WORK AUTHORIZATION NO. 1

PROJECT: On Call Materials Testing & Geotechnical Engineering Services

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated **March 19,2024** and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and **Atlas Technical Consultants, LLC** (the "Engineer").

Part1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is **$75,000.00.**

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on **December 31, 2025**. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this _____

ENGINEER:	COUNTY:
_____	Williamson County, Texas
By: 	By: _____
Signature	Signature
Joe Fiello	Bill Gravell, Jr.
Printed Name	Printed Name
Branch Manager	Williamson County Judge
Title	Title

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

Attachment A - Services to be Provided by County

Williamson County will provide a Project Manager and will provide timely reviews and decisions necessary to enable the Engineer to maintain an agreed upon project schedule.

Attachment B – Services to be Provided by Engineer

- Perform Quality Assurance (QA) and Quality Control (QC) Construction materials sampling and testing as requested, including both laboratory and field testing of soils, base, concrete and hot mix materials, using ASTM or TxDOT testing methods.
- Perform geotechnical investigations and forensic investigations including boring, pavement cores, non-destructive testing and other geotechnical testing as directed.
- Collect samples, perform laboratory testing, interpret field data, and prepare Geotechnical Reports.
- Provide recommendations and prepare written reports for pavement design, foundation design, slope stability, and other geotechnical issues.

Attachment C - Work Schedule

Work shall begin immediately upon receipt of executed agreement between County and Engineer.

Attachment D – Fee Schedule

Please see next pages.

Williamson County 2024 Price List

ATLAS Technical Consultants LLC - Dripping Springs Price List			
Field Technician	**Unit**	**Unit Cost**	
		Reg.	**OT**
1A	hr.	$76	$90
1B	hr.	$76	$90
Soils	hr.	$76	$90
Concrete	hr.	$76	$90
CWI	hr.	$76	$90
Nuclear Gauge Calibration	hr.	$87	
Concrete Plant/Truck Inspection	hr.	$87	
- Add Engineer Report/Review	ea	$200	
Asphalt Distributor Calibration	hr.	$87	
- Add Engineer Report/Review	ea.	$217	
Add Equipment Fee	ea.	$109	
Senior Engineer	hr.	$225	
Engineer	hr.	$167	
EIT	hr.	$98	
Project Manager	hr.	$113	
Admin	hr.	$53	
Mileage- State Allowable Rate (Portal to Portal)- outside Austin ETJ	mile	Current IRS Rate	
Trip or Vehicle Charge- within Austin ETJ	trip	$66.00	

Core Taking (2 Hr Min. Tech Time & Trip not included)			
HMAC or Concrete Core	**Test Method**	**Unit**	**Unit Cost**
Coring Equipment Mobilization		trip	$87.00
0-6"	Tex-140-E (Min. of 3)	ea.	$110.00
6-10"		ea.	$127.00
10-14"		ea.	$173.00
> 14"		Additional $5/ inch	
Base Depth Check	**Test Method**	**Unit**	**Unit Cost**
0-6"	Tex-423-A (Min. of 3)	ea.	$109.00
6-10"		ea.	$120.00
10-14"		ea.	$136.00
> 14"		Additional $5/ inch	

Expedite fee: $150.00 or 20% of Expedited Testing Bill (whichever is greater!)

Rubber Blend Design	ea.	$1,084
Optimum Foaming Water Percent and Temperature (Half-Life Only)	ea.	$1,355
Foamed Asphalt Mix Design (Includes Half-Life)**	ea.	$6,504
Engineered Emulsion Mix Design*	ea.	$4,119

** Charge for each additional point over our standard (3 points) report: $150*

*** Charge for each additional point over our standard (2 points) report: $500*

Williamson County 2022 Price List

Soils & Aggregates (100-E Series)			
Test For	**Test Method**	**Unit**	**Unit Cost**
Sample Preparation	Tex-101-E	ea.	$58
Moisture Content	Tex-103-E	ea.	$60
Atterberg Limits (Plasticity Index)	Tex-104-E, 105-E & 106-E	ea.	$109
Linear Bar Shrinkage	Tex-107-E	ea.	$109
Sieve Analysis (Dry Gradation)	Tex-110-E, Pt. 1	ea.	$82
Sieve Analysis (Washed Gradation)	Tex-110-E, Pt. 2	ea.	$98
Determining amount of material in soils finer than #200	Tex-111-E	ea.	$107
Moisture- Density Relationship (Proctor)	Tex-113-E	ea.	$403
Moisture- Density Relationship (Proctor) soil	Tex-114-E	ea.	$326
1-Point Proctor	Tex-113-E	ea.	$109
-Sample Preparation on 1 Point Proctor		ea.	$55
In-Place Density (Nuclear Method)	Tex-115-E, Part II (Min. of 3)	ea.	$60
Wet Ball Mill	Tex-116-E	ea.	$288
Texas Triaxial Compression (per mold)	Tex-117-E, 1 mold	ea.	$326
Texas Triaxial Compression (Triaxial Classification)	Tex-117-E, Part I	ea.	$1,979
Texas Triaxial Compression (Flexible Base)	Tex-117-E, Part II	ea.	$1,193
Full Triaxial Testing *** (Add Sample Prep)	* See Note	ea.	$2,277
Soil-Cement Testing	Tex-120-E, Part I	ea.	$1,735
Soil-Cement Testing (Ea. Mold)	Tex-120-E, Part II	ea.	$380
Soil-Lime Testing	Tex-121-E, Part I	ea.	$1,735
Soil-Lime Testing	Tex-121-E, Part II	ea.	$380
Soil-Lime Testing	Tex-121-E, Part III	ea.	$380
Lime-Fly Ash Compression	Tex-127-E	ea.	$1,193
Soil pH	Tex-128-E / ASTM 2974	ea.	$109
Resistivity	Tex-129-E	ea.	$326
-Charge for Sample Prep on Resistivity		ea.	$109
Tube Suction Test	Tex-144-E	ea.	$109
Sulfate Content	Tex-145-E	ea.	$244
Conductivity of Soils	Tex-146-E	ea.	$82
Soil Organic Content Using UV-Vis Method	Tex-148-E	ea	$434
Hydrometer Analysis	AASHTO T 88	ea.	$488
Aggregate Grading	AASHTO T-27	ea.	$114
California Bearing Ratio	AASHTO T 193/ ASTM D 1883	ea.	$1,193
DCP Testing	ASTM D6951	ea.	$93

****** Full Triaxial Testing includes <u>one</u> of each of the following: Washed Gradation, Atterberg Limits, Moisture- Density Relationship, Wet Ball Mill & Texas Triaxial (Tex-113, Tex-117, Tex-116, Tex-104, 105, 106, Tex-110)***

Bituminous (200-F Series)			
Test For	**Test Method**	**Unit**	**Unit Cost**
Dry Sieve Analysis (Gradation)	Tex-200-F, Part I	ea.	$60
Washed Sieve Analysis (Gradation)	Tex-200-F, Part II	ea.	$93
Bulk Specific Gravity & % Absorption	Tex-201-F	ea.	$93
Apparent Specific Gravity	Tex-202-F	ea.	$93
Sand Equivalent	Tex-203-F	ea.	$93
Mix Design (incl. Hamburg)	Tex-204-F	ea.	$3,252
Mix Design (incl. Hamburg & Overlay)	Tex-204-F	ea.	$3,632
Airport Mix Design	FAA P401/P403	ea.	$4,336
Mixing	Tex-205-F	set of 3	$93
Molding (TGC) Per Set	Tex-206-F	set of 3	$76
Molding (SPC) Superpave	Tex-206-F	set of 2	$76
Laboratory-Molded Density	Tex-207-F, Part I	set of 3	$55
In-Place Density (Core Testing)	Tex-207-F, Part I	ea.	$28
In-Place Density (Nuclear Method)	Tex-207-F, Part III (Min. of 3)	ea.	$33
In-Place Air Voids (CoreLok)	Tex-207-F, Part VI	set of 2	$82
Hveem Stability (Add Mixing & Molding & Lab-Molded Density if Applicable)	Tex-208-F	set of 3	$131
Asphalt Content by Extraction & Gradation	Tex-210-F	ea.	$201
Asphalt Content by Extraction Only	Tex-210-F	ea.	$141
Asphalt Recovery from Abson Process- Abson Recovery (Add Extraction only)	Tex-211-F	ea.	$271
Moisture Content	Tex-212-F	ea.	$55
Hydrocarbon Volatile Content	Tex-213-F	ea.	$109
Deleterious Material	Tex-217-F	ea.	$55
Decantation	Tex-217-F, Part II	ea.	$109
Flakiness Index	Tex-224-F	ea.	$109
Indirect Tensile Strength (Add Mixing & Molding & Lab-Molded Density if Applicable)	Tex-226-F	ea.	$55
Theoretical Maximum Specific Gravity (Rice Gravity)	Tex-227-F	ea.	$71
Drain-down Test	Tex-235-F	ea.	$82
Asphalt Content by Ignition Oven & Gradation	Tex-236-F	ea.	$201
Asphalt Content by Ignition Oven Only	Tex-236-F	ea.	$141
Full Hot Mix Testing ^	* See Note	ea.	$526
Ignition Oven Correction Factors ^^	Tex-236-F	set of 2	$542
Ignition Oven Correction Factors ^^	Tex-236-F	set of 1	$326
Hamburg Wheel-Tracking Test ^^^	Tex-242-F	ea.	$542
Cantabro Loss	Tex-245-F	ea.	$217
Overlay Test	Tex-248-F	ea.	$813
Flat and Elongated Particles	Tex-280-F	ea.	$109

^ Full Hot Mix Testing includes the following: Asphalt Content & Gradation, Molding- Set of 3, Lab Density- Set of 3, Hveem Stability- Set of 3 & Rice Gravity

^^ Set of Ignition Oven Correction Factors = 3 Diff AC + 2 Blanks (For TxDOT & Contractor = 2 Sets)

Concrete (400-A Series)			
Test For	**Test Method**	**Unit**	**Unit Cost**
Sieve Analysis of Fine and Coarse Aggregate & Fineness Modulus	Tex-401-A & Tex-402-A	ea.	$93
Saturated Surface-Dry Specific Gravity & Absorption of Aggregates	Tex-403-A	ea.	$93
Unit Weight	Tex-404-A	ea.	$93
Percent Solids and Voids in Concrete Aggregates	Tex-405-A (incl. Tex-403-A & Tex-404-A to calculate)	ea.	$239
Material Finer than 75 Micrometer (No. 200) Sieve in Mineral Aggregates (Decantation)	Tex-406-A, Part I	ea.	$109
% Limestone in Decantation Material	Tex-406-A, Part III	ea.	$380
Organic Matter Content	ASTM D 2974	ea.	$109
Organic Impurities in Fine Aggregate for Concrete	Tex-408-A	ea.	$109
Los Angeles Abrasion ^^^	Tex-410-A	ea.	$337
Magnesium or Sodium Sulfate Soundness	Tex-411-A	ea.	$337
Deleterious Material (refer to ASTM C 142 for fine agg)	Tex-413-A	ea.	$109
Concrete Cylinder Compressive Strength	Tex-418-A	ea.	$28
Concrete Flexural Beam Compressive Strength	Tex-419-A	ea.	$28
Pressure Slake	Tex-431-A	ea.	$271
Freezer Thaw	Tex-432-A	ea.	$271
24 Hr Water Absorption	Tex-433-A	ea.	$93
Polish Test for Coarse Aggregate	AASHTO T 279/ Tex-438-A	ea.	$1,681
Coarse Aggregate Angularity (Crushed Faces)	Tex-460-A	ea.	$60
Micro-Deval Abrasion	Tex-461-A	ea.	$337
Moisture Susceptibility	Tex-530-C	ea.	$60
Clay Lumps & Friable Particles in Coarse Aggregates	ASTM C 142	ea.	$217
Clay Lumps & Friable Particles in Fine Aggregates	ASTM C 142	ea.	$109
Alkali-Silica Reactivity (ASR)	AASHTO T 303 (ASTM C 1260 ASTM C1567	ea.	$1,626
Uncompacted Void of Fine Aggregate (Add Bulk Specific Gravity & Absorption for calculation)	AASHTO T-304	ea.	$93

Asphalt (500-C Series)			
Test For	**Test Method**	**Unit**	**Unit Cost**
Boil Test	Tex-530-C	ea.	$60.00
Rubber Property—Resilience by Vertical Rebound	ASTM D2632	ea.	$60.00
Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel	AASHTO R 28	ea.	$196.00
Solubility of Bituminous Materials	Tex-507-C/AASHTO T 44	ea.	$196.00
Flash and Fire Points by Cleveland Open Cup	Tex-504-C/AASHTO T 48	ea.	$120.00
Penetration of Bituminous Materials	Tex-502-C/AASHTO T 49	ea.	$120.00
Float Test for Bituminous Materials	Tex-519-C/AASHTO T 50	ea.	$120.00
Ductility of Asphalt Materials	Tex-503-C/AASHTO T 51	ea.	$217.00
Softening Point of Bitumen (Ring and Ball Apparatus)	Tex-505-C/AASHTO T 53	ea.	$163.00
Distillation of Cutback Asphalt Products	Tex-515-C/AASHTO T 78	ea.	$217.00
Effect of Heat and Air on Asphalt Materials (Thin-Film Oven Test)	Tex-510-C/AASHTO T 179	ea.	$109.00
Kinematic Viscosity of Asphalts (Bitumens)	Tex-529-C/AASHTO T 201	ea.	$131.00
Viscosity of Asphalts by Vacuum Capillary Viscometer	Tex-528-C/AASHTO T 202	ea.	$136.00
Specific Gravity (Pycnometer)	Tex-508-C/AASHTO T 228	ea.	$131.00
Rolling Thin-Film Oven Testing	AASHTO T 240	ea.	$271.00
Specific Gravity of Liquid Asphalts by Hydrometer (Cutback)	AASHTO T 295	ea.	$131.00
Elastic Recovery Test of Bituminous Materials by Means of a Ductilometer	Tex-539-C/AASHTO T 301	ea.	$271.00
Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR)	AASHTO T 313	ea.	$174.00
Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)	AASHTO T 315	ea.	$109.00
- Additional DSR Readings	AASHTO T 315	ea.	$60.00
Viscosity Determination of Asphalt Binder Using Rotational Viscometer	AASHTO T 316	ea.	$114.00
MultipleStress Creep and Recovery (MSCR) at 64° C, 25mm plate, 1mm gap	AASHTO T 350	ea.	$55.00
Cement Mixing	AASHTO T 59	ea.	$114.00
Demulsibility	AASHTO T 59	ea.	$131.00
Density	AASHTO T 59	ea.	$131.00
Particle Charge	AASHTO T 59	ea.	$114.00
Residue by Distillation	AASHTO T 59	ea.	$217.00
- Additional Distillation	AASHTO T 59 or AASHTO T 78	ea.	$109.00
Residue by Evaporation	AASHTO T 59	ea.	$114.00
Saybolt Viscosity at 25° C (77°F)	AASHTO T 59	ea.	$131.00
Saybolt Viscosity at 50° C (122°F)	AASHTO T 59	ea.	$141.00
Sieve Test	AASHTO T 59	ea.	$114.00
Settlement and Storage Stability (Emulsion)	AASHTO T 59/ASTM D6930	ea.	$82.00
Specific Gravity (Emulsion)	AASHTO T 59/ASTM D6937	ea.	$82.00
Spot Test of Asphaltic Materials	Tex-509-C/AASHTO T 102	ea.	$217.00

Water in Petroleum Products and Bituminous Materials by Distillation	ASTM D95	ea.	$103.00
Polymer Separation, 48 hr.	Tex-540-C	ea.	$114.00
Asphalt Binder Water in Petroleum	Tex-501-C/AASHTO T 55	ea.	$71.00
Flash Point with Tag Open-Cup Apparatus for Use with Material Having a Flash Point Less Than 93ºC (200ºF)	Tex-512-C/AASHTO T 79	ea.	$109.00
Saybolt Viscosity	Tex-513-C/AASHTO T 72	ea.	$141.00

Chemical (600-J Series)			
Test For	**Test Method**	**Unit**	**Unit Cost**
Testing Lime- % Solids	Tex-600-J, Part III	ea.	$114
Acid Insoluble Residue for Fine Aggregate	Tex-612-J/ ASTM D 3042	ea.	$380
Aluminum Oxide Content	ASTM C 25	ea.	$868
Chloride (Cl)	ASTM D 512	ea.	$60
Sulfate (SO4)	ASTM D 516	ea.	$60
Alkalies (Na2O + .0658K20)	ASTM D 4191 & D 4192	ea.	$60
Total Solids	AASTHO T 26	ea.	$114
Methylene Blue Value	AASHTO T 330	ea.	$380

SCM Patching Mix (can include different tests below)			
Test For	**Test Method**	**Unit**	**Unit Cost**
Kinematic Viscosity	AASHTO T 201 (ASTM D 2170	ea.	$66
Water %	AASHTO T 55 (ASTM D 95)	ea.	$66
Flash Point	AASHTO T 79	ea.	$60
Distillation Test	AASHTO T 78 (ASTM D 402)	ea.	$163
Tests on Distillation Residue		ea.	-
Penetration	AASHTO T 49 (ASTM D 5)	ea.	$120
Solubility in Trichloroethylene	AASHTO T 44 (ASTM D 2042)	ea.	$196
			-
Residual Asphalt content, exclusive of volatiles	Tex-210-F	ea.	$141
Hydrocarbon Volatile Content of mix, percent by weight	Tex-213F	ea.	$163
Moisture Content	Tex-212 Part I	ea.	$55
Hveem Stability	Tex-208F	ea.	$131
Gradation Sieve	Tex-200-F, Part II	ea.	$93
Lab Molded Density	Tex-207-F, Part I	ea.	$55
AC %		ea.	$141
Resistance to water damage		ea.	$55
Engineer Review (2 hrs)		ea.	$326

Rapid Cure (can include different tests below)			
Test For	**Test Method**	**Unit**	**Unit Cost**
Gradation	Tex-200-F, Part II	ea.	$93
Asphalt Content		ea.	$136
Hydrocarbon Vol Content	Tex-213F	ea.	$109
Moisture Content	Tex-212 Part I	ea.	$109
Abson Recovery		ea.	$271
Distillation Range		ea.	$217
Pen		ea.	$55
Duct		ea.	$55
Stability As is		ea.	$131
Stability Cured		ea.	$131
Lab Molded Density (mold, GA, GR)		ea.	$174
Resistance to Moisture		ea.	$55
Engineer Review (2 hrs)		ea.	$326