B Utility Designating
Phase 2 – Caisson Clearance Holes and Utility Locating (Vacuum Excavations)

SH-60 and CR-13
Johnstown, Colorado

Executive Summary

Utility Mapping Services (UMS) scope of work is to perform utility engineering (UE, a.k.a. subsurface utility engineering or SUE) services as a sub-consultant for JWO Engineering, LLC (a.k.a. “Client”) which is the prime consultant under contract with the Town of Johnstown (a.k.a. “Owner”). A utility investigation will be executed in accordance with ASCE standards to designate and depict existing infrastructure for integration within the conflict analytic process and design.

Note: Refer to Section 7 for the proposed project schedule, which is the basis for the associated SUE cost estimate. A revised or expedited schedule will result in additional costs which have not been included with this proposal.

Section 1 - Statement of Scope of Work

This work will be performed in accordance with ASCE 38¹, as well as Colorado Revised Statute CRS 9-1.5-103 and includes the following activities:

- Compilation of utility data (i.e. records and as-built information) acquired by UMS and others.
- Preparation of field books, log sheets, and crew scheduling and logistics for the initial utility designating field campaign.
- Phase 1: 2D QL B data acquisition (using electromagnetic (EM) induction, acoustic, and/or other geophysical technologies), characterization, and 2D depiction (CAD file) of existing utility infrastructure data to develop a reliably qualified base map and data set from which to develop and support future design, coordination, and construction decisions.
- Ground penetrating radar data acquisition and data processing.
- Phase 2: Vacuum Excavations at specific utility target locations to be determined by the project design team and utility coordination staff.
- Caisson vacuum excavation clearance holes.
- Populating utility data management system GEOfeature™ with hydraulic structure and test hole information from the field investigation.

**Note: QL refers to the quality level as described in ASCE 38.*

***Note: GEOfeature™ is a 3-D digital utility data repository designed to manage existing and new infrastructure as-built data in accordance with the new ASCE 75 standard. The repository includes a tablet and Web-GIS application for in-the-field utility data acquisition and viewing.*

¹ American Society of Civil Engineers, Construction Institute and Utility Engineering and Surveying Institute, *Standard Guideline for Investigating and Documenting Existing Utilities*. Reston, VA 2022.

Phase 1 Designating

Although Phase 1 utility designating of buried infrastructure will have goal of QL B (i.e., position is determined via a combination of geophysical, survey and engineering methods) some facilities such as non-conductive water are pragmatically designated to a mixture of QL C (i.e., based on surveyed surface features and record data), B, and A (i.e., exposed survey grade observations such as possible at manholes) during the Phase 1 field effort. Likewise, some non-conductive piping and/or ducts lacking tracer wire may be designated to QL D (i.e., based on evidence consisting of available record information and/or verbal accounts) during the Phase 1 effort. Data quality is improved as and where required during subsequent project utility engineering phases. Any utilities designated to QL C and/or QL D quality levels will be explained and described in the Phase 1 SUE existing utility report as to why a quality level below QL B has been used.

All work is intended to incorporate and stem from previous efforts performed by the Owner, Client and their consultants, and will be performed in compliance with applicable project design standards, procedures, and accepted engineering principles. Information contained within this SOW and corresponding labor and cost estimate is based on: project standards and deliverables; Federal Highway Administration (FHWA) *Avoiding Utility Relocations* (DTFH61-01-C-00024); FHWA guidelines for SUE; ASCE 38; Colorado Revised Statute CRS 9-1.5-103; and ASCE 75.

Phase 2 Locating

The Phase 2 investigation primarily consists of utility locating (discrete QL A vacuum excavated test holes). The Phase 2 investigation also includes performing up to four (4) 2-foot diameter, 10-foot-deep clearance excavation holes. UMS and a vac truck contractor will perform excavation operations and the engineering survey of each test hole location. The test hole locations will need to be coordinated between UMS and project team based on identified utility conflicts and areas where more detailed data, including three-dimensional coordinates, are required to complete designs and mitigate/accommodate conflicts. For the purpose of this work, "locate" means to establish by engineering, surveying, drafting, and vacuum excavation practices the accurate horizontal and vertical position of subsurface utilities with vertical tolerances of generally 0.1 feet based on referenced benchmarks. Written logs for all test holes are utilized, derived elevations are transcribed onto CAD reference files, and "locate" points area mapped to Quality Level A on the plans.

Section 2 - Recommendations

Although not specifically requested by the Client, UMS strongly recommends the following locate method be included with the utility mapping effort for this project:

- A project area sweep using a Geonics EM61-MK2 high sensitivity metal detector. This equipment is suitable for the detection of both ferrous and non-ferrous metal.

Note: Both of these sweeps can be completed during either Phase 1 or 2 field operations.

Additional work products the Client may wish UMS adapt into the work scope include:

- Continuous 3-D profile data in lieu of vacuum excavations. UMS uses the Vivax-Metrotech Spar 300 electromagnetic induction system which derives 3D alignment data for conductive utilities. This tool can provide highly valuable, continuous 3D profile data, reducing the number of excavated test holes and Phase 2 costs.
- CAD 3D modeling of the identified existing utilities for improved design, conflict analytics, and advanced resolution engineering

Section 3 - Project Limits

The project area is located at the intersection of SH-60 and CR-13 in Johnstown, CO. The project area can be seen in Figure 1 below.

The designating of some individual utilities may extend beyond the noted SUE project limits to include surface features or structures which are necessary to complete QL C alignments. Table 1 presents the utility owners listed by Colorado 811 as being present within or nearby the project area, along with the estimated lineal footages which are the basis for the Phase 1 cost estimate. Table 2 presents the proposed utility designating quality levels for the various facilities that are anticipated.

Figure 1. Overall Project Area

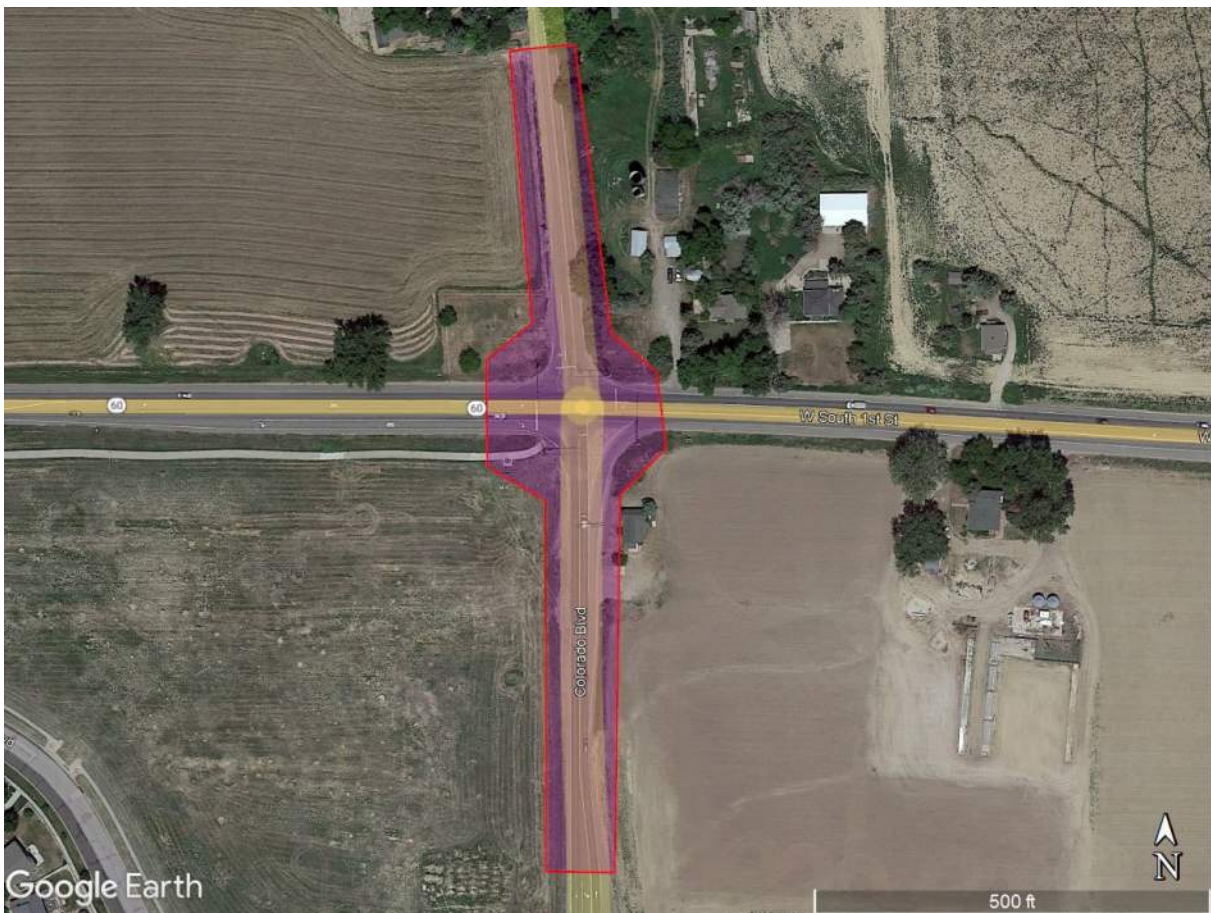


Table 1. Estimated Utility Linear Footages within the QL B investigation areas.

Owner	Utility	Estimated Linear Footage
CDOT	Electric, Traffic	1,200
City of Thornton	Fiber, Water	0
Civitas Resources	Gas, Electric, Water	0
Consolidated Home Supply Ditch	Irrigation	2,000
DCP Midstream	Pipeline	1,100
Lumen	Fiber, Telephone	5,350
Occidental Petroleum	Pipeline	0
TDS Telecom	Fiber, Telephone	1,400
Town of Johnstown	Water, Sewer	5,250
Western Midstream	Pipeline	0
Xcel Energy	Electric, Gas	5,650
	Total	21,950

*Record information not available at the time of estimate.

Table 2. Targeted designation of utilities for the subject project Phase I SUE investigation.

Utility Type (Buried)	Mains & Primary Laterals	Services / Secondary Laterals
Storm Drain	QL A at accessible inlets/outlets; QL C between accessible features	N/A
Sanitary Sewer	QL A at accessible inlets/outlets; QL C between accessible features	QL D
Culverts	QL A at accessible inlets/outlets; QL C between accessible features	N/A
Telecommunication	QL B	QL B
Cable TV	QL B	QL B
Natural Gas	QL B	QL B
Traffic Signals	QL B	N/A
ATMS	None Anticipated	N/A
Lighting	QL B	N/A
Water Mains	QL B	QL B
Buried Power	QL B	QL B
Private sprinklers	Not included in this scope of work; however, identified surface facilities encountered incidental to the field work will be noted.	N/A
Petroleum	None Anticipated	
Military Comm.	None Anticipated	N/A
Wells (Water, Crude Oil, Natural Gas)	Presently not included in this scope of work; however, wells encountered incidental to the field work will be noted.	N/A

Note: QL refers to the quality level as described in ASCE 38.

Section 4 - Project Deliverables

Utility Engineering deliverables include digital submittals of the following:

- CAD utility reference file based on Phase 1 and Phase 2 findings.
- Hydraulics summary report (pdf format).
- Vacuum excavation (test hole) summary report (pdf format).
- A P.E. sealed SUE existing utility plan set with quality level designations.
- A P.E. sealed submittal report summarizing this investigation with highlights of unusual findings.

In addition, UMS will provide ongoing interpretive support to assist design engineers and utility coordinators with subsequent findings and ensure submitted data is properly understood and utilized.

Section 5 - Project Assumptions

Phase 1 Assumptions:

- UMS utility research will stem from previous records investigation work performed by the Client. UMS requests all previously obtained records be provided upon Notice to Proceed. Reasonable efforts will be made to obtain supplemental utility records to produce the deliverables within the project schedule. The timely cooperation of utility owners may be necessary to develop the utility inventory map for facilities within the project area.
- All field work will be completed while the project corridor is clear of snow and ice.
- Labor to complete line of sight surveying is currently not included within this scope of work. UMS assumes RTK GPS/GNSS survey operations will be sufficient to map all utilities.
- Sufficient project survey control exists along the project corridor for RTK GPS survey operations; consequently, labor for establishing survey control is currently not included within this scope of work and the associated cost estimate.
- A maximum of two days of traffic control will be required for Phase I operations. Traffic control measures are not expected to require flagging operations.
- Confined space entry will not be required for this effort. All storm drainage, sanitary sewer, and any other measurements within confined spaces will be taken from the surface without entry into the confined space.
- Aerial clearance measurements will not be required for the Phase 1 effort. The locations of aerial wires, however, will be noted for clearance observations by others or during subsequent Phase 2 operations and are not included in this work scope and estimate.
- Vertical (depth and elevation) QL A observations will be tied to project control to an average accuracy of +/- 0.1 feet.
- UMS assumes all work will be completed during regular working hours (8:00 AM to 5:00 PM) and without start/stop time restrictions.
- Field crews will use paint to mark out the utility alignments and assume no paint removal will be required.

Phase 2 assumptions:

- Extreme weather conditions can significantly impact crew production rates and schedules. For this submittal, UMS assumes the project corridor will be clear of snow and ice during all field operations. UMS will keep the Client apprised of any schedule delays or budget impacts should current conditions effect the SUE field campaign.

- Client or Owner will obtain all necessary permits, right-of-entries, etc. (including private land access and railroad access) to allow UMS field personnel to work in areas outside of public right-of-way limits.
- UMS assumes that all work will take place during normal daytime working hours (7am to 5pm). Any work required outside of these hours, or any limitations applied to these work hours may result in additional costs and may affect the schedule UMS deliverables schedule.
 - UMS has not included any costs related to night work in this estimate. Should nighttime work be required, any equipment, special PPE, traffic control, lighting, coordination and preparation, permitting etc. will need to be added to the Phase 2 cost estimate.
- For any Phase 2 utility test holes that are included in the effort, vacuum excavations which fail to expose the target utility after attaining a reasonable depth (6-7') will still be considered a completed excavation.
- A possibility exists that existing conditions (i.e. groundwater, large boulders) may prevent crews from exposing the targeted utility or reaching the targeted depth for caisson clearance holes. In addition, utilities may be installed at a depth beyond the limits of the vacuum excavation equipment.
- Excavations are located outside of areas which require special repair measures (sidewalks, planters, driveways, etc.). Backfilling of each excavation will be accomplished with the use of road base material. Special sidewalk repairs, hot patch repairs, etc. are not included with this proposal.
- Each excavation is accessible to the vac truck and crew.
- Up to 5 excavations in asphalt/concrete pavement which will require concrete/asphalt coring. Road base material will be used as backfill and perma-patch for surface restoration to repair the concrete/asphalt plug.
- An additional 5 excavations are assumed to be located in the dirt, outside of the pavement areas.
- Up to 4 caisson clearance holes. The caisson clearance excavations have a targeted width of 2-feet in diameter and up to 10-feet in depth. The Client will identify the caisson clearance hole locations.
- A maximum of 3 days of traffic control will be required for Phase 2 operations. Traffic control measures are not expected to require flagging operations.
- T-patch and/or Hot patch repair is not included with this proposal.

Client and / or Owner will:

- **Obtain all necessary right-of-entries, security clearances, etc. (including private land access) to allow UMS field personnel to work outside the roadway right-of-way.**
- Provide information showing the project limits, alignment, profile, survey control points, benchmark data, coordinate data, relevant design and topographic CAD files, aerial photographs, and any other applicable information.
- Provide survey control information **prior** to UMS field crews arriving on-site.
- Provide any record or relevant survey or LIDAR information previously obtained by others.
- Assist UMS as necessary with obtaining permissions for access to private utility facilities.

UMS will perform the following coordination activities:

- Work closely with the Client and Owner to facilitate the orderly progress and timely completion of the approved tasks.
- Coordinate the work effort with the Client to discuss progress and resolve problems.
- Upon request provide the Client copies of logs and/or correspondence that document work-related communications between utility owners, outside agencies, and/or private landowners.
- Coordinate operations with private and public utility infrastructure owners.
- Obtain required One Call (Call 811) tickets.
- Provide all necessary equipment, supplies, and support personnel to secure data outlined in this section.

Associated labor and costs may increase if actual conditions deviate significantly from those assumed for this estimate. UMS will work with the Client in good faith to complete operations in a timely manner and will negotiate new pricing if conditions encountered significantly deviate from those assumed.

The results of the Phase 1 and 2 efforts will be pertinent at the time in which field investigation operations are completed and are subject to change. Subsequent SUE investigations may be necessary to account for any new or changed utility installations.

Section 6 - Project Coordination

The UMS project management team will consist of:

- Project Engineer, Cameron Greer, cgreer@umsi.us, 406.422.9702
- Project Manager, Alex Ramm-Hutchinson, arammhutchinson@umsi.us, 509.570.8448
- Principal Engineer, Phil Meis, P.E., pjmeis@umsi.us, 406.552.0883

If required, a monthly progress report will be prepared by the project manager and submitted via email to Client project management to document the SUE investigation. During the project time frame UMS project management staff members can be available to meet in person with Client project management for any urgent reason. Cell phone numbers for all of the UMS project management team members will be available to the Client should immediate communication be desired.

Section 7 - Project Schedule

UMS can typically begin work within two weeks of receiving notice-to-proceed (NTP). Based on assumed conditions identified in this scope of work, the following is the estimated project schedule:

- The initial effort will consist of requesting record information from each utility owner in the area. Depending on utility owner response time, it may take **up to two weeks** to gather all the record prints and as-built information.
- Utility designating field operations are estimated to require approximately **6 days** for a 2-person field designating crew, with an **additional 4 days** required to complete the location survey. Field operations will generally begin shortly after the utility record information has been compiled. However, the **actual start date will be dependent on the field crew schedule and availability at the time NTP is provided.**

- Final submittals will require **three to four weeks** after the field work has been completed to include the QL B CAD drawing, utility database preparation, along with completion of QA review and discrepancy resolution efforts.
- The Phase 2 schedule will be developed after completion of the Phase 1 effort.

UMS, at its own discretion, may assign different personnel to perform tasks specified within the work scope and estimate based on staff availability and project schedule.

UMS is prepared to add crew members as necessary to ensure necessary production levels are met and submittals are timely for utility coordination and design development.

Appendix A

SUE and the ASCE 38 Standard Guidelines

Data collection activities will follow American Society of Civil Engineers, Construction Institute and Utility Engineering and Surveying Institute, *Standard Guideline for Investigating and Documenting Existing Utilities*. Reston, VA 2022. Perhaps the most significant contribution of the ASCE/CI standard is the development of a formalized procedure for qualifying and designating the general quality of the depicted individual facilities. The Table below summarizes the four quality level (QL) definitions included in the ASCE standard. Included with the definitions are comments on the relative positional accuracy for the corresponding quality levels.

Adherence to ASCE depiction standards along with the use of records research, geophysical methods, vacuum excavation, and engineering survey combined in a phased approach and guided by professional judgment, has often been referred to as Subsurface Utility Engineering (SUE). In proper context, SUE, or more recently simply referred to as “Utility Engineering”, is a rather complex and important series of engineering tasks, procedures and associated responsibilities established to manage risk, promote efficiency, and reduce costs; the utility mapping and designation of quality levels, in fact, provides the data set with which the utility engineering process begins. In a broader sense, utility engineering involves utilizing the qualified utility data sets to conduct the following engineering activities:

- systematically identify, itemize, and define apparent conflicts between proposed designs and existing utilities;
- optimize design development and mitigate utility conflicts;
- identify and accommodate other infrastructure, planned betterments and new installations;
- conduct effective utility coordination in which resolutions to conflicts are derived that serve the best interests of the public and all stakeholders involved;
- develop construction plans and bid documents which concisely identify and provide details of outstanding conflicts for construction planning, bidding, and execution; and
- encourage value engineering and mitigation of cost implications to all infrastructure systems which provide service to commerce, government, and the general public.

Protocols for SUE / utility engineering as established by the Federal Highway Administration (FHWA) and the applicable state DOT will be followed for this project. The SUE process utilizing the ASCE 38 standard guideline for acquiring and depicting existing utilities provides a framework to obtain and represent the requested utility information in a pragmatic and cost effective manner.

By ASCE 38 definition, utility record data is classified as quality level (QL) D and will cause inconsistent and erroneous interpretation due to the following: 1) utilities are inaccurately positioned and in reality may or may not pose as an issue for proposed construction; 2) utility installations may vary due to recent improvements or changes and may not be properly documented; 3) some existing facilities may not be reported or identified and are missing from the data set; and 4) incomplete or inaccurate records can likewise cause misleading and erroneous field markings by third party contract locators or utility owner field personnel. In addition, buried unknowns can cause deceptive geophysical phenomena and interference which severely alter induced current flow and distort corresponding electromagnetic fields; these issues commonly occur, are difficult to detect and decipher, and greatly complicate detection and interpretive efforts.

Consequently, ASCE 38 standard guidelines were developed to overcome these problems and permit systematic upgrading of utility data designation to QL C, B, and A to facilitate subsequent design, conflict resolution engineering, and utility coordination work. The ASCE/CI 38-02 guidelines require:

- calibrated geophysical prospecting methods performed by qualified, experienced field personnel;
- methodical field investigation and verification practices;
- research and field identification of installation type, size, and material;
- land survey methods to accurately tie data to project coordinates;
- supplemental field and records investigation to prevent overlooked facilities;
- quality assurance review that includes owner written confirmation of depicted facilities; and
- a qualified registered professional engineer of record who thoroughly understands geophysical theory, has experience with all issues and pitfalls associated with mapping buried infrastructure, directly oversees the effort, and is directly accountable for all aspects of the work product.

Limitations

Professional subsurface utility engineering services are to be performed in accordance with generally accepted engineering principles and practices at this time. Adherence to ASCE 38 standards and good practices by experienced utility engineering personnel typically ensures development of a very good data set; practical restrictions in budget, schedule, access and equipment, however, can limit acquisition and interpretation efforts. The Phase 1 effort retraces detectable utility alignments within the project area to obtain QL B data wherever possible, collating information from records obtained from the utility owners, and relating records with observable surface features. A possibility will always exist that abandoned, forgotten, non-detectable or undocumented utilities are not mapped using standard SUE procedures previously described. Utilities possessing characteristics mentioned below can be overlooked while following standard SUE investigative procedures:

1. Utilities without apparent records available, without apparent surface features, and not detected through standard search procedures.
2. Utilities with records which are illegible or incomplete.
3. Utilities that are inaccurately reported or inaccurately represented by the owner as lying a significant distance from the true position.
4. Abandoned utilities lacking records and apparent surface features, and are not detected through standard search procedures.
5. Utilities buried excessively deep (as a rule of thumb, utilities located deeper than 10 feet), beyond detection limits of standard designating equipment and standard vacuum excavation equipment.
6. Non-conductive utilities buried in clay soil and lacking apparent surface features.
7. Facilities installed subsequent to the utility designating field investigation effort.
8. Individual utilities in a common trench. Designating of common trench utilities can be difficult due to EM signal bleed over and difficulties in separating EM signals. Cathodic Protection connections between individual pipelines also increases the difficulty of determining individual pipe alignments.

9. QL B depictions of pipe alignments developed by means of tracer wire direct connection methods is dependent on the assumption that the tracer wire has been placed in close proximity to the associated pipe. Events such as lightning strike surges along tracer wires have caused damages to pipes, so installation practices now require that tracer wire is offset a safe distance (e.g., 1 to 2 feet) from the pipes. Users are cautioned that it is the tracer wire alignment that is recorded and depicted on the existing utility reference file and the assumption is made that this represents the alignment of the target pipe.

A pragmatic effort will be made to systematically designate and depict buried utilities within the corridor to the extent practical for the authorized project budget and schedule. UMS must be kept advised throughout the design process to: 1) assess subsequent verbal accounts or record evidence on infrastructure which do not agree with or contradict the submitted data set; 2) evaluate designer evaluation and usage of the qualified and depicted utility data, especially QL C and D data; and 3) provide recommendations for further utility investigations as deemed prudent.

Final utility plans are for design purposes only and reflect subsurface utility conditions at the time surveyed. Existing utility locations depicted on the plans do not supersede statutory mandates including Colorado 811 notification; the contractor shall call 811 two business days prior to construction and obey mandates as required by law. The Client and UMS should be notified of any discrepancies between the utility designating results and Colorado 811 notification markings, and caution shall be used by the contractor until discrepancies are resolved.

Contractor shall call the utility notification service (Colorado 811) before excavating as required by Law.

Utility Mapping Services

Cost Proposal for Phase 1 Utility Investigation

Project Name: SH-60 and CR-13

UMS Project No: 11951.1

Date: February 14, 2023

Owner: Town of Johnstown

Contact: Johnny Olson

Address: 1953 40th Ave, Greeley CO 80634

Phone: 970-381-2206

Email: jdolsons33@gmail.com



Utility Mapping Services

15065 W. 44th Ave.

Golden, CO 80403

720.230.0780

www.umsi.us

email: cgreer@umsi.us

**Subsurface Utility Engineering - Phase 1 Assumptions: 21950 linear feet of utilities
A two man designating crew for 6 days
An engineering survey for 3 Days**

Project Task No.	Project Task Description	Project Manager	Project Engineer	Staff Geophysicist	Principal Engineer	Field Ops Manager	Field Specialist II	Field Specialist I	Staff Engineer	Clerical	Total Hours	
1100	Project Preparation and Management, Meetings	10.00	4.00	2.00	1.00	6.00	4.00		6.00	2.00	35.00	
1200	Records Research and Review	4.00				4.00	2.00		4.00		14.00	
1300	Mobilization					8.00	9.00		9.00		26.00	
1400	Field Designating					48.00	48.00				96.00	
1450	GPR Data Acquisition			2.00					8.00		10.00	
1500	Engineering Survey								24.00		24.00	
1600	CADD Development		30.00								30.00	
1650	GPR Data Processing			12.00							12.00	
1700	Database Development	2.00	8.00								10.00	
1800	Project Documentation & QA/QC	4.00	4.00	2.00	4.00	6.00	3.00		4.00		27.00	
1900	Submittal Preparation	2.00	8.00	2.00	4.00					2.00	18.00	
	Phase I Hours	22.00	54.00	20.00	9.00	72.00	66.00	0.00	55.00	4.00	302	
	Hourly Raw Rates	55.37	47.60	42.00	58.01	46.17	35.00	25.30	42.00	48.00		
	Total Direct Raw Rates	1218.14	2570.40	840.00	522.09	3324.24	2310.00	0.00	2310.00	192.00	13287	
	Fully Burdened Rates	178.29	153.27	135.24	186.79	148.67	112.70	81.47	135.24	154.56		
	Total Burdened Rates	3922.41	8276.69	2704.80	1681.13	10704.05	7438.20	0.00	7438.20	618.24	42784	
											Phase I Labor Costs	42783.72

Item	Unit	No. of Units	Unit cost	
CADD Station	hour	30.00	10.00	300.00
Survey Equipment (Trimble R8 RTK GPS)	day	3.00	144.00	432.00
PinPoint GPR	day	1.00	350.00	350.00
Geofeature Database Fee	hour	10.00	27.00	270.00
Specialty Field Vehicle	mile	1100.00	0.655	720.50
GSA Meals (Travel Day)	day	4.00	44.25	177.00
GSA Meals (Full Day)	day	6.00	59.00	354.00
GSA Lodging	day	8.00	98.00	784.00
			Total Direct Costs	3387.50

UMS Services **\$46,171.22**

Traffic Control (does not include flaggers)	day	2.00	1500.00	3000.00
Permits (Fee assumed to be waived)	ea	0.00	500.00	0.00

SUE Phase 1 Total **\$49,171.22**

*traffic control and permit costs are approximate; actual costs will be invoiced.

THIS ESTIMATE IS VALID FOR 60 DAYS FROM THE DATE POSTED AT THE TOP OF THIS PROPOSAL

Utility Mapping Services

Cost Proposal for Phase 2 QL A Utility Investigation

Project Name: SH-60 and CR-13

UMS Project No: 11951.2

Date: February 14, 2023

Owner: Town of Johnstown

Contact: Johnny Olson

Address: 1953 40th Ave, Greeley CO 80634

Phone: 970-381-2206

Email: jdolsons33@gmail.com



Utility Mapping Services

15065 W. 44th Ave.

Golden, CO 80403

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email: cgreer@umsi.us

Subsurface Utility Engineering - Phase 2 Utility Investigation: Assuming 10 vacuum excavation holes on utilities less than 7-feet in depth, 5 holes in pavement, and 5 in dirt. Four caisson clearance holes, 2-feet in diameter and 10-feet in depth.

Project Task No.	Project Task Description	Project Manager	Project Engineer	Staff Geophysicist	Principal Engineer	Field Ops Manager	Field Specialist II	Field Specialist I	Staff Engineer	Clerical	Total Hours
2100	Work Plan, H&S, Traffic, Permits	4	2		1	3				2	12.0
2200	Mobilization					4					4.0
2300	Test Hole Staking/Designating					2					2.0
2400	Utility Locating					24					24.0
2500	Engineering Survey					1					1.0
2600	CADD Development		2								2.0
2700	Database Development		2								2.0
2800	Project Documentation & QA/QC	1	1		2	3					7.0
2900	Submittal Preparation	2	2		2					2	8.0
Phase II Hours		7.0	9.0	0.0	5.0	37.0	0.0	0.0	0.0	4.0	62
Fully Burdened Rates		178.29	153.27	135.24	186.79	148.67	112.70	81.47	135.24	154.56	
Total Burdened Rates		1248.04	1379.45	0.00	933.96	5500.69	0.00	0.00	0.00	618.24	9680.38
Labor Costs											9680.38

Item	Unit	No. of Units	Unit cost	
CADD Station	hour	2.00	10.00	20.00
Survey Equipment (Trimble R8 RTK GPS)	day	1.00	144.00	144.00
Geofeature Database Fee	hour	2.00	27.00	54.00
Specialty Field Vehicle	mile	300.00	0.655	196.50
GSA Meals (Travel Day)	day	2.00	44.25	88.50
GSA Meals (Full Day)	day	1.00	59.00	59.00
GSA Lodging	day	2.00	98.00	196.00
Total Direct Costs				758.00

UMS Services 10438.38

Vacuum Excavation Truck and Crew (utility test holes)	ea	10.00	700.00	7000.00
Vacuum Excavation Truck and Crew (caisson clearance holes)	ea	4.00	1600.00	6400.00
Pavement Repair and Resurfacing	ea	9.00	275.00	2475.00
Permits	ea	1.00	1800.00	1800.00
Flowable Fill	ea	0.00	155.00	0.00
Traffic Control (does not include flaggers)	day	3.00	1800.00	5400.00

Vendor Services, Permits, Traffic Control 23075.00

*traffic control, vac truck and permit costs are approximate; actual costs will be invoiced.

THIS ESTIMATE IS VAILD FOR 60 DAYS FROM THE DATE POSTED AT THE TOP OF THIS PROPOSAL

SUE Phase 2 Total **\$33,513.38**