



August 26, 2026 AGENDA ITEM #8

Discuss and consider approving an agreement with Garver, LLC for engineering and design services for the City of Cedar Park RM 1431/183A intersection improvements project

Strategic Plan Relevance:	Stewardship, Collaboration and Safety
Department:	Engineering
Contact:	Mike Sexton, P.E., Director of Engineering
Associated Costs:	\$1,323,249.41
Funding Source:	City of Cedar Park and Williamson County
Action Requested:	Consider and act on draft resolution

Project Description: The Project is located at the intersection of RM 1431, owned by the Texas Department of Transportation (TxDOT), and the Mobility Authority's 183A Frontage Roads, directly adjacent to TxDOT's 183A General Purpose Lane Project limits. The Project entails development and construction of improvements within both Mobility Authority and TxDOT right-of-way, evaluating innovative intersection concepts that enhance traffic operations and safety at this high volume location. The desired outcome is an innovative, high-capacity intersection with minimal right-of-way impacts.

Previous Actions & Brief History of the Program/Project:

Following the Board's approval on March 25th, 2026, the City of Cedar Park ("City") and Mobility Authority entered into an Interlocal Agreement to design and construct the RM 1431 (Whitestone Blvd.) at 183A Intersection Improvement Project.

Staff initiated procurement efforts for preliminary engineering, final design, and construction-phase services for the RM 1431/183A Intersection Improvements Project on May 4, 2026. On June 24, the Board authorized the Executive Director to negotiate with the most highly qualified provider.

The Executive Director has negotiated a satisfactory agreement with Garver, LLC for preliminary engineering services in accordance with Policy Code 401.035.

Financing: City of Cedar Park and Williamson County

Action requested/Staff Recommendation: Approve the proposed agreement with Garver, LLC and authorize the Executive Director to finalize and execute the agreement on behalf of the Mobility Authority, in the form or substantially the same form attached hereto as Exhibit "A".

Backup provided: Draft Resolution
Draft agreement

**GENERAL MEETING OF THE BOARD OF DIRECTORS
OF THE
CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY**

RESOLUTION NO. 26-0XX

**APPROVING AN AGREEMENT WITH GARVER, LLC
FOR ENGINEERING AND DESIGN SERVICES FOR THE
CITY OF CEDAR PARK RM 1431/183A INTERSECTION IMPROVEMENT PROJECT**

WHEREAS, by Resolution No. 26-016, dated March 25, 2026, the Board of Directors approved an interlocal agreement with the City of Cedar Park to develop and construct the Ranch to Market Road 1431/183A intersection improvements project (“Project”); and

WHEREAS, on May 4, 2026, the Mobility Authority issued a request for qualifications (RFQ) to firms interested in providing engineering and design services for the Project; and

WHEREAS, by Resolution No. 26-039 dated June 24th, 2026, the Board approved the ranking of respondents to the RFQ and authorized the Executive Director to negotiate a contract with Garver LLC to provide engineering and design services for the Project; and

WHEREAS, the Executive Director and Garver, LLC have reached a proposed agreement for engineering and design services which is attached hereto as Exhibit A; and

NOW THEREFORE, BE IT RESOLVED that the Board hereby approves the proposed agreement with Garver, LLC and authorizes the Executive Director to finalize and execute the agreement on behalf of the Mobility Authority, in the form or substantially the same form attached hereto as Exhibit A.

Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 26th day of August 2026.

Submitted and reviewed by:

Approved:

James M. Bass
Executive Director

Robert W. Jenkins, Jr.
Chairman, Board of Directors

Exhibit A

**CONTRACT FOR PROFESSIONAL SERVICES
with Work Authorizations**

THIS CONTRACT FOR PROFESSIONAL SERVICES is made by and between the Central Texas Regional Mobility Authority, 3300 N Interstate 35 Frontage Rd #300, Austin, Texas 78705, hereinafter called "Mobility Authority," and **Garver, LLC**, having its principal business address at **810 Hesters Crossing #210 Round Rock, TX 78681**, hereinafter called "Engineer," for the purpose of contracting for professional services.

WITNESSETH

WHEREAS, the Mobility Authority desires to contract for services generally described as professional services, and more specifically described in Article 1; and

WHEREAS, pursuant to a qualifications-based selection conducted in accordance with the Professional Services Procurement Act (Tex. Gov't Code Sec. 2254.001, et. seq.), and the Mobility Authority's Policy Code regarding the procurement of professional services, the Mobility Authority has selected the Engineer to provide the needed Services; and

WHEREAS, the Engineer has agreed to provide the Services subject to the terms and conditions hereinafter set forth.

NOW, THEREFORE, the Mobility Authority and the Engineer, in consideration of the mutual covenants and agreements herein contained, do hereby mutually agree as follows.

AGREEMENT

ARTICLE 1. SCOPE OF SERVICES. The Mobility Authority and the Engineer will furnish items and perform those services for fulfillment of this Contract as identified in Attachment B, Services to be Provided by the Mobility Authority and Attachment C, Services to be Provided by the Engineer. All services provided by the Engineer will conform to standard engineering practices and applicable rules and regulations of the Texas Engineering Practices Act and the rules of the Texas Board of Professional Engineers and Land Surveyors. This Contract does not obligate the Mobility Authority to proceed with the Services or authorize the performance of work through a Work Authorization.

ARTICLE 2. CONTRACT PERIOD. This Contract becomes effective when fully executed by all parties hereto and it shall terminate on **07/31/2030** (the "Contract Period") unless the Contract Period is: (1) modified by written supplemental agreement prior to the date of termination as set forth in Attachment A, General Provisions, Article 6, Supplemental Agreements; (2) extended due to a work suspension as provided for in Attachment A, Article 3, Paragraph C; or (3) otherwise terminated in accordance with Attachment A, General Provisions, Article 15, Termination. A Work Authorization issued prior to expiration of this Contract may remain in effect until such time as the Services authorized under that Work Authorization are complete and accepted by the Mobility Authority. The terms of this Contract shall continue in effect in respect to any work authorization remaining in effect following the expiration of this Contract. No new Services may be added to a Work Authorization, and no new Work Authorization may be issued after the termination date of this Contract.

ARTICLE 3. COMPENSATION.

A. Amount Payable. The amount payable under this Contract will be determined by the individual work authorizations authorized over the contract period.

B. Basis of Payment. The basis of payment is identified in Attachment E, Fee Schedule. Reimbursement of costs incurred under a work authorization shall be in accordance with Attachment E, Fee Schedule. The amount presented in Attachment E is the amount the Mobility Authority will agree to pay, and the Engineer will agree to accept as full and sufficient compensation and reimbursement, for the performance of all services as set forth in this Contract and work authorizations.

C. Reimbursement of Eligible Costs. To be eligible for reimbursement, the Engineer's costs must (1) be incurred in accordance with the terms of a valid work authorization; (2) be in accordance with Attachment E, Fee Schedule; and (3) comply with cost principles set forth at 48 CFR Part 31, Federal Acquisition Regulation (FAR 31). Satisfactory progress of work shall be maintained as a condition of payment.

D. Engineer Payment of Subconsultants. No later than ten (10) days after receiving payment from the Mobility Authority, the Engineer shall pay all subconsultants for work performed under a subcontract authorized hereunder. The Mobility Authority may withhold all payments that have or may become due if the Engineer fails to comply with the ten-day payment requirement. The Mobility Authority may also suspend the work under this Contract or any work authorization until subconsultants are paid. This requirement also applies to all lower tier subconsultants, and this provision must be incorporated into all subcontracts.

E. Non-compensable Time. Time spent by the Engineer's personnel or subconsultants in an administrative or supervisory capacity not related to the performance of the Services is not compensable and shall not be billed to the Mobility Authority. Time spent on work in excess of what would reasonably be considered appropriate under industry standards for the performance of such Services is not compensable, unless that additional time spent resulted from the Mobility Authority's delay in providing information, materials, feedback, or other necessary cooperation to the Engineer. The Mobility Authority will not pay any hourly compensation to the Engineer for Services or deliverables required due to an error, omission, or fault of the Engineer.

F. Consistency of Classification/Duties and Hourly Rates. Time spent by the Engineer's personnel or subconsultants to perform services or functions capable of being carried out by other, subordinate personnel with a lower hourly rate shall be billed at a rate equivalent to that of the applicable qualified subordinate personnel.

G. Taxes. All payments to be made by the Mobility Authority to the Engineer pursuant to this Contract are inclusive of federal, state, or other taxes, if any, however designated, levied, or based. The Mobility Authority acknowledges and represents that it is a tax-exempt entity under Sections 151.309, et seq., of the Texas Tax Code. A "Texas Sales and Use Tax Exemption Certificate" is available from the Mobility Authority for use toward project-related expenses upon request. Title to any consumable items purchased by the Engineer in performing this Contract shall be deemed to have passed to the Mobility Authority at the time the Engineer takes possession or earlier, and such consumable items shall immediately be marked, labeled, or physically identified as the property of the Mobility Authority, to the extent practicable.

ARTICLE 4. INVOICE REQUIREMENTS

A. Monthly Invoices. The Engineer shall request reimbursement of costs incurred by submitting an itemized invoice in a form acceptable to the Mobility Authority. If the work is eligible for payment through an agreement with another entity, the billing statement shall be in a form and include such detail as that entity may require, including a breakdown of Services provided on a Project-by-Project basis, together with other Services requested by the Mobility Authority. The Engineer is authorized to submit requests for reimbursement no more frequently than monthly and no later than ninety (90) days after costs are incurred, with the exception of the closing of the Mobility Authority's fiscal year. Notwithstanding the ninety (90) day submittal deadline, all requests for reimbursement of costs incurred during the Mobility Authority's fiscal year (ending June 30th) must be submitted no later than 15 days after June 30th, or the next business day if that date should occur on a weekend or holiday.

B. Form of Invoice. The invoice shall show the work authorization number for each work authorization included in the billing, the total amount earned to the date of submission, and the amount due and payable as of the date of the current billing statement for each work authorization. The invoice shall indicate if the work has been completed or if the billing is for partial completion of the work. The fixed fee will be paid in proportion to the percentage of work completed per work authorization.

C. Overhead Rates. The Engineer shall use the provisional overhead rate indicated in Attachment E. If a periodic escalation of the provisional overhead rate is specified in Attachment E, the effective date of the revised provisional overhead rate must be included.

D. Thirty Day Payments. Upon receipt of an invoice that complies with all invoice requirements set forth in this Article, the Mobility Authority shall make a good faith effort to pay the amount which is due and payable within thirty (30) days. If the Mobility Authority disputes a request for payment by the Engineer, the Mobility Authority agrees to pay any undisputed portion of the invoice within this 30-day window. The Mobility Authority shall notify the Engineer of the disputed amount no later than the 21st day after the date the Mobility Authority receives the monthly invoice.

E. Withholding Payments. The Mobility Authority reserves the right to withhold payment of up to 110% of the disputed amount of the Engineer's invoice in the event of any of the following: (1) If a dispute over the work or costs thereof is not resolved within a thirty day period; (2) pending verification of satisfactory work performed; or (3) required reports (including third-party verifications, if any) are not received. In the event that payment is withheld, the Mobility Authority shall notify the Engineer and give a remedy that would allow the Mobility Authority to release the payment.

F. Invoice and Progress Report Submittal Process.

(1) The invoice submittal shall include:

- Progress report
- Forecast for completion of the scope
- Invoice (in the required format provided by the Mobility Authority)
- Supporting documents as requested

(2) A progress report shall be submitted to the Mobility Authority at least once each calendar month;

(3) An update to the Project schedule (using critical path method analysis) indicating the Project's overall status versus the baseline schedule (originally submitted with the Project Management Plan) shall be submitted to the Mobility Authority at least once each calendar month;

(4) In the event that invoices are not submitted on a monthly basis, a monthly submittal of the progress report and Project schedule information will be required nevertheless;

(5) The invoice submittal shall not be later than the 10th day of the month following service unless otherwise directed; if submitted after the 10th day, it will be processed the following month;

(6) As it relates to the Mobility Authority's end of fiscal year closeout efforts, the Engineer shall submit the invoice including their services through June 30th for a given year no later than 15 days after June 30th, or the next business day if that date should occur on a weekend or holiday;

(7) The Mobility Authority's Director of Engineering will review the invoices to confirm that supporting documentation is included, and for compliance with the Contract and consistency with the submitted progress report; and

(8) The invoice will either be recommended for approval by the Mobility Authority's Director of Engineering, or the Mobility Authority's Director of Engineering will return it to the Engineer for required correction.

G. Effect of Payments. No payment by the Mobility Authority shall relieve the Engineer of its obligation to perform on a timely basis the Services required under this Contract. If, prior to acceptance of any Service, product or other deliverable, the Executive Director determines that said Service, product or deliverable does not satisfy the requirements of this Contract, the Executive Director may reject same and require the Engineer to correct or cure same within a reasonable period of time and at no additional cost to the Mobility Authority.

H. Audit. The Mobility Authority shall have the right to examine the books and records of the Engineer. The Engineer shall maintain all books, documents, papers, accounting records and other evidence pertaining to cost incurred and shall make such materials available at its office during the Contract Period and for four (4) years from the date of final payment under this Contract or until any pending litigation has been completely and fully resolved, and the Executive Director approves of the destruction of records, whichever occurs last. The Mobility Authority or any of its duly authorized representatives, TxDOT, Texas State Auditor, the Federal Highway

Administration ("FHWA"), the United States Department of Transportation Office of Inspector General and the Comptroller General shall have access to any and all books, documents, papers and records of the Engineer which are directly pertinent to this Contract for the purpose of making audits, examinations, excerpts and transcriptions.

ARTICLE 5. WORK AUTHORIZATIONS. The Executive Director will issue work authorizations to authorize all work under this contract. Refusal to accept a work authorization in the form prescribed by the Mobility Authority may be grounds for termination of the contract. The Mobility Authority shall not be responsible for actions by the Engineer or any costs incurred by the Engineer relating to work not directly associated with or prior to the full execution of a work authorization. Terms and conditions governing the use of work authorizations are set forth in Attachment A, General Provisions, Article 1.

ARTICLE 6. SIGNATORY WARRANTY. The undersigned signatory for the Engineer hereby represents and warrants that he or she is an officer of the organization for which he or she has executed this Contract and that he or she has full and complete authority to enter into this Contract on behalf of the firm. These representations and warranties are made for the purpose of inducing the Mobility Authority to enter into this Contract.

ARTICLE 7. NOTICES. A notice, demand, request, report, and other communication required or permitted under this Contract, or which any party may desire to give, shall be in writing and shall be deemed to have been given on the sooner to occur of (i) receipt by the party to whom the notice is hand-delivered, with a written receipt of notice provided by the receiving party, or (ii) two days after deposit in a regularly maintained express mail receptacle of the United States Postal Service, postage prepaid, or registered or certified mail, return receipt requested, express mail delivery, addressed to such party at their address set forth below, or to such other address as a party may from time to time designate under this article, or (iii) receipt of an electronic mail transmission (attaching scanned documents in a format such as .pdf or .tif) for which confirmation of receipt by the other party has been obtained by the sending party:

Engineer:	Mobility Authority:
Stephen Johnson Garver, LLC 810 Hesters Crossing #210 Round Rock, TX 78681	Director of Engineering Central Texas Regional Mobility Authority 3300 N Interstate 35 Frontage Rd #300 Austin, Texas 78705

ARTICLE 8. INCORPORATION OF PROVISIONS. Attachments A through H are attached hereto and incorporated into this Contract as if fully set forth herein.

ARTICLE 9. ENTIRETY OF AGREEMENT. This writing, including attachments and addenda, if any, embodies the entire agreement and understanding between the parties hereto, and there are no agreements and understandings, oral or written, with reference to the subject matter hereof that are not merged herein and superseded hereby. No alteration, change or modification of the terms of the Contract shall be valid unless made in writing signed by both parties hereto.

ARTICLE 10. PRIORITY OF DOCUMENTS/ORDER OF PRECEDENCE. In the event of any conflict between the Contract and other documents, the order of precedence shall be as set forth below: A) Supplemental Work Authorization; B) Work Authorization; C) Contract Amendments; D) Contract; E) RFP/ RFQ; F) Engineer's Response to RFP/RFQ.

Each party is signing this agreement on the date stated under that party's signature.

THE ENGINEER

**CENTRAL TEXAS REGIONAL MOBILITY
AUTHORITY**

(Signature)

(Printed Name)

(Title)

(Date)

(Signature)

(Printed Name)

(Title)

(Date)

**Attachments and Exhibits to Contract for Professional Services
Incorporated into the Contract by Reference**

Attachments	Title
A	General Provisions
B	Services to Be Provided by the Mobility Authority
C	Services to Be Provided by the Engineer
D	Key Personnel
E	Fee Schedule
F	Work Schedule
G	Computer Graphics Files for Document and Information Exchange, if applicable
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ATTACHMENT A**GENERAL PROVISIONS
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ATTACHMENT A

GENERAL PROVISIONS

ARTICLE 1. WORK AUTHORIZATIONS

A. Use. The Engineer shall not begin any work until the Executive Director and the Engineer have signed a Work Authorization and the Engineer has received a Notice to Proceed as defined in the Work Authorization. Costs incurred by the Engineer before a Work Authorization is fully executed or after the completion date specified in the Work Authorization are not eligible for reimbursement. The Executive Director will issue Work Authorizations to authorize all work under this Contract. All work must be completed on or before the completion date specified in the Work Authorization.

B. Contents. Each Work Authorization shall include: (1) scope of Services including types of Services to be performed and a full description of the work required to perform those Services (2) a full description of general administration tasks exclusive to that Work Authorization (3) a work schedule (including beginning and ending dates) with milestones; (4) the basis of payment whether cost-plus, unit cost, lump sum, or specified rate; and (5) a Work Authorization budget using fees set forth in Attachment E Fee, Schedule. The Engineer shall not include additional contract terms and conditions in the Work Authorization. In the event of any conflicting terms and conditions between the Work Authorization and the Contract, the terms and conditions of the Contract shall prevail and govern the work and costs incurred.

C. Work Authorization Budget. A Work Authorization budget shall be prepared by the Engineer and set forth in detail (1) the computation of the estimated cost of the work as described in the Work Authorization, (2) the estimated time (hours/days) required to complete the work at the hourly rates established in Attachment E, Fee Schedule; (3) a work plan that includes a list of the work to be performed, (4) a stated maximum number of calendar days to complete the work, and (5) a cost-not-to-exceed-amount or unit or lump sum cost and the total cost or price of the Work Authorization. The Mobility Authority will not pay items of cost that are not included in or rates that exceed those approved in Attachment E.

D. No Guaranteed Work. Work Authorizations are issued at the sole discretion of the Executive Director. While it is the Executive Director's intent to issue Work Authorizations hereunder, the Engineer shall have no cause of action conditioned upon the lack or number of Work Authorizations issued.

E. Incorporation into Contract. Each Work Authorization shall be signed by both parties and become a part of the Contract. No Work Authorization will waive the Mobility Authority's or the Engineer's responsibilities and obligations established in this Contract. The Engineer shall promptly notify the Mobility Authority of any event that will affect completion of the Work Authorization.

F. Supplemental Work Authorizations. Before additional work may be performed or additional costs incurred beyond those authorized in a Work Authorization, a change in a Work Authorization shall be enacted by a written Supplemental Work Authorization executed within the period of performance specified in the Work Authorization. The Mobility Authority shall not be responsible for actions by the Engineer or any costs incurred by the Engineer relating to additional work not directly associated with the performance or prior to the execution of the Supplemental Work Authorization. The Engineer shall allow adequate time for review and approval of the Supplemental Work Authorization by the Executive Director prior to expiration of the Work Authorization. Any Supplemental Work Authorization must be executed by both parties within the Contract Period established in Article 2 of the Contract.

F-1. More Time Needed. If the Engineer determines or reasonably anticipates that the work authorized in a Work Authorization cannot be completed before the specified completion date, the Engineer shall promptly notify the Executive Director. The Executive Director may, at his sole discretion, extend the Work Authorization period by execution of a Supplemental Work Authorization.

F-2. Changes in Scope. Changes that would modify the scope of the work authorized in a Work Authorization must be enacted by a written Supplemental Work Authorization. If the change in scope affects the amount payable under the Work Authorization, the Engineer shall prepare a revised Work Authorization budget for the Executive Director's approval. The Engineer must allow adequate time for

the Executive Director to review, negotiate, and approve any request for a Supplemental Work Authorization prior to expiration of the Work Authorization.

G. Deliverables. Upon satisfactory completion of the Work Authorization, the Engineer shall submit a letter of completion along with the deliverables as specified in the executed Work Authorization to the Executive Director for review and acceptance.

ARTICLE 2. PROGRESS

A. Progress meetings. As required and detailed in the Work Authorizations or as otherwise directed by the Executive Director, the Engineer shall from time to time during the progress of the work confer with the Executive Director. The Engineer shall prepare and present such information as may be pertinent and necessary or as may be requested by the Executive Director in order to evaluate features of the work.

B. Conferences. At the request of the Executive Director and as required and detailed in the Work Authorizations, conferences shall be held at the Engineer's office, the office of the Mobility Authority, or at other locations designated by the Executive Director. These conferences may also include evaluation of the Engineer's Services and work when requested by the Executive Director.

C. Inspections. If federal funds are used to reimburse costs incurred under this Contract, the work and all reimbursements will be subject to periodic review by the U. S. Department of Transportation.

D. Reports. The Engineer shall promptly advise the Executive Director in writing of events that have a significant impact upon the progress of a Work Authorization, including:

1. problems, delays, adverse conditions that will materially affect the ability to meet the time schedules and goals, or preclude the attainment of project work units by established time periods; this disclosure will be accompanied by statement of the action taken or contemplated, and any State or federal assistance needed to resolve the situation; and
2. favorable developments or events which enable meeting the work schedule goals sooner than anticipated.

E. Corrective Action. Should the Executive Director determine that the progress of work does not satisfy the work schedule or other deadlines set forth in a Work Authorization, the Executive Director shall review the work schedule with the Engineer to determine the nature of corrective action needed. The Executive Director's participation in reviewing the work schedule and determining corrective actions needed will not, in any way, excuse the Engineer from any responsibility or costs associated with the failure to timely perform the Services.

ARTICLE 3. SUSPENSION OF WORK AUTHORIZATION

A. Notice. Should the Executive Director desire to suspend a Work Authorization but not terminate the Contract, the Executive Director may provide written notification to the Engineer, giving ten (10) business days prior notice. Both parties may waive the ten (10) business day notice requirement in writing.

B. Reinstatement. All or part of a Work Authorization may be reinstated and resumed in full force and effect within thirty (30) days of receipt of written notice from the Executive Director to resume the work. Both parties may waive the thirty-day notice in writing.

C. Contract Period Not Affected. If the Executive Director suspends a Work Authorization, the Contract Period as determined in Article 2 of the Contract is not affected and the Contract and the Work Authorization will terminate on the date specified unless the Contract is amended to authorize additional time.

D. Limitation of Liability. The Mobility Authority shall have no liability for work performed or costs incurred prior to the date authorized by the Executive Director to begin work, during periods when work is suspended, or after the completion of the Contract or Work Authorization.

ARTICLE 4. ADDITIONAL WORK

A. Notice. If the Engineer is of the opinion that any assigned work is beyond the scope of a Work Authorization and constitutes additional work beyond the Services to be provided under the Work Authorization, it shall promptly notify the Executive Director and submit written justification presenting the facts of the work and demonstrating how the work constitutes supplementary work.

B. Supplemental Agreement. If the Executive Director finds that the work does constitute additional work, the Executive Director shall so advise the Engineer, and a written supplemental agreement will be executed as provided in General Provisions, Article 6, Supplemental Agreements.

C. Limitation of Liability. The Mobility Authority shall not be responsible for actions by the Engineer or any costs incurred by the Engineer relating to additional work not directly associated with or prior to the execution of a supplemental agreement.

ARTICLE 5. CHANGES IN WORK

A. Work Previously Submitted as Satisfactory. If the Engineer has submitted work in accordance with the terms of this Contract and Work Authorization(s) but the Executive Director requests changes to the completed work or parts thereof which involve changes to the original scope of Services or character of work under the Contract and Work Authorization(s), the Engineer shall make such revisions as requested and as directed by the Executive Director, provided the work is reflected in a Supplemental Work Authorization.

B. Work Does Not Comply with Contract. If the Engineer submits work that does not comply with the terms of this Contract or Work Authorization(s), the Executive Director shall instruct the Engineer to make such revision as is necessary to bring the work into compliance with the Contract or Work Authorization(s). No additional compensation shall be paid for these revisions or re-work.

C. Errors/Omissions. The Engineer shall make revisions to the work authorized in this Contract which are necessary to correct errors or omissions appearing therein, when required to do so by the Executive Director. No additional compensation shall be paid for this work.

ARTICLE 6. SUPPLEMENTAL AGREEMENTS

A. Need. The terms of this Contract may be modified if the Executive Director determines that there has been a significant increase or decrease in the duration, scope, cost, complexity or character of the services to be performed. A supplemental agreement will be executed to authorize such significant increases or decreases.

B. When to Execute. Both the Engineer and the Executive Director must execute a supplemental agreement within the Contract Period specified in Article 2 of the Contract.

ARTICLE 7. DATA OWNERSHIP

A. Work for Hire. All services provided under this Contract are considered work for hire and as such all data, basic sketches, charts, calculations, plans, specifications, models, animations, and other documents and files created or collected under the terms of this Contract are the property of the Mobility Authority.

B. Ownership of Plans. Notwithstanding any provision in this Contract or in common law or statute to the contrary all of the plans, tracings, estimates, specifications, computer records, discs, tapes, proposals, sketches, diagrams, charts, calculations, correspondence, memoranda, survey notes, and other data and materials, and any part thereof, created, compiled or to be compiled by or on behalf of the Engineer, including all information prepared for or posted on the Mobility Authority's website and together with all materials and data furnished to it by the Mobility Authority, are and at all times shall be and remain the property of the Mobility Authority and shall not be subject to any restriction or limitation on their further use by or on behalf of the Mobility Authority. Engineer hereby assigns any and all rights and interests it may have in the foregoing to the Mobility Authority, and Engineer hereby agrees to provide reasonable cooperation as may be requested by the Mobility Authority in connection with the Mobility Authority's efforts to perfect or protect rights and interests in the foregoing; and if at any time demand be made by the Mobility Authority for any of the above materials, records, and documents, whether after termination of this Contract or otherwise, such shall be turned over to the Mobility Authority without delay. The Mobility Authority hereby grants the Engineer a revocable license to retain and utilize the foregoing materials for the limited purpose of fulfilling Engineer's obligations under this Contract, said license to terminate and expire upon the earlier to occur of (a) the completion of Services described in this Contract or (b) the termination of this Contract, at which time the Engineer shall deliver to the Mobility Authority all such materials and documents. If the Engineer or a subconsultant desires later to use any of the data generated or obtained by it in connection with any Project or any other portion of the work product resulting from the Services, it shall secure the prior written approval of the Executive Director. The Engineer shall retain its copyright and ownership rights in its own back-office databases and computer software that are

not developed for the Mobility Authority or for purposes of this Contract. Intellectual property developed, utilized, or modified in the performance of Services for which the Engineer is compensated under the terms of this Contract shall remain the property of the Mobility Authority, Engineer hereby agrees to provide reasonable cooperation as may be requested by the Mobility Authority in connection with the Mobility Authority's efforts to perfect or protect such intellectual property. The Mobility Authority retains an unrestricted license for software packages developed in whole or in part with Mobility Authority funds.

C. Separate Assignment. If for any reason the agreement of the Mobility Authority and the Engineer set forth in subarticle 7.B regarding the ownership of work product and other materials is determined to be unenforceable, either in whole or in part, the Engineer hereby assigns and agrees to assign to the Mobility Authority all right, title, and interest that Engineer may have or at any time acquire in said work product and other materials, without royalty, fee or additional consideration of any sort, and without regard to whether this Contract has terminated or remains in force. The Mobility Authority hereby acknowledges, however, that all documents and other work product provided by the Engineer to the Mobility Authority and resulting from the Services performed under this Contract are intended by the Engineer solely for the use for which they were originally prepared. Notwithstanding anything contained herein to the contrary, the Engineer shall have no liability for the use by the Mobility Authority of any work product generated by the Engineer under this Contract on any Project other than for the specific purpose and Project for which the work product was prepared.

D. Disposition of Documents. All documents prepared by Engineer and all documents furnished to Engineer by the Mobility Authority shall be delivered to the Mobility Authority upon request. Engineer, at its own expense, may retain copies of such documents or any other data which it has furnished the Mobility Authority under this Contract, but further use of the data is subject to permission by the Mobility Authority.

E. Release of Design Plan. The Engineer (1) will not release any roadway design plan created or collected under this Contract except to its subconsultants as necessary to complete the Contract; (2) shall include a provision in all subcontracts which acknowledges the Mobility Authority's ownership of the design plan and prohibits its use for any use other than the project identified in this Contract; and (3) is responsible for any improper use of the design plan by its employees, officers, or subconsultants, including costs, damages, or other liability resulting from improper use. Neither Engineer nor any subconsultant may charge a fee for any portion of the design plan created by the Mobility Authority."

ARTICLE 8. PUBLIC INFORMATION AND CONFIDENTIALITY

A. Public Information. The Mobility Authority will comply with Government Code, Chapter 552, (the "Public Information Act") in the release of information produced under this Contract. The requirements of Subchapter J, of the Public Information Act, may apply to this Contract and the Engineer agrees that the Contract can be terminated if the Engineer knowingly or intentionally fails to comply with a requirement of that subchapter.

B. Confidentiality. The Engineer shall not disclose information obtained from the Mobility Authority under this Contract without the express written consent of the Executive Director. All employees of the Engineer and its subconsultants working on the Project may be required to sign a non-disclosure and confidentiality agreement.

C. Access to Information. The Engineer is required to make any information created or exchanged with the Mobility Authority pursuant to this Contract, and not otherwise excepted from disclosure under the Texas Public Information Act, available in a format that is accessible by the public at no additional charge to the Mobility Authority.

ARTICLE 9. PERSONNEL, EQUIPMENT AND MATERIAL

A. Engineer Resources. The Engineer shall furnish and maintain an office for the performance of all services, in addition to providing adequate and sufficient personnel and equipment to perform the services required under the Contract. The Engineer certifies that it presently has adequate qualified personnel in its employment for performance of the services required under this Contract, or it will be able to obtain such personnel from sources other than the Mobility Authority.

B. Removal of Employee. All employees of the Engineer assigned to this Contract shall have such knowledge and experience as will enable them to perform the duties assigned to them. The Executive Director

may instruct the Engineer to remove any employee from association with work authorized in this Contract if, in the sole opinion of the Executive Director, the work of that employee does not comply with the terms of this Contract or if the conduct of that employee becomes detrimental to the work; or for any other reason identified by the Executive Director.

C. Mobility Authority Approval of Replacement Personnel. The Engineer may not replace any Key Personnel, as designated in the applicable Work Authorization, without prior written approval of the Director of Engineering. If any Key Personnel cease to work on this Contract, the Engineer must notify the Director of Engineering in writing as soon as possible, but in any event within (3) three business days. The notification must give the reason for removal. The Engineer must receive written approval from the Director of Engineering of proposed replacement Key Personnel. The Director of Engineering's approval will be based upon the proposed replacement Key Personnel qualifications to provide the required Services. Approval will not be unreasonably withheld.

D. Liquidated Damages. The selection of Engineer to provide the Services under this Contract was based, in part, on the Key Personnel identified in Engineer's proposal. Because of the importance and unique nature of the Services to be provided by Key Personnel identified in Attachment C it is impractical to calculate the actual losses that would be suffered by the Mobility Authority by the loss of Key Personnel from the Contract. Therefore, the Engineer agrees to compensate the Mobility Authority for its losses by paying liquidated damages in the amount of \$2,500 per day per Key Personnel position in Attachment C if any Key Personnel is removed by the Engineer by reassignment without prior written approval from the Director of Engineering. Liquidated damages will accrue from the date the Engineer removes the Key Personnel in Attachment C from the Contract if the parties do not agree on a replacement within (14) calendar days after the Key Personnel are removed from the Contract. If a replacement is agreed upon within that fourteen (14) calendar day period the liquidated damages will be waived. Liquidated damages shall cease when the parties agree on a substitute or when the Contract is terminated.

E. Ownership of Acquired Property. Except to the extent that a specific provision of this Contract states to the contrary, and as provided in subarticle 7.B, the Mobility Authority shall own all intellectual property acquired or developed under this Contract and all equipment purchased by the Engineer or its subconsultants under this Contract. All intellectual property and equipment owned by the Mobility Authority shall be delivered to the Director of Engineering when the Contract terminates, or when it is no longer needed for work performed under this Contract, whichever occurs first. In the event that a capital item is purchased for the sole use of the Mobility Authority, title shall pass or transfer to the Mobility Authority upon acquisition and prior to any use of the item by the Engineer.

ARTICLE 10. SUBCONTRACTING

A. Prior Approval. The Engineer shall not assign, subcontract, or transfer any portion of Services related to the work under this Contract unless specified in an executed Work Authorization or otherwise without first obtaining the prior written approval from the Executive Director. Request for approval should include a written description of the proposed services, and proposed rates .

B. Required Provisions. All subcontracts for professional services shall include the provisions included in Attachment A, General Provisions, and any provisions required by law.

C. Invoice Approval and Processing. All subconsultants shall prepare and submit their invoices on the same billing cycle and format as the Engineer (so as to be included in invoices submitted by the Engineer).

D. Engineer Responsibilities. No subcontract shall relieve the Engineer of any of its responsibilities under this Contract and of any liability for work performed under this Contract, even if performed by a subconsultant or other third party performing work for or on behalf of the Engineer.

ARTICLE 11. INSPECTION OF WORK

A. Review Rights. Under this Contract, the Mobility Authority, TxDOT, and the U.S. Department of Transportation, and any authorized representative of the Mobility Authority, TxDOT, or the U.S. Department of Transportation, shall have the right at all reasonable times to inspect, review or otherwise evaluate the work

performed hereunder and the premises in which it is being performed.

B. Reasonable Access. If any review or evaluation is made on the premises of the Engineer or a subconsultant under this Article, the Engineer shall provide and require its subconsultants to provide all reasonable facilities and assistance for the safety and convenience of the persons performing the review in the performance of their duties.

ARTICLE 12. SUBMISSION OF REPORTS

All applicable study reports shall be submitted in preliminary form for approval by the Director of Engineering before a final report is issued. The Director of Engineering's comments on the Engineer's preliminary report must be addressed in the final report. Draft reports shall be considered confidential unless otherwise indicated by the Director of Engineering.

ARTICLE 13. VIOLATION OF CONTRACT TERMS

A. Increased Costs. Violation of Contract terms, breach of Contract, or default by the Engineer shall be grounds for termination of the Contract, and any increased or additional cost incurred by the Mobility Authority arising from the Engineer's default, breach of Contract or violation of Contract terms shall be paid by the Engineer.

B. Remedies. This agreement shall not be considered as specifying the exclusive remedy for any default, and all remedies existing at law and in equity may be availed of by either party and shall be cumulative.

ARTICLE 14. TERMINATION

A. Causes. The Contract may be terminated before the stated completion date by any of the following conditions.

1. By mutual agreement and consent, in writing from both parties.
2. By the Executive Director by notice in writing to the Engineer as a consequence of failure by the Engineer to perform the Services set forth herein in a satisfactory manner or if the Engineer violates the provisions of Article 20, Gratuities.
3. By either party, upon the failure of the other party to fulfill its obligations as set forth herein, following thirty (30) days written notice and opportunity to cure.
4. By the Executive Director for his convenience and in his sole discretion, not subject to the consent of the Engineer, by giving thirty (30) days written notice of termination to the Engineer.
5. By satisfactory completion of all services and obligations described herein.

B. Measurement. Should the Executive Director terminate this Contract as herein provided, no fees other than fees due and payable at the time of termination shall thereafter be paid to the Engineer. In determining the value of the work performed by the Engineer prior to termination, the Executive Director shall be the sole judge. Compensation for work at termination will be based on a percentage of the work completed at that time. Should the Executive Director terminate this Contract under subarticles 14.A.3 & 4, the Engineer shall not incur costs during the thirty-day notice period in excess of the amount incurred during the preceding thirty (30) days.

C. Value of Completed Work. If the Engineer defaults in the performance of this Contract or if the Executive Director terminates this Contract for fault on the part of the Engineer, the Executive Director will give consideration to the following when calculating the value of the completed work: (1) the actual costs incurred (not to exceed the rates set forth in the applicable Work Authorization) by the Engineer in performing the work to the date of default; (2) the amount of work required which was satisfactorily completed to date of default; (3) the value of the work which is usable to the Mobility Authority; (4) the cost to the Mobility Authority of employing another firm to complete the required work; (5) the time required to employ another firm to complete the work; (6) delays in opening a revenue-generating Project and costs (including lost revenues) resulting therefrom; and (7) other factors which affect the value to the Mobility Authority of the work performed.

D. Excusable Delays. Except with respect to defaults of subconsultants, the Engineer shall not be in default by reason of any failure in performance of this Contract in accordance with its terms (including any failure to progress in the performance of the work) if such failure arises out of causes beyond the control and without the default or negligence of the Engineer. Such causes may include, but are not restricted to, acts of God or the public enemy, acts of the Government in either its sovereign or Contractual capacity, fires, floods, epidemics,

quarantine restrictions, strikes, freight embargoes, and unusually severe weather.

E. Surviving Requirements. The termination of this Contract and payment of an amount in settlement as prescribed above shall extinguish the rights, duties, and obligations of the Mobility Authority and the Engineer under this Contract, except for those provisions that establish responsibilities that extend beyond the Contract Period, including without limitation the provisions of Article 16.

F. Payment of Additional Costs. If termination of this Contract is due to the failure of the Engineer to fulfill its Contract obligations, the Mobility Authority may take over the project and prosecute the work to completion, and the Engineer shall be liable to the Mobility Authority for any additional cost to the Mobility Authority.

ARTICLE 15. COMPLIANCE WITH LAWS

The Engineer shall comply with all applicable federal, state and local laws, statutes, codes, ordinances, rules and regulations, and the orders and decrees of any court, or administrative bodies or tribunals in any manner affecting the performance of this Contract, including, without limitation, worker's compensation laws, minimum and maximum salary and wage statutes and regulations, nondiscrimination, licensing laws and regulations, the Mobility Authority's enabling legislation (Chapter 370 of the Texas Transportation Code), and all amendments and modifications to any of the foregoing, if any. The Engineer shall comply with all applicable Authority policies and procedures as outlined in the Mobility Authority Policy Code handbook available on the Authority's website (<https://www.mobilityauthority.com/about/policy-disclaimers/code>). When required, the Engineer shall furnish the Mobility Authority with satisfactory proof of its compliance therewith.

ARTICLE 16. INDEMNIFICATION

A. Indemnification. *THE ENGINEER SHALL INDEMNIFY AND HOLD HARMLESS THE MOBILITY AUTHORITY AND ITS OFFICERS, DIRECTORS, EMPLOYEES, AGENTS AND CONSULTANTS WHICH, FOR THE PURPOSES OF THIS CONTRACT, SHALL INCLUDE THE MOBILITY AUTHORITY'S GENERAL COUNSEL, BOND COUNSEL, FINANCIAL ADVISORS, TRAFFIC AND REVENUE ENGINEERS, TOLL OPERATIONS/COLLECTIONS FIRMS, AND UNDERWRITERS (COLLECTIVELY THE "INDEMNIFIED PARTIES") FROM ANY CLAIMS, COSTS, OR LIABILITIES OF ANY TYPE OR NATURE AND BY OR TO ANY PERSONS WHOMSOEVER, TO THE EXTENT CAUSED BY THE NEGLIGENT ACTS, ERRORS, OR OMISSIONS OF THE ENGINEER OR ITS OFFICERS, DIRECTORS, EMPLOYEES, SUBCONSULTANTS AND AGENTS WITH RESPECT TO THE ENGINEER'S PERFORMANCE OF THE WORK TO BE ACCOMPLISHED UNDER THIS CONTRACT OR ACTIONS RESULTING IN CLAIMS AGAINST THE INDEMNIFIED PARTIES. IN SUCH EVENT, THE ENGINEER SHALL ALSO INDEMNIFY AND HOLD HARMLESS THE MOBILITY AUTHORITY AND ITS OFFICERS, DIRECTORS, AND EMPLOYEES AND THE INDEMNIFIED PARTIES FROM ANY AND ALL REASONABLE AND NECESSARY EXPENSES, INCLUDING REASONABLE ATTORNEYS' FEES, INCURRED BY THE MOBILITY AUTHORITY OR ANY OF THE INDEMNIFIED PARTIES IN LITIGATING OR OTHERWISE RESISTING SAID CLAIMS, COSTS OR LIABILITIES. IN THE EVENT THE MOBILITY AUTHORITY AND ITS OFFICERS, DIRECTORS, AND EMPLOYEES AND/OR ANY OF THE INDEMNIFIED PARTIES, IS/ARE FOUND TO BE PARTIALLY AT FAULT, THE ENGINEER SHALL, NEVERTHELESS, INDEMNIFY THE MOBILITY AUTHORITY AND ITS OFFICERS, DIRECTORS, AND EMPLOYEES AND/OR ANY OF THE INDEMNIFIED PARTIES FROM AND AGAINST THE PERCENTAGE OF FAULT ATTRIBUTABLE TO THE ENGINEER OR ITS OFFICERS, DIRECTORS, EMPLOYEES, SUBCONSULTANTS AND AGENTS OR TO THEIR CONDUCT.*

ARTICLE 17. ENGINEER'S RESPONSIBILITY

A. Accuracy. The Engineer shall have total responsibility for the accuracy and completeness of all work prepared and completed under this Contract and shall check all such material accordingly. The Engineer shall promptly make necessary revisions or corrections resulting from its errors, omissions, or negligent acts without additional compensation.

B. Errors and Omissions. The Mobility Authority and Engineer will address errors and omissions as follows:

1. The Engineer's responsibility for all questions and/or clarification of any ambiguities arising from errors and omissions will be determined by the Executive Director.
2. A problem resulting from an error and omission may be identified during any phase of project development. The Engineer will be responsible for errors and omissions before, during, and after construction of a Project, as well as before and after Contract termination.

3. The phrase error and omission is used throughout to mean an error, an omission, or a combination of error and omission.
4. When an apparent error and omission is identified in work provided by the Engineer, the Executive Director will notify the Engineer of the problem and involve the Engineer in efforts to resolve it and determine the most effective solution, provided that the Executive Director shall ultimately determine the solution that is chosen.
5. Errors and omissions identified prior to Project construction will be corrected at the Engineer's expense with no additional cost to the Mobility Authority.
6. During and after construction, errors and omissions can potentially result in significant additional costs to the Mobility Authority that they would not have incurred if the construction plans had been correct. The resulting additional costs are considered damages that the Mobility Authority will collect from the Engineer, including through offset to amounts owed to the Engineer.
7. After a Project is constructed and is in use, there is a possibility of a Contractor claim that may involve a previous error and omission by the Engineer identified during construction; it is also possible the Engineer could be responsible for some or all of the cost of the Contractor claim. If there is a possibility of Engineer responsibility, upon notice of the Contractor claim, the Executive Director must notify the Engineer of the situation and provide the Engineer the opportunity to contribute any information to the Executive Director that may be useful in addressing the Contractor claim. The Engineer will not be involved in any discussions or negotiations with the Contractor during the claims process. Upon settlement of all previous claims with the Contractor, if additional costs are identified, the Executive Director should consider the same factors as during construction in determining the Engineer's level of responsibility.
8. The additional costs which are considered damages to the Mobility Authority and are to be recovered should represent actual cost to the Mobility Authority.
9. The Executive Director will not accept in-kind services from the Engineer as payment for additional costs owed.
10. The Engineer is responsible for promptly correcting errors and omissions without compensation. In the situation of a dispute concerning whether or not the work is compensable, the Engineer shall not delay the work.
11. A letter will be transmitted by the Executive Director formally notifying the Engineer of payment required for the error and omission and will indicate the Engineer's apparent liability for the identified additional costs. The letter will include an outline of the errors and omissions, along with the additional costs, and references to any previous points of coordination and preliminary agreements. Within 30 calendar days of the date of the letter, a response is required from the Engineer with: (a) payment, (b) a request for a meeting, or (c) a request for the Executive Director to reconsider whether the Executive Director should pursue reimbursement for the identified error and omission. If a response or payment is not received from the Engineer, the Mobility Authority may pursue legal action against the Engineer, in addition to offset of payments to the Engineer, claims against insurance and other remedies available under the Contract.
12. It is the Executive Director's responsibility to identify errors and omissions and fairly evaluate the responsibility for additional cost when applicable. It is the responsibility of the Mobility Authority staff to ensure that the Mobility Authority's business practices are professional, fair, equitable, and reasonable.

C. Professionalism. The Engineer shall perform the services it provides under the Contract: (1) with the professional skill and care ordinarily provided by competent engineers practicing under the same or similar circumstances and professional license and (2) as expeditiously as is prudent considering the ordinary professional skill and care of a competent engineer.

D. Seal. The responsible Engineer shall sign, seal and date all appropriate engineering submissions to the Mobility Authority in accordance with the Texas Engineering Practice Act and the rules of the Texas Board of Professional Engineers and Land Surveyors.

E. Resealing of Documents. Once the work has been sealed and accepted by the Director of Engineering, the Mobility Authority, as the owner, will notify the party to this Contract, in writing, of the possibility that a Mobility Authority engineer, as a second engineer, may find it necessary to alter, complete, correct, revise or add to the work. If necessary, the second engineer will affix his seal to any work altered, completed, corrected, revised or added. The second engineer will then become responsible for any alterations, additions

or deletions to the original design including any effect or impacts of those changes on the original engineer's design.

ARTICLE 18. NONCOLLUSION

A. Warranty. The Engineer warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the Engineer, to solicit or secure this Contract and that it has not paid or agreed to pay any company or Engineer any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this Contract.

B. Liability. For breach or violation of this warranty, the Mobility Authority shall have the right to annul this Contract without liability or, in its discretion, to deduct from the Contract compensation, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

ARTICLE 19. INSURANCE

The Engineer shall furnish the Mobility Authority a properly completed Certificate of Insurance approved by the Executive Director prior to beginning work under the Contract and shall maintain such insurance through the Contract Period. The Engineer shall provide proof of insurance (and the Professional Liability Insurance discussed herein) in a form reasonably acceptable by the Executive Director. The Engineer certifies that it has and will maintain insurance coverages as follows:

A. Workers Compensation Insurance. In accordance with the laws of the State of Texas and employer's liability coverage with a limit of not less than \$1,000,000. This policy shall be endorsed to include a waiver of subrogation in favor of the Authority.

B. Comprehensive General Liability Insurance. With limits not less than \$1,000,000 for bodily injury, including those resulting in death, and \$1,000,000 for property damage on account of any one occurrence, with an aggregate limit of \$1,000,000.

C. Comprehensive Automobile Liability Insurance. Applying to owned, non-owned, and hired automobiles in an amount not less than \$1,000,000 for bodily injury, including death, to any one person, and \$1,000,000 on account on any one occurrence, and \$1,000,000 for property damage on account of any one occurrence. This policy shall not contain any limitation with respect to a radius of operation for any vehicle covered and shall not exclude from the coverage of the policy any vehicle to be used in connection with the performance of the Engineer's obligations under this Contract.

D. Excess Liability Insurance. In an amount of \$5,000,000 per occurrence and aggregate.

E. Valuable Papers Insurance. In an amount sufficient to assure the full restoration of any plans, drawings, field notes, logs, test reports, diaries, or other similar data or materials relating to the Services provided under this Contract in the event of their loss or destruction, until such time as the work has been delivered to the Authority.

F. Architects and/or Engineers Professional Liability insurance. Engineer shall provide and maintain professional liability coverage, with limits not less than \$5,000,000 per claim and \$5,000,000 aggregate. The professional liability coverage shall protect against any negligent act, error or omission arising out of design or engineering activities, including environmental related activities, with respect to the Project, including coverage for negligent acts, errors or omissions by any member of the Engineer and its subconsultants (including, but not limited to design subconsultants and subconsultants) of any tier. The policy must provide that coverage extends a minimum of three (3) years beyond the Engineer's completion of the Services. This policy shall be endorsed to include a waiver of subrogation in favor of the Authority.

G. General for All Insurance. The Engineer shall promptly, upon execution of this Contract, furnish certificates of insurance to the Executive Director indicating compliance with the above requirements. Certificates shall indicate the name of the insured, the name of the insurance company, the name of the agency/agent, the policy number, the term of coverage, and the limits of coverage. All policies are to be written through companies (a) authorized to transact that class of insurance in the State of Texas; (b) rated (i), with respect to the companies providing the insurance under subarticles 19.A. through D.,

above, by A. M. Best Company as “A-X” or better (or the equivalent rating by another nationally recognized rating service) and (ii) with respect to the company providing the insurance under subarticle 19.E., a rating by A. M. Best Company or similar rating service satisfactory to the Mobility Authority and/or its insurance consultant; and (c) otherwise acceptable to the Executive Director.

All policies are to be written through companies authorized to transact that class of insurance in the State of Texas. Such insurance shall be maintained in full force and effect during the life of this Contract or for a longer term as may be otherwise provided for hereunder. Insurance furnished under subarticles 19.B., C., and D., above, shall name the Mobility Authority as additional insured and shall protect the Authority, its officers, employees, and directors, agents, and representatives from claims for damages for bodily injury and death and for damages to property arising in any manner from the negligent or willful acts or failures to act by the Engineer, its officers, employees, directors, agents, and representatives in the performance of the Services rendered under this Contract. Certificates shall also indicate that the Contractual liability assumed in Article 16, above, is included.

The insurance carrier shall include in each of the insurance policies required under subarticles 19.A. through F., the following statement: “This policy will not be canceled or materially changed during the period of coverage without at least thirty (30) days prior written notice addressed to the Central Texas Regional Mobility Authority, 3300 N. IH-35, Suite 300, Austin, Texas 78705, Attn: Executive Director”

H. Subconsultant. The Engineer shall be liable for work performed by the subconsultant and Engineer’s insurance shall cover the work, actions, errors and omissions of the subconsultant.

ARTICLE 20. GRATUITIES

A. Employees Not to Benefit. Mobility Authority policy mandates that the director, employee or agent of the Mobility Authority shall not accept any gift, favor, or service that might reasonably tend to influence the director, employee or agent in making of procurement decisions. The only exceptions allowed are ordinary business lunches and items that have received the advance written approval of the Executive Director of the Mobility Authority.

B. Liability. Any person doing business with or who reasonably speaking may do business with the Mobility Authority under this Contract may not make any offer of benefits, gifts or favors to Mobility Authority employees, except as mentioned above. Failure on the part of the Engineer to adhere to this policy may result in the termination of this Contract.

ARTICLE 21. MAINTENANCE, RETENTION AND AUDIT OF RECORDS

A. Retention Period. The Engineer shall maintain all books, documents, papers, accounting records and other evidence pertaining to costs incurred and Services provided (hereinafter called the Records). The Engineer shall make the Records available at its office during the Contract Period and for four (4) years from the date of final payment under this Contract, until completion of all audits, or until pending litigation has been completely and fully resolved, whichever occurs last.

B. Availability. The Mobility Authority shall have the exclusive right to examine the books and records of the Engineer for the purpose of checking the amount of work performed by the Engineer. The Engineer shall maintain all books, documents, papers, accounting records and other evidence pertaining to cost incurred and shall make such materials available at its office during the Contract Period and for four (4) years from the date of final payment under this Contract or until pending litigation has been completely and fully resolved, whichever occurs last. The Mobility Authority or any of its duly authorized representatives, TxDOT, FHWA, the United States Department of Transportation Office of Inspector General, and the Comptroller General shall have access to any and all books, documents, papers and records of the Engineer which are directly pertinent to this Contract for the purpose of making audits, examinations, excerpts and transcriptions.

ARTICLE 22. CERTIFICATE OF INTERESTED PARTIES

If applicable, the Engineer must comply with the Certificate of Interested Parties (Form 1295) adopted by the Texas Legislature as House Bill 1295, which added section 2252.908 of the Government Code, available for review at the Texas Ethics Commission website: <https://www.ethics.state.tx.us/>.

ARTICLE 23. CIVIL RIGHTS COMPLIANCE

A. Compliance with Regulations: The Engineer shall comply with the Acts and Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation (USDOT), the Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made part of this Contract.

B. Nondiscrimination: The Engineer, with regard to the work performed by it during the Contract, will not discriminate on the grounds of race, color, sex, or national origin in the selection and retention of subconsultants, including procurement of materials and leases of equipment. The Engineer will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the Contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

C. Solicitations for Subcontracts, Including Procurement of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the Engineer for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subconsultant or supplier will be notified by the Engineer of the Engineer's obligations under this Contract and the Acts and Regulations relative to Nondiscrimination on the grounds of race, color, sex, or national origin.

D. Information and Reports: The Engineer will provide all information and reports required by the Acts and Regulations, and directives issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and facilities as may be determined by the Mobility Authority or the FHWA to be pertinent to ascertain compliance with such Acts and Regulations or directives. Where any information required of the Engineer is in the exclusive possession of another who fails or refuses to furnish this information, the Engineer will so certify to the Mobility Authority or the Federal Highway Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

E. Sanctions for Noncompliance: In the event of the Engineer's noncompliance with the Nondiscrimination provisions of this Contract, the Mobility Authority will impose such Contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:

- (1) withholding of payments to the Engineer under the Contract until the Engineer complies and/or
- (2) cancelling, terminating, or suspending of the Contract, in whole or in part.

F. Incorporation of Provisions: The Engineer will include the provisions of paragraphs (A) through (E) in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Acts and Regulations and directives issued pursuant thereto. The Engineer will take such action with respect to any subcontract or procurement as the Mobility Authority, TxDOT, or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Engineer becomes involved in, or is threatened with, litigation with a subcontractor or supplier because of such direction, the Engineer may request the Mobility Authority to enter into such litigation to protect the interests of the Mobility Authority.

ARTICLE 24. PATENT RIGHTS

The Mobility Authority shall have the royalty free, nonexclusive and irrevocable right to use and to authorize others to use any patents developed by the Engineer under this Contract.

ARTICLE 25. COMPUTER GRAPHICS FILES

The Engineer agrees to comply with Attachment G, Computer Graphics Files for Document and Information Exchange, if determined by the Mobility Authority to be applicable to this Contract.

ARTICLE 26. CHILD SUPPORT CERTIFICATION

Under Section 231.006, Texas Family Code, the Engineer certifies that the individual or business entity named in this Contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this Contract may be terminated and payment may be withheld if this certification is inaccurate. If the above certification is shown to be false, the Engineer is liable to the state for attorney's fees, the cost necessary to complete the Contract, including the cost of advertising and awarding a second Contract, and any other damages provided by law or the Contract. A child support obligor or business entity ineligible to receive payments because of a payment delinquency of more than thirty (30) days remains ineligible until: all arrearages have been paid; the obligor is in compliance with a written repayment agreement or court order as to any existing delinquency; or the court of continuing jurisdiction over the child support order has granted the obligor an exemption from Subsection (a) of Section 231.006, Texas Family Code, as part of a court-supervised effort to improve earnings and child support payments.

ARTICLE 27. DISPUTES

A. Disputes Not Related to Contract Services. The Engineer shall be responsible for the settlement of all contractual and administrative issues arising out of any procurement made by the Engineer in support of the services authorized herein.

B. Disputes Concerning Work or Cost. The Executive Director of the Mobility Authority shall decide all questions, difficulties and disputes of any nature whatsoever that may arise under or by reason of this Contract, and his decision upon all claims, questions and disputes shall be final. The Engineer shall comply with the decision of the Executive Director with regard to the resolution of any such disputes.

ARTICLE 28. SUCCESSORS AND ASSIGNS

The Engineer and the Mobility Authority do each hereby bind themselves, their successors, executors, administrators and assigns to each other party of this Contract and to the successors, executors, administrators and assigns of such other party in respect to all covenants of this Contract. The Engineer shall not assign, subcontract or transfer its interest in this Contract without the prior written consent of the Executive Director.

ARTICLE 29. SEVERABILITY

In the event any one or more of the provisions contained in this Contract shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and this Contract shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

ARTICLE 30. PRIOR CONTRACTS SUPERSEDED

This Contract, including all attachments, constitutes the sole agreement of the parties hereto for the Services authorized herein and supersedes any prior understandings or written or oral Contracts between the parties respecting the subject matter defined herein.

ARTICLE 31. CONFLICT OF INTEREST

A. Representation by Engineer.

The Engineer represents that it has no conflict of interest that would in any way interfere with its or its employees' performance of Services for the Mobility Authority or which in any way conflicts with the interests of the Mobility Authority and certifies that it is in full compliance with the Mobility Authority's Policy Code related to Conflicts of Interest. The Engineer shall prevent any actions or conditions that could result in a conflict with the Mobility Authority's interests.

B. Certification Status. The Engineer certifies that it is not:

1. a person required to register as a lobbyist under Chapter 305, Government Code;
2. a public relations firm; or
3. a government consultant.

C. Environmental Disclosure. If the Engineer will prepare an environmental study under this Contract, the Engineer certifies by executing this Contract that it has no financial or other interest in the outcome of the Project on which the environmental study is prepared.

D. Engineering Services for the Construction Contractor. Specific to the Project for which the Services are being provided under this Contract, the Engineer shall not provide services directly to the contractor responsible for constructing the Project unless approved by the Executive Director.

ARTICLE 32. AUDIT REQUIREMENTS

The parties shall comply with the requirements of the Single Audit Act of 1984, P.L. 98-502, ensuring that the single audit report includes the coverage stipulated in 2 CFR 200.

ARTICLE 33. DEBARMENT CERTIFICATIONS

The parties are prohibited from making any award at any tier to any party that is debarred or suspended or otherwise excluded from or ineligible for participation in Federal Assistance Programs under Executive Order 12549, "Debarment and Suspension." By executing this Contract, the Engineer certifies that it is not currently debarred, suspended, or otherwise excluded from or ineligible for participation in Federal Assistance Programs under Executive Order 12549. The parties to this Contract shall require any party to a subcontract or purchase order awarded under this Contract to certify its eligibility to receive Federal funds and, when requested by the Executive Director, to furnish a copy of the certification.

ARTICLE 34. PERTINENT NON-DISCRIMINATION AUTHORITIES

During the performance of this Contract, the Engineer, for itself, its assignees, and successors in interest agree to comply with the following nondiscrimination statutes and authorities; including but not limited to:

A. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.

B. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects).

C. Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), as amended, (prohibits discrimination on the basis of sex).

D. Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.) as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27.

E. The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age).

F. Airport and Airway Improvement Act of 1982, (49 U.S.C. Chapter 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex).

G. The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, subrecipients and contractors, whether such programs or activities are Federally funded or not).

H. Titles II and III of the Americans with Disabilities Act, which prohibits discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38.

I. The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex).

J. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs,

policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations.

K. Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, the parties must take reasonable steps to ensure that LEP persons have meaningful access to the programs (70 Fed. Reg. at 74087 to 74100).

L. Title IX of the Education Amendments of 1972, as amended, which prohibits the parties from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq.).

ARTICLE 35. BOYCOTT ISRAEL

The Contractor represents and warrants that (1) it does not, and shall not for the duration of this Contract, boycott Israel or (2) the verification required by Section 2271.002 of the Texas Government Code does not apply to this Contract.

ARTICLE 36. FIREARM ENTITIES AND TRADE ASSOCIATIONS DISCRIMINATION

The Engineer verifies that:

1. It does not, and will not for the duration of this Contract, have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; or
2. The verification required by Section 2274.002 of the Texas Government Code does not apply to the Contract.

If circumstances relevant to this provision change during the course of this Contract, Engineer shall promptly notify the Executive Director.

ARTICLE 37. ENERGY COMPANY BOYCOTT

The Engineer verifies that:

1. It does not, and will not for the duration of the Contract, boycott energy companies; or
2. The verification required by Section 2274.002 of the Texas Government Code does not apply to the Contract.

If circumstances relevant to this provision change during the course of this Contract, the Engineer shall promptly notify the Executive Director.

ARTICLE 38. ABBREVIATIONS AND DEFINITIONS

Acts and Regulations	Federal, state, and local acts and regulations which are applicable to the Contract
Agreement	This Contract
Mobility Authority	The Central Texas Regional Mobility Authority
Business Days	Any day the Mobility Authority is open for business
CFR	Code of Federal Regulations
Contract	This Contract document and its attachments
Days	Calendar days
Engineer	The service provider performing the services under this Contract
Executive Director	The Executive Director of the Mobility Authority, or anyone to whom he has delegated the authority to act on his behalf
FAR	Federal Acquisition Regulations
FHWA	Federal Highway Administration
OMB	Office of Management and Budget

Project	Any capital improvement, rehabilitation, repair, maintenance, or other work in conjunction with the Authority's or a partner's facilities.
PS&E	Plans, specifications, and estimate
Services	Any work assigned under this Contract
TxDOT	Texas Department of Transportation
USDOT	United States Department of Transportation
Work Authorization	Any work authorization arising from this Contract
Year	When not otherwise clarified, "year" refers to a 12-month period

ATTACHMENT B
SERVICES TO BE PROVIDED BY THE MOBILITY AUTHORITY
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The Authority shall perform and provide the following in a timely manner so as not to delay the Services to be provided by the Engineer:

1. Authorize the Engineer in writing to proceed.
2. Designate in writing a person to act as the Authority's representative, such person to have complete authority to transmit instructions, receive information, and interpret and define Authority's decisions with respect to the Services to be provided by the Engineer.
3. Render reviews, decisions and approvals as promptly as necessary to allow for the expeditious performance of the Services to be provided by the Engineer.
4. Provide timely review and decisions in response to the Engineer's request for information and/or required submittals and deliverables.
5. Maintain the Project's website and other public involvement materials.
6. Provide the Engineer with relevant data available to the Mobility Authority related to people, agencies and organizations interested in the project.
7. Either provide directly, or have its designated General Engineering Consultant ("GEC") provide general oversight services of the Engineer.
8. Place at Engineer's disposal all reasonably available information pertinent to the Project.
9. Provide assistance in coordinating with Corps of Engineers, FEMA, TCEQ, City of Cedar Park, and TxDOT for any approvals and permits required.
10. Address problems regarding any refusal to grant right of entry (ROE) or communication with landowners who are hostile with respect to the completion of this scope of services.
11. Records available that would assist in the completion of the environmental services.
12. Submittal of documentation to regulatory agencies for review and comment when specified.
13. Review and approval of typical roadway and bridge cross sections created by the Engineer.
14. Approval of pavement design to be used for cost estimation purposes.
15. Available horizontal control points, benchmark elevations and descriptions for vertical control in the project area.

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16. Available interface data for 183A Phases I & II adjacent to the project corridor.
17. Assistance as necessary in obtaining the required data and information from other local, regional, state, and federal agencies.
18. Examples of acceptable format for the deliverables required by the work authorizations.

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RM 1431 / 183A Intersection Improvements Professional Services

The Design Consultant Engineer (“Engineer”), shall be responsible for the work described in this Scope of Services (“Services”) for the RM 1431 Intersection Improvement Project (“Project”). The Engineer will coordinate with Mobility Authority Staff and their General Engineering Consultant (“GEC”), herein referred to as the “Mobility Authority”.

The Engineer will work at the direction and supervision of the Mobility Authority to provide the Services. The Mobility Authority expects the Engineer to work cooperatively and collaboratively through all aspects and phases of environmental studies, preliminary design, and in its dealings with TxDOT, subcontractors, engineers, legal counsel, consultants, governmental entities, utilities, businesses, property owners, and the general public.

The Engineer will report to the Mobility Authority’s Project Manager, the GEC’s Project Manager and staff, and keep them informed of the design progress, especially issues that would affect the project schedule and delivery. The Engineer shall be available for weekly progress meetings with the Mobility Authority, if scheduled. The Engineer will also be responsible for coordinating with all other members of their project team to verify that all deliverables meet the established schedule and quality requirements.

The Engineer will be expected to deliver a TxDOT-approved Schematic Design, a NEPA Environmental Document and environmental finding. This contract is for Preliminary Engineering only (Schematic Design, NEPA Environmental Document. The final set of construction plans and bid documents suitable for construction bidding, and Construction Phase Services shall be part of a future contract. The Mobility Authority is leading the oversight for design and construction for the Project, but the Project will be fully coordinated with TxDOT and will be required to meet all standard requirements for a TxDOT project including: TxDOT Roadway Design Manual (11/2024 edition), TxDOT Project Development Process Manual (11/2024 edition), AASHTO Policy on Geometric Design of Highways and Streets (7th edition, 2018), TxDOT Standard Specifications for Construction of Highways, Streets, and Bridges (9/2024 edition), Texas Manual on Uniform Traffic Control (TMUTCD – 2025 edition), Highway Capacity Manual - Transportation Research Board (7th Edition, 1/2022), TxDOT Hydraulic Design Manual, TxDOT Access Management Manual (9/2019 edition), Public Right-of-Way Accessibility Guidelines (PROWAG, 8/2023 edition), and the AASHTO Guide for the Development of Bicycle Facilities (5th edition, 12/2024), and the City of Cedar Park’s Transportation Criteria Manual (2/2026 edition).

The project location is more specifically defined as the RM 1431 intersection with 183A and the proposed scope includes the construction of intersection improvements. Additional right of way (ROW) is anticipated to be needed for the proposed improvements. The desired outcome is an innovative, high-capacity intersection with minimal right-of-way impacts. This Project shall be developed in compliance with applicable state regulations and design standards.

The Engineer shall coordinate with the Mobility Authority prior to a particular task being started

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and will not begin any work until Notice to Proceed has been issued.

Scheduling of activities below will conform to the Project milestones established by the Mobility Authority.

The Engineer will coordinate with both the Mobility Authority and their GEC. It is understood that all references herein to responsibilities of or actions by the Mobility Authority will be led or supported by the GEC. The Engineer shall work cooperatively and collaboratively throughout all aspects and phases of project development and in its dealings with the Mobility Authority, GEC, TxDOT, toll system integrators, engineers, legal counsel, accountants, consultants, government entities, utilities, property owners, and the general public.

The Engineer shall coordinate with the Mobility Authority's Communications and public involvement team, as required, in the Mobility Authority's dealings with the general public, adjacent property owners, and interested advocacy groups.

The Engineer shall receive all Data Collection and background information files relevant to the RM 1431 at 183A intersection and obtained / developed as part of the 183A Added Capacity Project (ACP) from the Mobility Authority or the GEC. This shall include all Survey, Aerial Mapping, Horizontal and Vertical Control, Geotechnical Investigation Data and Reports, Subsurface Utility Engineering and Utility Coordination data, Environmental Data and Reports, Environmental Data, Traffic Data and Reports, Geometric Design data and Reports.

1. PRELIMINARY ENGINEERING

1.1. PROJECT MANAGEMENT AND ADMINISTRATION

1.1.1. GENERAL

- 1.1.1.1. The Engineer shall be responsible for, direct, and coordinate all activities associated with the project to comply with Mobility Authority policies and procedures, and to deliver that work on time. The Engineer shall coordinate all subconsultant activity including quality of and consistency of work and administration of the invoices and monthly progress reports. The Engineer shall coordinate via the GEC with the City of Cedar Park and TxDOT.

1.1.2. TASKS

- 1.1.2.1. Prepare monthly written progress reports (12 anticipated), based on an anticipated 12 month schedule for Preliminary Engineering activities.
- 1.1.2.2. Provide bi-weekly coordination updates on the project for the Mobility Authority, TxDOT, and other interested parties.
- 1.1.2.3. Escalate any major project issues to the Mobility Authority.

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- 1.1.2.4. Copy the Mobility Authority's Project Manager (PM) on all internal and external correspondence
- 1.1.2.5. Develop and maintain a detailed project schedule to track project conformance to schedule, for each work authorization.
- 1.1.2.6. Meet on a scheduled (anticipated monthly) basis with the Mobility Authority and partner agencies to review and coordinate project progress. 12 monthly meetings are assumed with the Project Manager up to 2 task leaders from The Engineer.
- 1.1.2.7. Prepare, distribute, and file both written and electronic correspondence.
- 1.1.2.8. Prepare and distribute meeting agendas and minutes.
- 1.1.2.9. Document phone calls and conference calls as required during the project to coordinate the work for various team members.
- 1.1.2.10. The Engineer shall also support up to three external Stakeholder meetings along with the Mobility Authority, City, and TxDOT to provide updates and get concurrence at project milestones with key Stakeholders.

DELIVERABLES

- i. Monthly written Progress Reports (Anticipate 12)
- ii. Monthly Update Reviews and preview of upcoming month (Anticipate 12)
- iii. Detailed Work Schedule for approval by the Mobility Authority (Initial and monthly updates: anticipate 12 total)
- iv. Project Meeting minutes
- v. Written and electronic correspondence and other work-related communication documentation
- vi. Phone and Conference call log and other related documentation
- vii. Draft and Final External Stakeholder Meeting materials (Agenda, PowerPoint, meeting notes preparation) for up to 3 meetings

1.2. DATA COLLECTION

1.2.1. General

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1.2.1.1. The Engineer shall collect existing data as necessary to complete the conceptual and schematic design. Data shall include the following information:

- 1.2.1.1.1. Adopted land use maps and plans as available.
- 1.2.1.1.2. Previously prepared Feasibility Studies
- 1.2.1.1.3. Updates to existing and future design year traffic data.
- 1.2.1.1.4. Aerial photos, planimetric mapping, and DTM from public sources or adjacent projects.
- 1.2.1.1.5. Environmental Data.
- 1.2.1.1.6. Previously prepared drainage studies.
- 1.2.1.1.7. Available planimetric and topographic data
- 1.2.1.1.8. Federal Emergency Management Agency (FEMA) Flood Boundary Maps and Flood Insurance Studies and Models.

1.2.2. SURVEY

1.2.2.1. ROW Survey

- 1.2.2.1.1. The Surveyor shall research Williamson County Appraisal district records and obtain owner information for the properties within the proposed corridor. The Surveyor shall prepare a spreadsheet of current ownership adjacent to the existing ROW to obtain Right of Entry (ROE), if necessary. The Surveyor will send out ROE letters (approved by the Client) prior to accessing private properties. For non-responsive landowners, letters will be sent via certified mail and/or hand delivered. If still no response, a copy of the letter will be left at the front door or gate. Signed ROE letters are documented in the ownership table with specific conditions/notes provided. It is assumed that up to 25 parcels along the RM 1431 and 183A corridors shall may require ROE for survey.
- 1.2.2.1.2. The Surveyor shall obtain vesting adjoiner deeds, plats, TxDOT ROW deeds found of record and record easements within and crossing the ROW and provide an abstract base map in a 2 dimensional (2d) dgn format of adjoining private or public ownership to include reference information, record ROW lines, record deed property lines, record deed acreage and any known easements crossing or adjacent to the ROW.

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The abstract map shall show the provided planimetrics file obtained from the design aerial Lidar.

1.2.2.1.3. Surveyor shall perform a survey of the existing Project limits at the intersection of 183A and RM 1431 and show adjoining public easements listed/shown on record subdivision plats & adjoiner deeds. ROW determination shall be based on a best fit analysis of ROW and front corner monuments.

1.2.2.1.4. The existing ROW survey shall not require a boundary survey of the properties adjacent to the existing ROW at this time. Boundary Survey and preparation of metes and bounds for ROW acquisition may be performed in a future phase of surveying services and are not included as part of this phase of work.

1.2.2.1.5. The existing ROW survey shall not require setting missing monumentation of the existing ROW. Monumentation may be performed in a future phase of surveying services.

1.2.2.1.6. The Surveyor shall provide a dgn of the existing ROW within the project limits. The map will show existing centerline/baseline with stationing and show all found property markers and calculated points along the existing ROW lines.

1.2.2.2. Field Survey

1.2.2.2.1. As necessary, to supplement survey gathered for the 183A ACP project, provide a supplemental ground survey of obscure areas, drainage structures, manholes, pipe sizes and flow lines with inverts outside of the pavement and bridge structures within the limits of the Project.

1.2.2.2.2. DGN, DTM & TIN FILES

1.2.2.2.2.1. The Engineer's Surveyor shall prepare DGN and DTM files covering the specific work location, meeting standards and specifications as required.

1.2.2.2.2.2. Map Accuracy Standard

1.2.2.2.2.2.1. Aerial mapping must meet or exceed the requirements for ASPRS Class 1 standard for 1" = 40' scale mapping with a one-foot contour interval.

1.2.2.2.2.2.2. Field verification of adherence to the required accuracy specification is at the discretion of the Mobility Authority.

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1.2.2.2.3. Statement of Map Accuracy

1.2.2.2.3.1. For maps that are not field checked but have been compiled to meet the Mobility Authority's accuracy standard, the Engineer's Surveyor shall include the following statement along with the Photogrammetrist's seal on the delivered hard copy and digital versions of the map:

1.2.2.2.3.1.1. "This map was compiled to meet the ASPRS Standard for Class 1 map accuracy."

1.2.2.2.3.2. If the map was checked and found to conform to this spatial accuracy standard, the statement above and the following statement must also be included on the delivered hard copy and digital versions of the map, and in the field check summary:

1.2.2.2.3.2.1. "This map was checked and found to conform to the ASPRS Standard for Class 1 map accuracy."

1.2.2.3. **Horizontal and Vertical Control for Aerial Mapping (OMIT)**

DELIVERABLES

- i. DGN and DTM files in a MicroStation or OpenRoads format.
- ii. Adopted land use maps and plans as available.
- iii. Federal Emergency Management Agency (FEMA) Flood Boundary Maps and Flood Insurance Studies and Models.

1.2.3. GEOTECHNICAL INVESTIGATION

1.2.3.1. General Requirements

1.2.3.1.1. Perform geotechnical investigations and testing for preliminary pavement design according to TxDOT's Geotechnical Manual (April 2024 edition) and TxDOT's Pavement Design Manual (June 2021 edition). Borings and testing for the design of sign structure and culvert foundations shall be part of a future work authorization and are not included in this scope of work. All proposed boring locations shall be identified by the Engineer and shown on a boring layout and reviewed and approved by the Mobility Authority prior to performing geotechnical investigations.

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- 1.2.3.1.2. The Engineer shall be responsible for locating existing underground and overhead utilities prior to drilling borings by using Texas811 or a similar locator service.
- 1.2.3.1.3. Provide a traffic control plan in accordance with TxDOT Standards for all work to be performed adjacent to traffic.
- 1.2.3.1.4. Record GPS coordinates of each bore hole using hand-held GPS unit . Bore hole GPS coordinates will be provided to the survey team, who will provide ground elevations and coordinates in order to place the boring locations in the plans.
- 1.2.3.1.5. Perform four (4) borings with pavement cores and four (4) pavement cores along RM 1431 for pavement design, with four west and four east of 183A. Terminate borings upon encountering limestone. Backfill borings per TxDOT Geotechnical Manual requirements. All borings must be backfilled or plugged on the same day of the drilling operations.
- 1.2.3.2. **Pavement Design**
 - 1.2.3.2.1. Pavement design work shall be done in accordance with the TxDOT Pavement Manual. The pavement design will be limited to RM 1431 pavement sections between Discovery Blvd and C-Bar Ranch Trail.
 - 1.2.3.2.2. Review the Pavement Design Reports from previous TxDOT's US 183 frontage road project and the Mobility Authority's 183A Phase I project.
 - 1.2.3.2.3. The Engineer shall perform an evaluation of the existing RM 1431 and 183A frontage road pavement sections, including Falling Weight Deflectometer (FWD) Testing, Dynamic Cone Penetrometer (DCP) Testing (to be provided by the Engineer). It is assumed that if Ground Penetrating Radar (GPR) is required by TxDOT, it will be provided by TxDOT. The pavement design is to verify that the existing sections are adequate for the project. A pavement design memo and summary of findings will be incorporated into the project geotechnical report.
 - 1.2.3.2.4. The pavement design shall include sections for temporary detour pavement (if any) used during construction
- 1.2.3.3. **Geotechnical Report**
 - 1.2.3.3.1. The Engineer will prepare a draft geotechnical report that will present recommendations for the pavement design:
 - 1.2.3.3.1.1. Site vicinity and geology map.
 - 1.2.3.3.1.2. Generalized subsurface conditions, as well as groundwater conditions encountered during drilling operations.

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- 1.2.3.3.1.3. Engineering and construction considerations, structural fill requirements and earthwork recommendations.
- 1.2.3.3.1.4. Boring logs in English units, laboratory test results, results of FWD and DCP testing, and plan of borings with station and offset and top of hole elevations.
- 1.2.3.3.1.5. Existing boring logs performed by others will be presented in the appendix to supplement the new borings for pavement design. The intent is to have one report for the limits of this Project. The Engineer assumes no liability for the accuracy of borings performed by others.
- 1.2.3.3.2. Geophysical study results will be included with the draft geotechnical report, if available.

DELIVERABLES

- i. Submit the Draft and Final geotechnical reports for review and comment to the Mobility Authority in *.pdf and hard copy formats. One draft copy of the geotechnical report shall also be kept on file with the Engineer for future reference.
- ii. Boring Logs

1.2.4. SUBSURFACE UTILITY ENGINEERING

1.2.4.1. Subsurface Utility Engineering

- 1.2.4.1.1. Utility Engineer Investigation (Subsurface Utility Engineering) includes utility investigations subsurface and above ground prepared in accordance with AASHTO standards [ASCE C-138-02 (<https://www.fhwa.dot.gov/programadmin/asce.cfm>)] and Utility Quality Levels.
- 1.2.4.1.2. The Engineer shall complete a Quality Level B Subsurface Utility Engineering (SUE) investigation with the existing and proposed ROW along 183A and RM 1431. This is anticipated to be ~1,500 to the west and east of the RM 1431 and 183A intersection, up to but not including the intersections of RM 1431 at Discovery Blvd. (west) and C-Bar Ranch (east). An estimated 25,000 linear feet (LF) of QLB SUE and an estimated 10 test holes of QLA SUE has been included in the scope of work.

1.2.4.2. Utility Quality Levels

- 1.2.4.2.1. Utility Quality Levels are defined in cumulative order (least to greatest) as follows:
- 1.2.4.2.2. Quality Level D Existing Records: Utilities are plotted from review of available existing records.

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- 1.2.4.2.3. Quality Level C - Surface Visible Feature Survey: Quality Level D information from existing records is correlated with surveyed surface visible features. It includes Quality Level D information.
- 1.2.4.2.4. Quality Level B - Designate: Two-dimensional horizontal mapping. This information is obtained through the application and interpretation of appropriate non-destructive surface geophysical methods. Utility indications are referenced to established survey control. It incorporates Quality Levels C and D information to produce Quality Level B.
- 1.2.4.2.5. Quality Level A - Locate (Test Hole): Three-dimensional mapping and other characterization data. This information is obtained through exposing utility facilities through test holes and measuring and recording (to appropriate survey control) utility/environment data. It incorporates Quality Levels B, C and D information to produce Quality Level A.
- 1.2.4.3. **Designate (Quality Level B)**
 - 1.2.4.3.1. Designate means to indicate the horizontal location of underground utilities by the application and interpretation of appropriate non-destructive surface geophysical techniques and reference to established survey control. Designate (Quality Level B) Services are inclusive of Quality Levels C and D.
 - 1.2.4.3.2. As requested by the Mobility Authority, compile and confirm "as-built" information from plans, and other location data as provided by the utility owners. It is assumed that in addition to City of Cedar Park Water and Wastewater lines, 7 existing Utility Owners are anticipated.
 - 1.2.4.3.3. Designate, record, and mark the horizontal location of all existing utility facilities and their service laterals to proposed ROW using non-destructive surface geophysical techniques. No storm sewer facilities are to be designated unless authorized by the Mobility Authority. A non-water base paint, utilizing the APWA color code scheme, shall be used on all surface markings of underground utilities.
 - 1.2.4.3.4. Correlate utility owner records with designating data and resolve discrepancies using professional judgment. A color-coded composite utility facility plan with utility owner names, quality levels, line sizes and subsurface utility locate (test hole) locations, shall be prepared and delivered to the Mobility Authority. It is understood by both the Engineer and the Mobility Authority that the line sizes of designated utility facilities detailed on the deliverable are from the best available records and that an actual line size is normally determined from a test hole vacuum excavation in critical locations (up to 10). A note will be

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placed on the quality level B deliverable that states "lines sizes are from best available records".

- 1.2.4.3.5. Determine and inform the Mobility Authority of the approximate utility depths at critical locations as determined by the Mobility Authority. This depth indication is understood by both the Engineer and the Mobility Authority to be approximate only and is not intended to be used preparing the right of way and construction plans.
- 1.2.4.3.6. Provide a monthly summary of work completed and in process with adequate detail to verify compliance with agreed work schedule.
- 1.2.4.3.7. Clearly identify all utilities that were discovered from quality levels C and D investigation but cannot be depicted in quality level B standards. These utilities must have a unique line style and symbology in the designate (Quality Level B) deliverable.
- 1.2.4.3.8. This information will be provided in the latest version of AutoCAD or MicroStation, as requested by the Mobility Authority. The electronic file will be delivered on CD, DVD or Newforma File Transfer as requested by the Mobility Authority.
- 1.2.4.3.9. A hard copy of the quality level B information will be provided in 11" x 17" format and will be signed, sealed and dated by the Engineer.
- 1.2.4.4. Subsurface Utility Locate (Test Hole) Service (Quality Level A) – **CONTINGENCY. Refer to Section 1.6.1.1**
- 1.2.4.5. Excavation for Test Holes – **CONTINGENCY. Refer to Section 1.6.1.2**
- 1.2.4.6. Utility Adjustment Coordination
 - 1.2.4.6.1. Utility adjustment coordination shall be performed by the Mobility Authority. The Engineer shall support the Mobility Authority with the utility adjustment coordination work.
 - 1.2.4.6.2. Assist the Mobility Authority with the preparation of Project notifications to identified utility owners, including providing current design plans.
 - 1.2.4.6.3. Assist the Mobility Authority with the preparation for and attend a kick-off meeting with identified utility owners potentially affected within the Project corridor.
 - 1.2.4.6.4. Assist the Mobility Authority with the preparation for and attend individual utility coordination meetings with utility owners affected along the Project corridor. It is anticipated that 5 utility owner coordination meetings will be required.

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- 1.2.4.6.5. Assist the Mobility Authority with identifying utility conflicts. Prepare a Utility Conflict Matrix and track resolution of potential conflicts. An updated Utility Conflict Matrix shall be submitted with milestone submittal packages.
- 1.2.4.6.6. Assist the Mobility Authority with evaluation of relocation alternatives.
- 1.2.4.7. **Utility Agreements for Utility Adjustments**
 - 1.2.4.7.1. Utility Agreements for Utility Adjustments shall be performed by the Mobility Authority. The Engineer shall support the Mobility Authority in the development of utility agreements for utility adjustments.
 - 1.2.4.7.2. Assist the Mobility Authority with the development of any utility agreements required as part of this Project (10 anticipated).
- 1.2.4.8. **General Requirements**
 - 1.2.4.8.1. To the extent possible and in accordance with standards of care and quality as defined by ASCE C-I 38-02, Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data, The Engineer shall determine the location of known existing utilities as well as ITS and toll infrastructure within the Project area, as described above, using Quality Level B standards. The Engineer shall compile "As-Built" information from plans, plats and other location data as provided by utility owners. A color-coded composite utility facility plan with utility owner names, quality levels and line sizes will be prepared and delivered to the GEC. It is understood by both the Engineer and the GEC that the line sizes of utility facilities detailed on the deliverable are from the best available records and that an actual line size is normally determined from a test hole vacuum excavation. All above ground appurtenance locations must be included in the deliverable to the GEC. This information will be provided in the latest version of MicroStation or OpenRoads used by the Mobility Authority. The electronic file will be delivered on CD. A hard copy is required and must be signed, sealed and dated by the Engineer.
 - 1.2.4.8.2. In coordination with the GEC, the Engineer shall attend utility meetings with utility owners and other interested parties or agencies that are identified to be within the proposed Project's area. The purpose of these meetings is to verify that all utility owners and area entities are aware of the scope and relevant details of the proposed Project. The

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Engineer shall be responsible for writing and documenting the meeting minutes and other follow-up work with utility owners, if necessary.

1.2.4.8.3. The Engineer shall coordinate with the GEC and utility companies attending meetings at the Draft and Final Geometric Schematic submittals. The Engineer shall discuss potential conflicts and mitigation strategies to avoid utility conflicts.

1.2.4.8.4. The Engineer shall incorporate existing utility survey and SUE work into the preliminary design for presentation at utility coordination meetings.

1.3. ENVIRONMENTAL STUDIES

1.3.1. ENVIRONMENTAL DATA COLLECTION

1.3.1.1. The Engineer shall review previously collected environmental data including previous reports prepared for the 183A corridor. This effort will include the following:

1.3.1.1.1. Review of past study data.

1.3.1.1.2. Conduct field visit survey.

1.3.1.1.3. Update area secondary source environmental data provided by TxDOT, the Mobility Authority, and City of Cedar Park including land use, developed areas, property lines, floodplains, wetlands, utilities, oil and gas wells, and other features that could influence the development of route concepts.

1.3.1.1.4. Update the area aerial map provided by the Mobility Authority to depict relevant secondary source data.

1.3.1.1.5. Prepare an environmental features map depicting the study area and environmental features that could influence the development of improvement concepts.

1.3.1.1.6. The Engineer shall provide right-of-entry (ROE) and coordination with landowners prior to proposed survey investigations. ROE is desired to cover all types of field work - Geotech, Environmental, SUE/UC, ROW Evaluation. These ROE letters will be sent and tracked by The Engineer's Surveyor.

1.3.2. ENVIRONMENTAL DOCUMENTATION

Environmental documentation shall be based upon feedback from TxDOT on the level of Environmental Study and documentation that will be required. Each environmental service provided by the Engineer shall have a deliverable. Deliverables shall summarize the methods used for the environmental services and

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shall summarize the results achieved. The summary of results shall be sufficiently detailed to provide satisfactory basis for thorough review by the Mobility Authority and (where applicable) by agencies with regulatory oversight. Deliverables must meet regulatory requirements for legal sufficiency and must adhere to the requirements for reports enumerated in TxDOT's NEPA MOU.

It is assumed the project will qualify for a TxDOT-approved CE. The scope does not assume intensive archaeological investigations, geophysical surveys, historic resource surveys beyond PCR coordination, formal USFWS consultation, Section 4(f) evaluations, mitigation plan development, wetland permitting, or extensive agency coordination resulting from previously unidentified environmental constraints.

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1.3.2.1. Quality Assurance/Quality Control Review

1.3.2.1.1. For each deliverable, the Engineer shall perform quality assurance quality control (QA/QC) reviews of environmental documents and on other supporting environmental documentation to determine whether documents conform with:

- Current Environmental Compliance Toolkit guidance published by TxDOT's Environmental Affairs Division and in effect as of the date of receipt of the documents or documentation to be reviewed.
- Current state and federal laws, regulations, policies, guidance, agreements, and memoranda of understanding between TxDOT and other state or federal agencies; and
- FHWA and American Association of State Highway and Transportation Officials (AASHTO) guidelines contained in "Improving the Quality of Environmental Documents, A Report of the Joint AASHTO and American Council of Engineering Companies (ACEC) Committee in Cooperation with the Federal Highway Administration" (May 2006) for:
 - Readability, and
 - Use of evidence and data in documents to support conclusions.
 - Upon request by the Mobility Authority, the Engineer shall provide documentation that the QA/QC reviews were performed by qualified staff

1.3.2.2. Deliverables shall contain data acquired during the environmental service. Deliverables shall be written to be understood by the public and must be in accordance with TxDOT's Environmental Toolkit guidance, documentation standards, current guidelines, policies, and procedures.

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- 1.3.2.3. Electronic versions of each deliverable must be written in software which is compatible to the Mobility Authority and must be provided in a changeable format for future use by the Mobility Authority. The Engineer shall supplement hard copy deliverables with electronic copies in searchable Adobe Acrobat™ (.pdf) format unless another format is specified. Each deliverable shall be a single, searchable .pdf file that mirrors the layout and appearance of the physical deliverable.
- 1.3.2.4. Submission of Deliverables
- Deliverables shall consist of technical reports of environmental services performed in addition to the assembled Environmental Document.
 - Deliverables must comply with applicable state and federal environmental laws, regulations and procedures and include items listed in the Environmental Document Review Checklist.
 - On the cover page of each technical report and environmental document prepared under the Mobility Authority granted by this MOU, and for memorandum corresponding to the documentation, the Engineer shall insert the following language in a way that is conspicuous to the reader or include it in the project record:
 - "The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated July 17, 2025, and executed by FHWA and TxDOT."
- 1.3.2.5. The Mobility Authority shall provide TxDOT's and other agency comments on draft deliverables to the Engineer. The Engineer shall revise the deliverable:
- to include Mobility Authority commitments, findings, agreements, or determinations (e.g., wetlands, endangered species consultation, Section 106, or Section 4(f)), required for the Transportation Activity as specified by the Mobility Authority;
 - to incorporate the results of public involvement and agency coordination;
 - to reflect mitigation measures resulting from comments received or changes in the Transportation Activity; and
 - include with the revised document a comment response form (matrix) in the format provided by the Mobility Authority.
- 1.3.2.6. Photographs shall be well focused and clearly depict details relevant to an evaluation of the project area. Provision of photographs shall be one

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original print of each image or electronic presentations of comparable quality. Comparable quality electronic photograph presentations shall be at least 1200 x 1600 pixel resolution. Photographs shall be attached to separately labeled pages that clearly identify project name; project identification (ID) number; address or Universal Transverse Mercator (UTM) of resource; description of the picture and direction of the photographic view. In addition to the hard-copy prints, an electronic version of each will be submitted with the same identification information as the hard-copy.

1.3.3. TECHNICAL REPORTS AND DOCUMENTATION

- 1.3.3.1. Definition of technical report and documentation for environmental services: a report, checklist, form, or analysis detailing resource-specific studies identified during the process of gathering data to make an environmental decision. .
- 1.3.3.2. Technical reports and documentation must be produced before an environmental document is prepared in order to identify issues early in the process. TxDOT will determine what technical reports and documentation will be necessary for any given project. Technical reports and documentation must be prepared for the Mobility Authority with detail and clarity to support environmental determination(s). Technical reports shall be compliant with the TxDOT Environmental Compliance Toolkits. The environmental document will reference the technical reports.
- 1.3.3.3. Environmental technical reports and documentation must include appropriate National Environmental Policy Act of 1969 (NEPA) or federal regulatory language in addition to the purpose and methodology used in delivering the service. Technical reports and forms must include information to determine the significance of impacts. Some examples of environmental technical reports and documentation are listed below:
 - ECOS scoping
 - Environmental Constraints Map
 - Water Resources Delineation Report
 - Species Analysis Form
 - Archeological Background Study
 - Historic Resources Project Coordination Request (PCR)
 - Hazardous Materials
 - Community Impacts Assessment
 - Traffic Noise Analysis

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- Karst Investigations

1.3.3.4. The Engineer shall conduct the following tasks and prepare draft and final technical reports listed below consistent with the TxDOT Environmental Compliance Toolkit:

- 1.3.3.4.1. Environmental Data Collection. Field visit and desktop analysis for development of the technical reports.
- 1.3.3.4.2. Technical Reports and documentation
- 1.3.3.4.3. ECOS Scoping. Assumes assistance with any ECOS data input.
- 1.3.3.4.4. WPD Forms. Assumes assistance with WPD information required for ECOS. Includes development of Draft and Final Purpose and Need Statement.
- 1.3.3.4.5. Species Analysis Form. Required to evaluate any threatened and endangered species that may be located within the project area.
- 1.3.3.4.6. Species Analysis Spreadsheet. Evaluation of federal and state listed species as well as Species of Greater Conservation Need that could have potential habitat in the study area.
- 1.3.3.4.7. Documentation of TPWD BMP Form. Document any anticipated BMPs that will be required for construction.
- 1.3.3.4.8. Archeological Background Study (ABS). Due to the heavily urban area and minimal right of way anticipated, is assumed the project will require an ABS, but no archaeological survey will be required. **Refer to Section 1.6.1.3 for contingency scope items, if necessary.**
- 1.3.3.4.9. Community Impacts Assessment (CIA). No community facilities are anticipated to be impacted by the project. However, potential ROW acquisition requires full CIA report.
- 1.3.3.4.10. Hazardous Materials Initial Site Assessment (ISA). ROW acquisition requires Hazardous Materials ISA.
- 1.3.3.4.11. Historic Resources Project Coordination Request (PCR). No historic properties are anticipated to be impacted by the project. However, due to ROW acquisition, a PCR is required. **Should additional investigation beyond the PCR be required, this has been included as contingency scope within item 1.6.1.4.**
- 1.3.3.4.12. Traffic Noise Analysis– Due to noise receivers within or adjacent to the project area, it is anticipated that a full noise model and analysis will be required for the project. **Should a noise workshop be required, this has been included as contingency scope/fee within item 1.6.**
- 1.3.3.4.13. Traffic noise model input and output data files

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- 1.3.3.4.14. Surface Water Analysis Form. Required to assess any waters of the U.S. within the project area.
- 1.3.3.4.15. Waters of the US Delineation Report. Assumes a Nationwide Permit 14 will be required for the project.
- 1.3.3.4.16. Section 404 / Section 10 Impact Table. Assumes a Nationwide Permit will be required for the project.
- 1.3.3.4.17. Maintain Project File
- 1.3.3.4.18. Karst Investigation Report. Project location is generally within Karst Zone 4b (geographic areas that do not contain endangered or other rare karst invertebrate species), but is directly adjacent to Karst Zone 1 (geographic area known to contain endangered karst invertebrate species). **Should an evaluation of Karst species be needed, this has been included as contingency scope/fee within item 1.6.1.6.**

1.4. PRELIMINARY DESIGN

1.4.1. GENERAL

- 1.4.1.1. The Engineer shall conduct a planning study that includes the development of improvement concepts to meet current roadway design standards as established by the latest editions of design criteria manuals defined herein on page 1. The planning study is intended to:
 - 1.4.1.1.1. Develop and screen improvement options to determine which should be advanced for further detailed schematic design and environmental study.
 - 1.4.1.1.2. Establish the right-of-way needs for the intersection configuration.

1.4.2. CONCEPT DEVELOPMENT

- 1.4.2.1. The Engineer shall develop and evaluate up to 2 improvement concepts for the intersection at RM 1431 and 183A. This effort shall include the following:
 - 1.4.2.1.1. Research - Perform record research and obtain applicable existing information, including but not limited to: as-built plans, construction plans, right of way maps, environmental reports, previous studies related to the project area, and future land use maps.
 - 1.4.2.1.2. Field Investigation - Conduct a field investigation of the existing intersection and the surrounding area to determine field conditions

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including photographic record of notable existing features. This field investigation will be limited to accessible areas within the existing right-of-way.

- 1.4.2.1.3. The Engineer shall develop the roadway design criteria based on the design criteria manuals defined herein on page 1.
- 1.4.2.1.4. Design Concept Conference: The Engineer shall prepare and submit a preliminary Design Summary Report (DSR) to the Mobility Authority for review and approval and shall attend an initial Kick-Off Meeting to establish and agree on fundamental aspects and concepts and to establish the basic features and design criteria for the project. This meeting will be coordinated with any adjacent projects for continuity.
- 1.4.2.1.5. The improvement concepts are to be plan view only. Profile work must be done only to the extent necessary to lay out the proper horizontal geometry.
- 1.4.2.1.6. The improvement concepts must contain the following design elements (to the extent that they are available and can be established at the time of concept development):
 - 1.4.2.1.6.1. Roadway alignments
 - 1.4.2.1.6.2. Pavement edges, face of curbs, driveways, and shoulder lines of mainlanes, intersections, interchanges, and connecting highways or streets
 - 1.4.2.1.6.3. Typical sections of existing and proposed roadways
 - 1.4.2.1.6.4. Anticipated structure locations
 - 1.4.2.1.6.5. Anticipated conveyance of major drainage elements
 - 1.4.2.1.6.6. Additional impervious cover calculations and identification of required TSS treatment volume
 - 1.4.2.1.6.7. Preliminary ROW and easement requirements and control-of-access locations

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- 1.4.2.1.6.8. Direction of traffic flow and the number of lanes on roadways
- 1.4.2.1.6.9. Existing and projected traffic volumes
- 1.4.2.1.6.10. Existing known utilities

1.4.3. TRAFFIC OPERATIONS ANALYSIS

- 1.4.3.1. The Engineer shall define and document a traffic analysis study area that includes the RM 1431 / 183A interchange and a surrounding influence area consisting of upstream and downstream signalized intersections, unsignalized intersections, and major driveways that materially affect interchange operations. The analysis network shall extend sufficiently beyond the interchange to capture queuing, operational interactions, and access-related effects that influence ramp terminals and mainline/frontage road operations. The Engineer shall include major access points along the frontage roads within the study limits as part of the operational analysis network. The Engineer shall document the final study area limits and included intersections/driveways in the Traffic Data Collection Plan and Traffic Analysis Methodology documentation.

1.4.4. TRAFFIC DATA COLLECTION

- 1.4.4.1. The Engineer shall be responsible for field review of the project, inventory and cataloging of existing available data. Based on review of available existing data, additional data needs will be identified, and data collection efforts will be conducted. Prior to field traffic data collection, the Engineer shall develop a data collection plan and provide to the Mobility Authority for approval. The Engineer shall conduct a field review concurrent to the data collection to verify roadway geometry, access characteristics, observed operational constraints, and driver behavior relevant to alternative intersection concepts.
- 1.4.4.2. **It is anticipated that The Engineer will collect peak hour intersection turning movement counts at eight (8) signalized intersections and eight (8) unsignalized intersections / driveways.** The Engineer will perform two (2) field observation site visits along the corridor to rectify any gaps in the data collection process.

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1.4.5. BASE YEAR AND FUTURE TRAFFIC VOLUME PREPARATION

- 1.4.5.1. The Engineer shall compile available TxDOT AADT volumes and conduct additional traffic counts, as needed, to establish a set existing base-year AADT volumes and balanced AM and PM peak-hour turning movement volumes for the interchange, surrounding intersections, and major driveways within the defined study area.
- 1.4.5.2. The engineer shall compile available TxDOT annual traffic recording station and vehicle classification count data to develop design hour factors, directional distribution factors, and vehicle classification (truck) portions for the intersection.
- 1.4.5.3. The Engineer shall review existing traffic origin-destination (OD) data from sources such as Replica to understand general travel patterns through the interchange and the surrounding network. This information may be used to inform route choice assumptions and turning movement distributions for development of microsimulation traffic models (e.g., VISSIM). Replica outputs shall be used as a supporting data source and shall be reviewed and adjusted, as necessary, to remain consistent with observed traffic counts and approved traffic forecasts.
- 1.4.5.4. The Engineer shall evaluate multiple sources of traffic growth estimates to determine growth trends for development of project traffic forecasts. These include:
 - i. Historic trend analysis of 20-years of TxDOT AADT counts.
 - ii. Prior and adjacent studies and inclusion of the on-going 183A Frontage Road project
 - iii. Review of applicable regional travel demand model outputs (e.g., CAMPO model) and relevant planning data to assess projected future growth patterns.
- 1.4.5.5. The above existing traffic and forecast growth information will be compiled in a Traffic Projections Methodology Memorandum for review and concurrence by TxDOT Austin District. It is assumed approval will be at the district level.
- 1.4.5.6. Pending TxDOT Austin District approval of the forecast methodology, the engineer will collaborate with the project design team to support

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development and evaluation of intersection and interchange configuration alternatives.

- 1.4.5.7. For considered alternatives, a final traffic assignment will be made to include project AADT forecasts as well as AM and PM design hour volumes. For the selected alternative, the Engineer shall develop build traffic line diagrams showing AADT volumes and corresponding AM and PM design-hour volumes for inclusion in project schematic plans and for use in traffic operations and microsimulation analyses.

1.4.6. TRAFFIC OPERATIONS AND SAFETY ANALYSIS

- 1.4.6.1. The Engineer shall analyze traffic operations and safety performance of design alternatives and the preferred alternative. Analysis of design alternatives will be screened at a deterministic, macroscopic level with up to two identified Stage 2 ICE alternatives analyzed using microscopic traffic simulation to evaluate complex operational and safety interactions. The design alternatives analysis process shall consist of the following tasks:

- 1.4.6.1.1. VISSIM / Synchro Analysis (No-Build): (REFER TO CONTINGENCY, SECTION 1.6.1.7)
- 1.4.6.1.2. Perform CAP-X and SPICE analysis for design year AM and PM peak hour to assess potential design solutions at the intersection.
- 1.4.6.1.3. VISSIM / Synchro Analysis (Build) (REFER TO CONTINGENCY, SECTION 1.6.1.8)
- 1.4.6.1.4. Incorporate screened design concepts into updated Build VISSIM traffic models to further evaluate operational performance and support refinement of alternatives.
- 1.4.6.1.5. Perform a safety evaluation for the interchange, surrounding intersections, and major driveways within the defined study area to support comparison of No-Build and two (2) Build alternatives.
- 1.4.6.1.6. Review and summarize available historical crash data to identify crash frequency, severity, predominant crash types, and contributing

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factors and identify mitigation measures that might address existing problems.

1.4.6.1.7. The traffic operations, microsimulation, and safety evaluations shall be used in combination to compare alternative concepts, identify operational and safety tradeoffs, and support development of recommended intersection and interchange configuration concepts to support evaluation of ROW needs.

1.4.7. INTERSECTION CONTROL EVALUATION (ICE)

1.4.7.1. The Engineer shall conduct an Intersection Control Evaluation (ICE) as a data-driven, performance-based process to evaluate and compare feasible intersection and interchange control alternatives.

1.4.7.2. The ICE shall be conducted as an integrated component of the traffic operations, microsimulation, and safety analysis and shall consider tradeoffs among traffic operations, safety performance, conceptual design feasibility, right-of-way requirements, access considerations, and project impacts.

1.4.7.3. The Engineer shall evaluate safety as a primary consideration within the ICE process, recognizing that innovative intersection and interchange types are intended to reduce conflict points and the frequency and severity of fatal and serious injury crashes.

1.4.7.4. The Engineer shall complete a Stage 1 ICE to screen feasible intersection and interchange control types using results from traffic operations analysis, CAP-X, SPICE, and qualitative safety considerations.

1.4.7.5. Stage 2 ICE (REFER TO CONTINGENCY SECTION 1.6.1.9)

DELIVERABLES

- i. Traffic data collection plan
- ii. Traffic Projections Methodology Memo
- iii. Traffic line diagrams
- iv. SYNCHRO models (no-build, alternatives, build)
- v. CAP-X and SPICE spreadsheets (build alternatives)
- vi. Microsimulation models and supporting output files (build alternatives)

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- vii. Traffic and safety analysis methodology memo
- viii. Intersection Control Evaluation (ICE) Report inclusive of traditional elements of Traffic and Safety Technical Memorandum sum with traffic operations, safety evaluation, CAP-X, SPICE, and microsimulation findings and recommendations

1.4.8. PUBLIC INVOLVEMENT

1.4.8.1. The Engineer shall be responsible for supporting the GEC's public involvement team with exhibit development and outreach material reviews for one virtual public meeting. The GEC will develop the Public Involvement Plan per TxDOT's Public Involvement Toolkit.

1.4.8.1.1. The Engineer shall support the GEC in providing responses to questions and comments received from the public in the Virtual Public Meeting as part of the Comment/Response Matrix. The GEC will prepare the Virtual Public Meeting Summary Report. Then Engineer shall provide 1 round of review comments of the draft report.

1.4.8.1.2. Garver will evaluate each electronic PDF for level AA conformance under Web Content Accessibility Guidelines (WCAG) 2.0 as required by Section 508 unless other standards are determined by the client. Garver will complete a Supplementary Accessibility Report (SAR) for each PDF with conformance review results. Garver cannot certify, warrant, or guarantee that any digital content is accessible or meets accessibility law requirements and standards.

1.4.8.1.3. An In-Person Open House meeting is not anticipated and is not included as part of this scope.

DELIVERABLES

- i. Draft and Final Virtual Public Meeting Exhibits
- ii. Public Meeting Summary Report review comments

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1.4.9. INTERSECTION OPTION REFINEMENTS

1.4.9.1. The Engineer shall perform up to two rounds of option refinements based on stakeholder input and document the rationale for the refinements. This effort will include the following:

1.4.9.1.1. Refine intersection concepts to address comments by stakeholders.

1.4.9.1.2. Update potential impacts and costs for the refined concepts.

1.4.9.1.3. Provide refined intersection concepts, potential impacts and estimated costs to the Mobility Authority electronically for review and comment. Conduct a meeting with the Authority to discuss within one week of providing the refined intersection concepts to finalize the concepts to be presented in the Engineering Traffic Technical Memorandum.

1.4.9.1.4. Coordinate with the Authority and stakeholders to identify preliminary intersection option recommended preferences and associated rationale.

1.4.9.1.5. Any opinions or estimates of costs or probable construction cost provided by Engineer are made on the basis of information available to Engineer and on the basis of Engineer's experience and qualifications, and represents its judgment as an experienced and qualified professional engineer. However, since Engineer has no control over the cost of labor, materials, equipment or services furnished by others, or over the construction contractor(s') methods of determining prices, or over competitive bidding or market conditions, Engineer does not guarantee that proposals, bids or actual project or construction cost will not vary from opinions or estimates of costs or probable construction cost Engineer prepares.

1.4.10. PLANNING AND FEASIBILITY STUDY DELIVERABLES
DELIVERABLES

- i. Draft and Final Engineering Traffic Technical Memorandum
- ii. Preliminary (30%) schematic design layout of the ultimate roadway configuration.

1.5. SCHEMATIC DESIGN

1.5.1. GENERAL

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- 1.5.1.1. The Engineer shall prepare an alignment and proposed roadway schematic layout to include projected traffic volumes and existing and proposed typical sections. The Engineer shall furnish Bentley OpenRoads computer generated media containing the roadway schematic layout to the Mobility Authority. Supporting attachments and exhibits shall accompany the schematic layout. OpenRoads computer generated files containing the roadway design schematic shall be compatible with the software used by the Mobility Authority.
- 1.5.1.2. The Engineer shall produce, obtain, review, and evaluate existing and twenty-year projected traffic data for use in the preparation of the schematic design layout. The data shall be utilized in accordance with the requirements for schematic development and consistent with the policies of the Mobility Authority.
- 1.5.1.3. The Engineer shall prepare preliminary drawings to identify potential impacts within the project corridor, including impacts to the nature, cultural, and human environment. Identification should include, but not be limited to existing and proposed utilities (public and private), structures, burial grounds, neighborhood communities, historical landmarks, and undeveloped areas is required. Potential utility conflicts and structural impediments must be identified as such. The Engineer shall render assistance to the Mobility Authority for agency meetings as necessary during the development of the schematic design as requested by the Mobility Authority. The Engineer shall also render assistance to the Mobility Authority for meetings with affected property owners (MAPOs), and a virtual public meeting.
- 1.5.1.4. An itemization of the schematic design and engineering work activity to be performed under this contract is detailed below. All designs shall be prepared in accordance with the design criteria manuals defined herein on page 1.
- 1.5.1.5. The design schematic horizontal layout will adhere to a design scale of 1 in. = 100 ft (or 1 in. = 200 ft as directed by the Mobility Authority). The schematic layout, exhibits, and attachments will be developed in English units. Bentley OpenRoads computer graphic files furnished to the Mobility Authority must be submitted in electronic format. Schematics will follow the Mobility Authority and TxDOT standards, the schematic will also follow the CADD standards used by the Mobility Authority and shall be submitted as an original document, accompanied with an original Bentley OpenRoads

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formatted graphics file. Final copies of the schematic design shall be signed by a professional engineer licensed in the State of Texas.

1.5.2. GEOMETRIC DESIGN

1.5.2.1. The Engineer shall develop geometric design schematics based on the selected planning study improvement concept design after the basic layout, lane arrangement, and ROW and easements requirements depicted on the conceptual schematics is approved. The Mobility Authority may require this task be performed using OpenRoads Technology.

1.5.2.2. The geometric schematic plan view shall contain the following design elements:

- 1.5.2.2.1. Bentley OpenRoads calculated roadway alignments for RM 1431 and 183A mainlanes and frontage roads.
- 1.5.2.2.2. Horizontal curve data shown in tabular format
- 1.5.2.2.3. Pavement edges, curb lines, sidewalks for roadway improvements
- 1.5.2.2.4. Typical sections of existing and proposed roadways
- 1.5.2.2.5. Existing and proposed major utilities
- 1.5.2.2.6. Existing property lines and respective property ownership information
- 1.5.2.2.7. Existing ROW and easements
- 1.5.2.2.8. ROW and easements requirements adequate for preparation of ROW maps
- 1.5.2.2.9. Waters of the US (WOUS)
- 1.5.2.2.10. Control-of-access limits
- 1.5.2.2.11. Existing and projected traffic volumes
- 1.5.2.2.12. Lane lines, shoulder lines, and direction of traffic flow arrows indicating the number of lanes on roadways
- 1.5.2.2.13. Known existing utilities
- 1.5.2.2.14. Locations of potential large guide signs and overhead sign bridges or cantilevered signs.

1.5.2.3. The geometric schematic profile view shall contain the following design elements:

- 1.5.2.3.1. Calculated profile grade and vertical curve data including "K" values
- 1.5.2.3.2. Existing ground line profiles
- 1.5.2.3.3. Grade separations and overpasses
- 1.5.2.3.4. Calculated vertical clearances at grade separations and overpasses
- 1.5.2.3.5. Evaluate side street and driveway geometries
- 1.5.2.3.6. Bicycle and pedestrian accommodation

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1.5.2.4. The calculated profile grade for other elements will be shown on separate Supplemental Profile rolls.

1.5.2.5. **The Engineer shall consider the following in the analysis to optimize the design to exceed minimum design criteria:**

- 1.5.2.5.1. Efficient use of the existing ROW
- 1.5.2.5.2. Preserving access to adjacent properties.
- 1.5.2.5.3. Roadway and intersection geometry exceeds minimum design criteria
- 1.5.2.5.4. Bicycle and Pedestrian accommodation in design
- 1.5.2.5.5. Drainage and Hydraulic design
- 1.5.2.5.6. Stopping Sight distance exceeds minimum design criteria
- 1.5.2.5.7. Level-of-service
- 1.5.2.5.8. Traffic and signal operations
- 1.5.2.5.9. Construction, ROW, easement, and utility costs
- 1.5.2.5.10. Construction sequencing
- 1.5.2.5.11. Traffic control during construction
- 1.5.2.5.12. Roadside safety appurtenances
- 1.5.2.5.13. Environmental mitigation (For example: Noise Walls, Storm Water Best Management Practices (BMPs), etc.)
- 1.5.2.5.14. Avoidance and minimization of environmental resources such as parklands, historical resources, archeological sites, etc.
- 1.5.2.5.15. Avoidance of utility lines if feasible.
- 1.5.2.5.16. Impact of construction delays from utility relocations.

1.5.2.6. Typical Sections

- 1.5.2.6.1. The Engineer shall update both existing and proposed typical sections as necessary to depict the number and type of lanes, shoulders, median width, curb offsets, cross slope, border width, clear zone widths, sidewalks, shared use paths, and ROW limits.

1.5.3. Drainage

- 1.5.3.1. The Engineer shall use data from as-built plans, drainage GIS data, topographic data, FEMA maps, Atlas 14 rainfall data, existing hydrologic and hydraulic models and reports, and topographical data, to determine and evaluate the adequacy of the ROW needed to accommodate the proposed roadway and drainage system. The methods used in the hydrologic and hydraulic analyses shall be conducted in accordance with the TxDOT

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Hydraulic Design Manual, Mobility Authority criteria, and specific guidance provided by the Mobility Authority.

1.5.3.2. The drainage study shall identify the impacts to existing structures and other properties and to the 100-year floodplain due to proposed highway improvements. Provide a drainage study report identifying the results of the study.

1.5.3.2.1. Site Visits: The Engineer shall conduct up to two site visits to observe existing drainage and water quality conditions.

1.5.3.3. The Engineer shall provide the hydrologic and hydraulic models such as HEC-RAS, HEC-HMS, HY-8, SWMM, and other applicable models used in analyses. It is assumed that the hydrologic and hydraulic models from the 183A Added Capacity project team will be leveraged for this project. The Engineer will review and update the hydrologic and hydraulic models as necessary for this project. The anticipated hydrologic and hydraulic models for this project include one HEC-HMS model, one HEC-RAS model, and one HY-8 model.

1.5.3.4. Proposed impervious cover calculations will be performed for the schematic design. The proposed impervious cover will be coordinated with the 183A Added Capacity project team for their incorporation into the Warrior Pond improvements. Impervious cover calculations and required water quality volume requirements will be documented in the Drainage Report.

1.5.3.5. The drainage report shall be provided at every submittal unless there is essentially no change to the previous version submitted or having an approval from the Mobility Authority.

1.5.3.6. The Hydrologic portion of a drainage analysis report should contain, but not limited to, the following elements:

- Description of the project location, boundary, purpose, and objectives, including modeling software, hydraulic design criteria, methods, assumptions, limitations, equations, and data used; Major technical decisions and special configurations
- Basin delineation and estimation of parameters for hydrologic modeling.
- Estimation of peak flows at points of interest for the 2, 5, 10, 25, 50 and 100-year storm events.

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- Well annotated pre-project and post-project sub-basin maps with flow path, contours, and major drainage network drawn.
- Discuss how model parameters/coefficients were estimated.
- A table showing the Tc calculation for different flow components, such as sheet flow, shallow concentrate flow and channel flow.
- A table showing the pre-project, pre-mitigation, and post-project (post-mitigation) peak flows at control (junction nodes and outlet) points for the design and the check floods.
- Discuss the differences of model results between the proposed and the existing hydrologic models.
- A summary of major results, findings, project impact, and special notes/recommendations.
- A digital copy of the working and fully annotated HEC-HMS hydrologic models that provide the modeling scenarios for the 2, 5, 10, 25, 50, and 100- year floods for both the existing and proposed conditions along with the digital drainage report.
- Model plans and runs should have meaningful names, intermittent runs should be cleaned, and a readme file should be provided to explain the model plans, runs and special notes on how to use the models.

1.5.3.7. The Hydraulic portion of a drainage analysis report should contain, but not limited to, the following elements:

- Description of the modeling software, criteria, methods, special equations, assumptions, limitations, parameter estimation, data sources and quality, and summary of major technical decisions and special configurations made.
- Discussion of proposed hydraulic condition changes as compared with the existing baseline conditions for each modeling area.
- Hydraulic analyses for pre-mitigation conditions.
- Hydrologic and hydraulic analyses to include mitigation structures such as detention ponds.
- A table showing the pre-project and post-project WSEL at cross sections and hydraulic structures for the design and check floods.
- Hydraulic model cross section layout maps with contours and pertinent references.
- Discuss mitigation proposed for significant adverse impact areas, including detention pond location, volume, and hydraulic connection.
- A summary of major model results and findings, and flooding depths at locations of interest under design flood condition.

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- For each major stream crossing structures located in a FEMA SFHA or requiring a bridge class structure, the report shall follow the Hydraulic Report Guidelines referenced and outlined in the TxDOT Hydraulic Manual, Chapter 3, Section 5 under “Special Documentation Requirements for Projects crossing NFIP designated SFHA.”
 - A list of recommendations and notes for potential bank erosion and bridge/culvert scour. Detailed erosion and scour analysis including D50 information will be provided during the future Final Design (PS&E) phase.
 - Model plans and runs should have meaningful names, intermittent runs should be cleaned, and a readme file should be provided to explain the model plans, runs and special notes on how to use the models.
- 1.5.3.8. The Water Quality portion of a drainage analysis report should contain, but not limited to, the following elements:
- Impervious cover calculations
 - Required water quality volume for Warrior Pond improvements
 - Required water quality volume and sizing calculations for two additional BMPs to treat additional impervious cover not contributing to Warrior Pond. Assuming up to 2 Jellyfish vaulted systems, or an approved equivalent by TCEQ and CTRMA, will be required to provide full water quality treatment for the project limits.
- 1.5.3.9. The scope of this project includes analysis of FEMA crossings at RM 1431 and 183A. The Engineer shall utilize HEC-RAS for FEMA crossings, bridge crossings, and bridge-class culvert (BCC) crossings.
- 1.5.3.10. The scope includes an impact assessment for 3 crossings: the culvert at Spanish Oak at RM 1431, the bridges at Spanish Oak at US 183A, and the culvert at RM 1431 east of Spanish Oak Street and west of C-Bar Ranch Trail. The impact analysis will evaluate the potential effects of the proposed improvements on the crossing. Potential impacts will be assessed both upstream and downstream to identify and address adverse impacts due to the proposed project. Proposed improvements to the Spanish Oak Creek MBC shall be shown on the schematic roll plots. Preparation of 11x17” Culvert Layout sheets are not part of this scope.
- 1.5.3.11. The project includes storm drain systems. The Engineer shall perform parallel drainage analysis to determine the adequacy of the ROW and provide approximate quantities. Storm drain analyses will focus on trunkline-level evaluations without detailed inlet or lateral calculations as necessary to

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accommodate the proposed water quality design and roadway improvements.

1.5.4. ROW REQUIREMENTS

- 1.5.4.1. The Engineer shall determine the ROW requirements based on the proposed alignment, typical sections, design cross sections, access control, terrain, construction requirements, drainage, clear zone, maintenance, environmental mitigation and utility relocation requirements.

1.5.5. CONSTRUCTION SEQUENCE

- 1.5.5.1. The Engineer shall consider the requirements for construction staging and traffic control throughout the development of schematic design to develop a concept through which the proposed design could be constructed.
- 1.5.5.2. The Engineer shall prepare preliminary TCP typical sections and a preliminary phasing layout for the purpose of one constructability evaluation workshop. Phasing layouts are anticipated to be the same scale as the Concept and Geometric schematics. The typical sections, phasing layout, and a high-level TCP narrative on the roll plots and shall be for the purposes of discussion at the workshop to review basic construction phasing concepts for any critical sequence concerns or constraints to consider and mitigate as possible within the schematic design and proposed ROW needs. The Engineer shall use the TCP requirements for number of lanes to be maintained during construction, cross street closure limitations, temporary barriers, and pavement markings to develop preliminary TCP layouts.
- 1.5.5.3. The construction sequence shall consider temporary vertical and horizontal clearances which may influence the final roadway alignment and profile.

**1.5.6. DESIGN EXCEPTIONS, WAIVERS, DEVIATIONS, AND VARIANCES
(CONTINGENCY – Refer to Section 1.6.1.10)**

1.5.7. CROSS-SECTIONS

- 1.5.7.1. The Engineer shall use OpenRoads to generate preliminary cross-sections every 50 feet and at other critical locations in conjunction with the Geometric Schematic. The Engineer shall determine earthwork volumes for use in the cost estimate and shall prepare a roll plot of the cross-sections.

1.5.8. 3D DESIGN AND MODEL

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1.5.8.1. The Engineer shall use OpenRoads and other design software as approved by the Mobility Authority. This information shall be used for public informational meetings, conflict resolution, feasibility analysis, aesthetic feature presentations and confirmation of design intent. Graphics shall be high-resolution and capable of being displayed or run on standard Mobility Authority computers.

1.5.9. PRELIMINARY COST ESTIMATE

1.5.9.1. The Engineer shall prepare a preliminary cost estimate for the project, including the costs of construction, required ROW and associated improvements, and eligible utility adjustments. Current State unit bid prices will be used in preparation of the estimate.

1.5.10. DELIVERABLES

1.5.10.1. In conjunction with the performance of the foregoing services, the Engineer shall provide the following draft and final documents and associated electronic files as applicable. The number of deliverable items will be determined by the Mobility Authority.

DELIVERABLES

- i. Traffic and Operational Analysis Report
- ii. Drainage Study Report
- iii. Geometric Schematic
- iv. Cross-Sections Roll Plot
- v. HEC-RAS model digital files from drainage study.
- vi. Preliminary Construction Phasing Layouts and Typical Sections
- vii. Average Daily Corridor Traffic Projections Report (developed as part of Travel Demand Modeling and Future Traffic Volume Preparation)
- viii. Line diagrams with traffic data shown
- ix. Documentation to support the GEC's preparation of MAPOs, one Virtual Public Meeting report
- x. Design Exception/Waiver/Variance/Deviation documents (1)
- xi. An Electronic submittal of the OpenRoads Drainage and Utility, HEC-RAS, SWMM, & HMS models. The models must be approved by TxDOT's District Hydraulic Engineer prior to generating reports.

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- xii. Cost Estimates for each milestone submittal (2 Concepts, Draft and Final Geometric Schematic)
- xiii. KML / KMZ file of conceptual design schematic created from applicable .dgn files for reviewing in Google Earth.
- xiv. Schematic 3D model created using Open Roads software.
- xv. Electronic files shall be furnished to the Mobility Authority on a Universal Serial Bus (USB) flash drive.
- xvi. Utility Conflict Matrix

1.6. CONTINGENCY

1.6.1. GENERAL

Items noted herein are potentially required for execution of this project.

1.6.1.1. Subsurface Utility Locate (Test Hole) Service (Quality Level A) (From Scope section 1.2.4.4)

- 1.6.1.1.1. Locate means to obtain precise horizontal and vertical position, material type, condition, size and other data that may be obtainable about the utility facility and its surrounding environment through exposure by non-destructive excavation techniques that maintains the integrity of the utility facility.
- 1.6.1.1.2. Review requested test hole locations and advise the Mobility Authority in the development of an appropriate locate work plan relative to the existing utility infrastructure and proposed highway design elements at critical locations (up to 10).
- 1.6.1.1.3. Coordinate with utility owner inspectors as may be required by law or utility owner policy.
- 1.6.1.1.4. Neatly cut and remove existing pavement material, such that the cut not to exceed 0.10 square meters (1.076 square feet) unless unusual circumstances exist
- 1.6.1.1.5. Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the Engineer:
 - 1.6.1.1.5.1. Elevation of top and/or bottom of utility tied to the datum of the furnished plan.

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- 1.6.1.1.5.2. Identify a minimum of two benchmarks utilized. Elevations shall be within an accuracy of 15mm (.591 inches) of utilized benchmarks.
 - 1.6.1.1.5.3. Elevation of existing grade over utility at test hole location.
 - 1.6.1.1.5.4. Horizontal location referenced to Project coordinate datum.
 - 1.6.1.1.5.5. Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
 - 1.6.1.1.5.6. Utility facility material(s).
 - 1.6.1.1.5.7. Utility facility condition.
 - 1.6.1.1.5.8. Pavement thickness and type.
 - 1.6.1.1.5.9. Coating/Wrapping information and condition.
 - 1.6.1.1.5.10. Unusual circumstances or field conditions.
- 1.6.1.2. Excavation for Test Holes (From Scope section 1.2.4.5)**
- 1.6.1.2.1. Excavate test holes in such a manner as to prevent any damage to wrappings, coatings, cathodic protection or other protective coverings and features. Water excavation will only be utilized with written approval from the Mobility Authority.
 - 1.6.1.2.2. Be responsible for any damage to the utility during the locating process due to work being performed by The Engineer. In the event of damage, the Engineer shall stop work, notify the appropriate utility facility owner, and appropriate regulatory agencies. The regulatory agencies include, but are not limited to the Railroad Commission of Texas and the Texas Commission on Environmental Quality. The Engineer shall not resume work until the utility facility owner has determined the corrective action to be taken. The Engineer shall be liable for all costs involved in the repair or replacement of the utility facility resulting from work being performed by The Engineer.
 - 1.6.1.2.3. Back fill all excavations with appropriate material, compact backfill by mechanical means, and restore pavement and surface material.
 - 1.6.1.2.4. Furnish and install an above ground marker directly above center line of the utility facility.
 - 1.6.1.2.5. Provide complete restoration of work site and landscape to equal or better condition than before excavation. If a work site and landscape is not appropriately restored, the Engineer shall return to correct the condition at no extra charge to the Mobility Authority.
 - 1.6.1.2.6. Plot utility location position information to scale and provide a comprehensive utility plan sign and sealed by the responsible Engineer. This information shall be provided in the latest version of the CAD

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format used by the Mobility Authority. The electronic file will be delivered on CD or via Newforma File Transfer. When requested by the Mobility Authority, the SUE information must be overlaid on the Mobility Authority's design plans

1.6.1.2.7. Return plans, profiles, and test hole data sheets to the Mobility Authority. If requested, conduct a review of the findings with the Mobility Authority.

1.6.1.3. Archeological Background Study (ABS) (From Scope Section 1.3.3.4.8):

1.6.1.3.1. If necessary, an Antiquities Permit Application will be prepared and submitted to the Texas Historical Commission.

1.6.1.3.2. If necessary, an archeological survey will be performed and report prepared.

1.6.1.4. Historic Resources Project Coordination Request (PCR) (From Scope Section 1.3.3.4.11). Should additional investigation beyond the PCR be required, the following additional investigations and reports shall be prepared and submitted to the Texas Historical Commission:

1.6.1.4.1. Historical Studies Research Design

1.6.1.4.2. Historical Studies Reconnaissance Survey Report

1.6.1.5. Traffic Noise Workshop (From Scope Section 1.3.3.4.12)

1.6.1.5.1. Perform a noise workshop with up to one (1) affected property owner. The engineer shall prepare exhibits and summarize findings.

1.6.1.6. Karst Investigation Report (From Scope Section 1.3.3.4.18). Shall be prepared, if an evaluation of Karst species be needed. Karst habitat is located adjacent to the project area.

1.6.1.7. VISSIM, Synchro Analysis (No-Build), (From Scope Section 1.4.6.1.1)

Develop AM and PM peak hour VISSIM traffic models for the defined study area for existing year, No-Build opening year, interim year (Opening year +10), and design years (Opening year +20) to identify operational needs. SYNCHRO will be used for HCM outputs where applicable and a basis for high level conceptual screening.

1.6.1.8. VISSIM, Synchro Analysis (Build), (From Scope Section 1.4.6.1.3)

Develop AM and PM peak hour VISSIM traffic models for Base Build opening year, interim year, and design years. This Build scenario includes up to 2 alternative intersection and interchange configurations, optimized

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intersection signal timings and preliminary geometric and traffic management improvements (turn bays, lane re-assignment, etc.). SYNCHRO will be used for signal timing purposes and HCM outputs where applicable.

- 1.6.1.9. **Stage 2 ICE (From Scope Section 1.4.7.5):** If warranted, the Engineer shall complete a Stage 2 ICE to further evaluate shortlisted alternatives using the results of traffic operations analysis, microsimulation, and safety evaluation, and to support selection of a preferred alternative.

1.6.1.10. **DESIGN EXCEPTIONS, WAIVERS, DEVIATIONS, AND VARIANCES (CONTINGENCY – Refer to Section 1.5.6)**

If necessary, The Engineer shall identify, document, and keep a list of Design Exceptions, Waivers, and Variances, to be provided to the Mobility Authority as part of the Geometric Memorandum, which includes a plan showing grouped areas of Design Exceptions. The Engineer shall prepare a Request for Design Exception, Waiver, Deviation, or Variance (Request) for each Design Exception, Waiver, and Variance identified. The Requests shall conform to the requirements of current versions of the Mobility Authority/TxDOT PS&E Preparation Manual including completing the Form 1002 for approval of the request. It is assumed one 1 may be required.

ATTACHMENT D

Key Personnel

- 1.) Project Manager – Stephen Johnson
- 2.) Traffic Task Lead – Mike Spayd
- 3.) Roadway Task Lead – Paul Schrader
- 4.) TCP Task Lead – Matt Beran
- 5.) Drainage Task Lead – Travis Kaatz
- 6.) Environmental Task Lead – Susan Chavez

ATTACHMENT E

FEE SCHEDULE (Final Cost Proposal)

This attachment provides the basis of payment and fee schedule. **The basis of payment for this contract is indicated by an “X” in the applicable box.** The basis shall be supported by the Final Cost Proposal (FCP) included with each Work Authorization. If more than one basis of payment is used, each one must be supported by a separate FCP.

“X”	Basis	
☐	Lump Sum	The lump sum shall be equal to the maximum amount payable. The lump sum includes all direct and indirect costs and profit. For payment the Engineer is not required to provide evidence of actual hours worked, travel, overhead rates or other evidence of cost, but must submit billing information in a form acceptable to the Mobility Authority as required by Article 4 A & B including classifying work, partial or completed, according to the Table of Deliverables. The Mobility Authority will agree to pay Engineer, and the Engineer will agree to accept as full and sufficient compensation and reimbursement for the performance of all Services as set forth in this Contract and the Work Authorization, a Lump Sum amount for the specified category of services. The Lump Sum will include compensation for Engineer's services and services of subconsultants, if any. Appropriate amounts will be incorporated in the Lump Sum to account for labor, overhead, profit, and reimbursable expenses. The portion of the Lump Sum amount billed for Engineer's Services will be based upon Engineer's estimate, as approved by the Authority's Director of Engineering, of the proportion of the total Services completed during the billing period to the Lump Sum amount.

	Unit Cost	The unit cost(s) for each type of unit and number of units are shown in the FCP. The unit cost includes all direct and indirect costs and profit. For payment, the Engineer is not required to provide evidence of actual hours worked, travel, overhead rates or any other cost data. The FCP may include special items, such as equipment which are not included in the unit costs. Documentation of these special costs may be required. The maximum amount payable equals the total of all units times their respective unit cost plus any special direct items shown. The Mobility Authority will agree to pay the Engineer, and the Engineer will agree to accept as full and sufficient compensation and reimbursement for the performance of all Services as set forth in this Contract and the Work Authorization, an agreed upon unit price multiplied by the number of units completed for each billing. Each invoice submitted shall identify the specific Contract task(s) and completed work product/deliverable for the agreed upon price outlined in the Work Authorization.
☐	Specified Rate Basis	The specified rates for each type of labor are shown in the FCP below. The FCP may include special items, such as equipment which are not included in the specified rates. The specified rate includes direct labor and indirect cost and profit. The Mobility Authority may request documentation of reimbursable direct costs including hours worked. Documentation of special item costs may be required. The specified rate is not subject to audit. Revisions to the specified rates may be proposed no more frequently than once per calendar year, and no sooner than 12 months after the Effective Date and are subject to written approval of the Executive Director. The Mobility Authority will agree to pay the Engineer, and the Engineer will agree to accept as full and sufficient compensation and reimbursement for the performance of all Services as set forth in this Contract and the Work Authorization, an amount equal to the cumulative hours charged to the specific Project by each class of Engineer's employees multiplied by the Standard Hourly Rates for each applicable billing class for all Services performed on the specific Project, plus reimbursable expenses and sub consultant's charges, if any.
☒	Cost Plus	The Mobility Authority will agree to pay, and the Engineer will agree to accept as full and sufficient compensation and reimbursement for the performance of all Services as set forth in this Contract and the Work Authorization, hourly rates for the staff working on the assignment computed as follows: <i>Direct Labor Cost x (1.0 + Overhead Rate) x (1.0 + 10 %, in decimal form).</i> The invoice must itemize labor rates, hours worked, other direct costs and indirect costs. The Engineer may be required to provide documentation of hours worked and any eligible direct costs claimed. The provisional overhead rate charged is subject to audit and adjustment to actual rates incurred. The FCP below shows the hourly rates for labor, other direct expenses including but not limited to travel and allowable materials, and provisional overhead rate. Actual wages must be within the allowable range shown on the Final Cost Proposal.

Without prior approval by the Executive Director, the Mobility Authority shall not reimburse the Engineer for expenses associated with relocating personnel to complete the services described by this Contract. Roadway tolls incurred by the Engineer or any of its subconsultants in connection with performance of the Services will not be reimbursable under this Contract. Reimbursement shall be limited to the terms of any financial assistance or Project agreements with TxDOT or other third parties. Travel expenses will be limited to the rates published by the Texas Comptroller of Public Accounts.

Engineer acknowledges that all expenses and costs paid or reimbursed by the Mobility Authority using federal or state funds shall be paid or reimbursed in accordance with, and subject to, applicable policies of the Mobility Authority and other applicable state and federal laws, including the applicable requirements of OMB Circular A-87, which may reduce the amount of expenses and costs reimbursed to less than what was incurred.

* The **MAXIMUM AMOUNT PAYABLE** will be established by work authorizations over the Contract Period.

The amount payable is based on the following data shown below. Maximum rates will be Adjusted no sooner than 12 months following the Effective Date and no more than once per calendar year. Annual rate adjustments will be capped at a 3.5% per annual increase.

The overhead rate will be adjusted annually and effective upon approval by the Chief Financial Officer.

* The maximum amount payable must be based on the contract scope. The work authorization fee schedules will be derived from this attachment.

ATTACHMENT F

Work Schedule

to be provided with each work authorization

ATTACHMENT G
Computer Graphics for Document and Information Exchange

to be provided with each work authorization

ATTACHMENT H

Subcontracting

Garver, LLC planned subcontract team members at the Contract effective date:

ACI Environmental Services, LLC

ASRI Technical Services LLC

EDGE Engineering, PLLC

Hicks & Company Environmental/Archeological Consultants

Studio 16:19, LLC

STV Incorporated

Surveying and Mapping, LLC

Terracon Consultants, Inc.

The Goodman Corporation