

# CONSULTING AGREEMENT

**THIS CONSULTING AGREEMENT** (“Consulting Agreement” or “Agreement”) is made and entered into this 13th day of June, 2017, by and between **JR Engineering, LLC**, a Colorado Corporation, whose address is 7200 S. Alton Way, Suite C400, Centennial, CO 80112 (hereinafter referred to as “Consultant”) and the **TOWN OF ERIE, COLORADO**, a Colorado municipal corporation, whose address is 645 Holbrook Street, P.O. Box 750, Erie, Colorado 80516 (hereinafter referred to as “Town” or “Erie”).

## W I T N E S S E T H

**WHEREAS**, the Town desires to engage the Consultant to render the professional services described in this Consulting Agreement and the Consultant is qualified and willing to perform such services in accordance with, and subject to the provisions of this Consulting Agreement; and,

**WHEREAS**, legal authority exists to engage the Consultant and sufficient funds have been budgeted and are available for the work to be performed by the Consultant under this Agreement, and other necessary approvals have been obtained.

**NOW, THEREFORE**, in consideration of the mutual promises, covenants and obligations of the parties hereto, the terms, covenants and conditions hereof, and intending to be legally bound, the Town and the Consultant agree as follows:

1. The Project. The Consultant's services are engaged under this Consulting Agreement for the following project: **Construction Management for the Zone 3 Waterline Extension** (“Project”).

2. Consultant’s Services. The Consultant shall, during the term of this Agreement, provide the services to the Town as set forth in Exhibit “A”, attached hereto and incorporated herein by this reference (the “Services”). The Consultant shall perform the Services competently, efficiently, and in accordance with the highest standards of its profession. The Consultant shall perform the Services meeting all industry safety standards.

3. Additional Services. The Town may request the Consultant to perform additional work or phases of the Project in addition to the Services. The Consultant agrees to perform the additional work or phases of the Project if the Town so requests, either pursuant to an amendment to this Consulting Agreement or a new agreement in which the Town and the Consultant shall define the scope of, and additional payment for, the additional work or phases of the Project.

4. Compensation. In consideration for the performance of the Services, the Town shall pay to the Consultant a fee in the total amount of **\$ 75,484**, and payable in accordance with the payment schedule, as set forth in Exhibit “B”, attached hereto and incorporated herein by this reference.

5. Reimbursable Expenses. The Town agrees to reimburse the Consultant for the reimbursable expenses incurred by the Consultant in connection with the Services, such expenses to be described in detail in Exhibit “B”. Travel expenses between the Town and the Consultant's office shall not be considered reimbursable expenses. The Consultant shall maintain an accurate record of all such expenses and provide itemized records and copies of receipts when submitting such expenses to the Town for reimbursement. The maximum amount reimbursable by the Town to the Consultant under this Consulting Agreement shall be set forth on Exhibit “B”. Such expenses not described on Exhibit “B”, shall not be reimbursed by the Town.

6. Commencement and Completion of Services. The Consultant understands and agrees that time is an essential requirement of this Consulting Agreement. The term of this Consulting Agreement shall commence on the date of this agreement and shall end on December 31, 2017. The Services shall be completed as soon as good practice and due diligence will permit.

7. Termination.

A. This Consulting Agreement may be terminated by either party upon Ten (10) days prior written notice to the other party in the event of a substantial failure by the other party to fulfill its obligations under this Consulting Agreement through no fault of the terminating party.

B. This Consulting Agreement may be terminated by the Town in its sole discretion upon Ten (10) days prior written notice to the Consultant.

C. In the event of termination as provided for in this paragraph, the Town shall pay the Consultant in full for Services performed to the date of notice of termination plus any Services the Town deems necessary during the notice period. Said compensation shall be paid upon the Consultant's delivering or otherwise making available to the Town all data, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by the Consultant in performing the Services included in this Consulting Agreement, whether completed or in progress.

8. Insurance.

8.1 Consultant shall procure and maintain, and shall cause any subcontractor of Consultant to procure and maintain, the minimum insurance coverages listed below. Such coverages shall be procured and maintained with forms and insurers acceptable to the Town. All coverages shall be continuously maintained to cover all liability, claims, demands, and other obligations assumed by Consultant pursuant to paragraph 17 of this Consulting Agreement. In case of any claims made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage.

A. Workmen's Compensation Insurance and Employer's Liability Insurance to cover obligations imposed by applicable laws for any employee of Consultant or a subcontractor engaged in the performance of work under this Consulting Agreement.

B. General liability insurance with minimum combined single limits of One Million Dollars (\$1,000,000) each occurrence and One Million Dollars (\$1,000,000) aggregate. The policy shall be applicable to all premises and operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employees' acts), blanket contractual, products, and completed operations. The policy shall contain a severability of interests provision.

C. Comprehensive Automobile Liability insurance within single limits for bodily injury and property damage of not less than One Million Dollars (\$1,000,000) each occurrence and One Million Dollars (\$1,000,000) aggregate with respect to each of Consultant's owned, hired or non-owned vehicles assigned to or used in the performance of this Consulting Agreement. The policy shall contain a severability of interests provision.

D. Professional Liability insurance within minimum single limits of not less than One Million Dollars (\$1,000,000) each occurrence and One Million Dollars (\$1,000,000) aggregate.

and the Town's officers and employees as additional insureds. Every policy required above shall be primary insurance, and any insurance carried by the Town, its officers, or its employees, or carried by or provided through any insurance pool of the Town, shall be excess and not contributory insurance to that provided by the Consultant. The Consultant shall be solely responsible for any deductible losses under any policy required above.

8.3 A certificate of insurance shall be completed by the Consultant's insurance agent and provided to the Town as evidence that policies providing the required coverages, conditions, and minimum limits are in full force and effect, and shall be reviewed and approved by the Town prior to commencement of the Consulting Agreement. The certificate shall identify this Consulting Agreement and shall provide that the coverages afforded under the policies shall not be cancelled until at least thirty (30) days prior written notice has been given to the Town. Consultant shall notify the Town within ten (10) days if the coverages afforded under the policies are materially changed. The completed Certificate of Insurance shall be sent to: Town Clerk, Town of Erie, PO Box 750, Erie, CO 80516

8.4 Notwithstanding any other portion of this Consulting Agreement, failure on the part of Consultant to procure or maintain policies providing the required coverages, conditions, and minimum limits shall constitute a material breach of this Consulting Agreement for which the Town may immediately terminate this Consulting Agreement, or, at its discretion, the Town may procure or renew any such policy or any extended reporting period thereto and may pay any and all premiums in connection therewith, and all money so paid by the Town shall be repaid by the Consultant to the Town upon demand, or the Town may offset the cost of the premiums against any money due to the Consultant from the Town.

8.5 The parties hereto understand and agree that the Town is relying on, and does not waive or intend to waive by any provision of this Consulting Agreement, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, Section 24-10-101, et seq., C.R.S., as from time to time amended, or any other law, protection or limitation otherwise available to the Town, its officers, or its employees.

9. Payment of Subcontractors. Consultant shall contract with and pay any and all subcontractors used by Consultant in the performance of the Project. The Town shall in no event have any liability to any subconsultant, and Consultant shall hold the Town harmless with respect to any payments alleged to be due to Consultant's subcontractors.

10. Compliance with Applicable Laws. In connection with the execution of this Consulting Agreement, the Consultant shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, or disability. Such actions shall include, but not be limited to the following: employment; upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Consultant shall comply with the Americans with Disabilities Act (Public Law 101-336), and all applicable regulations and rules promulgated by the Equal Employment Opportunity Commission and the Colorado Civil Rights Commission. At all times during the performance of the Agreement, Consultant shall strictly adhere to all applicable federal, state and Town laws that have been or may hereafter be established. This shall include, without limitation, the United States Department of Labor standards. As used in this paragraph, and hereafter, the term "laws" shall include, without limitation, all federal, state and Town codes, charters, ordinances, laws, standards, rules and regulations. The indemnification and termination provisions of this Consulting Agreement shall apply with respect to Consultant's failure to comply with all applicable laws or regulations.

10A. No Discrimination In Employment. In connection with the performance of work under

this Agreement, Consultant agrees not to refuse to hire, discharge, promote or demote, or to discriminate in matters of compensation against any person otherwise qualified on the basis of race, color, ancestry, creed, religion, national origin, gender, age, military status, sexual orientation, marital status, or physical or mental disability and further agrees to insert the foregoing provision in all subcontracts hereunder

11. Prohibited Interest.

A. The Consultant agrees that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of its Services hereunder. The Consultant further agrees that in the performance of the Consulting Agreement, no person having any such interest shall be employed.

B. No official or employee of the Town shall have any interest, direct or indirect, in the Consultant, this Consulting Agreement or the proceeds therefrom.

12. Independent Contractor. The Consultant shall perform all Services as an independent contractor, and nothing in this Consulting Agreement is intended to or shall create a relationship of employer-employee, joint venturers, or partners, between the parties. The Consultant shall be solely responsible for all federal and state income taxes attributable to the monies payable to the Consultant for the Services.

13. Books and Records. The Consultant's books and records with respect to the Services and reimbursable costs shall be kept in accordance with generally accepted accounting principles and practices, consistently applied, and will be made available for the Town's inspection at all reasonable times at the places where the same may be kept. The Consultant shall not be required to retain such books and records for more than three (3) years after completion of the services.

14. Obligation of Non-Disclosure. The Consultant agrees to keep confidential any and all drawings, reports, documents, memoranda, research, plans, analysis, maps, photographs, designs, information and work product either provided by the Town or generated by the Consultant pursuant to this Consulting Agreement, or provided to the Consultant by other consultants. Consultant shall make use of the information or items set forth hereinabove for any purpose, including public hearings of the Town, as expressly directed by the Town, for the Town's benefit. Consultant shall not use the information or items set forth hereinabove for its own account, or another's account, or in any manner detrimental to the Town. The Town acknowledges the need to share said information and items referred to hereinabove with the Consultant's subconsultants under this Consulting Agreement, and hereby approves such sharing and use.

15. Acknowledgement of Ownership. Consultant acknowledges that all drawings documents, information and materials relating to the Services performed and the Project for which the Services are performed, as well as those items described in paragraph 14, are or shall become, upon termination of this Consulting Agreement, the exclusive property of the Town.

16. Return of Information. Promptly upon the Town's request, and in any event upon the termination of this Consulting Agreement for any reason, all documents, materials and writings, as well as those items described in paragraph 14, and all copies thereof provided by the Town to the Consultant, directly or indirectly, shall be returned by the Consultant to the Town.

17. Professional Liability. The Consultant shall exercise in its performance of the Services hereunder the standard of care required by Colorado law. The Consultant shall be liable to the Town for any loss, damages, or costs incurred by the Town for the repair, replacement or correction of any part of

the Project which is deficient or defective as a result of any failure of the Consultant to comply with this standard.

18. Communications. All communications relating to the day-to-day Services for the Project shall be exchanged between the respective Project representatives of the Town and the Consultant who will be designated by the parties promptly upon commencement of the Services.

19. Indemnification. Consultant agrees to indemnify and save harmless the Town against any and all claims, debts, demands, damages or obligations which may be asserted against the Town arising by reason of, or in connection with, any alleged act or omission of Consultant or any person claiming under, by or through Consultant, at Consultant's own expense using those attorneys that the Town deems appropriate. If, however, it becomes necessary for the Town to defend any action arising by reason of, or in connection with, any alleged act or omission of Consultant or any person claiming under, by or through Consultant seeking to impose liability for such claim or demand, Consultant shall pay all court costs, witness fees, expert witness fees, and attorney's fees, incurred by the Town in effecting such defense in addition to any other sums which the Town may be called upon to pay by reason of the entry of any judgment, assessment, bond, writ or levy against the Town in the litigation in which such claims are asserted. Consultant shall be subrogated to any and all amounts paid by it on behalf of the Town to any claims that the Town may have as a result of said payments to any person or third persons which are the reason or cause of said payments.

20. No Assignment. Consultant's duties and obligations pursuant to this Consulting Agreement require a particular expertise and skill, and may not be assigned to any third party or agency without the express written consent of the Town, which consent may be withheld at the sole discretion of the Town.

21. Notices. Any notices required or permitted hereunder shall be sufficient if personally delivered or if sent by certified mail, return receipt requested, addressed as follows:

If to the Town:

Director of Public Works  
Town of Erie  
P.O. Box 750  
Erie, Colorado 80516

With a copy (which shall not constitute notice) to:

Mark R. Shapiro  
Mark R. Shapiro, P.C.  
1650 38th Street, Suite 103  
Boulder, Colorado 80301

If to the Consultant:

Aaron L. Clutter, PE  
JR Engineering, LLC  
7200 S. Alton Way, Suite C400  
Centennial, CO 80112  
(303) 267-6220  
aclutter@jrengineering.com

Notices personally delivered shall be effective upon delivery. Mailed notices shall be effective three (3) business days after mailing.

22. Agreement Subject to Annual Appropriation.

A. The parties hereto understand and agree that the amount of \$75,484 has been budgeted for compensation for work done pursuant to this Consulting Agreement for the current fiscal year ending December 31, 2017. This is a full and lawful appropriation as required by appropriate statute for this project. In the event that the Town fails to appropriate sufficient funds to cover any compensation which may become due for the fiscal year beginning January 1, 2018, then, and in that event, this Consulting Agreement shall immediately terminate as of December 31, 2017, without further action of any party. The Town shall provide notice to Consultant prior to December 31, 2017, as to whether an appropriation has been made for further work anticipated following December 31, 2017.

B. The amount of money appropriated by the Town is equal to or in excess of the Consulting Agreement amounts due herein for the current fiscal year.

C. The Town shall be prohibited from issuing any change order or other form of order or directive requiring additional compensable work to be performed, which work causes the aggregate amount payable under this Consulting Agreement to exceed the amount appropriated for the original Consulting Agreement, unless Consultant is given written assurance by the Town that lawful appropriations to cover the cost of the additional work have been made or unless such work is covered under a remedy-granting provision in this Consulting Agreement.

23. Prohibition Against Employment of Illegal Aliens.

A. By its signature on this Agreement, Consultant certifies that, as of the time of its signature, it does not knowingly employ or contract with an illegal alien and that, in order to verify that it does not employ any illegal aliens, the Consultant will participate in the E-Verify Program created in Public Law 104-208, as amended, and expanded in Public Law 108-156, as amended, administered by the United States Department of Homeland Security and the Social Security Administration.

B. Consultant agrees that it shall not knowingly employ or contract with an illegal alien to perform work under this Agreement; and that it shall not enter into a contract with a subcontractor that fails to certify to the Consultant that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this contract.

C. Consultant has verified through participation in the E-Verify Program that the Consultant does not employ any illegal aliens.

D. Consultant shall not use the E-Verify Program procedures to undertake preemployment screening of job applicants while work under this Agreement is being performed.

E. If Consultant obtains actual knowledge that a subcontractor performing work under this Agreement knowingly employs or contracts with an illegal alien, the Consultant shall: (1) notify the subcontractor and the Town within three days that the Consultant has actual knowledge that the subcontractor is employing or contracting with an illegal alien; and (2) terminate the subcontract with the subcontractor if, within three days of receiving the notice required herein, the subcontractor does not stop employing or contracting with the illegal alien; except that the Consultant shall not terminate the contract with the subcontractor if during such three days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien.

F. The Consultant shall comply with any reasonable request by the Colorado Department of Labor and Employment made in the course of an investigation that the Department is undertaking pursuant to the authority established in C.R.S. section 8-17.5-101(5).

G. If Consultant violates a provision of this Illegal Alien section, the Town may terminate this Agreement for breach of contract. If the Agreement is so terminated, the Consultant shall be liable for actual and consequential damages to the Town. Consultant understands that, in the event of such a termination, Town is required to notify the office of the Colorado Secretary of State.

24. Attorney's Fees; Interest. In any action brought to enforce the provision(s) of this Consulting Agreement, the prevailing party shall be entitled to an award of all reasonable attorney's fees and costs, including expert witness' fees, expended or incurred, to be recovered as part of the costs therein. Any fees and expenses not paid to Consultant by the Town when due shall earn interest at the rate of twelve percent (12%) per annum.

25. Waiver. Failure to insist upon strict compliance with any of the terms, covenants, and/or conditions hereof shall not be deemed a waiver of such terms, covenants or conditions, nor shall any waiver or relinquishment of any right or power hereunder at any one time or more times be deemed a waiver or relinquishment of such right or power at any other time or times.

26. Amendments to Agreement. No changes, alterations or modifications to any of the provisions hereof shall be effective unless contained in a written agreement signed by both parties.

27. Entire Agreement. This Consulting Agreement shall constitute the entire agreement between the parties hereto and shall supersede all prior contracts, proposals, representations, negotiations and letters of intent, whether written or oral, pertaining to the Services.

28. Situs, Venue and Severability. The laws of the State of Colorado shall govern the interpretation, validity, performance and enforcement of this Consulting Agreement. For the resolution of any dispute arising hereunder, venue shall be in the Courts of the County of Weld, State of Colorado. If any provision of this Consulting Agreement shall be held to be invalid or unenforceable, the validity and enforceability of the remaining provisions of this Consulting Agreement shall not be affected thereby.

29. Paragraph Headings. Paragraph headings are inserted for convenience only and in no way limit or define the interpretation to be placed upon this Consulting Agreement.

30. Binding Agreement. This Consulting Agreement shall be binding upon and for the benefit of the parties hereto, their successors and assigns.

**IN WITNESS WHEREOF**, the parties hereto have executed this Consulting Agreement as of the day and year first-above written.

**TOWN:**

**TOWN OF ERIE,**  
**a Colorado municipal corporation**

By: \_\_\_\_\_  
Tina Harris, Mayor

**ATTEST:**

By: \_\_\_\_\_  
Nancy J. Parker, Town Clerk

**CONSULTANT:**

**JR Engineering, LLC.,**  
**a Colorado corporation**

By: Aaron L. Clutter  
Aaron L. Clutter, President

**ATTEST:**

By: Kurtis Williams  
Kurtis Williams, Secretary



**EXHIBIT "A"**

(Services to be provided by Consultant)

## WORK PLAN

### Project Understanding / Scope of Services

Based on discussions with the Town of Erie (the Town), **JR Engineering** will provide construction management and close-out services for the Zone 3 Waterline Extension Phase 1 project. Based on the above understanding we have assumed that the construction will take place from June 2017 through September 2017 and final closeout will occur in September/October of 2017. **JR** will provide the following scope of services:

#### **Construction Management, Observation and Administration**

**JR** will assist the Town of Erie during the construction phase of the waterline improvements. The work scope is shown in the one set of construction plans prepared by **JR Engineering**. The services will include the following:

**Pre-Construction Meeting:** **JR** personnel will conduct the pre-construction meeting with the Contractor, the Town of Erie, the surveyor, and the geotechnical engineer for this project. **JR** will prepare an agenda for the conference, and record, prepare and distribute meeting minutes. The pre-construction conference shall include a discussion of the following:

- Clarification of any items in the plans or specifications;
- Exchange names and phone numbers of contact personnel;
- Establish a time and place for weekly progress meetings;
- Request all required permits for the project;
- Request and review the construction schedule provided by the Contractor;
- Request and review all work safety and construction traffic control plans;
- Establish with the contractor the process and dates for submitting pay requests;
- Establish a process for requesting information and responding to such requests; and
- Any other special construction conditions will be clarified.



**JR** will ensure that all permits, safety plans, easements, or other required information are in place prior to construction.

**Construction Progress Meetings (Assumed 17 meetings):** **JR** personnel will conduct weekly progress meetings with the Contractor, Town of Erie, geotechnical engineer, and the surveyor. **JR** will schedule, prepare and distribute written meeting minutes and conduct the progress meetings. These meetings will address:

- Project Coordination;
- Construction issues that need resolved;
- Work completed since last meeting;
- Problems encountered and recommended solutions;
- Review of alternatives;
- Anticipated delays and late activities;



- Activities required by the next progress meeting; and
- Discuss and update the schedule and revise as necessary.

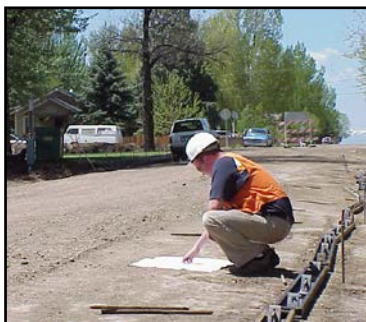
**Shop Drawing Review/Respond to RFIs:** JR personnel will review any necessary shop drawings, material submittals, or traffic control plans submitted by the contractor for general compliance with the design concept. JR will also coordinate with applicable parties (owners, utilities, designers) and prepare a written response to the Contractor's Request for Information. We will also keep and maintain a submittal, RFI, and safety log for the project.

**Pay Request Review:** JR will review and approve pay requests forwarded from the Contractor. JR will forward the application for payment to the Town of Erie. JR's review will be for the purpose of providing a general review of the payment request. JR will also review and verify the quantities of work performed during the pay request period. We have assumed that we will have four separate pay requests from contractors.

**Change Order Request Review:** JR will provide documentation and administer the processing of change orders, including applications for extension of construction time. JR will evaluate the cost and scheduling aspects of all change orders and, where necessary, negotiate with the Contractor to obtain a fair price for the work. Said negotiation shall be subject to the approval of the Town.

**Materials Testing:** Kumar and Associates (Kumar) will perform materials testing of soils and concrete. Kumar has made general assumptions regarding the testing and inspection frequencies and the materials being utilized in this project. Kumar has estimated their fees for the project based on an anticipated schedule for construction and their experience on projects of similar size and scope. If required, additional testing beyond the proposed frequency will be based on Kumar's standard hourly rates.

**Review of Inspections, Reports, Cut Sheets, and Tests:** JR will receive certifications of inspection, field tests, and observation reports, survey cut sheets, and approvals. Review the QA/QC documentation reports for general conformance with applicable specifications and transmit them to the Town.



**Construction Observation:** JR will visit the project at appropriate intervals to observe progress of the work and field check for general conformance to the construction documents.

**Coordination with Utility Companies, Property Owners, and Contractors:** JR personnel will coordinate with utility companies, contractors, and property owners, giving opinions and suggestions based on the observations regarding defects or deficiencies in the Contractor's work and relating to compliance with drawings, specifications, and design concepts.

**Construction Design and Field Change Notices:** JR can serve as liaison between the Town of Erie and the Contractor in providing interpretation of the construction documents, transmitting clarifications and resolving field conflicts. As needed, JR personnel will prepare and issue Design Change Notices or Field Change Notices during construction.

By performing the above services, **JR Engineering** shall not have authority or responsibility to supervise, direct, or control the Contractor's work or the Contractor's means, methods, techniques, sequences, or procedures of construction. **JR Engineering** shall not have authority or responsibility for safety precautions and programs incident to the Contractor's work or for any failure of the Contractor to comply with laws, regulations, rules, ordinances, codes, or orders applicable to the Contractor furnishing and performing the work. **JR Engineering** shall not have the authority or responsibility to reject and/or accept Contractor's workmanship and materials.

**Recommend Substantial Completion and Final Acceptance:** Upon substantial completion, **JR** will perform a final walkthrough of the project with the Contractor and Town of Erie personnel to prepare a punchlist of those items to be completed or corrected before final completion of the project.

Upon completion or correction of the items of work on the punch-list, **JR** will conduct a final review to determine if the work is completed. **JR** will then provide a written recommendation concerning final payment to the Town of Erie, including a list of items, if any, to be completed prior to making such payment.

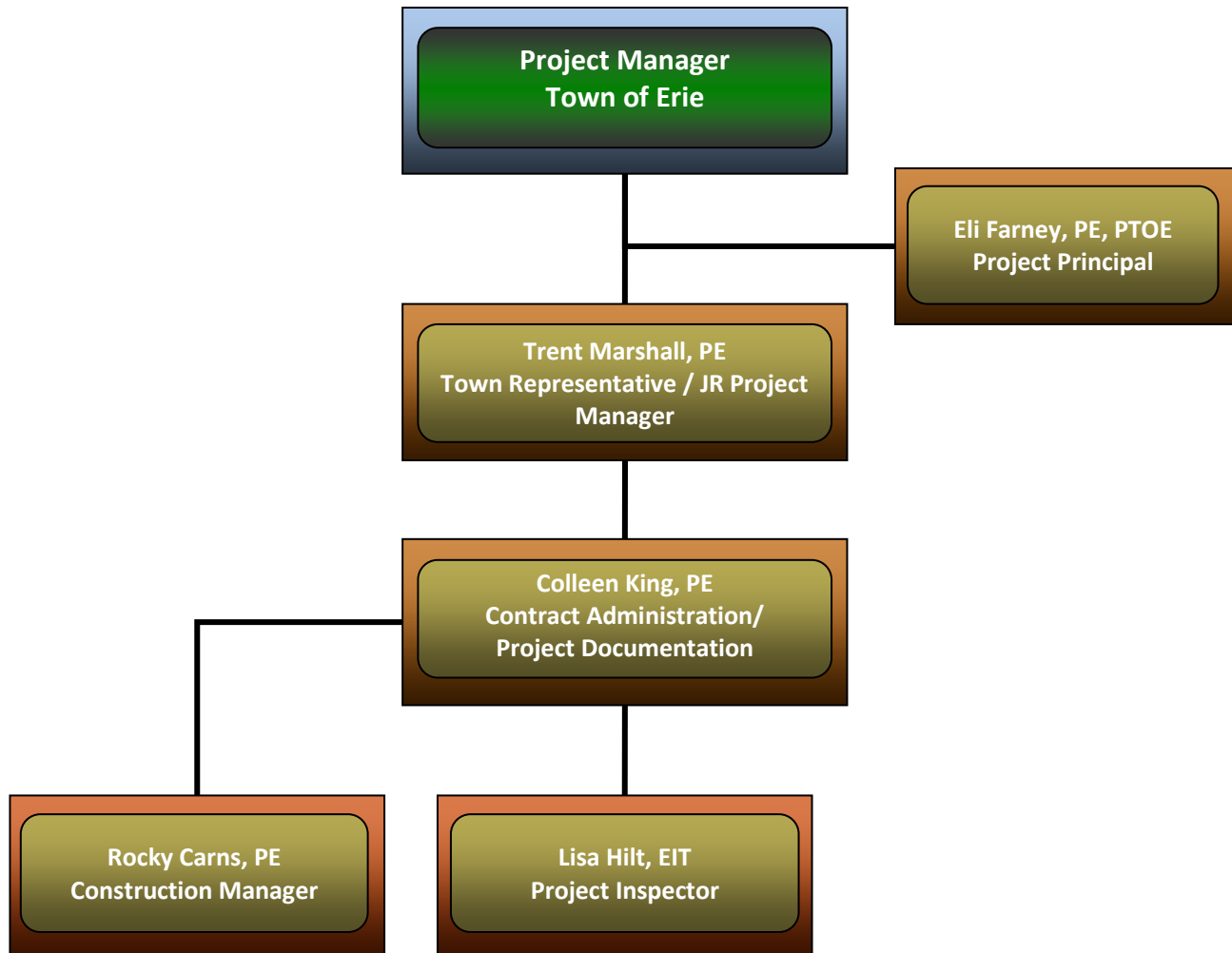
**As-Built/Record Drawings:** **JR** will prepare as-built or record plans for Town records in accordance with the Town's Standards and Specifications. We understand that the contractor will be required to keep a record set of plans showing any changes during construction which will be provided to **JR**.

**Prepare CAD Files, Electronic Plans, and Info for GIS System:** **JR** will prepare and submit AutoCAD files, a pdf of the entire set of plans and information required for entry into the Town's GIS system.



## PROJECT TEAM

For the Town of Erie, Zone 3 Waterline Extension project, we have selected a team familiar with Municipal roadway, utility and drainage projects. This team has immediate availability and the capacity to perform the required services.



## KEY PERSONNEL ROLES AND RESPONSIBILITIES

**Mr. Eli Farney, PE, PTOE (Project Principal):** Mr. Farney will serve as Principal and will conduct QC/QA reviews of our project staff to assure that adequate staff and other resources are provided to the project. Mr. Farney's experience includes both private and public sector clients involving all aspects of a project including initial scoping, funding, survey, public involvement, easement and right-of-way acquisition, design, bidding, construction management, and final closeout.

**Trent Marshall, PE (Town Representative/JR Project Manager):** Mr. Marshall will serve as the primary point of contact for the Town and will serve as the Town's Representative in addition to project management for JR. Mr.

Marshall will manage and coordinate over the field activities of Inspection, Documentation, Materials Testing, Meeting Management, and support as an additional inspector and engineer performing daily project duties. Mr. Marshall will also perform a final review of all pay applications, change orders, and other contractor submittals, and act as liaison between the Town and the Contractor.

Mr. Marshall has over 24 years of civil engineering experience, including nine years in the municipal environment, where he managed transportation and construction CIP projects for the City of Northglenn. Mr. Marshall served as the Town Engineer for the Town of Mead and managed all construction projects for the Town. Mr. Marshall has extensive experience in surveying, cost estimating, preparation of construction plans and specifications, and construction management.

**Colleen King, PE (Project Construction Engineer):** Mrs. King will provide Quality Assurance over the construction administration and field activities, and support as needed on contractual issues or major project components. Mrs. King has 8 years of experience in the management and construction of numerous heavy civil projects. Mrs. King has been involved in specific projects including emergency roadway repair, concrete and asphalt roadways, bridges, earthwork, concrete structures, drainage, and utilities. Mrs. King has experience in contract administration, construction management, and construction services for County and private agencies. Specific responsibilities include Contractor coordination, bidding out and issuing Contracts, writing design specifications, preparing bid schedules and cost estimates, preparing design changes, issuing change orders, reviewing pay applications, preparing as-built drawings, performing project closeout, responding to RFIs, reviewing material submittals, and construction oversight. Prior to joining JR Engineering, Mrs. King worked 2 years for the Kiewit Construction Corporation.

**Rocky Carns, PE (Construction Manager):** Mr. Carns will serve as construction manager. Mr. Carns has more than 36 years of engineering experience as an Operations Director, Project Manager, and Project Engineer for a wide variety of civil engineering projects and public works programs. These include transportation, roadways, drainage and stormwater, and potable water and wastewater systems. Mr. Carns' previous experience includes serving as Director of Public Works for the City of Hemet, California and Director of Engineers for Adams County, Colorado.

**Lisa Hilt, EIT (Construction Inspector):** Ms. Hilt will assist with contract documentation preparation and bidding services, construction inspections, and project close out as required for the project. Lisa Hilt has over 11 years of experience in civil engineering construction and project management, including Federal Aid and CDOT Local Agency projects. Ms. Hilt is a CDOT certified inspector. As a construction engineer she has experience in writing contract documents and specifications, bidding out and awarding projects for municipalities, construction management coordination, and close-out documentation of projects. Ms. Hilt recently completed construction management services for Federal Aid/CDOT Local Agency projects in the Town of Berthoud and Town of Wiley and provided oversight of the construction of US Hwy 85 and 104<sup>th</sup> Avenue for CDOT and Commerce City.



## KEY PERSONNEL CERTIFICATIONS

| CDOT CONSTRUCTION INSPECTOR CERTIFICATION PROGRAM |                    |                              |                            |                            |  |   |   |   |  |  |                                       |   |   | ADDITIONAL TRAINING                                   |   |  |   |
|---|--------------------|------------------------------|----------------------------|----------------------------|--|---|---|---|--|--|---------------------------------------|---|---|---|---|--|---|
| REQUIRED PREREQUISITE CLASSES                     |                    |                              |                            |                            |  |   | SPECIALTY CERTIFICATIONS                  |   |  |  |                                       |   |   |   |   |  |   |
| EMPLOYEE  | BASIC HIGHWAY MATH | BASIC CONSTRUCTION SURVEYING | BASIC HIGHWAY PLAN READING | EROSION CONTROL SUPERVISOR | BASIC MATERIALS LabCAT Level A (LAYDOWN) | BASIC MATERIALS ACI CONCRETE FIELD TESTING TECHNICIAN GRADE I | EXCAVATION & EMBANKMENT (SOILS INSPECTOR) | WESTERN ALLIANCE QUALITY TRANSPORTATION CONSTRUCTION (WAQTC) (PERFORM SOIL TESTS) | ASPHALT PAVING INSPECTION (LabCat Level I - INSPECTOR) | CONCRETE TRANSPORTATION CONSTRUCTION INSPECTOR (CRMCA) | CDOT/CRMCA CONCRETE PAVING INSPECTION | STORMWATER MANAGEMENT AND EROSION CONTROL | BRIDGE CONSTRUCTION INSPECTION NHI-130088 | CCA DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL | CDOT PERMIT FAMILIARITY AND COMPLIANCE, NEPA, AND ENVIRONMENTAL STEWARDSHIP CLASS | OSHA 10 HOUR CONSTRUCTION INDUSTRY OUTREACH TRAINING PROGRAM | CDOT LABOR COMPLIANCE PAYROLL CHECKING PROCEDURES |
| Colleen King, PE                                  | X                  | X                            | X                          | X                          | X  | X   | X   |   | X  | X  | X                                     | X   |   | X   |   | X  |   |
| Rocky Carns, PE                                   | X                  | X                            | X                          |                            | X  | X   |   |   | X  |  |                                       |   |   | X   |   |  | X   |
| Lisa Hilt   | X                  | X                            | X                          | X                          | X  | X   | X   |   | X  | X  | X                                     | X   |   | X   |   | X  |   |
| Trent Marshall, PE                                | X                  | X                            | X                          |                            |  |   |   |   | X  |  | X                                     |   |   |   | X   | X  | X   |

X = Certification Obtained

## RESPONSIVENESS

### Firm's Knowledge of Project Area

JR Engineering is very familiar with the Town of Erie standards and specifications, through our previous work with the Town and surrounding area. Within the last 10 years, JR Engineering has been responsible for the design and construction management of over \$450 million in public infrastructure, including more than 40 miles of municipal roadways, 80 intersections and traffic signals, and 30 miles of storm sewer. A majority of this experience has been in the Denver Metro Area, including Douglas County, Arapahoe, Adams County, the City of Centennial, Greenwood Village, Town of Parker, City of Thornton, City of Northglenn, City of Westminster, Commerce City, and City of Brighton. Through these projects, JR has unmatched knowledge of the local practices, local utility companies, regional governments, and the surrounding Cities and Counties.



## Cost of Services Summary

The following are the summarized costs of Construction Phase Services. A Fee Schedule & Resource Allocation chart has been included that provide more detail of the man hour break-down for each individual task. An estimate has been provided for "Reimbursable Expenses" below. The items associated as "Reimbursable Expenses" are outlined within the "Assumptions" section. The project will be billed as a Time and Materials cost for all tasks as outlined below.

### JR ENGINEERING SERVICES COST:

|                                  |                               |
|----------------------------------|-------------------------------|
| Construction Phase Services:     | \$66,091.00                   |
| Construction Close-Out Services: | \$5,393.00                    |
| Reimbursable Expense Budget:     | <u>\$4,000.00</u>             |
| <br><b>TOTAL</b>                 | <br><b><u>\$75,484.00</u></b> |

## Assumptions

1. The above fee includes an estimated budget for Reimbursable Expenses, which includes reproduction of plans, vehicle mileage, and miscellaneous delivery costs. These expenses will be reimbursed on a time and materials basis and the client will be notified if the estimated budget will be exceeded.
2. The Construction Management Services has been based on the assumption that the construction will take approximately 120 calendar days to complete.



## **EXHIBIT "B"**

(Payment Schedule and reimbursable expenses description and limit)

**Fee Schedule & Resource Allocation**  
**Town of Erie**  
**Zone 3 Waterline Extension - Construction Management**

| TASKS      | WORK ITEM  |                               |              |                               |                       |                         | Sub-Consultant  | Direct Expense | Totals          |
|------------|--|-------------------------------|--------------|-------------------------------|-----------------------|-------------------------|-----------------|----------------|-----------------|
|            |  | Principal/<br>Project Manager | Project Lead | Project Engineer/<br>Surveyor | Engineer/<br>Surveyor | Two-Man<br>Field Survey |                 |                |                 |
|            |  | \$155                         | \$125        | \$113                         | \$108                 | \$140                   | L.S.            | L.S.           |                 |
|            |  |                               |              |                               |                       |                         |                 |                |                 |
| <b>100</b> | <b>Construction Phase</b>  |                               |              |                               |                       |                         |                 |                |                 |
|            | Attend Pre-Construction Meeting (One Meeting)  | 2.0                           | 4.0          | 8.0                           | 8.0                   |                         |                 |                | \$2,578         |
|            | Attend Bi-Weekly Construction Progress Meetings (Assumed 17 Meetings)  |                               | 4.0          | 34.0                          |                       |                         |                 |                | \$4,342         |
|            | Review Submittals and Shop Drawings  | 2.0                           | 2.0          | 8.0                           |                       |                         |                 |                | \$1,464         |
|            | Respond to RFIs  | 1.0                           | 2.0          | 16.0                          |                       |                         |                 |                | \$2,213         |
|            | Review and Approve Pay Requests (Assumed 4 Pay Requests)   |                               | 2.0          | 8.0                           |                       |                         |                 |                | \$1,154         |
|            | Change Order Request Review  |                               | 2.0          | 4.0                           |                       |                         |                 |                | \$702           |
|            | Materials Testing ( <b>Kumar and Associates</b> )  |                               | 2.0          | 4.0                           |                       |                         | \$12,000        |                | \$12,702        |
|            | Review of Inspection Reports   |                               | 2.0          | 8.0                           |                       |                         |                 |                | \$1,154         |
|            | Prepare Design and Field Change Notifications  | 2.0                           | 4.0          | 8.0                           | 24.0                  |                         |                 |                | \$4,306         |
|            | Environmental Coordination ( <b>Corvus</b> )   |                               |              |                               |                       |                         | \$500           |                | \$500           |
|            | Periodic Construction Observation and Coordination with Contractor and Town (Assumed 16 Hours per Week for 17 Weeks) | 8.0                           | 24.0         | 272.0                         |                       |                         |                 |                | \$34,976        |
|            | <b>Subtotal</b>  |                               |              |                               |                       |                         |                 |                | <b>\$66,091</b> |
|            |  |                               |              |                               |                       |                         |                 |                |                 |
| <b>200</b> | <b>Closeout Phase</b>  |                               |              |                               |                       |                         |                 |                |                 |
|            | Attend Walk-Through and Prepare Final Punchlist  |                               | 4.0          | 12.0                          |                       |                         |                 |                | \$1,856         |
|            | Prepare As-Built Record Drawings   | 1.0                           | 4.0          | 8.0                           | 8.0                   |                         |                 |                | \$2,423         |
|            | Prepare CAD Files, Electronic Plans, and Info for GIS System   |                               | 2.0          |                               | 8.0                   |                         |                 |                | \$1,114         |
|            | <b>Subtotal</b>  |                               |              |                               |                       |                         |                 |                | <b>\$5,393</b>  |
|            |  |                               |              |                               |                       |                         |                 |                |                 |
| <b>900</b> | <b>Reimbursable Fees</b>   |                               |              |                               |                       |                         |                 |                |                 |
|            | Reproduction   |                               |              |                               |                       |                         |                 | \$250          | \$250           |
|            | Delivery Expenses  |                               |              |                               |                       |                         |                 | \$250          | \$250           |
|            | Vehicle Mileage  |                               |              |                               |                       |                         |                 | \$3,500        | \$3,500         |
|            | <b>Subtotal</b>  |                               |              |                               |                       |                         |                 |                | <b>\$4,000</b>  |
|            |  |                               |              |                               |                       |                         |                 |                |                 |
|            | <b>Total:</b>  | <b>16</b>                     | <b>58</b>    | <b>390</b>                    | <b>48</b>             |                         | <b>\$12,500</b> | <b>\$4,000</b> | <b>\$75,484</b> |

## Hourly Rate Schedule

| Professional  | Hourly Rate   |
|---|---------------|
| Clerical  | \$60          |
| Construction Inspector   Survey Tech                                | \$90          |
| Engineer   Surveyor   | \$108         |
| Project Engineer   Project Surveyor   Project Construction Engineer | \$113         |
| Project Lead  | \$125         |
| Principal   Manager   | \$155         |
| One-Man Survey  | \$110         |
| Two-Man Survey  | \$140         |
| Reimbursable Expenses   | Cost Plus 10% |

Effective July 1, 2016





**Kumar & Associates, Inc.**  
Geotechnical and Materials Engineers  
and Environmental Scientists



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Office Locations: Denver (HQ), Colorado Springs, Fort Collins, and Frisco, Colorado

January 20, 2017

JR Engineering, LLC  
7200 South Alton Way, Suite C400  
Centennial, CO 80112

[efarney@jrengineering.com](mailto:efarney@jrengineering.com)

ATTN: Eli Farney

Subject: Preliminary Cost Estimate for Construction Materials Testing and Observation Services,  
Proposed Construction of the Zone 3 Waterline Extension, Located near the intersection of East  
Countyline Road and Vista Parkway, Erie, Colorado

Proposal No. P3-17-110


Dear Mr. Farney:

Kumar & Associates, Inc. (K+A) is pleased to provide this proposal to provide construction observation and materials testing services for the subject project.

The anticipated services contained in this proposal include the materials testing of soils and concrete. Our general understanding of this project has been obtained through preliminary drawings provided. We have made general assumptions regarding the testing and inspection frequencies and the materials being utilized in this project. We have estimated our fees for the subject project based on an anticipated schedule for construction and our experience on projects of similar size and scope. The fees are based on our unit costs on the attached Fee Schedule, and Terms and Conditions. Our estimated fees for the outlined construction observation and materials testing are attached. Please note the Terms and Conditions contain a limitation of Kumar & Associates, Inc.'s liability. If required, additional testing beyond our proposed frequency will be based on our hourly rates provided.

Please review our cost estimate and we will gladly answer any questions about the anticipated scope of our services. Feel free to contact this office at your convenience, we will be happy to discuss deletions or amendments to our construction estimate based on the contractor's and owner's needs or concerns. Thank you for the opportunity to provide this proposal from Kumar and Associates, Inc. for the testing services on this project.

Sincerely,  
KUMAR & ASSOCIATES, INC.

By   
Kenneth L. Mendenhall  
Construction Services Supervisor

KLM/jw

Attachments

Agreed to this \_\_\_\_\_ day of \_\_\_\_\_, 2017

By \_\_\_\_\_  
Authorized Signature

By \_\_\_\_\_  
Organization

PRELIMINARY ESTIMATED SCOPE OF WORK AND FEES  
CONSTRUCTION OBSERVATION AND MATERIAL TESTING SERVICES

Zone 3 Waterline Extension, Erie, Colorado

January 20, 2017

Page 1 of 2

Earthwork: A technician will be provided on a part to full time basis to observe fill placement and test compaction for site grading, including building pad preparation and pavement areas; backfill for foundations and utility lines. The field and laboratory tests will be performed in accordance with ASTM procedures.

1. Field Observation and Testing:

|                   |    |               |   |               |            |
|-------------------|----|---------------|---|---------------|------------|
| (a) Pipe Backfill | 34 | 4 - hour days | @ | \$48.00 /hour | \$6,528.00 |
|-------------------|----|---------------|---|---------------|------------|

2. Laboratory Testing:

|                                 |   |       |   |                 |                   |
|---------------------------------|---|-------|---|-----------------|-------------------|
| (a) Standard Proctor Compaction | 4 | Tests | @ | \$85.00 /test   | \$340.00          |
| (b) Gradation                   | 4 | Tests | @ | \$75.00 /test   | \$300.00          |
| (c) Atterberg Limits            | 4 | Tests | @ | \$45.00 /test   | \$180.00          |
|                                 |   |       |   | <b>Subtotal</b> | <b>\$7,348.00</b> |

Concrete and Reinforcing Steel: An ACI certified technician will be provided on a part-time basis to test fresh concrete for slump, air content and temperature, and cast samples for compressive strength testing.

1. Field Testing and Sampling:

|                         |   |               |   |               |          |
|-------------------------|---|---------------|---|---------------|----------|
| (a) Misc. Site Concrete | 5 | 3 - hour days | @ | \$48.00 /hour | \$720.00 |
|-------------------------|---|---------------|---|---------------|----------|

2. Laboratory Strength Testing:

|                                      |   |                   |  |                   |                 |
|--------------------------------------|---|-------------------|--|-------------------|-----------------|
| (a) Compressive Strength of Concrete | 5 | 5 - cylinder sets |  | \$10.00 /cylinder | \$250.00        |
|                                      |   |                   |  | <b>Subtotal</b>   | <b>\$970.00</b> |

Engineering Support: Attend meetings, review and evaluate test results, and supervise engineering technicians. Typed test results will be provided to the project team.

|                                 |    |       |   |                 |                   |
|---------------------------------|----|-------|---|-----------------|-------------------|
| 1. Project Engineer             | 2  | Hours | @ | \$110.00 /hour  | \$220.00          |
| 2. Engineering Field Supervisor | 8  | Hours | @ | \$85.00 /hour   | \$680.00          |
| 3. Word Processing              | 17 | Hours | @ | \$45.00 /hour   | \$765.00          |
|                                 |    |       |   | <b>Subtotal</b> | <b>\$1,665.00</b> |

|                       |                   |
|-----------------------|-------------------|
| <b>Total Estimate</b> | <b>\$9,983.00</b> |
|-----------------------|-------------------|

PRELIMINARY ESTIMATED SCOPE OF WORK AND FEES  
CONSTRUCTION OBSERVATION AND MATERIAL TESTING SERVICES

Zone 3 Waterline Extension, Erie, Colorado

January 20, 2017

Page 2 of 2

The scope of work and estimated fees are based on our experience on similar projects and the following preliminary schedule information:

- Backfill for Pipe: 34 days
- Misc. Site Concrete: 5 days

Our fee does not include charges for the following:

1. Testing beyond the times and quantities indicated;
2. Standby for reasons beyond our control; or
3. Time for retests.

Fees for services beyond the indicated scope will be based on the unit costs on the attached Fee Schedule. The actual testing and observation schedule may vary depending upon the speed and efficiency of the various contractors and weather conditions, all of which are beyond our control. Please note that efforts will be made to combine as much of the different phases of testing required into single site visits resulting in reduced costs. In any case, the budget estimate provided herein will not be exceeded without prior authorization.

**ENGINEERING AND FIELD TECHNICAL SERVICES**

|  |                         |
|--|-------------------------|
| Principal Engineer.....                              | \$155.00 - \$185.00/hr. |
| Senior Project Engineer/Geologist/Manager.....       | \$100.00 - \$135.00/hr. |
| Project Engineer/Geologist/Scientist.....            | \$80.00 - \$110.00/hr.  |
| Staff Engineer/Geologist/Scientist.....              | \$70.00 - \$90.00/hr.   |
| Project Supervisor.....                              | \$85.00 - \$115.00/hr.  |
| Construction Inspector I.....                        | \$65.00 - \$75.00/hr.   |
| Construction Inspector II.....                       | \$75.00 - \$90.00/hr.   |
| Environmental Specialist/Scientist.....              | \$90.00 - \$110.00/hr.  |
| Environmental Field Technician/Geologist.....        | \$60.00 - \$75.00/hr.   |
| Safety Professional.....                             | \$100.00 - \$120.00/hr. |
| Project Administrator.....                           | \$95.00 - \$105.00/hr.  |
| Staff Administrator.....                             | \$50.00 - \$60.00/hr.   |
| Exploration Field Engineer/Technician/Geologist..... | \$55.00 - \$75.00/hr.   |
| Construction Materials Testing Technicians:          |                         |
| Field Observation.....                               | \$65.00 - \$75.00/hr.   |
| Concrete.....  | \$45.00 - \$55.00/hr.   |
| Soils, Reinforcing Steel, Asphalt.....               | \$47.00 - \$57.00/hr.   |
| Piers, Masonry.....                                  | \$55.00 - \$65.00/hr.   |
| Fireproofing.....                                    | \$65.00 - \$75.00/hr.   |
| Structural Steel.....                                | \$65.00 - \$75.00/hr.   |
| Post-Tensioning.....                                 | \$50.00 - \$60.00/hr.   |
| Floor Flatness.....                                  | \$75.00 - \$80.00/hr.   |
| Word Processing.....                                 | \$45.00 - \$55.00/hr.   |
| Drafting.....  | \$70.00 - \$80.00/hr.   |

**OTHER DIRECT CHARGES**

|  |            |
|--|------------|
| Auto or Pickup Mileage.....  | No Charge  |
| Out of Town Expenses, Travel, Rental, Etc.....                                 | Cost + 15% |
| Expedited Laboratory Services: 1.35 x Test Price (See Note 14 on Reverse Side) |            |

**LABORATORY TESTING****SOILS**

|  |                |
|--|----------------|
| Moisture Content (ASTM D-2216).....  | \$10.00 ea.    |
| Moisture Content & Density (ASTM D-2216).....  | \$15.00 ea.    |
| Gradation (ASTM D-422).....  | \$75.00 ea.    |
| Gradation with Hydrometer Analysis (ASTM D-422).....                                   | \$160.00 ea.   |
| Double Hydrometer (ASTM D-4221).....   | \$225.00 ea.   |
| Percent Less than #200 Sieve (ASTM D-1140).....  | \$25.00 ea.    |
| Atterberg Limits (ASTM D-4318) Method A.....   | \$75.00 ea.    |
| Atterberg Limits (ASTM D-4318) Method B.....   | \$45.00 ea.    |
| Standard Proctor (ASTM D-698).....   | \$85.00 ea.    |
| Modified Proctor (ASTM D-1557).....  | \$95.00 ea.    |
| Soil/Cement Proctor (ASTM D-558).....  | \$125.00 ea.   |
| Proctor Checkpoint (ASTM D-698 or ASTM D-1557).....                                    | \$45.00 ea.    |
| Relative Density (ASTM D-4253 and ASTM D-4254).....                                    | \$175.00 ea.   |
| Specific Gravity (ASTM D-854).....   | \$75.00 ea.    |
| Standard Swell-Consolidation (ASTM D-4546).....  | \$60.00 ea.    |
| Air Dried Swell-Consolidation.....   | \$65.00 ea.    |
| Remolded Swell-Consolidation (ASTM D-4546).....  | \$75.00 ea.    |
| Time/Consolidation (ASTM D-2435).....  | \$325.00 ea.   |
| Unconfined Compressive Strength (ASTM D-2166).....                                     | \$50.00 ea.    |
| Slake Durability (ASTM D-4644).....  | \$100.00 ea.   |
| Pinhole Dispersion (ASTM D-4647).....  | \$150.00 ea.   |
| Crumb Test (ASTM D-6572).....  | \$50.00 ea.    |
| Water Soluble Sulfates (AASHTO T-290, CP-L 2103).....                                  | \$45.00 ea.    |
| pH (ASTM E-70).....  | \$35.00 ea.    |
| Chloride (AASHTO T-291, CP-L 2104).....  | \$45.00 ea.    |
| Electrical Resistivity (ASTM G-57).....  | \$150.00 ea.   |
| Organics (AASHTO T-267).....   | \$50.00 ea.    |
| R-Value (ASTM D-2844).....   | \$325.00 ea.   |
| California Bearing Ratio (ASTM D-1883) 1-point.....                                    | \$150.00 ea.   |
| California Bearing Ratio (ASTM D-1883) 3-point.....                                    | \$375.00 ea.   |
| Soil/Lime, Soil/Cement Mix Analysis.....   | \$2,000.00 ea. |
| (Standard 3-Point Mix Analysis; Cost May Vary Depending on Specification Requirements) |                |
| Freeze/Thaw (ASTM D-560).....  | \$350.00 ea.   |
| Wet/Dry (ASTM D-559).....  | \$350.00 ea.   |
| Compressive Strength of Soil-Cement (ASTM D-1633).....                                 | \$50.00 ea.    |
| Direct Shear/per point (ASTM D-3080).....  |                |
| Unconsolidated-Undrained (Quick Test).....   | \$150.00 ea.   |
| Residual Strength, Additional Per Carriage Reversal.....                               | \$50.00 ea.    |
| Drained Tests Quoted on Project-Specific Basis   |                |
| Soil Suction (ASTM D-6836 Method D).....   | \$50.00 ea.    |

**FIREPROOFING**

|  |             |
|--|-------------|
| Density and Moisture Content (ASTM E-605)..... | \$30.00 ea. |
| Bond Strength (ASTM E-736).....                | \$25.00 ea. |

**MISCELLANEOUS**

|                              |             |
|------------------------------|-------------|
| Sample Preparation.....      | \$50.00/hr. |
| Asphalt/Concrete Coring..... | \$75.00/hr. |

**CONCRETE AND MASONRY**

|   |             |
|---|-------------|
| Concrete Compressive Strength (ASTM C-39).....                              | \$10.00 ea. |
| Cylinders Cast by Others.....   | \$20.00 ea. |
| Concrete Flexural Strength (ASTM C-78).....                                 | \$50.00 ea. |
| Compressive Strength, Length and Density of Concrete Cores (ASTM C-42)..... | \$50.00 ea. |

**CONCRETE AND MASONRY (continued)**

|  |                |
|--|----------------|
| Splitting Tensile Strength (ASTM C-496).....             | \$35.00 ea.    |
| Floor Profiling.....                                     | \$75.00/hr.    |
| Concrete Mix Analysis.....                               | \$2,000.00 ea. |
| Compressive Strength Mortar Cubes (ASTM C-109/109M)..... | \$25.00 ea.    |
| Compressive Strength of Grout.....                       | \$25.00 ea.    |
| Masonry Prisms Compressive Strength (ASTM C-1314).....   |                |
| Hollow Prism.....  | \$65.00 ea.    |
| Grout Filled Prism.....                                  | \$75.00 ea.    |
| Concrete Masonry Units.....                              |                |
| Compressive Strength of Hollow Block.....                | \$35.00 ea.    |
| Absorption Analysis (set of 3).....                      | \$50.00/set    |
| Trimming of Laboratory Specimens.....                    | \$50.00/hr.    |
| Maturity Meter Calibration Curve.....                    | \$500.00 ea.   |
| Maturity Meter Logger.....                               | \$65.00 ea.    |
| Calcium Chloride Moisture Test Kits.....                 | \$25.00 ea.    |
| Relative Humidity Logger.....                            | \$45.00 ea.    |

**AGGREGATES**

|   |              |
|---|--------------|
| Moisture Content (ASTM D-2216).....   | \$10.00 ea.  |
| Sieve Analysis (ASTM C-136).....  | \$75.00 ea.  |
| Percent Less than #200 Sieve (ASTM C-117).....  | \$25.00 ea.  |
| Clay Lumps & Friable Particles (ASTM C-142).....  | \$60.00 ea.  |
| Flat or Elongated Particle (CP-33).....   | \$60.00 ea.  |
| Fractured Faces (CP-45).....  | \$55.00 ea.  |
| Los Angeles Abrasion.....   |              |
| 1 1/2" Maximum (ASTM C-131).....  | \$125.00 ea. |
| 3" Maximum (ASTM C-535).....  | \$150.00 ea. |
| Sodium or Magnesium Sulfate Soundness (ASTM C-88).....  | \$350.00 ea. |
| Dry Rodded Unit Weight (ASTM C-29).....   | \$30.00 ea.  |
| Specific Gravity and Absorption (ASTM C-127 and ASTM C-128).....                                | \$75.00 ea.  |
| Organic Impurities (AASHTO T-21).....   | \$40.00 ea.  |
| Aggregate Durability Index (AASHTO T-210).....  | \$75.00 ea.  |
| Sand Equivalent (AASHTO T-176).....   | \$75.00 ea.  |
| Lightweight Particles (ASTM C123).....  | \$150.00 ea. |
| Micro Deval (ASTM D6928).....   | \$125.00 ea. |
| Potential Alkali – Silica Reactivity, 3 Specimens, Fine Aggregate (ASTM C1260 and C1567).....   | \$500.00 ea. |
| Potential Alkali – Silica Reactivity, 3 Specimens, Coarse Aggregate (ASTM C1260 and C1567)..... | \$600.00 ea. |

**ASPHALT**

|   |                |
|---|----------------|
| Asphalt Binder Content (CP-L 5120).....                                   | \$85.00 ea.    |
| Asphalt Binder Content/Gradation (CP-L 5120).....                         | \$160.00 ea.   |
| Asphalt Content Correction Factor (CP-L 5120).....                        | \$350.00 ea.   |
| Asphalt Content/Nuclear Method (AASHTO T-287).....                        | \$85.00 ea.    |
| Nuclear Oven Calibration (AASHTO T287).....                               | \$350.00 ea.   |
| Marshall Test, 3 Specimens (ASTM D-1559).....                             | \$180.00 ea.   |
| Bulk Specific Gravity and Thickness of Core (ASTM D-1188 and D-2726)..... | \$30.00 ea.    |
| Maximum Theoretical Specific Gravity (ASTM D-2041).....                   | \$80.00 ea.    |
| Superpave Gyrotory Compaction, 3 Specimens (CP-L 5115).....               | \$175.00 ea.   |
| Asphalt Mix Analysis.....   | \$2,000.00 ea. |
| Lottman Testing (CP-L 5109).....  | \$425.00 ea.   |
| Hveem Stability (CP-L 5106).....  | \$325.00 ea.   |