

## SECOND AMENDATORY AGREEMENT

THIS SECOND AMENDATORY AGREEMENT is made and entered into by and between the CITY AND COUNTY OF DENVER, a municipal corporation of the State of Colorado (the “City”) and MERRICK & COMPANY, a Colorado corporation whose address is 5970 Greenwood Plaza Boulevard, Greenwood Village, Colorado 80111 (the “Consultant”), jointly the “Parties.”

### RECITALS:

**A.** The Parties entered into an On-Call Engineering Services Agreement dated August 3, 2016 to provide on-call professional engineering services and related technical services to support the City’s Department of Transportation & Infrastructure Wastewater Management Division (the “Original Agreement”); and

**B.** The Parties subsequently amended the Original Agreement in accordance with that Amendatory Agreement dated January 16, 2019 (the “First Amendment”); and

**C.** Collectively, the Original Agreement and the First Amendment shall be referred to herein as the “Agreement;”

**D.** Rather than enter into a new contract, the Parties desire to amend the Agreement to update the Line of Authority and contract information of the Parties, extend the term of the Agreement until September 11, 2021, replace the original **Exhibit B** that was attached to the Agreement with the attached **Exhibit B-1**, and add compensation in the amount of TWO MILLION DOLLARS (\$2,000,000.00) to the Agreement for the purpose of business continuity.

**NOW THEREFORE**, in consideration of the premises and the Parties’ mutual covenants and obligations, the Parties agree as follows:

1. Section 1.02 of the Agreement entitled “**LINE OF AUTHORITY FOR CONTRACT ADMINISTRATION**” is hereby amended to read as follows:

“1.02 Line of Authority for Contract Administration. The City’s Executive Director of the Department of Transportation & Infrastructure (“Manager”) is the City’s representative responsible for authorizing and approving the work performed under this Agreement. The Manager hereby designates the City Engineer as the Manager’s authorized representative for the purpose of issuing a written Notice to Proceed and administering, coordinating and initially approving the services performed by the Consultant under this Agreement. The Project Manager, who reports to the City Engineer, shall be responsible for the day-to-day administration, coordination and approval of services performed by the Consultant, except for approvals that are

specifically identified in this Agreement as requiring the Manager’s approval. The Manager expressly reserves the right to designate another authorized representative to perform on the Manager’s behalf by written notice to the Consultant.”

2. Section 3 entitled “**COMPENSATION, PAYMENT, AND FUNDING**” is amended to read as follows:

**“3.06 Maximum Contract Amount; Funding.**

(a) It is understood and agreed by the parties hereto that payment or reimbursement of all kinds to the Consultant, for all Work performed under this Agreement, shall not exceed a maximum of **SIX MILLION DOLLARS AND NO CENTS (\$6,000,000.00)**. In no event shall the maximum payment to the Consultant, for all work and services performed throughout the entire term of this Agreement exceed the contract maximum amount set forth above.”

3. **Exhibit B** of the Agreement shall be replaced in its entirety by **Exhibit B-1**, which is attached hereto and incorporated herein by reference. The new rates detailed in **Exhibit B-1** shall be effective at the time of execution of this Second Amending Agreement and shall only apply to new task orders issued after execution of this Second Amending Agreement.

4. Section 4 of the Agreement entitled “**TERM AND TERMINATION**” is amended to read as follows:

“4.01 Term: The term of this Agreement shall commence on September 12, 2016, and shall expire on September 11, 2021, unless sooner terminated or extended by written amendment. The Consultant shall complete any task orders in progress as of the expiration date of this Agreement and the term will extend until the work is completed or earlier terminated by the Manager. All terms and conditions of the Agreement shall remain in full force and effect until such completion.”

5. Section 5 of the Agreement entitled “**GENERAL PROVISIONS**” is amended to read as follows:

“5.25 Notices: When this Agreement requires notice to the City or the Consultant it shall be sent by certified mail, return receipt requested, to the addresses listed below:

To the City: Executive Director of the Department of  
Transportation & Infrastructure  
201 West Colfax Avenue, Department 608

Denver, Colorado 80202

With a copy to: Assistant City Attorney  
201 West Colfax Avenue, Department 1207  
Denver, Colorado 80202

To the Consultant: Merrick & Company  
5970 Greenwood Plaza Boulevard  
Greenwood Village, Colorado 80111”

6. Except as herein amended, the Agreement continues in effect, and is affirmed and ratified in each and every particular.

7. This Second Amendatory Agreement will not be effective or binding on the City until it has been fully executed by all required signatories of the City and County of Denver, and if required by Charter, approved by the City Council.

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**[SIGNATURE PAGES TO FOLLOW]**

**Contract Control Number:** DOTI-202054162-02[201627889-02]  
**Contractor Name:** MERRICK & COMPANY

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at Denver, Colorado as of:

**SEAL**

**CITY AND COUNTY OF DENVER:**

**ATTEST:**

By:

\_\_\_\_\_

\_\_\_\_\_

**APPROVED AS TO FORM:**

**REGISTERED AND COUNTERSIGNED:**

Attorney for the City and County of Denver

By:

By:

\_\_\_\_\_

\_\_\_\_\_

By:

\_\_\_\_\_

**Contract Control Number:**  
**Contractor Name:**

DOTI-202054162-02[201627889-02]  
MERRICK & COMPANY

By: DocuSigned by:  
*Michael Martin*  
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Name: Michael Martin  
(please print)

Title: Vice President  
(please print)

ATTEST: [if required]

By: \_\_\_\_\_

Name: \_\_\_\_\_  
(please print)

Title: \_\_\_\_\_  
(please print)

### Updates to 2016 Wastewater Comprehensive Engineering On-call

Firm Name: Merrick & Company

List **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

<b>Title/Classification</b>	<b>Responsibilities</b>	<b>Rate/Hr.</b>
Senior Project Manager	Senior project management duties	\$218.00
Project Manager	Project management duties	\$195.00
Assistant Project Manager	Assistant project management duties	\$170.00
Senior Project Engineer	Senior project engineering duties	\$170.00
Project Engineer	Project engineering duties	\$150.00
Senior Design Engineer	Senior design engineering duties	\$132.00
Design Engineer	Design engineering duties	\$116.00
Senior Designer	Senior designer duties	\$125.00
Designer II	Designer II duties	\$105.00
Design I	Design I duties	\$95.00
Senior Construction Manager	Senior construction management duties	\$171.00
Construction Manager/ Construction Administrator	Construction management/construction administrator duties	\$155.00
Senior Field Engineer	Senior field engineering duties	\$142.00
Field Engineer/Field Technician	Field engineer/senior field technician duties	\$115.00
Field Engineering Technician	Field engineering technician duties	\$99.00
CAD Manager	CAD management duties	\$135.00
Technician III	Technician III duties	\$125.00
Technician II	Technician II duties	\$105.00
Technician I	Technician I duties	\$95.00
Survey Manager	Survey management duties	\$200.00
Senior Professional Land Surveyor	Senior professional land surveyor duties	\$188.00
Professional Land Surveyor	Professional land surveyor duties	\$160.00

<b>Title/Classification</b>	<b>Responsibilities</b>	<b>Rate/Hr.</b>
Computer Survey Technician (office)	Computer survey technician duties	\$111.00
Two-Person Crew	Two-person crew duties	\$180.00
One-Person Crew	One-person crew duties	\$130.00
GIS Manager	GIS management duties	\$176.00
GIS Applications Engineer	GIS applications engineer duties	\$136.00
GID Applications Technician	GIS applications technician duties	\$96.00
GIS Photogrammetrist	GIS photogrammetrist duties	\$96.00
GIS Technician	GIS technician duties	\$84.00
Clerical	Clerical duties	\$85.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: \_\_\_\_\_.

The City will not compensate the Consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction and travel costs, if requested by the City, shall be reimbursed at actual cost if approved in advance by Project Manager. Such costs are, in all such instances, included in the hourly rates paid by the City. Reproduction of submittals requested by the City including such items as end-of-phase reports, drawings, bid documents, record drawing reproducibles, etc. are not included in the hourly rates, and will be itemized as a not-to-exceed reproducible expense and will be reimbursed at actual cost.

**SUB-CONSULTANT TEAM MEMBERS**Firm Name: Apex Design, PC

List ALL potential firm personnel titles/classification that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

<b>Title/Classification</b>	<b>Responsibilities</b>	<b>Rate/Hr.</b>
Principal	Contract Management, general project oversight, quality review, public involvement participation, business engagement, and project design troubleshooting.	\$ 230.00
Senior ITS Engineer III	Full responsibility for large, complex projects or a number of large projects. Provides direction for ITS engineering drawings, analysis, preparation of specifications and engineering estimates.	\$ 214.00
Senior Transportation Engineer III	Full responsibility for large, complex projects or a number of large projects. Provides direction for transportation engineering drawings, analysis and report preparation, preparation of specifications and engineering estimates.	\$ 208.00
Senior Project Manager	Full responsibility for large, complex projects or a number of large projects. Provides direction for engineering drawings, analysis and report preparation, preparation of specifications and engineering estimates.	\$ 196.00
Senior Transportation Engineer II	Applies standard engineering techniques and procedures, professional judgment to make modifications or execute complex features or solutions on transportation projects.	\$ 170.00
Senior Civil Engineer	Manages and performs technical tasks, preparation of engineering drawings, analysis, reports and specifications.	\$ 156.00
Senior ITS Engineer	Preparation of ITS engineering concepts, analysis, report preparation, design, and preparation of specifications and engineering estimates. Directs EIT work tasks.	\$ 152.00
Senior Transportation Planner II	Project management, applies planning methods and procedures, professional judgment to make modifications or provide solutions on multimodal transportation projects. Public outreach, stakeholder engagement and consensus building.	\$ 148.00
Senior ITS Specialist	Providing technical expertise for traffic and ITS tasks, overseeing and delivering projects, field work, analysis, preparation of plans, specification, estimates, and schedules.	\$ 144.00
Senior Transportation Engineer	Preparation of traffic and transportation engineering analysis, design, and report preparation, preparation of specifications and engineering estimates. Directs EIT work tasks.	\$ 142.00
Transportation Engineer II	Preparation of engineering drawings, analysis and report preparation.	\$ 134.00
Construction Engineer II	Performs and supervises complex construction tasks. Professionally licensed with technical knowledge of engineering specifications and constructions quality requirements.	\$ 130.00



Construction Manager	Creates and manages construction schedules; Performs pre-and post-installation field reviews; shares lessons learned from installations, manages integration and testing in field.	\$ 126.00
Data Services Manager	Coordinates and collects traffic and transportation data. Reviews and summarizes data for use in engineering evaluations.	\$ 126.00
ITS Engineer	Preparation of engineering drawings, analysis and report preparation for ITS specific projects.	\$ 116.00
Transportation Engineer	Preparation of engineering drawings, analysis and report preparation.	\$ 116.00
ITS Construction Specialist	Providing field reconnaissance, remote support, design clarifications for ITS tasks, overseeing and delivering projects, field work, analysis, preparation of plans, specification, estimates, and schedules.	\$ 116.00
Senior Construction Inspector	Performs and supervises complex construction tasks. Thorough technical knowledge of testing requirements.	\$ 116.00
Senior TIM Coordinator	Manage and/or staff traffic management center	\$ 102.00
Transportation Planner	Preparation of technical analysis, data collection, GIS mapping, meeting and project graphics, and report preparation.	\$ 100.00
Engineer In Training (EIT) III	Performs engineering analysis, design and drafting assignments under the general direction of a licensed professional engineer.	\$ 100.00
EIT II	Performs engineering analysis, design and drafting assignments under the general direction of a licensed professional engineer.	\$ 92.00
Technical Specialist I	Field reconnaissance; design plans, specifications; typical details; cost estimating; remote support; design clarifications; field revisions; as-builts	\$ 90.00
EIT	Performs engineering analysis, design and drafting assignments under the general direction of a licensed professional engineer.	\$ 84.00
Construction Engineer	Performs and supervises complex construction tasks. Professionally licensed with technical knowledge of engineering specifications and constructions quality requirements.	\$ 82.00
Construction Inspector	Provides oversight of construction projects, monitoring progress and ensuring adherence to contract and subcontract terms, performance, quality requirements and engineering specification.	\$ 82.00
Data Analyst	Performs data analysis and reporting	\$ 80.00
Intern	Performs data collection, analysis, and drafting assignments under the direction of professional staff	\$ 50.00
Project Administrator	Responsible for all accounting aspects of project.	\$ 124.00
Project Assistant	Performs word processing, report preparation, specifications, mailings and reproduction. Provides invoicing support and contract management.	\$ 90.00
Administrative Assistant	Performs word processing, report preparation, specifications, mailings and reproduction.	\$ 60.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate:  $\sim 2.8$ .

The City will not compensate the Consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction and travel costs, if requested by the City, shall be reimbursed at actual cost if approved in advance by Project Manager. Such costs are, in all such instances, included in the hourly rates paid by the City. Reproduction of submittals requested by the City including such items as end-of- phase reports, drawings, bid documents, record drawing reproducibles, etc. are not included in the hourly rates, and will be itemized as a not-to-exceed reproducible expense and will be reimbursed at actual cost.

**SUB-CONSULTANT TEAM MEMBERS**

Firm Name: The Architerra Group

List **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr.
Principal/Project Manager	Provides leadership and oversight to projects	\$175.00
Associate Landscape Architect	Supervises and develops plans and designs	\$110.00
Project Landscape Architect/Project Designer	Develops plans and designs	\$85.00
Design Technician	Develops CAD drafting for projects	\$75.00
Office Manager	Provides administrative support	\$60.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.0.

The City will not compensate the Consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction and travel costs, if requested by the City, shall be reimbursed at actual cost if approved in advance by Project Manager. Such costs are, in all such instances, included in the hourly rates paid by the City. Reproduction of submittals requested by the City including such items as end-of-phase reports, drawings, bid documents, record drawing reproducibles, etc. are not included in the hourly rates, and will be itemized as a not-to-exceed reproducible expense and will be reimbursed at actual cost.

**SUB-CONSULTANT TEAM MEMBERS**Firm Name: Brierley Associates Corporation

List **ALL** potential firm personnel titles/classification that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr.
Principal/Senior Consultant II	Senior reviewer	\$255
Senior Associate/Senior Consultant I	Senior reviewer	\$230
Associate/Senior Project Manager	Project Manager; Technical review	\$195
Senior Professional II	Cost estimator	\$175
Senior Professional I	Project engineer	\$155
Professional II	Project engineer	\$140
Professional I	Project engineer	\$130
Staff Professional II	Field investigation; data analysis	\$120
Staff Professional I	Field investigation; data analysis	\$110
Administrative	Administrative duties	\$75

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.40

Unless expressly authorized by the City as part of any approved project proposal or specified in the contract, the City will not compensate the Consultant for expenses such as postage, travel, mileage, telephone, reproduction and messenger service costs incurred in connection with Work performed under this Agreement. Such costs are, in all such instances, included in the hourly rates paid by the City. Reproduction of submittals requested by the City including such items as end-of-phase reports, drawings, bid documents, record drawing reproducibles, etc. are not included in the hourly rates, and will be itemized as part of each on-call task order as a not-to-exceed reproducible expense and will be reimbursed at actual cost.

**Fee Schedule**

EFFECTIVE JANUARY, 2019



<b>Personnel</b>	Includes analysis and preparation of reports, calculation time, travel, consultation, sample preparation and direct supervision of the CTL project.		
	Engineering Technician I	\$ 52 /	hour
	Engineering Technician II / Secretarial	60 /	hour
	Engineering Technician III / CADD / Drafts Person	64 /	hour
	Senior Engineering Technician	95 /	hour
	Environmental Technician	70 /	hour
	Industrial Hygienist Technician	75 /	hour
	Senior Industrial Hygienist / Environmental Technician	95 /	hour
	Staff Engineer / Geologist / Scientist	100 /	hour
	Project Engineer / Geologist / Scientist	110 /	hour
	Project Manager	125 /	hour
	Associate	155 /	hour
	Principal	190 /	hour
	Senior Principal	240 /	hour
	Expert Consultation / Witness	Quote on Request	
<b>Field Investigation Services</b>	Drilling and Sampling with a 4-inch Auger	\$ 166 /	hour
	Drilling and Sampling with Hollow Auger	192 /	hour
	Drilling and Sampling with Track-Mounted Rig	Add 80 /	hour
	Drilling and Sampling with Rotary Drill	Cost +	15%
	Shelby Tube Sample	17 /	each
	Drilling Rig Mobilization		
	Metro Area	Hourly Rate	
	Outlying Areas (more than 1 hour, one-way)	2.50 /	mile
	Auto or Pickup Mileage (Out of Town Mobilization)	0.60 /	hour
	Labor, Out-Of-Town Living Expenses, Travel Costs, Equipment Rental, Subconsultants	Cost +	15%
	Coring (2 Hour Minimum)	135 /	hour
	Asphalt Core Thickness	42 /	each
	Asphalt Core Density	42 /	each
	Deflection Testing – Benkelman Beam, Operator & Truck	195 /	hour
	Bond Testing	120 /	hour
<b>Construction Observation and Materials Testing Services*</b>	Earthwork: Compaction Testing	\$ 71 /	hour
	Drilled Pier Installation	66 /	hour
	Asphalt Placement and Compaction	71 /	hour
	Concrete Strength Testing:		
	Testing & Cylinder Pick Up	54 /	hour
	Cylinders	17 /	cyl
	Flexural Beams	44 /	beam
	On Site Curing Service	1,500 /	each
	Maturity Meter Method	2,500 /	mix
	Data Loggers	71 /	mix
	Concrete Test Report	54 /	set
	Moisture Emissions Testing	66 /	hour
	Moisture Kit	55 /	each
	Shotcrete includes Preparation and Report (set of 5)	333 /	set
	Floor Flatness (FF and FL and/or 10 Foot Straightedge)	92 /	hour
	Reinforcement Placement Observation	66 /	hour
	Masonry Special Inspection	66 /	hour
	Masonry Shear	198 /	test
	Proof Load of Anchor or Dowels	92 /	hour
	Weld & Bolt Inspection	86 /	hour
	Framing Observation	86 /	hour
	Post Tension:		
	Strand Observation	66 /	hour
	Elongation Measurements	66 /	hour
	Sprayed on Fireproofing includes, when required:	66 /	hour
	Thickness Measurements, Density Per Sample, Bond Per Test		
	Report Review / Supervision for Construction Observation and Materials Testing Services (excluding Concrete)	54 /	report
	Overtime Charge Increase for work done on Saturday, Sunday, Holidays and off normal shift hours	23 /	hour
	Fuel charge may be assessed on individual project basis and based on market conditions.		
	*Note: time is charged for travel, testing and inspection and field report preparation (2-hour minimum trip charge)		

**Fee Schedule**

EFFECTIVE JANUARY, 2019



<b>Soils Laboratory Services</b>	Grain Size Analysis, 1-inch to #200 sieve		\$	54
	Grain Size Analysis, #200 sieve only			38
	Hydrometer Analysis			85
	Atterberg Limits (L.L. & P.I.), per set			75
	Natural Moisture and Density			17
	Specific Gravity			54
	Unconfined Compression - Soils			44
	Unconfined Compression with Stress / Strain Curve			54
	Unconfined Compression – Rock Cores, Peak Load Only**			109
	Unconfined Compression – Rock Cores with MOE**			Quote on Request
	Unconfined Compression – Rock Cores, MOE, Poisson's Ratio**			Quote on Request
	One-Dimensional Swell Test			49
	One-Dimensional Swell Test with Load Back for Swell Pressure			59
	Soil Suction, Per Point			54
	One-Dimensional Time Consolidation Test			
	Set up and Initial Load			166
	Additional Increments			44
	Triaxial or Direct Shear Tests, per point			
	Unconsolidated-Undrained			125
	Consolidated-Undrained			406
	Consolidated-Undrained with Pore Pressure			437
	Standard Proctor Compaction Test	(ASTM D 698)		120
	Modified Proctor Compaction Test	(ASTM D 1557)		130
	Relative Density	(ASTM D 4253 AND D 4254)		200
	California Bearing Ratio (3 Points)			541
	Hveem Stabilometer (3 Points)			541
	Resilient Modulus			1144
	Permeability			
	Flexible Membrane (Triaxial Cell)			437
	Remolded Sample (Falling or Constant Head)			270
	Back Pressure Oedometer			270
	Water Soluble Sulfates			50
	pH			44
	Resistivity, per Specimen (Natural Moisture and Saturated)			109
	Direct Shear			125
	Rock Testing			
	Specific Gravity			50
	Two-Cycle Slake-Durability, per point			104
	Unconfined Compression, per point			
	Peak Load Only			109
	With Stress / Strain Curve, Static E & Poisson's Ratio			Quote on Request
	Triaxial Compression-NX per point			146
With Stress / Strain Curve, Static E & Poisson's Ratio			281	
Point Load Test			54	
**Additional for Sample Preparation of Rock Cores				
<b>Specialized Testing and Services</b>	<b>Environmental Services</b>			
	Environmental Assessment, Remediation Design, Underground Storage Tanks, Drilling and Sampling, Methane Hazard, Compliance Assistance, Site Audits, Hazmat Surveys			Quote on Request
	<b>Industrial Hygiene and Safety Services</b>			
	Indoor Air Quality, Asbestos Services, Lead Services, Exposure Assessments, Compliance Assistance, Training, Sampling, Program Development			Quote on Request
	<b>Biological Services</b>			
	Endangered Species Review, Wetlands Delineation, Environmental Assessments			Quote on Request
	<b>Geophysical Services</b>			
	Pier Integrity, Profiles by Reflection or Refraction, Resistivity Surveys, Dynamic Soil Properties			Quote on Request
	Specialized Testing Equipment Charges (Portable Drill Rig, Pressuremeter, Resistivity, Photoionization Device, Field Permeability, Down-Hole Moisture / Density)			Quote on Request
	<b>Benkelman Beam Testing</b>			
	Benkelman Beam and Operator & Truck		\$	192 / hour
	NDT Equipment (Pulse-Velocity, Windsor Probe Test System, Pachometer, Half-Cell)			44 / hour
	<b>RAM Calibration</b>			
	Less than 200 Ton		\$	489 / each
	More than 200 Ton			593 / each
	<b>Bond Testing</b>			
	Torsional Strength Tests and Calibrations (up to 1 million in lbs.)			64 / hour
				Quote on Request

**Fee Schedule**

EFFECTIVE JANUARY, 2019



<b>Liquid Asphalt Laboratory Testing</b>	Viscosity at 140°F		\$	120	
	Viscosity at 275°F			120	
	Penetration			83	
	Specific Gravity			83	
	Softening Point			120	
	Flash Point			83	
	Ductility @ 77°F			120	
	Ductility @ 39.4°F			187	
	Solubility			135	
	Dynamic Rheometer			770	
	Polymer Compatibility			1,248	
	Direct Tension Test			562	
	Mixing / Compaction Temperatures			343	
	Bending Beam Test			530	
	Thin Film Oven Aging (Including Viscosities)			296	
	Aging of Asphalt Cement			296	
	Polymer / AC Blending			Quote on Request	
	Specimen Preparation and Miscellaneous Testing			64 / hour	
	<b>Emulsion Testing</b>	Residue and Oil Distillate		\$	296
		Test on Residue			
Penetration				83	
Ductility @ 77°F				120	
Solubility				161	
Coating Ability and Water Resistance				161	
Storage Stability				161	
Sieve Test				78	
Violet Testing (Per Time or Temperature)				296	
Debonding Testing				374	
Seal Coat Design				1,768	
<b>Asphalt Concrete Testing</b>		SHRP or AAMS Mix Design			Quote on Request
		Hveem Mix Design***		\$	1,768
		Marshall Mix Design***			1,768
	Immersion Compression			416	
	Lottman (Tensile Strength Ratio) AASHTO			442	
	Lottman (Tensile Strength Ratio) Cyclic			1,768	
	Gyratory Refusal			224	
	Indirect Tensile Creep			224	
	Indirect Tensile Strength			224	
	Stripping Test			94	
	Swell Test			94	
	Theoretical Maximum Density			125	
	Marshall Properties (Including Theoretical Maximum Density)			296	
	Hveem Properties (Including Theoretical Maximum Density)			296	
	Extraction and Gradation			250	
	Resilient Modulus			Quote on Request	
	Nuclear Asphalt Content Gage Calibration			546	
	Asphalt Content by Nuclear Gage / or Ignition Oven			166	
	Core Density			44	
	Core / Lift Thickness			44	
	Sample Preparation, Miscellaneous Testing			66 / Hour	
	***Does not include engineering of special problems or multiple gradations or AC types. Additional charges for AC or Aggregate additives.				
	<b>Aggregates Laboratory Services</b>	Gradation Analysis (per Fraction)	(ASTM C136) (AASHTO T27)	\$	54 / each
Gradation Analysis (Pit-Run Samples, Larger than 12-inch)		(ASTM C136) (AASHTO T27)		92 / hour	
Passing No. 200 Sieve		(ASTM C117) (AASHTO T11)		38 / hour	
Organic Impurities		(ASTM C40) (AASHTO T21)		47 / each	
Lightweight Particles 2.4		(ASTM C123) (AASHTO 113)		175 / each	
Lightweight Particles 2.0		(ASTM C123) (AASHTO 113)		175 / each	
Clay Lumps and Friable Particles		(ASTM C142) (AASHTO 112)		85 / each	
Pop-out of Lightweight Aggregates		(ASTM C331, C151)		305 / each	
Sodium Soundness (5-Cycle)		(ASTM C88) (AASHTO T104)		220 / each	
Sodium Soundness (12-Cycle)		(ASTM C88) (AASHTO T104)		300 / each	
Magnesium Soundness (5-Cycle)		(ASTM C88) (AASHTO T104)		220 / each	
Magnesium Soundness (12-Cycle)		(ASTM C88) (AASHTO T104)		300 / each	
Potential Reactivity		(ASTM C227)		1,040 / each	

**Fee Schedule**

EFFECTIVE JANUARY, 2019



<b>Aggregates Laboratory Services (cont'd)</b>	Potential Reactivity – 14 Day	(ASTM C1260 OR C1567) (CRD 662) (AASHTO T303)	850	/	each	
	Potential Reactivity – 28 Day	(ASTM C1260 OR C1567) (CRD 662) (AASHTO T303)	950	/	each	
	Potential Reactivity – 1 Year	(ASTM C1293)	1,150	/	each	
	Alkali Carbonate Reactivity	(ASTM C1105)	1,150	/	each	
	Micro Deval	(ASTM D6928) (AASHTO T327)	230	/	set	
	Rodded Unit Weight + Voids	(ASTM C29) (AASHTO T19)	57	/	each	
	Loose Unit Weight + Voids	(ASTM C29) (AASHTO T19)	57	/	each	
	Uncompacted Void Content	(ASTM C1252) (AASHTO T304)	125	/	each	
	Specific Gravity / Absorption, Coarse Aggregate	(ASTM C127) (AASHTO T85)	47	/	each	
	Specific Gravity / Absorption, Fine Aggregate	(ASTM C128) (AASHTO T84)	47	/	each	
	Staining Test (Lightweight Aggregates)	(ASTM C641)	120	/	each	
	Scratch Hardness	(CRD C130)	146	/	each	
	Flat and Elongated Particles	(ASTM D4791) (CRD C119)	187	/	each	
	L.A. Abrasion – Small-Sized Aggregate	(ASTM C131) (AASHTO T96)	104	/	each	
	L.A. Abrasion – Large-Sized Aggregate	(ASTM C535)	135	/	each	
	Moisture Content	(ASTM C566) (AASHTO T255)	26	/	each	
	Sand Equivalency	(ASTM D2419) (AASHTO T176) (CP 37)	104	/	each	
	Fractured Face Determination, Coarse Aggregate	(ASTM D5821) (AASHTO T335)	146	/	each	
	Fractured Face Determination, Fine Aggregate		333	/	each	
	Aggregate Freeze / Thaw, Fine Aggregate		302	/	each	
	Aggregate Freeze / Thaw, Coarse Aggregate	(AASHTO T103)	343	/	each	
	Mill Abrasion	(UPBN / BNSF)	218	/	each	
	Crushing		130	/	sample	
	Blending, Sampling and Miscellaneous Testing		90	/	hour	
	Insoluble Residue in Carbonate Aggregates	(ASTM D3042)	182	/	each	
	Desorption of Lightweight Aggregates	(ASTM C1761)	286	/	each	
	Chloride in Aggregate	(ASTM C1524)	208	/	each	
	<b>Concrete Laboratory Services</b>	Compressive Strength, Cylinders (Cast by CTL)	(ASTM C39) (AASHTO T22)	\$ 17	/	each
		Compressive Strength, Cylinders (Cast by Others)	(ASTM C39) (AASHTO T22)	34	/	each
		Compressive Strength & Density, Core Samples	(ASTM C42) (AASHTO T24)	52	/	each
		Density / Absorption of Hardened Concrete	(ASTM C642)	114	/	core
Flexural Strength, Beams		(ASTM C78, C293) (AASHTO T97, T177)	52	/	each	
Splitting Tensile Test, Cylinders		(ASTM C496) (AASHTO T198)	52	/	each	
Modulus of Elasticity Tests (Frame Method)		(ASTM C469)	395	/	set	
Chloride Content, Chemical Analysis		(ASTM C1152)	94	/	each	
Concrete Freeze / Thaw, 300 Cycles		(ASTM C666) (AASHTO T161)	2,184	/	set	
Cracking Tendency of Concrete		(AASHTO T334)	1,456	/	each	
Length Change of Hardened Concrete		(ASTM C157) (AASHTO T160)	333	/	each	
Abrasion Resistance		(ASTM C779)	343	/	each	
Chloride Ion Penetration / Rapid Chloride Permeability		(ASTM C1202) (AASHTO T277)	400	/	each	
Scaling Resistance		(ASTM C672)	1,040	/	each	
Pulse Velocity		(ASTM C597)	88	/	hour	
Blocking Assessment		(ASTM C1621)	52	/	each	
Static Segregation		(ASTM C1610)	52	/	each	
Height Change of Hardened Concrete		(ASTM C1090)	489	/	each	
Shear Bond		(ASTM C882)	572	/	each	
Direct Tension of Cores			312	/	each	
Electrical Conductivity		(ASTM 1760)	390	/	each	
Mixing Fee – Required for Some Tests			475	/	each	
<b>Laboratory Trial Mix Batches</b>		3-Point Curve – Cylinders for Compressive Strength		\$ 2,300	/	each
	3-Point Curve – Beams for Flexural Strength & Cylinders		2,400	/	each	
	Single Mix, Compressive Strength		1,350	/	each	
	Single Mix, Flexural Strength		1,450	/	each	
	Additional Compressive Strength Mixes		500	/	each	
	Additional Flexural Strength Mixes		550	/	each	
	Mini-Mixes		187	/	each	
	Time of Sets		52	/	add	
	Mix with Lightweight Aggregate (Additional Charge per Mix)		94	/	add	
	Maturity Meter Calibration & Report (Does not include probes)		1,248	/	each	
	Maturity Meter Probes		68	/	each	
Roller Compacted Concrete Mix				Quote on Request		

**Fee Schedule**

EFFECTIVE JANUARY, 2019



<b>Cement Laboratory Services</b>	Sulfate Expansion (ASTM C452)	\$ 676 / each
	Compressive Strength Tests (6 Cubes / Mix) (ASTM C109) (AASHTO T106)	229 / each
	Additional Cubes (ASTM C109) (AASHTO T 106)	31 / each
	Flexural Strength – 3 Beams (ASTM C348)	140 / each
	Time of Set: Vicat (ASTM C191) (AASHTO T131)	182 / each
	Standard Properties (ASTM C150)	738 / each
	Density (ASTM C188) (AASHTO T133)	94 / each
	Blaine Fineness (Cement) (ASTM C204) (AASHTO T153)	104 / each
	False Set – Paste Method (ASTM C191, C266, C359, C451, C807)	88 / each
	Chemical Analysis – Cement (ASTM C114) (AASHTO T105)	302 / each
	Autoclave Expansion - Cement (ASTM C151) (AASHTO T107)	229 / each
	Sulfate Expansion (ASTM C1012)	1,560 / each
	Air Content (ASTM C185) (AASHTO T137)	151 / each
	Cement Content	780 / each
<b>Pozzolan Laboratory Services</b>	Blaine Fineness (Pozzolan)	\$ 312 / each
	Loss on Ignition, Moisture	94 / each
	Fineness, No., 325 Sieve – Pozzolan	94 / each
	Density	94 / each
	Air Content	151 / each
	Chemical Analysis (Pozzolan)	291 / each
	Strength Activity Index (Pozzolan)	234 / each
	Drying-Shrinkage (Mortar Bar Method)	234 / each
	Autoclave Expansion – Pozzolan	234 / each
	Alkali Reactivity	562 / each
	Available Alkali	187 / each
	Standard Properties (ASTM C618) (ASTM C618)	655 / each
	<b>Masonry Laboratory Services</b>	<b>Block and Segmental Retaining Wall Units:</b>
Q-Block Test Series (Compressive, Dimensional, Absorption)		130 / set
Compressive Strength Tests (Set of 3)		78 / set
Dimension		130 / set
Density		364 / set
British Shrinkage (Set of 3)		52 / each
British Shrinkage – Additional Samples		208 / each
Fire Rating (UL618)		884 / each
Freeze – Thaw 100 – Cycle		1,300 / each
Freeze – Thaw 150 - Cycle		
<b>Brick:</b>		\$ 208 / set
Compressive Strength Tests (Set of 5)		172 / set
Coefficient of Saturation (Set of 5)		156 / set
Absorption Analysis (Set of 5)		286 / set
Initial Rate of Absorption (Set of 5)		140 / set
Efflorescence (Set of 5)		88 / set
Dimensional Analysis (Set of 5)		234 / set
Modulus of Rupture (Flexural Strength) (Set of 5)		484 / each
Freeze / Thaw, 50 Cycle (ASTM C67)		738 / each
Adobe Brick Properties		
<b>Mortar and Grout:</b>		\$ 198 / mix
Mortar Mix (6 Cubes Per Mix)		104 / each
Water Retentivity Test		140 / each
Compressive Strength – Field – Sampled Mortar (6 Cubes)		52 / each
Compressive Strength – Preparation of Cored Grout		
<b>Compressive Strength 8" Width Prisms:</b>		\$ 83 / each
Hollow Prisms, Brick		83 / each
Hollow Prisms, Block – 2 Course Maximum		114 / each
Hollow Prisms, Block – Over 2 Courses		114 / each
Grout – Filled Prisms, Brick		94 / each
Grout – Filled Prisms, Block – 2 Course Maximum		120 / each
Grout – Filled Prisms, Block – Over 2 Courses		
<b>Compressive Strength 10-inch or 12-inch Width Prisms:</b>		\$ 114 / each
Hollow Prisms, Brick	114 / each	
Hollow, Block – 2 Course Maximum	146 / each	
Hollow, Block – More than 2 Courses	182 / each	
Grout – Filled Prisms, Brick	156 / each	
Grout – Filled Prisms, Block – 2 Course Maximum	182 / each	



**Fee Schedule**

EFFECTIVE JANUARY, 2019

**CTL | THOMPSON**

<b>Dimension</b>	Grout – Filled Prisms, Block – More than 2 Courses	(ASTM C127) (AASHTO T85)	\$ 114	/	each
<b>Stone Testing</b>	Compressive Strength	(ASTM C170)	421	/	set
	Modulus of Rupture	(ASTM C99)	494	/	set
	Freeze / Thaw	(ASTM D5312) (AASHTO T103)	738	/	each
	Flexural Strength	(ASTM C880)	494	/	set
	Saw Cutting (Dimensional Stone)		88	/	hour
<b>Steel Laboratory Services</b>	Ultimate Tensile Strength (Including Post-Tension Strands)		\$ 114	/	each
	Ultimate Tensile Strength & Percent Elongation		135	/	each
	Ultimate Tensile Strength & Yield Tensile Strength		135	/	each
	Ultimate Tensile Strength & Area Reduction		135	/	each
<b>Miscellaneous Services</b>	Wood Moisture Content		\$ 99	/	each
	Hydraulic Ram Calibration, Less than 200 Ton		470	/	each
	Hydraulic Ram Calibration, 200 Ton & Higher		570	/	each
	Hydraulic Ram Calibration, Same Day Turnaround		100	/	additional
	Petrographic Analysis		Quote on Request		
	Report Review (All Laboratory Test Results)		120	/	Each

## SUB-CONSULTANT TEAM MEMBERS

Firm Name: Dunakilly Management Group Corp.

List ALL potential firm personnel titles/classification that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager)

Title/Classification	Responsibilities	Rate/Hr.
<i>Program Manager</i>	<i>Program Oversight and Development</i>	\$ 177.00
<i>Project Manager</i>	<i>Management of specific projects within the Program</i>	\$ 155.00
<i>Project Controls Specialist</i>	<i>Estimating, Scheduling, Document Control activities specific to the program or project</i>	\$ 140.00
<i>Estimator</i>	<i>Cost estimating and control in support of program or project activities</i>	\$ 140.00
<i>Procurement/Project Administration</i>	<i>RFQ/RFP Development, contract administration and processing</i>	\$ 140.00

**SUB-CONSULTANT TEAM MEMBERS**Firm Name: Fehr & Peers

List **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr.
Principal	Project oversight, report review, QA/QC of technical analysis and deliverables	\$325
Senior Associate	Project management, report preparation, QA/QC of technical analysis and deliverables	\$310
Associate	Project management, report preparation, analysis and deliverable preparation	\$220
Senior Engineer/ Planner	Project management, technical memorandum preparation, analysis and deliverable preparation	\$190
Engineer/Planner	Project management, data collection, analysis and deliverable preparation	\$150
Intern	Data collection and analysis	\$100
Senior Technician	Analysis, CAD, design preparation, design review	\$180
Technician	Analysis, CAD, design preparation	\$145
Senior Administrative Assistant	Subconsultant/vendor management, project setup, project accounting, graphics	\$145
Administrative Assistant	Project setup, project accounting	\$125

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: varies.

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**SUB-CONSULTANT TEAM MEMBERS**Firm Name: Goodbee & Associates, Inc.

List **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

<b>Title/Classification</b>	<b>Responsibilities</b>	<b>Rate/Hr.</b>
President	Directs all aspects of the firm's operations	\$185
Principal	Directs all aspects of the firm's operations	\$185
Project Manager III	Leads and reviews technical work	\$150
Project Manager II	Leads and reviews technical work	\$135
Project Manager I	Leads and reviews technical work	\$125
Landscape Architect (Principal)	Leads and reviews technical work	\$175
Landscape Architect III	Leads and reviews technical work	\$150
Landscape Architect II	Leads and reviews technical work	\$130
Landscape Architect I	Leads and reviews technical work	\$110
Designer III	Completes technical work under direction of a PM/LA	\$115
Designer II	Completes technical work under direction of a PM/LA	\$110
Designer I	Completes technical work under direction of a PM/LA	\$100
CAD II	Completes technical work under direction of a PM/LA	\$100
CAD I	Completes technical work under direction of a PM/LA	\$80
Administrator	Bookkeeping and general administration	\$110
Administrative Assistant	General administration	\$80

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.1

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**SUB-CONSULTANT TEAM MEMBERS****Firm Name:** Kumar & Associates, Inc.**Date:** March 24, 2020

List **ALL** potential firm personnel titles/classification that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles, (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr.
Principal	Project Oversight, Contracts/Negotiations	\$ 185.00
Principal-in-Charge / Senior Project Manager	Project Oversight, Geotechnical Report Review, Value Engineering, Attends Meetings, budget management	\$ 175.00
Project Manager; Geotechnical	Coordinates and conducts geotechnical subsurface investigative programs, provides geotechnical report review and recommendations	\$ 135.00
Project Engineer; Geotechnical	Preparation of Geotechnical Engineering Reports, performs geotechnical engineering study/investigation(s), coordinates drilling procedures/scheduling	\$ 105.00
Staff Engineer; Geotechnical	Performs analysis of field and laboratory data for generation of geotechnical recommendations	\$ 90.00
Field Engineer	Supervises drilling activities including logging and sampling of subsurface conditions	\$ 70.00
Exploration Manager	Coordinates drilling schedule and performs drilling procedures	\$ 75.00
Managing Scientist	Overall project management and staff allocation, report review	\$ 110.00
Project Scientist	Supervise Staff Scientists during Phase I ESAs, Asbestos inspections, and other field work, report preparation	\$ 95.00
Staff II Scientist	Perform Phase I and Phase II ESA's, Asbestos inspections and other field work, assists in report preparation	\$ 75.00
Staff I Scientist	Asbestos inspection, Phase I ESAs, field work, and air monitoring	\$ 65.00
Word Processing / Clerical	Word processing of reports, filing/record keeping, and data entry	\$ 50.00
CAD Drafting	Development of drawings/schematics, IT support	\$ 80.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 2.85

Unless expressly authorized by the City as part of any approved project proposal or specified in the contract, the City will not compensate the Consultant for expenses such as postage, travel, mileage, telephone, reproduction and messenger service costs incurred in connection with Work performed under this Agreement. Such costs are, in all such instances, included in the hourly rates paid by the City. Reproduction of submittals requested by the City including such items as end-of-phase reports, drawings, bid documents, record drawing reproducible, etc. are not included in the hourly rates, and will be itemized as part of each on-call task order as a not-to-exceed reproducible expense and will be reimbursed as actual cost.

**OTHER DIRECT COSTS****Firm Name:** Kumar & Associates, Inc.**Date:** March 24, 2020

List **ALL** potential firm personnel titles/classification that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles, (i.e. Project Manager). Provide additional sheets as necessary.

OUTSIDE SERVICES AND EXPENSES.....		Cost + 10%
(e.g.: Drilling, Traffic Control, Equipment Rental)		
*No Markup on Taxes		
<b>SOILS</b>		
Moisture Content (ASTM D2216).....	\$10.00 ea.	
Moisture Content & Density (ASTM D2216).....	\$15.00 ea.	
Gradation (ASTM D6913).....	\$85.00 ea.	
Hydrometer (ASTM D7928).....	\$85.00 ea.	
Double Hydrometer (ASTM D4221).....	\$225.00 ea.	
Percent Less than #200 Sieve (ASTM D1140).....	\$30.00 ea.	
Atterberg Limits (ASTM D4318) Method A.....	\$75.00 ea.	
Atterberg Limits (ASTM D4318) Method B.....	\$50.00 ea.	
Standard Proctor (ASTM D698).....	\$95.00 ea.	
Modified Proctor (ASTM D1557).....	\$110.00 ea.	
Soil/Cement Proctor (ASTM D558).....	\$135.00 ea.	
Proctor Checkpoint (ASTM D698 or ASTM D1557).....	\$50.00 ea.	
Relative Density (ASTM D4253 and ASTM D4254).....	\$175.00 ea.	
Specific Gravity (ASTM D854).....	\$80.00 ea.	
Standard Swell-Consolidation (ASTM D4546).....	\$70.00 ea.	
Air Dried Swell-Consolidation (ASTM D4546).....	\$80.00 ea.	
Remolded Swell-Consolidation (ASTM D4546).....	\$100.00 ea.	
Time/Consolidation (ASTM D2435).....	\$325.00 ea.	
Unconfined Compressive Strength (ASTM D2166).....	\$60.00 ea.	
Slake Durability (ASTM D4644).....	\$100.00 ea.	
Pinhole Dispersion (ASTM D4647).....	\$150.00 ea.	
Crumb Test (ASTM D6572).....	\$50.00 ea.	
Water Soluble Sulfates (AASHTO T290, CP-L 2103).....	\$50.00 ea.	
pH (ASTM E70).....	\$40.00 ea.	
Chloride (AASHTO T291, CP-L 2104).....	\$50.00 ea.	
Electrical Resistivity (ASTM G57).....	\$150.00 ea.	
Organics (AASHTO T267).....	\$70.00 ea.	
R-Value (ASTM D2844).....	\$350.00 ea.	
California Bearing Ratio (ASTM D1883) 1-point.....	\$150.00 ea.	
California Bearing Ratio (ASTM D1883) 3-point.....	\$400.00 ea.	
Soil/Lime, Soil/Cement Mix Analysis.....	Call for Pricing	
(Cost Will Vary Depending on Specification Requirements)		
Freeze/Thaw (ASTM D560).....	\$350.00 ea.	
Wet/Dry (ASTM D559).....	\$350.00 ea.	
Compressive Strength of Soil-Cement (ASTM D1633).....	\$60.00 ea.	
Direct Shear/per point (ASTM D3080) 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 D6836 Method D).....	\$50.00 ea.	
Carbonate Content (ASTM D4373).....	\$150.00 ea.	
Thermal Resistivity (ASTM D5334).....	\$150.00/pt.	
Remolded Thermal Resistivity (ASTM D5334).....	\$250.00/pt.	
<b>FIREPROOFING</b>		
Density and Moisture Content (ASTM E605).....	\$50.00 ea.	
Bond Strength (ASTM E736).....	\$35.00 ea.	
<b>MISCELLANEOUS</b>		
Sample Preparation.....	\$50.00/hr.	
Asphalt/Concrete Coring.....	\$75.00/hr.	
<b>CONCRETE AND MASONRY</b>		
Concrete Compressive Strength (ASTM C39).....	\$15.00 ea.	
Cylinders Cast by Others.....	\$20.00 ea.	
Concrete Flexural Strength (ASTM C78).....	\$50.00 ea.	
<b>LABORATORY TESTING</b>		
<b>CONCRETE AND MASONRY (continued)</b>		
Compressive Strength, Length and Density of Concrete Cores (ASTM C42).....	\$60.00 ea.	
Splitting Tensile Strength (ASTM C496).....	\$35.00 ea.	
Floor Profiling.....	\$75.00/hr.	
Concrete Mix Analysis.....	Call for Pricing	
Compressive Strength Mortar Cubes (ASTM C109/109M).....	\$25.00 ea.	
Compressive Strength of Grout.....	\$25.00 ea.	
Masonry Prisms Compressive Strength (ASTM C1314) 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.	
Concrete Set Time (ASTM C403).....	\$75.00 ea.	
<b>AGGREGATES</b>		
Moisture Content (ASTM D2216).....	\$10.00 ea.	
Sieve Analysis (ASTM C136).....	\$85.00 ea.	
Percent Less than #200 Sieve (ASTM C117).....	\$30.00 ea.	
Clay Lumps & Friable Particles (ASTM C142).....	\$60.00 ea.	
Flat or Elongated Particle (CP33).....	\$60.00 ea.	
Fractured Faces (CP45).....	\$60.00 ea.	
Los Angeles Abrasion 1 1/2" Maximum (ASTM C131).....	\$150.00 ea.	
3" Maximum (ASTM C535).....	\$175.00 ea.	
Sodium or Magnesium Sulfate Soundness (ASTM C88).....	\$350.00 ea.	
Dry Rodded Unit Weight (ASTM C29).....	\$30.00 ea.	
Specific Gravity and Absorption (ASTM C-127 and ASTM C128).....	\$80.00 ea.	
Organic Impurities (AASHTO T21).....	\$40.00 ea.	
Aggregate Durability Index (AASHTO T210).....	\$75.00 ea.	
Sand Equivalent (AASHTO T176).....	\$75.00 ea.	
Lightweight Particles (ASTM C123).....	\$150.00 ea.	
Micro Deval (ASTM D6928).....	\$150.00 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.	
<b>ASPHALT</b>		
Asphalt Binder Content (CP-L 5120).....	\$85.00 ea.	
Asphalt Binder Content/Gradation (CP-L 5120).....	\$180.00 ea.	
Asphalt Content Correction Factor (CP-L 5120).....	\$350.00 ea.	
Asphalt Aggregate Correction Factor (CP-L 5120).....	\$350.00 ea.	
Asphalt Content/Nuclear Method (AASHTO T287).....	\$85.00 ea.	
Nuclear Oven Calibration (AASHTO T287).....	\$350.00 ea.	
Marshall Test, 3 Specimens (ASTM D1559).....	\$200.00 ea.	
Bulk Specific Gravity and Thickness of Core (ASTM D1188 and D2726).....	\$30.00 ea.	
Maximum Theoretical Specific Gravity (ASTM D2041).....	\$80.00 ea.	
Superpave Gyrotory Compaction, 3 Specimens (CP-L 5115).....	\$175.00 ea.	
Asphalt Mix Analysis.....	Call for Pricing	
Lottman Testing (CP-L 5109).....	\$425.00 ea.	
Hveem Stability (CP-L 5106).....	\$325.00 ea.	

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**SUB-CONSULTANT TEAM MEMBERS**Firm Name: Lithos Engineering

List **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr.
Senior Consultant		\$260
President		\$215
Vice President		\$190
Senior Professional II		\$185
Senior Professional I		\$170
Professional II		\$155
Professional I		\$135
Staff Professional III		\$120
Staff Professional II		\$110
Staff Professional I		\$95
Administrative		\$70

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: \_\_\_\_\_.

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**SUB-CONSULTANT TEAM MEMBERS**

Firm Name: LS Gallegos & Associates, Inc.

List **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr.
Sr. Cost Estimator		\$147.72
Cost Estimator		\$120.43

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 2.0475.

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### SUB-CONSULTANT TEAM MEMBERS

Firm Name: Fuse Communication d/b/a/ Ocean

List **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr.
Public Information Mgr.	Public information management, RNO / Council communication, construction update writing / approvals, CCD / Contractor communication, construction meetings, public meetings, project admin	\$145/hr
Asst. Public Information Mgr. / Creative Mgr.	Public information management, project graphics, CCD web services coordination, email / hotline management, collateral design / management, construction meetings, public meetings, project admin	\$145/hr

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate:

    n/a    .

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**SUB-CONSULTANT TEAM MEMBERS**Firm Name: OV Consulting, LLC

List **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr.
Principal	Project Management, Transportation Management, mobility planning, design, strategic outreach	\$175
Project Manager	Project Management, Transportaiton Planning, Transportation Engineering	\$160
Senior Engineer	Transportation Engineering	\$145
Engineer II	Transportation Engineering	\$130
Engineer I	Transportation Engineering	\$115
Senior Planner	Transportation Planning	\$140
Planner II	Transportation Planning	\$120
Planner I	Transportation Planning	\$110
GIS Analyst	GIS, Data review	\$90
Graphic Designer	Graphic design, meeting materials, web-based materials	\$90
CAD Technician	CAD drafting	\$90
Clerical/Administrative	Word processing & administrative organization	\$70
Data Collection Technician	Collect field data	\$35
Intern	Varying support tasks	\$30

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 1.0.

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**SUB-CONSULTANT TEAM MEMBERS**Firm Name: Pinyon Environmental, Inc.

List **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager).

Title/Classification	Responsibilities	Rate/Hr.
Expert Witness	Expert witness preparation and deposition	\$250
Principal Engineer/Scientist	Responsible for providing strategic direction, vision, and leadership. Performs senior-level QA/QC and conducts meetings and negotiations with regulatory and oversight agencies.	\$220
Senior Engineer/Scientist	Responsible for technical completeness and competency of all submissions and work performed, including performance of junior- and mid-level planners and scientists. Conduct and supervise professional and technical staff to complete studies focused on engineering, planning, NEPA evaluations, air quality, noise, biology, geology, chemistry and environmental science.	\$201
Senior Project Manager	Project management, including coordination of multi-disciplinary teams, preparing responses to agency questions, and facilitates project meetings with client and regulators. Develops project requirements, site investigations, facility requirements development, budget and programming support, analyses and project execution.	\$179
Project Manager	Directs the gathering of data and prepares complex reporting and analysis. Oversight of technical products and development of detailed studies related to NEPA, air quality, noise, environmental justice, biology, geology, chemistry and environmental science.	\$153
Project Specialist	Reports to Regulatory and Oversight Agencies, Preparation of Permits, GIS Library Development and Data Analysis, Technical Review of Documents	\$ 127
Project Engineer/Scientist	Phase I ESA Site Visits/Reporting, Interpretation of Data, Collection of Non-Field Data, Development of Logs and Maps, Pilot Testing, Biological and Wetland Field Mapping, Preparation of Reports to Clients, GIS Data Collection/Processing/Presentation, Asbestos Designer/Air Monitoring Specialist/Project Manager, Technical Review of Documents	\$110
Staff II Engineer/Scientist	Soil Logging, Monitoring Well Installation Oversight, Water-Level Surveying, Slug Tests, Field Oversight, Lead Driller, Miscellaneous Field Services, Asbestos Building Inspector	\$94
Staff I Technician	Groundwater Sampling, Sampling During UST Removals, Surveyor's Assistant	\$76
Drafting (Graphics)	AutoCAD, floor plans, elevations, sections, scale drawings, layering and concept design for architects and engineers. Duties may include configuring and maintaining CADD libraries, engineering documentation management systems and CADD computer network systems.	\$98
Project Assistant	Maintain Field Equipment, Data Management	\$86
Word Processing, Clerical	Word Processing, Clerical	\$67

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.01

**REIMBURSABLE EXPENSES**FIRM: Pinyon Environmental, Inc.

<b>EXPENSE OR SERVICE</b>	<b>RATE</b>	<b>BILLING RATE</b>
Dual Interface Probe	day	\$70.00
Groundwater level indicator	day	\$30.00
Photoionization Detector / FID or similar	day	\$75.00
Automated Samplers, Monitors, and Data Loggers	day	\$100
PID / FID / multi gas meter (or similar)	day	\$75.00
Groundwater sampling kit	day	\$201.00
Soil Sampling kit	day	\$315.00
Field Visits (General Projects [e.g., Phase I ESA])	Day	\$50.00
Field Visits (Wetland/Biology)	Day	\$50.00
Soil Logging (During Drilling)	Boring	\$105.00
Monitoring Well Development	Well	\$55.00
Monitoring Well Sampling	Well	\$67.00
Asbestos Sampling Kit (Building Inspections)	Day	\$45.00
Asbestos Air Monitoring Kit	Day	\$110.00
<b>Pass Through Rate – Subcontractor Costs and Management</b>		
All Subcontracted Services	Cost	Cost
Field Sampling and Investigation Supplies and Materials as preapproved by City and County of Denver Project Manager	Cost	Cost
Remediation Supplies and Materials as preapproved by City and County of Denver Project Manager	Cost	Cost
Bonding Rate	2.2%	

**SUB-CONSULTANT TEAM MEMBERS**

Firm Name: PKM Design Group, Inc

List **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr.
Principal Landscape Architect	Oversees design, staff task orders, invoicing, public involvement, client relations	\$135.47
Senior Landscape Architect	Task order manager, performs complex design, cost estimating, specifications	\$102.33
Certified Arborist	Conducts tree inventories, assesses tree values and conditions, writes reports	\$102.33
Wetland Scientist	Maps wetlands, prepares wetland determination and mitigation plans, permitting	\$102.33
Project Landscape Architect	Performs urban and landscape design, prepares bid documents, field inspections	\$76.74
Irrigation Designer	Irrigation design, conducts irrigation system efficiency assessments, field inspections	\$81.40
Landscape Designer	CAD drafting, presentation graphics, planting plans, field inspections	\$38.37

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 2.326

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**SUB-CONSULTANT TEAM MEMBERS**Firm Name: San Engineering, LLC

List **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Consultant may copy this page or modify it to conform to the services being offered.

Title/Classification	Responsibilities	Rate/Hr.
Civil Engineering Manager	Design/Management	\$150.00
Structural Engineering Manager	Design/Management	\$150.00
Senior Project Engineer	Design	\$130.00
Staff Engineer	Design/Production	\$120.00
Sr. CAD Drafter	Drafting/Design	\$115.00
Drafter	Drafting	\$105.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 2.53

**SUB-CONSULTANT TEAM MEMBERS**Firm Name: SDG, Inc.

List **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr.
Principal Engineer	Structural Engineering Planning, Quality Control, Checking, Project Management, Coordination, Design, Detailing and On-Site Observations	\$197.00
Associate Principal Engineer	Structural Engineering Planning, Quality Control, Checking, Project Management, Coordination, Design, Detailing and On-Site Observations	\$192.00
Senior Project Engineer	Structural Engineering Checking, Project Management, Coordination, Analysis, Design, Detailing and On-Site Observations	\$166.00
Project Engineer	Structural Engineering Project Management, Coordination, Analysis, Design, Detailing and On-Site Observations	\$156.00
Senior Design Engineer	Structural Engineering Analysis, Design, Detailing and On-Site Observations	\$142.00
Design Engineer II	Structural Engineering Analysis, Design, Detailing and On-Site Observations	\$136.00
Design Engineer I	Structural Engineering Analysis, Design, Detailing and On-Site Observations	\$124.00

## SDG, Inc.

Senior CAD Drafter/BIM Modeler	AutoCAD Drafting and Detailing, Revit Modeling and Detailing, and Drawings Management	\$111.00
CAD Drafter	AutoCAD Drafting and Detailing	\$94.00
Technician	Project Documentation, Detailing, Filing and Construction Phase Log Updates	\$84.00
Administrative Assistant	Project Transmittals, Correspondence and Report Preparation Assistance, Filing, Construction Phase Log Updates and Office Administrative Functions	\$76.00
Bookkeeper	Project Accounting and Billing, Payroll, Financial Record-keeping	\$80.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.22.

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## SUB-CONSULTANT TEAM MEMBERS

Firm Name: Shannon & Wilson, Inc.

List **ALL** potential firm personnel titles/classification that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr
Senior Vice President	Overall QA/QC; Review of geotechnical engineering investigations, analysis, and design recommendations	\$245
Vice President	Main contact, interface with project team; Manages cost and schedule; Initiates geotechnical investigations; Performs geotechnical analysis and provides design recommendations; Prepares/stamps geotechnical engineering reports	\$200
Senior Associate	Performs geotechnical analysis and provides design recommendations; Prepares geotechnical engineering reports	\$175
Associate	Performs geotechnical analysis and provides design recommendations; Prepares geotechnical engineering reports	\$155
Senior Professional III	Coordinates/complete geotechnical investigations; Performs geotechnical analysis and provides design recommendations; Prepares geotechnical engineering reports	\$140
Senior Professional II	Coordinates/complete geotechnical investigations; Performs geotechnical analysis and provides design recommendations; Prepares geotechnical engineering reports	\$125
Senior Professional I	Coordinates/complete geotechnical investigations; Performs geotechnical analysis and provides design recommendations; Prepares geotechnical engineering reports	\$105
Professional IV	Coordinates/assists with geotechnical investigations, analysis and design recommendations; Assists with geotechnical engineering reports	\$95
Professional III	Coordinates/assists with geotechnical investigations, analysis and design recommendations; Assists with geotechnical engineering reports	\$90
Professional II	Performs field logging of borings and prepares boring logs	\$85
Professional I	Performs field logging of borings and prepares boring logs	\$75
Senior Technician	Provides laboratory testing of soil/rock obtained from geotechnical boring	\$98
Technician IV	Provides laboratory testing of soil/rock obtained from geotechnical boring	\$84
Technician III	Provides laboratory testing of soil/rock obtained from geotechnical boring	\$75
Technician II	Provides laboratory testing of soil/rock obtained from geotechnical boring	\$65
Technician I	Provides laboratory testing of soil/rock obtained from geotechnical boring	\$58
Senior Drafter	Prepares report figures such as site plans and boring location maps	\$100
Drafter III, IV	Prepares report figures such as site plans and boring location maps	\$90
Drafter I, II	Prepares report figures such as site plans and boring location maps	\$85
Administrative III, IV	Formatting, printing, and assembling of technical reports	\$85
Administrative I, II	Formatting, printing, and assembling of technical reports	\$65

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.2

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**ASSOCIATES**  
L A N D S C A P E  
A R C H I T E C T U R E  
& P L A N N I N G

**2020  
Billing Rates**

<b>Labor Categories</b>	<b>Rate</b>
Principal II	\$235/hr
Principal I	163/hr
Senior Project Manager	130/hr
Project Manager II	125/hr
Project Manager I	120/hr
Landscape Architect/Designer II	100-115/hr
Landscape Designer	95/hr
Intern	85/hr
Administrative Support	70/hr
Graphic Designer Services	\$115/hr

**SUB-CONSULTANT TEAM MEMBERS**

Firm Name: Zoeller Consulting, LLC

List **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr.
Owner	Oversee all public involvement, gov't relations & communications	\$135.00
Public Involvement and Gov't Relations Specialist	Support public involvement, gov't relations and communication activities	\$120.00
Public Involvement & Language Interp Specialist	Support public involvement and oversee language and cultural communication needs	\$105.00
Logistical & Language Support Specialist	Logistical support for public involvement activities: one-on-one Spanish lang. needs	\$75.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 1.22

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