CITY		ENGINEER	
CITY OF JOPLIN **602 S. MAIN STREET** **JOPLIN, MO 64801**		Name: Olsson Address: 1027 S Main, Suite 503 Joplin, MO 65801	
Attention: Dan Johnson, PE Director of Public Works		Attention: Clayton Cristy, PE	
Department: Public Works		Phone: 417- 627-5554	Fax:
Phone: 417 624-0820	Fax:	Old Willow Branch Drainage Improvements 7th Street Improvement (MODOT) (Red Phase)	

WORK AUTHORIZATION NUMBER OLS-WIL-03

TO MASTER AGREEMENT FOR PROFESSIONAL ENGINEERING CONSULTING SERVICES (On-Call)
Dated March 20, 2024

City of Joplin and Engineer enter into this Work Authorization only for the work described below. This Work Order is issued pursuant to that Master Services Agreement for Professional Engineering Consulting Services ("MSA") previously executed by City and Engineer, and upon acceptance by hereof by both parties, shall form a part of the MSA. The terms of the MSA are incorporated herein by reference. The parties agree that the Engineer will perform the Services upon the terms and conditions set forth herein and in the MSA. Engineer's acceptance of the terms of this Work Authorization shall be evidenced by Engineer's execution and return of one copy of this Work Authorization to City. Unless sooner terminated as permitted in the MSA, this Work Authorization shall terminate upon completion of the Services for this Work Authorization, except to the extent of surviving obligations set forth herein and in the MSA.

1. **Services**. The City agrees to engage the services of the Engineer and the Engineer agrees to perform the services hereinafter set forth in connection with projects described in ***Exhibit A***.

2. **Addition to Services**. The City of Joplin may add to the Engineer services or delete therefrom activities of a similar nature to those set forth in ***Exhibit A***, provided that the total cost of such work does not exceed the total cost allowance as specified in Paragraph 5 hereof. The Engineer shall undertake such changed activities only upon the direction of the City. All such directives and changes shall be in written form and prepared and approved by the City and shall be accepted and countersigned by the Engineer.

3. **Term**. The services of the Engineer shall commence as soon as practicable after the execution of this contract, unless otherwise directed in writing, and shall be undertaken and completed in such sequence as to assure their expeditious completion in the light of the purposes of the contract, but in any event, all the services required hereunder shall be completed as set forth in the schedule for the project which is attached hereto as ***Exhibit A***.

4. **Costs not to Exceed**. The City of Joplin is limited by law with respect to the amount of money it can pay. Therefore, the City has established a fixed sum for this contract, which cannot be exceeded unless this contract is amended. The Engineer providing services hereunder shall be required to always keep track of the number of hours billable under this contract; and any work more than the fixed sum shall not be eligible for payment. The Engineer shall notify the City if Engineer anticipates that the contract amount may be exceeded, in order to determine whether or not the City is prepared to increase the total compensation. The Engineer shall establish a billing system showing the amount of money remaining on the contract, which shall be shown in each monthly billing.

5. **Payment**.

a. **Conditioned upon acceptable performance**. The City agrees to pay the Engineer in accordance with the terms set forth in ***Exhibit A***, which shall constitute complete compensation for all services to be rendered under this contract; provided, that where payments are to be made periodically to Engineer for services rendered under this contract, the City expressly reserves the right to

disapprove in whole or in part a request for payment where the services rendered during the period for which payment is claimed are not performed in a timely and satisfactory manner in accordance with the schedule and description of services set forth in ***Exhibit A***.

b. Total compensation not to exceed. It is expressly understood that in no event will the total compensation and reimbursement to be paid to the Engineer under the terms of this work Authorization **Number OLS-WIL-03 exceed the sum of Two Hundred, Twenty-Seven Thousand, Six Hundred, Sixty-Four and 00/100 Dollars ($227,664.00).**

6. **Insurance**. Without limiting any of the other obligations or liabilities of the Engineer, the Engineer shall secure and maintain at its own cost and expense, throughout the duration of this Contract and until the work is completed and accepted by the City of Joplin, insurance of such types and in such amounts as may be necessary to protect it and the interests of the City of Joplin against all hazards or risks of loss as hereunder specified or which may arise out of the performance of the Contract Documents. The form and limits of such insurance, together with the underwriter thereof in each case, are subject to approval by the City of Joplin. Regardless of such approval, it shall be the responsibility of the Engineer to always maintain adequate insurance coverage during the term of the Contract. Failure of the Engineer to maintain coverage shall not relieve it of any contractual responsibility or obligation or liability under the Contract Documents.

The certificates of insurance, including evidence of the required endorsements hereunder or the policies, shall be filed with the City at the time that this contract is signed by the Engineer. All insurance policies shall provide thirty (30) days written notice to be given by the insurance company in question prior to modification or cancellation of such insurance. Such notices shall be mailed, certified mail, return receipt requested, to:

City of Joplin - Public Works, 602 S. Main, Joplin, MO 64801; and

Such policies shall name the City as an additional insured with limits of liability not less than the sovereign immunity limits for Missouri public entities calculated by the Missouri Department of Insurance as of January 1 each calendar year and published annually in the Missouri Register pursuant to Section 537.610, RSMo.
(See, http://insurance.mo.gov/industry/sovimmunity.php).

As of January 1, 2024, the minimum coverage for the insurance referred to herein shall be as set out below:

a. Workers' Compensation…. Statutory coverage per RSMo 287.010 et seq.
Employer's Liability……. $1,000,000.00

b. Commercial General Liability Insurance, including coverage for Contractual Liability and Independent Contractors Liability. Such coverage shall apply to bodily injury and property damage on an "Occurrence Form Basis" with limits of at least Three Million Three Hundred Seventy Thousand One Hundred Thirty Seven and no/100 Dollars ($3,370,137.00) for all claims arising out of a single accident or occurrence and at least Five Hundred Five Thousand Five Hundred Twenty and no/100 Dollars ($505,520.00) with respect to injuries and/or death of any one person in a single occurrence and an amount not less than at least $1,000,000 for all claims to property arising out of a single occurrence and at least $100,000 to any one owner with respect to damages to property. Engineer agrees that the proceeds of such insurance policy shall first be used to pay any award, damages, costs, and/or attorneys' fees incurred by or assessed against City, its employees, officers and agents, before payment of any award, damages, costs or attorney's fees of Engineer, its employees, officers or agents. Engineer agrees to cause its insurer to name City as an additional insured on such insurance policy, including the City as an additional insured for coverage under its products-completed operations hazard, and said policy shall be primary and noncontributory.

c. Automobile Liability Insurance covering bodily injury and property damage for owned, non-owned and hired vehicles, with limits of at least Three Million Three Hundred Seventy Thousand One Hundred Thirty Seven and no/100 Dollars ($3,370,137.00) for all claims arising out of a single accident or occurrence and at least Five Hundred Five Thousand Five Hundred Twenty and no/100 Dollars ($505,520.00) with respect to injuries and/or death of any one person in a single accident or occurrence.

d. Errors and Omissions Insurance. The Engineer shall maintain a professional liability insurance policy in the amount of $1,000,000.00. This policy shall remain in full force and effect for a period of one year after completion and acceptance by the City of the construction of the project.

e. Subcontracts. In case any or all this work is sublet, the Engineer shall require the subcontractor to procure and maintain all insurance required in subparagraphs (A), (B) and (C) hereof and in like amounts. Engineer shall require all subcontractors with

whom it enters into a contract to perform work on this project to protect the City of Joplin through insurance against applicable hazards or risks and shall, upon request of the City, provide evidence of such insurance.

f. Notice. The Engineer and/or subcontractor shall furnish the City prior to beginning the work satisfactory proof of carriage of all the insurance required by this contract, with the provision that policies shall not be canceled, modified or non-renewed without thirty (30) days written notice to the City of Joplin.

g. Legislative or Judicial Changes. In the event the scope or extent of the City's tort liability as a governmental entity as described in Section 537.600 through 537.650 RSMo is broadened or increased during the term of this agreement by legislative or judicial action, the City may require Engineer, upon 10 days written notice, to execute a contract addendum whereby the Engineer agrees to provide, at a price not exceeding Engineer's actual increased premium cost, additional liability insurance coverage as the City may require to protect the City from increased tort liability exposure as the result of such legislative or judicial action. Any such additional insurance coverage shall be evidenced by an appropriate certificate of insurance and shall take effect within the time set forth in the addendum.

7. All other terms and conditions of the original Agreement shall remain in effect.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals on the day and year herein stated

REVIEWED FOR APPROVAL

_____
Name & Title of Staff Project Manager

CERTIFICATE OF DIRECTOR OF FINANCE

I certify that the expenditure contemplated by this document is within the purpose of the appropriation to which it is to be charged and that there is an unencumbered balance of appropriated and available funds to pay, therefore.

_____
Leslie Haase, Director of Finance

APPROVED AS TO FORM

_____
Peter Edwards, City Attorney

Engineer: _____

By: _____

Printed Name: _____

Title: _____

Date: _____

By: _____
Daniel Johnson, P.E.
Public Works Director

Date: _____

Engineer: _____

By: _____

Printed Name: _____

Title: _____

Date: _____

Exhibit A - SCOPE OF SERVICES – RED PHASE (3)

This exhibit is hereby attached to and made a part of the Letter Agreement for Professional Services dated October 23, 2024 between Joplin, Missouri ("Client") and Olsson, Inc. ("Olsson") providing for professional services. Olsson's Scope of Services for the Agreement is indicated below.

PROJECT DESCRIPTION AND LOCATION

Project will be located at: 7th St and Moffet Ave to 7th St and Pennsylvania Ave, Joplin, Missouri

Project Description: The existing Old Willow Branch box culvert is near the end of its service life and in need of replacement. The existing culvert is located in downtown Joplin beneath several existing buildings. The scope of services is to develop construction plans and specifications for the new culvert from 7th and Moffett to 7th and Pennsylvania Avenue. Storm sewer systems connecting to the Old Willow Branch box culvert will be evaluated in a separate scope.

MoDOT is currently designing a separate project with roadway improvements along Route 66/7th Street overlapping the limits of the proposed box culvert routing. The box culvert design in this scope is assumed to be incorporated into the design plans for the MoDOT project.

Rerouting existing storm sewer systems and decommissioning the existing Old Willow Branch box culvert is assumed to be part of a separate set of construction plans which will be let by the city and awarded separately at a future date.

SCOPE OF SERVICES

Olsson shall provide the following services (Scope of Services) to Client for the Project:

DESIGN SERVICES

Phase 100 – Project Management

This component involves a Project Manager (PM) to work Olsson's project team and with the Owners' PM to ensure the timely completion of quality work products within available budgetary resources. The design PM will be responsible for:

Task 101: Project Management

- Establishing and maintaining project schedule and budget.
- Work with billing coordinators and project team to prepare invoices

Task 102: Communication and Coordination with Others

- Coordinate with the project team, agencies and/or Consultants that are involved with this project or adjacent projects. This involves one-on-one meetings, conference calls, etc.
- Kick-Off Meeting – Once notice to proceed has been received, the PM will schedule and attend a kick off meeting with the full project team. The PM will draft an agenda, send out invites, and record meeting notes with action items to be followed up on.
- PM will schedule and attend monthly progress meetings (at a minimum) with the project team and will distribute an agenda 24 hours in advance of each meeting. The PM will draft an agenda, send out invites, and record meeting notes with action items to be followed up on.
- Eight (8) meetings (of all the types listed above) will be held for this project. Meetings will be documented and logged.

Task 103: Quality Management

- QA/QC for this project will be scheduled and coordinated by the Olsson Project Manager, who has performed QA/QC review on similar projects, or as identified in the Project Management Plan which will be developed with Owner at the beginning stages of the project.
- Completion of the QA/QC plan involves a final review by MoDOT and City and a final constructability review by Olsson.

Task 104: Utility Review Meeting/Coordination (N/A) - The ENGINEER contracted with MoDOT will provide utility coordination as a part of the MoDOT contract.

Phase 200 – Survey

Task 201: Topographic and Boundary Survey - Surveying services have been included in the MoDOT contract (shown in below red). Limited additional topographic survey and base file updates have been included as supplement to the existing MoDOT project survey.

FIGURE 1

Old Willow Branch - Scope

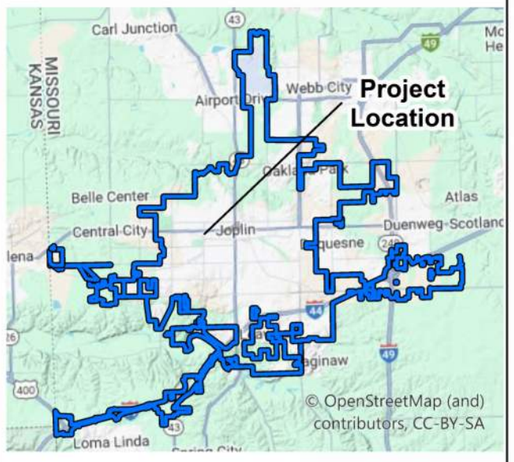
(CONCEPTUAL NOT FOR CONSTRUCTION)

- Potential Algn Alts
- Existing Storm Structures
- Existing Stormlines
- Old Willow Branch
- New Willow Branch
- Proposed Borings
- Drainage Boundary
- Box Culvert Inspection

Proposed Survey Limits

Phase

- Red Phase
- Yellow Phase
- Purple Phase



0 175 350 700 Feet

1 inch equals 350 feet

N

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Phase 300 – Site Investigation

Task 301: Geotechnical Investigation

Field Exploration - Olsson to contact Missouri One Call to locate underground utilities. We propose to use a truck-mounted drill rig to complete the following borings for the geotechnical exploration:

- Twenty (20) borings to a depth of 20 feet each.
- The borings will be advanced to the depths proposed, or to refusal, whichever is shallower. This proposal is based on a total drilling footage of 400 linear feet.
- Split spoon and thin-walled samples shall be collected from the soil test borings.
- We will obtain groundwater levels in the test borings at the time of drilling and upon completion of the drilling operations in the soil borings.
- After obtaining groundwater level readings, we will backfill the borings with soil cuttings and patch pavements as necessary.

Laboratory Services - As soil conditions dictate, laboratory testing may include visual soil classification (ASTM D2488), unconfined compression tests (ASTM D2166), thin-walled tube density tests (ASTM D7263), moisture content tests (ASTM D2216), Atterberg limit tests (ASTM D4318), percent passing No. 200 sieve wash tests (ASTM D1140), mechanical sieve analysis (ASTM C136).

Evaluation and Geotechnical Report - A geotechnical engineering letter will be prepared under the direction of a registered professional engineer based on the findings of the field and laboratory programs. The report will include a boring location plan, computer-generated boring logs, results of the laboratory testing program and a description of the surface and subsurface conditions encountered at the site.

Phase 400 – Final Roadway Design Services

Task 401: **Roadway Design -** Olsson will prepare detailed drawings that will be incorporated into the final plans for the MoDOT Route 66/7th Street reconstruction project. More specifically, the existing Right-of-way Plans currently developed for MoDOT Route 66/7th Reconstruction will be updated to incorporate the new RCB. This will include redesigning the proposed storm system. Plans will be submitted to the client for review at the 90% and 100% design stage.

Task 402: **Structural Design -** A standard MoDOT RCB will be used as the basis for the design. Special connection details will be developed to connect to the existing RCB system just west of Byers, a cross structure at Byers, and detailing for two sections of curved structures within the project limits. A detailed bill of reinforcing will not be developed.

BIDDING SERVICES (N/A)

CONSTRUCTION SERVICES (N/A)

DELIVERABLES

- Geotechnical Memo summarizing borings
- MoDOT Final Plans
- MoDOT Job Special Provisions
- MoDOT Estimate

Anticipated Start Date: November 2024
Anticipated Completion Date: May 2025

COMPENSATION

Client shall pay to Olsson for the performance of the Scope of Services, the actual time of personnel performing such services in accordance with the Labor Billing Rate Schedule(s), and all actual reimbursable expenses in accordance with the Reimbursable Expense Schedule attached. Olsson shall submit invoices on a monthly basis, and payment is due within 30 calendar days of invoice date.

Olsson's Scope of Services will be provided on a time-and-expense basis not to exceed $227,664 (Two-Hundred Twenty-Seven Thousand Six-Hundred Sixty-Four Dollars).

Phase 100 – Project Management	$15,200
Phase 200 – Survey (subconsultant)	$9,016
Phase 300 – Site Investigation	$26,000
Phase 400 – Final Roadway Design Services	$151,000
Subconsultant	$19,948
Phase 500 – Bid Phase Services	N/A
Phase 600 – Construction Phase Services	N /A
Reimbursable Expenses	$6,500
Total	**$227,664**

ASSUMPTIONS:

1. Notice to proceed for this scope of work will be concurrently executed with design work that generally includes the overall drainage study to size the reinforced concrete box (RCB) culvert and to provide a point connection near the 7th Street and Pennsylvania Avenue intersection.

The design and plans for the new RCB, which is anticipated to be primarily located within 7th street ROW, will be incorporated into the MoDOT Route 66/7th Street Reconstruction plans. The MoDOT project is currently at Right-of-way Plans stage. The limits of the RCB within the project are anticipated to potentially run from Moffit Avenue to Pennsylvania Avenue. Under separate work order, a second bid package will be produced for the Owner and will include demolition of the existing Pennsylvania Avenue Bridge and a new RCB extension up to 7th Street. MoDOT design standards and specifications will govern.

2. The project will be bid as a part of the MoDOT Route 66/7th Reconstruction bid package.
3. Olsson does not guarantee that the 7th Street routing the new RCB is feasible. The initial design effort is to make this determination so that if the route is feasible, the benefits of combining this work with the MoDOT project will be achieved. If the routing is determined to be infeasible, then work will stop and coordination with the City regarding alternate routes will take place. If an alternate route is determined outside of the MoDOT project limits, an amendment will be required.
4. Structural:
    - Except for special connections (if any), the RCB design will follow MoDOT standard plans.
    - A detailed bill of reinforcing will not be developed (i.e. the RCB will be bid as structural concrete per CY).
5. Fees are an estimate of the actual work necessary to complete the work and the consultant can shift funds between phases and task as necessary to complete the work. Fees cannot be shifted to future phases until the current phase has been submitted and accepted by the City.
6. All permit and mitigation fees, if any, will be paid for by the City.
7. Other assumptions identified within the scope of services.

EXCLUSIONS

1. The project is not located within FEMA special flood hazard areas. No floodplain development permitting or coordination with FEMA is included in this scope.
2. Utility relocations are currently unknown. If required, the relocations will be designed by the respective utilities. More specifically, sanitary sewer conflict relocation is not included in this scope of services.
3. Construction staking, administration, observation, testing, and inspection is not included in this scope of work. This will be handled as a part of the MoDOT Route 66/7th Street Reconstruction project.
4. Detailed bill of reinforcing for RCB and special structural details.
5. Public meeting and public engagement is not included in this scope of services.
6. ROW services such as easement descriptions and exhibits, staking easements, appraisals/waiver evaluations, and engineer meetings with property owners are not included.
7. Geotechnical investigations:
    - All boring locations must be readily accessible. Any fees resulting from clearing operations to achieve access to boring locations is Owner's responsibility and not included in this scope of work. Olsson cannot perform field work until access to boring locations is satisfactory to Olsson.

- Drilling equipment may cause disturbance to natural surroundings including but not limited to soil indentations, concrete cracking, and damage to underground sprinkler systems. Olsson will not be liable or responsible for any site disturbance that may occur as a result of bringing equipment on site. The Owner accepts full responsibility for site disturbance.
- Private utility locating services may be necessary to complete the field exploration. These services to be provided by others and are not included in this scope of work.
- To ensure the safety of the crew on site, Owner must inform Olsson of the location of all private utilities and private utility service connections. The cost of locating private utility lines and private service connections is the Owner's responsibility. Olsson is not responsible or liable for damage to any private utilities or private service connections.

Should Client request work in addition to the Scope of Services, Olsson shall invoice Client for such additional services (Optional Additional Services) at the standard hourly billing labor rate charged for those employees actually performing the work, plus reimbursable expenses if any. Olsson shall not commence work on Optional Additional Services without Client's prior written approval.

Olsson agrees to provide all of its services in a timely, competent and professional manner, in accordance with applicable standards of care, for projects of similar geographic location, quality and scope.

LABOR RATE BILLING SCHEDULE 2024
Site Design

Description	Range
Principal	$185 - $310
Project Manager	$145 - $270
Project Professional	$135 - $185
Assistant Professional	$90 - $135
Designer	$115 - $165
CAD Operator	$50 - $130
Administrative/Clerical	$50 - $115
*Survey	$65 $220
*Construction Services	$65 - $245

Note:

1. Special Services not included in the above categories will be provided on a Special Labor Rate Schedule. Special rates include but are not limited to Power Delivery, Survey, Field Operations, Special Inspection, Construction Observation, Geotechnical, Non-Destructive Testing, Drilling, Executive Staff.
2. Rates are subject to change based upon updates to Billing Rates for the upcoming year.

*Not inclusive of all services. Refer to Note 1.

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2024 Springfield/Joplin/Fayetteville
Survey Billing Rate Schedule

Classification	Hourly Rate
Group Leader	$210.00
Technical Leader	$185.00
Senior Surveyor	$160.00
Surveyor	$125.00
Associate Surveyor	$95.00
Assistant Surveyor	$80.00
Senior Technician	$110.00
Associate Technician	$85.00
Assistant Technician	$72.00
1 Man Field Crew	$130.00
2 Man Field Crew	$185.00

Equipment	Daily Rate
Boat	$100.00
ATV	$100.00
HD Scanner	$500.00
Drone	$500.00
Lidar	$2,500.00

Travel

Mileage (Portal to Portal)	Mile	$0.75
Hotel	Daily	$140.00
Meals	Daily	$50.00

Additional Notes

1. These Unit Fees are in effect until January 1, 2025.
2. Services and fees not listed above will be quoted upon request.
3. Services on weekends, holidays, and in excess of 8-hours/day will be charged 1.5 times the unit fee.
4. Subcontracted services will be invoiced at our cost plus 20%

REIMBURSABLE EXPENSE SCHEDULE

The expenses incurred by Olsson or Olsson's independent professional associates or consultants directly or indirectly in connection with the Project shall be included in periodic billing as follows:

Classification	Cost
Automobiles (Personal Vehicle)	$0.67/mile*
Suburban's and Pick-Ups	$0.75/mile*
Automobiles (Olsson Vehicle)	$95.00/day
Other Travel or Lodging Cost	Actual Cost
Meals	Actual Cost
Printing and Duplication including Mylars and Linens	
In-House	Actual Cost
Outside	Actual Cost+10%
Postage & Shipping Charges for Project Related Materials including Express Mail and Special Delivery	Actual Cost
Film and Photo Developing	Actual Cost+10%
Telephone and Fax Transmissions	Actual Cost+10%
Miscellaneous Materials & Supplies Applicable to this Project	Actual Cost+10%
Copies of Deeds, Easements or other Project Related Documents	Actual Cost+10%
Fees for Applications or Permits	Actual Cost+10%
Sub-Consultants	Actual Cost+10%
Taxes Levied on Services and Reimbursable Expenses	Actual Cost

*Rates consistent with the IRS Mileage Rate Reimbursement Guidelines (Subject to Change).

2024 Field Operations Services
Unit Rate Schedule

Special Inspections and Construction Materials Testing Services

Testing Services (3-Hour Minimum)

Field Technician	Hour	$70.00
Senior Technician	Hour	$80.00
Field Manager	Hour	$95.00
Project Manager / Project Engineer	Hour	$150.00
Senior Project Manager / Senior Engineer	Hour	$210.00
Administrative Coordinator	Hour	$70.00
Mileage	Mile	$0.75

Laboratory Testing Services

Aggregate Testing

Abrasion - LA Machine	Each	$475.00
Atterberg Limit (Plasticity Index)	Each	$110.00
Bulk Density (Unit Weight) and Voids	Each	$100.00
Deleterious - Clay Lumps and Friable Particles	Each	$175.00
Deleterious - Flat & Elongated Particles	Each	$350.00
Deleterious - Lightweight Particles	Each	$230.00
Deleterious - Organic Impurities	Each	$130.00
Material Finer than No. 200 Sieve	Each	$80.00
Minimum & Maximum Index Density (Vibratory Table)	Each	$240.00
Moisture Content	Each	$21.00
Oversize Particle Correction	Each	$115.00
Particle Size (Gradation) - Sieve Analysis <3/4"	Each	$135.00
Particle Size (Gradation) - Sieve Analysis >3/4"	Each	$200.00
Percent Fractured Particles in Coarse Aggregate	Each	$260.00
Proctor - Modified	Each	$260.00
Proctor - Standard	Each	$210.00
Sand Equivalent of Fine Aggregate	Each	$230.00
Soundness Aggregates (Sodium or Magnesium)	Each	$285.00
Specific Gravity of Aggregate Coarse or Fine Aggregate	Each	$185.00
Uncompacted Void Content of Fine Aggregate	Each	$80.00

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O 417.890.8802 / **olsson.com**

Asphalt Testing

Asphalt Binder Content by Ignition	Each	140.00
Gradation of Extracted Aggregates (Includes Binder by Ignition)	Each	$200.00
Bulk Specific Gravity/ Pavement Cores (1pt)	Each	$60.00
Marshall Density (3pt)	Each	$240.00
Marshall Stability and Flow (3pt)	Each	$330.00
Percent Air Voids in Compacted Paving Mix	Each	$45.00
Preparation & Density of Superpave Gyratory Compaction Specimens (2pt)	Each	$320.00
Theoretical Maximum Specific Gravity (Rice) (Gmm)	Each	$155.00

Cement, Concrete, & Masonry Testing

Chloride Ion	Each	$200.00
Compressive Strength – Block or Block Prism	Each	$215.00
Compressive Strength - Concrete Cores	Each	$85.00
Compressive Strength - Cube (Grout & Mortar)	Each	$40.00
Compressive Strength - Cylinders	Each	$25.00
Density, Absorption & Voids of Hardened Concrete	Each	$630.00
Flexural Strength of Concrete	Each	$75.00
Length Change of Hardened Hydraulic-Cement Mortar and Concrete	Each	$350.00
Measuring Thickness of Concrete Elements (Drilled Cores)	Each	$65.00
Potential Alkali Silica Reactivity (ASR)	Each	$800.00

Equipment

Core Machine/Sampling	Day	$250.00
Dynamic Cone Penetrometer (DCP)	Day	$105.00
Electrical Resistivity - Field (AEMC Gauge)	Day	$100.00
Floor Flatness Equipment	Day	$300.00
Relative Humidity Probe/Sensor	Each	$80.00
Settlement Monitoring Plate	Each	$300.00
Standard Field Equipment	Each	$25.00
Vapor Emission Test Kit	Each	$60.00

Soil Testing

Atterberg Limits (Plasticity Index)	Each	$110.00
CBR Laboratory Compacted (3pt)	Each	$630.00
CBR Laboratory Compacted (1pt)	Each	$230.00
Density (Wet/Dry)	Each	$30.00
Direct Shear Test of Soils (Consolidated Drained) (3pt)	Each	$1600.00
Dispersion - Crumb	Each	$85.00
Dispersion - Pinhole	Each	$175.00
Material Finer than No. 200 Sieve	Each	$80.00
Moisture Content	Each	$21.00
Moisture Content - Microwave	Each	$45.00
One-Dimensional Consolidation Test	Each	$440.00

Organic Content - Soils	Each	$105.00
Oversize Particle Correction	Each	$115.00
Particle Size (Gradation) - Hydrometer	Each	$230.00
Particle Size (Gradation) - Sieve Analysis	Each	$135.00
Permeability - Flexible Wall Permeameter (Intact)	Each	$550.00
Permeability - Flexible Wall Permeameter (Remold)	Each	$650.00
Proctor - Modified	Each	$260.00
Proctor - Modified w/Additive	Each	$340.00
Proctor - Standard	Each	$210.00
Proctor - Standard w/Chem Additive	Each	$290.00
Swell or Collapse (One Dimensional)	Each	$315.00
Triaxial Compression – Consolidated Drained (Intact)	Each	$1730.00
Triaxial Compression – Consolidated Drained (Remold)	Each	$1930.00
Triaxial Compression – Consolidated Undrained (Intact)	Each	$1575.00
Triaxial Compression – Consolidated Undrained (Remold)	Each	$1775.00
Triaxial Compression – Unconsolidated Undrained	Each	$180.00
Unconfined Compressive Strength - Intact Rock	Each	$115.00
Unconfined Compressive Strength - Soils	Each	$75.00

Sprayed Fire Resistive Materials (SFRM)

Adhesion of SFRM to Structural Members (Field)	Each	$25.00
Thickness and Density of SFRM to Structural Members	Each	$90.00

General Terms and Conditions

1. These Unit Fees are in effect until January 1, 2025. Services and fees not listed above will be quoted upon request.
2. All services charged are portal-to-portal.
3. Services provided on Saturday, Sunday, Holidays, or in excess of 8-hours/day will be charged at 1.5 times the unit fee.
4. Services provided before 6:00 a.m. and after 6:00 p.m. will be charged at 1.5 times the unit fee.
5. Mileage Rate subject to change based on Federal and IRS rate changes.
6. Subcontracted services and expenses will be invoiced at our cost plus 20%
7. Project Manager time will be included for project coordination and report review.