



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

March 27, 2019
AGENDA ITEM #10

Approve Supplement No. 2 to Work
Authorization No. 2 with WSP, Inc. for general
consulting engineering services associates with
the 183 North Mobility Project

Strategic Plan Relevance:	Regional Mobility
Department:	Engineering
Contact:	Justin Word, P.E., Director of Engineering
Associated Costs:	\$4,199,994.47
Funding Source:	General Funds (Reimbursement Resolution)
Action Requested:	Consider and act on draft resolution

Summary:

Project Description - The 183 North Mobility Project will expand capacity along a 9-mile stretch of US 183 between SH 45 North and MoPac by adding two tolled express lanes in each direction in the middle of US 183, expanding the existing US 183 to four non-tolled general-purpose lanes in each direction, and constructing a shared use path, and sidewalks between SH 45 North/RM 620 and Loop 1. The project also includes adding a direct connector between the existing express lanes on MoPac and the proposed express lanes on US 183 and additional operational improvements south along MoPac, allowing for improved commutes from far north Austin and Williamson County to downtown Austin or beyond.

Previous Actions - On July 1, 2016, the Mobility Authority entered into an agreement with WSP USA, Inc. for General Consulting Engineering Services. On September 26, 2016 and February 22, 2017 respectively the Authority approved Work Authorization No. 2 and Supplement No. 1 for services on the 183 North Mobility Project.

Action Requested - Supplement No. 2 to Work Authorization No. 2 will generally include project management and program oversight including: coordination with

TxDOT, resource agencies, and the FHWA as required for permitting; schematic revisions; design alternative analysis; environmental reevaluation; biological assessment; toll systems design support; public involvement support; advancement of utility relocations; Design-Build contract procurement management and contractor selection services; and additional activities as specifically requested by the Authority.

Upon completion of the Design-Build procurement, construction phase services will be necessary and will be brought to the Board for consideration at that time.

Financing - Interim financing, provided by the General Fund, to be reimbursed (per Reimbursement Resolution No. 14-016 adopted by the Board February 26, 2014) by the proceeds of obligations to be issued.

Staff Recommendation - Staff recommends approval of Supplement No. 2 to Work Authorization No. 2 which will provide an additional not to exceed fee of \$4,199,994.47 for general engineering consultant services related to project activities required to assist the Mobility Authority in the continued development of the 183 North Mobility Project.

Backup Provided: Draft Resolution
 Proposed Supplement No. 2 to Work Authorization No. 2

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

RESOLUTION NO. 19-0XX

**APPROVAL OF SUPPLEMENT NO. 2 TO WORK AUTHORIZATION NO. 2
WITH WSP USA INC FOR GENERAL ENGINEERING CONSULTANT SERVICES
RELATED TO THE 183 NORTH PROJECT**

WHEREAS, by Resolution 16-034 dated June 15, 2016, the Board of Directors authorized the Executive Director to negotiate and execute on behalf of the Mobility Authority an agreement with WSP USA Inc. (formerly Parsons Brinckerhoff, Inc.) for general engineering consultant services; and

WHEREAS, on July 1, 2016 the Mobility Authority entered into an agreement with WSP USA Inc. for general consulting civil engineering services; and

WHEREAS, by Resolution 16-063 dated September 7, 2016, the Board of Directors approved Work Authorization No. 2 for general engineering consultant services related to the 183 North Mobility Project; and

WHEREAS, by Resolution 17-004 dated February 22, 2017, the Board of Directors approved Supplement No. 1 to Work Authorization No. 2 for services related to the 183 North Mobility Project; and

WHEREAS, the Executive Director and WSP USA Inc. have negotiated proposed Supplement No. 2 to Work Authorization No. 2 for general engineering consultant services related to the 183 North Mobility Project in an amount not to exceed \$4,199,994.47; and

WHEREAS, the Executive Director recommends that the Board approve Supplement No. 2 to Work Authorization No. 2 in the form or substantially the same form as attached hereto as Exhibit A.

NOW THEREFOR, BE IT RESOLVED, that the Board approves an amount not to exceed \$4,199,994.47 for the services described in Supplement No. 2 to Work Authorization No. 2.

BE IT FURTHER RESOLVED that the Board authorizes the Executive Director to finalize and execute the proposed Supplement No. 2 to Work Authorization No. 2 in an amount not to exceed \$4,199,994.47 and in the form or substantially the same form as Exhibit A.

Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 27th day of March 2019.

Submitted and reviewed by:

Approved:

Geoffrey Petrov, General Counsel

Ray A. Wilkerson
Chairman, Board of Directors

Exhibit A

APPENDIX D

WORK AUTHORIZATION SUPPLEMENT

WORK AUTHORIZATION NO. 2 SUPPLEMENT NO. 2

This Supplement No. 2 to Work Authorization No. 2 dated September 26, 2016, is effective January 1, 2019, under the terms and conditions established in the AGREEMENT FOR GENERAL CONSULTING ENGINEERING SERVICES, dated as of July 1, 2016 (the “Agreement”), between the Central Texas Regional Mobility Authority (“Authority”) and **WSP USA Inc.** (“GEC” and “Engineer”). This Work Authorization is made for the following purpose, consistent with the services defined in the Agreement:

183 North Project Development and Procurement

Section A. - Scope of Services

A.1. GEC shall perform the following Services:

Remove in its entirety the current scope of services listed in Supplement No. 1 and replace with ATTACHMENT A – SERVICES TO BE PROVIDED BY GEC.

A.2. The following Services are not included in this Work Authorization, but shall be provided as Additional Services if authorized or confirmed in writing by the Authority.

N/A

A.3. In conjunction with the performance of the foregoing Services, GEC shall provide the following submittals/deliverables (Documents) to the Authority:

Please reference Attachment A – Scope of Work

Section B. - Schedule

GEC shall perform the Services and deliver the related Documents (if any) according to the following schedule:

Services defined herein shall expire on December 31st, 2020 or when all tasks associated with the Scope of Services are complete as defined by the Authority.

Section C. - Compensation

C.1. In return for the performance of the foregoing obligations, the Authority shall pay to the GEC the amount not to exceed **\$4,199,994.47** based on a Cost-Plus fee listed in Attachment B – Fee Estimate. Compensation for Direct Expenses under this Work Authorization will be reimbursed on a Lump-Sum basis divided into twenty-four equal payments of \$2,000, to be invoiced monthly. Profit will be 10% for all services. Compensation shall be in accordance with the Agreement.

The Authority and the GEC agree that the budget amounts contained in Attachment B-Fee Estimate for the GEC are estimates and that these individual figures may be redistributed and/or adjusted as necessary over the duration of this Work Authorization. The GEC may alter the compensation distribution between tasks or work assignments to be consistent with

the Services rendered within the total Work Authorization amount. The GEC shall not exceed the maximum amount payable without prior written permission by the Authority.

C.2. Compensation for Additional Services (if any) shall be paid by the Authority to the GEC according to the terms of a future Work Authorization.

Section D. - Authority's Responsibilities

The Authority shall perform and/or provide the following in a timely manner so as not to delay the Services of the GEC. Unless otherwise provided in this Work Authorization, the Authority shall bear all costs incident to compliance with the following:

N/A

Section E. - Other Provisions

The parties agree to the following provisions with respect to this specific Work Authorization:

N/A

Except to the extent expressly modified herein, all terms and conditions of the Agreement shall continue in full force and effect.

Authority:

**CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY**

By: _____

Name: Mike Heiligenstein

Title: Executive Director

Date: _____

GEC:

WSP USA Inc.

By: _____

Name: Arpit Talati

Title: Regional Business Manager

Date: _____

CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY
SUPPLEMENTAL WORK AUTHORIZATION NO. 2 TO
WORK AUTHORIZATION NO. 2
WSP USA Inc.
ATTACHMENT A
SERVICES TO BE PROVIDED BY GEC

183 NORTH MOBILITY PROJECT (Project)

1.0 Project Oversight – Pre-Construction [Code 13710]

1.1 Project Management

1.1.1 Project Management

- a. Provide staff to manage the daily activities of the Project.
- b. Serve as the primary contact between the Authority, TxDOT, design consultants, utility companies, public agencies, and, in coordination with the Authority Communication Team, the general public.

1.1.2 FHWA Project Management Plan (PMP)

- a. Update the corridor specific PMP's in accordance with FHWA published Guidance Documents.

1.1.3 FHWA Initial Financial Plan (IFP)

- a. Develop IFP in accordance with FHWA published Guidance Documents.

1.1.4 FHWA Cost Estimate Review (CER) Update

- a. Update the Project CER based on project funding and phasing configuration.

1.1.5 Document Controls

- a. Implement the document control process and procedures established by the Authority as they relate to the Project
- b. Maintain project files for the length of the project
- c. Transfer project files to the Authority upon completion of the work or from time to time as directed by the Authority

1.1.6 Sub-Consultant Coordination, Work Authorization Management and Invoicing.

1.2 Project Reporting

1.2.1 Provide updates to the Authority on key tasks accomplished during the preceding month, meetings and key activities for the upcoming month, and identify outstanding issues requiring resolution.

1.2.2 Provide Project Administrative support staff to track, monitor, and report on contracts and budgets.

1.3 Project Scheduling

1.3.1 Maintain a Master Project Schedule (Primavera format), updated at least quarterly, that shows critical milestones for the performance and coordination of services.

- 1.3.2 In addition to quarterly updates, provide schedule updates at each milestone identified in the Master Project Schedule, if required.

1.4 Project Development Support

- 1.4.1 Loan and/or Grant Applications: Assist the Authority in the development of lone and/or grant applications.
- 1.4.2 Engineering and Technical Support: Provide support for various engineering and technical tasks as requested by the Authority including but not limited to engineering assistance, general technology assistance, general environmental coordination reports, research, monthly and quarterly project reports, and presentations.
- 1.4.3 TxDOT Coordination: Assist the Authority in coordination efforts with TxDOT, as directed by the Authority.
- 1.4.4 Agency Coordination: Assist the Authority in coordination efforts with Agencies, as directed by the Authority.
- 1.4.5 Market Valuation: Assist in the development of the market valuation by providing industry knowledge and research for market valuation options.
- 1.4.6 Project Development Agreement (PDA): Assist in the development of the PDA, generation of PDA exhibits, review of PDA drafts, and TxDOT coordination support, as directed by the Authority.
- 1.4.7 Stakeholder and Public Outreach support as requested by the Authority. Facilitate and prepare documents for public and stakeholder outreach including but not limited to meeting notes, sign-in sheets, and plan view exhibits (Scroll type). Provide staff to support as needed for each meeting.
- 1.4.8 Interlocal Agreements: Assist in the development of interlocal agreements (ILA) with the City of Austin, generation of ILA exhibits, review of ILA drafts, and City of Austin coordination support, as directed by the Authority.

1.5 Financial Planning Support

- 1.5.1 Operation, Maintenance, and Renewal & Replacement Estimates
- a. Update the current opinion of probable operations cost estimates using either a Sketch Level approach (assumed per transaction costs based on average operations cost of similar toll systems) or a Level 1 approach (estimate actual quantities for various elements of toll operations, enforcement and incident management and applying anticipated unit prices to opening year with an escalation over an established periods of time)
 - b. Update the current opinion of probable annual/routine maintenance cost estimates using either a Level 1 approach (estimated quantities for the various elements of the maintenance efforts and applying anticipated unit prices to opening year cost with escalation over an established period of time). A performance based maintenance approach will be assumed in all estimates.
 - c. Update the current opinion of probable renewal & replacement budget cost estimates (non-routine estimates) using either a Level 1 approach (identification of long-term, periodic maintenance replacement schedule, estimation of quantities, and apply escalation to the appropriate replacement years.)

- 1.5.2 Project Cost Estimates: Update the estimate of probable construction costs which will include quantity/cost for all major components of work. Update estimate for total project cost which will include: program management, preliminary engineering, final engineering, right-of-way, environmental compliance/mitigation, construction, toll collection systems, utility relocation, and CE&I, and financing.
- 1.5.3 Financial Advisor Support / Financial Plan Development: Provide financial advisor support necessary for the Authority to conduct financial programming. Including but not limited to cost estimating, financing techniques, shortfall mitigation techniques, and funding contingency plan.

1.6 Conceptual Operations Plan

- 1.6.1 Prepare a preliminary draft Conceptual Operations Plan which will establish the basic framework for operations of the facility including a basic definition of systems architecture for ITS and toll collection, incident management, safety and enforcement, maintenance. The plan will include relevant agency roles and responsibilities.

2.0 Environmental Study and Traffic Modeling [Code 13210, 13110]

This task will utilize Final opening year T&R volume received from Stantec and anticipates a single modeling effort. The model will include the corridors as listed below.

- US 183 from SH 45 to Burnet Rd with all cross streets that were included from the Phase II efforts.
- Loop 1 from Parmer to Loop 360 to incorporate the appropriate sources of queuing in the model

This effort will include the addition and calibration of the cross streets as listed below for the modeling of the 183 North / MoPac direction connection.

- Steck Avenue
- Anderson Lane
- Far West Boulevard
- RM 2222

2.1 Vissim Modeling – Combined Model Phase III

2.1.1 Volume Development

- 2.1.1.1 The Engineer shall collect intersection turning movements at the intersections identified above.
- 2.1.1.2 The Engineer shall develop hourly corridor and intersection turning volumes (using Synchro & Visum) from Final daily forecasts received from Stantec.
- 2.1.1.3 The Engineer shall prepare Volume line diagrams for Final opening year hourly volumes.

2.1.2 Develop OD Matrices

- 2.1.2.1 Using the intersection turning movements, the Engineer shall develop origin-destination matrices for each of the hours modeled (3 hours per peak period).
- 2.1.3 Convert to Dynamic Routing
 - 2.1.3.1 The existing Vissim model will be converted from static to dynamic routing to facilitate testing of alternatives. Engineer will perform conversion of the model structure as required. This update will only be incorporated on the model with the limits as stated above and not on the larger “Combined” model that includes MoPac South.
- 2.1.4 Modify Network and Analyze
 - 2.1.4.1 The Engineer shall input traffic volumes, optimize signal timings in Synchro and generate RBC files for Vissim. The traffic operations will be completed for the AM and PM peaks.
 - 2.1.4.2 The Engineer shall update Vissim model with Final opening year volumes and RBC files.
 - 2.1.4.3 The Engineer shall code and calibrate the cross streets as identified above.
- 2.1.5 Prepare Technical Memorandum
 - 2.1.5.1 The Engineer shall prepare technical memorandum summarizing assumptions and model results.
- 2.1.6 Deliverables
 - Technical memorandum summarizing effect of direct connection between 183N and MoPac express lanes.
 - Presentation materials for presentation of findings.
 - Volume line diagrams for final future year hourly volumes

2.2 Biological Assessment/USFWS Consultation

The Engineer shall conduct kick-off meeting with USFWS and TxDOT to discuss consultation process, action area, and preliminary effect determinations for relevant threatened and endangered species.

- 2.2.1 The Engineer shall review previous biological studies, geologic assessment, species reports and prepare Draft BA
- 2.2.2 The Engineer shall address review comments on Draft BA and prepare Final BA (assume 2 rounds of comments/revisions)
- 2.2.3 The Engineer shall attend coordination meetings with TxDOT and/or USFWS throughout consultation process (assume 8 meetings)
- 2.2.4 If applicable, the Engineer shall prepare HCP Application for submittal to WCCF
- 2.2.5 The Engineer shall prepare approximate excavation quantities and identify excavation locations where appropriate to complete this task.

2.3 NEPA Re-evaluation

Complete TxDOT Documented Re-evaluation Checklist, including project description; description of proposed changes; and potential impacts and/or public involvement issues associated with proposed changes. Issues to be addressed in the re-evaluation shall include:

- Proposed Action;
- Project Limits;
- Right-of-Way;
- Easements;
- Displacements;
- Access;
- Traffic;
- Laws and Regulations;
- Environmental Setting and Affected Environment;
- Resource Agency Coordination;
- EPICs;
- Public Involvement;
- Attachments and References; and
- Conclusion and Recommendation.

2.3.1 The Engineer shall prepare maps, figures and exhibits depicting locations of proposed design changes and relevant resources impacted.

2.3.2 The Engineer shall coordinate with TxDOT to receive concurrence on finding of Documented Re-evaluation Checklist.

2.3.3 Deliverables

- Draft and Final BA
- Draft and Final HCP Application
- Draft and Final TxDOT Documented Re-evaluation Checklist

2.4 Environmental Re-Evaluation – 183 North / MoPac Direct Connector

2.4.1 NEPA – Re-Evaluation.

2.4.1.1 The Engineer shall complete the TxDOT Documented Re-evaluation Checklist, including project description; description of proposed changes; and potential impacts and/or public involvement issues associated with proposed changes associated with revisions to the 183 North MoPac direct connector. This effort shall mirror the re-evaluation effort above, as appropriate.

2.4.1.2 The Engineer shall re-run a traffic noise model in the area impacted by changes to the design of the direct connector at the 183 North/Mopac direct connector. The Engineer shall produce supplementary traffic noise

memo and revised barrier analysis to reassess reasonableness/feasibility of noise barriers for any changes in traffic noise impacts.

2.4.1.3 The Engineer shall prepare maps, figures and exhibits depicting locations of proposed design changes and any relevant resources impacted.

2.4.1.4 The Engineer shall conduct coordination meetings with The Mobility Authority to discuss proposed changes (assume 3 meetings).

2.4.1.5 The Engineer shall conduct coordination with TxDOT to receive concurrence on finding of Documented Re-evaluation Checklist.

2.4.1.6 The Engineer shall incorporate revised project design/potential impacts into USFWS formal consultation documentation.

2.4.2 Stakeholder Involvement

2.4.2.1 The Engineer shall prepare for and conduct a traffic noise workshop for adjacent property owners if it is determined that a new traffic noise barrier is warranted or a previously constructed barrier would require relocation (assume 1 meeting)

2.4.2.2 The Engineer shall prepare for and conduct meetings with affected property owners (MAPOs) to discuss proposed design changes (assume 4 meetings)

2.4.3 Deliverables

- TxDOT Documented Re-evaluation Checklist and attachments;
- Revised Noise Model and Supplementary Traffic Noise Memo;
- Figures and exhibits depicting locations of proposed design;
- USFWS formal consultation documentation;
- Preparation for and documentation of meetings with MAPOs;
- Preparation for and documentation for Traffic Workshop; and
- Preparation for and documentation for meetings with the Mobility Authority.

3.0 Preliminary Engineering [Code 13110]

3.1 Survey and ROW Validation

3.1.1 Right-of-Way (ROW) Retracement

Engineer shall conduct research and evaluation of existing ROW strip maps and deeds, in addition to plats or other dedications of ROW as needed. The existing ROW survey limits are from Lakeline Mall Drive to the Loop 1. Records for current landowner information for properties adjoining US 183 will not be needed during this effort.

3.1.1.1 Engineer shall locate existing ROW monuments of the specified segments within the Existing ROW survey limits from Lakeline Mall Drive to Loop 1, verily located ROW monuments within the previous relocation areas (Riverside to Lakeline Mall Drive), and survey in existing ROW monuments of US 183 existing ROW. It is assumed that ROW monuments may be found at all Points of Intersection (Pi's), Points of

Curvature (PC's), Points of Tangency (PT's) of curves, at public road ROW intersections with existing ROW and may be at an interval (1000' - 1500' typical) along long tangent lines. It is also assumed that ROW monuments may be Type I or Type II.

- 3.1.1.2 Engineer shall only tie in property boundary comers of properties along ROW lines that are apparent and which do not require record research or extensive field investigation. Survey work on private properties will not be conducted.
- 3.1.1.3 Engineer shall analyze data and verify ROW for accuracy and conformance to existing ROW map records. Courthouse research of public records shall be limited to that necessary to re-establish the ROW lines of US 183 and those streets intersecting the frontage roads of US 183.
- 3.1.1.4 Engineer shall note any irregularities, conflicts, or discrepancies in the existing ROW and report this to the Mobility Authority, a note will be made of significant encroachments in the areas reviewed.
- 3.1.1.5 Engineer shall prepare a 2D Microstation DGN base map drawing, in the Project coordinate system, with analyzed centerline and ROW, found ROW monuments, existing TxDOT easements as noted on record ROW maps or deeds, existing Access Denial Lines (ADL) as noted on record ROW maps or deeds, and deed information used within the Existing ROW survey limits.

3.1.2 Deep Set Control Monuments

The Engineer shall establish up to nine (9) deep set control monuments, to be set at locations that will have the least chance of being disturbed, to be used to re-establish control in areas of major construction. These monuments will be set at approximately 1-mile intervals from each other. X, Y & Z coordinates will be established for each monument. In addition, plan view DGN layouts 11"x17" sheets shall be prepared for each monument.

3.1.3 Survey

3.1.3.1 Control Panels

- a. Engineer shall locate or establish survey control panels for US 183N & MoPac, for use in gathering low flying LiDAR data..
- b. Engineer shall collect horizontal & vertical control for each control panel, where necessary.
- c. Engineer shall coordinate an aerial flight by provider.

3.1.3.2 Engineer shall locate, using conventional surveying methods, the sound walls along MoPac between Spicewood Springs Drive and Steck Avenue.

3.1.3.3 Bridge Clearance Heights of each overpass from the intersection of US 183 at SH 45 to LP 1 (MoPac) and from LP 1 (MoPac) at US 183 to Hancock Drive.

3.1.3.4 Drone Aerial Survey

- a. Engineer shall conduct an aerial flight to map the ROW, extending 500' either side of the apparent centerline of US 183N and MoPac (LP 1).

- b. Engineer shall extract the captured data within the corridor. This will include paving, striping, jersey walls, visible utilities, light poles, sidewalks, buildings and other visible improvements.
- c. Engineer shall prepare mapping files with one-foot contours and planimetrics in MicroStation 2D and 3D format.

3.1.4 Deliverables

- MicroStation 2D Plan - Planimetric design files (DGN) fully compatible with the State's MicroStation V8i graphics program without further modification or conversion.
- MicroStation 3D DTM - DTM fully compatible with the State's GEOPAK system without further modification or conversion.
- DTM will be fully edited and rectified to provide a complete digital terrain model with all necessary break lines.
- Geopak TIN - Files will be fully compatible with the State's GEOPAK graphics system without further modification or conversion.
- Digital Orthos in ECW format - Three-inch (0.25') Orthophotography (created using the DTM).
- Statement of Accuracy- Mapping to contain the following note for all deliverables "This map was compiled to meet the ASPRS Standard for Class 1 map accuracy."
- Photo Index Sheet

3.2 Bridge Layout and Constructability

3.2.1 Preliminary Bridge Layout and Typical Sections

3.2.1.1 Engineer shall prepare preliminary bridge layout and typical section sheets at the following 11 locations:

- US 183 OP at Lakeline Mall Dr (1 Bridge Layout, 1 Typical Section)
- US 183 OP at IH 45 (2 Bridge Layouts, 1 Typical Section)
- US 183 OP at Pecan Park Blvd (1 Bridge Layout, 1 Typical Section)
- US 183 OP at Lake Ck Pkwy (2 Bridge Layouts, 1 Typical Section)
- US 183 OP at Anderson Mill Rd (1 Bridge Layout, 1 Typical Section)
- US 183 OP at Spicewood Springs Rd (4 Bridge Layouts, 2 Typical Sections)
- US 183 OP at Oak Knoll Rd (2 Bridge Layouts, 1 Typical Section)
- US 183 OP at Duval Rd (2 Bridge Layouts, 1 Typical Section)
- US 183 OP at Balcones Woods Dr (2 Bridge Layouts, 1 Typical Section)
- US 183 OP at Braker Ln (2 Bridge Layouts, 1 Typical Section)
- US 183 OP at Great Hills Trail (2 Bridge Layouts, 1 Typical Section)

- 3.2.1.2 For bridge widening, the following approach will be utilized to develop the layouts and typical sections:
- Schematic DGNs and as-builts will be used.
 - Girders will not be designed. Rather, they will be sized based on the existing beams.
 - Vertical clearances as indicated on the as-builts will be utilized wherever the proposed widening will not diminish the current clearances. Otherwise, a minimum 16'-6" VC will be noted on the bridge layout. Vertical clearance calculation will be based on information available from existing digital terrain model.
 - The location of the break-backs will be dictated by the existing girder locations as shown on the as-builts and the schematic DGNs.
 - Assume that the existing number of lanes will be kept and existing shoulders will be reduced during the construction of the widening unless specific TCP is provided for the bridge widening.
- 3.2.1.3 Engineer shall develop preliminary bridge layout and typical section sheets for the following two Direct Connectors bridges:
- DC SB US 183 to SB LP 1 (EL DC) (9 Bridge Layouts, 2 Typical Sections).
 - DC NB LP 1 to NB US 183 (EL DC) (13 Bridge Layouts, 2 Typical Sections).
- 3.2.1.4 For the Direct Connectors, the development of the layouts and typical sections will be based on the following approach:
- Schematic DGNs will be used to determine bridge width and bent and abutment locations.
 - A girder type will be proposed based on the span configuration in the schematic. However, for the longer, curved span, "Continuous Steel Girders" will be shown.
 - Revision of typical section so that the single column bent, supporting a 52.0' wide bridge, is shown as a two-column bent.
 - Vertical clearances will be based on information provided in the environmental schematic.
 - Drilled-shaft supported footings will be based on what is shown in the environmental schematic.
- 3.2.1.5 The following are specifically excluded from the scope of work in this section:
- Construction phasing;
 - Bridge drainage;
 - Utilities and utility conflicts;
 - Detailed design for superstructure, substructure and foundation;

- Geometry calculations; and
- Bridge Aesthetics.

3.2.2 Identify Issues and Constructability Review

3.2.2.1 Engineer shall review existing bridge related information provided in the BRINSAP report, as-built plans, lead and asbestos reports that have been provided by the Authority and identify issues that may negatively impact the project. This information shall then be incorporate the reviewed information to the project technical criteria.

3.2.2.2 Engineer shall perform a constructability review of bridges. The constructability review will be performed by a senior structural engineer, a senior drainage engineer and a senior roadway engineer.

3.2.3 Deliverables

- Bridge layout sheets,
- Typical sections; and
- Results of constructability review.

3.3 Drainage

3.3.1 Proof of Concept

Unless otherwise specified, the July 2016 TxDOT Hydraulic Design Manual shall serve as the basis for all drainage policy, procedures, guidelines, report, and plan sheet documentation required for this project. Likewise, the Austin District Hydraulics Engineer (DHE) shall be consulted for guidance on policy, regulations, standards, and District preferences. Local drainage criteria shall not be used for the project without Mobility Authority prior approval.

The Engineer shall provide administrative support necessary to track and report on its work and activities as part of this task order.

3.3.1.1 Storm Sewer Trunk Line Assessment.

The Engineer shall analyze the project storm sewer trunk lines to improve understanding of scope of work and identify project risks in support of the procurement documentation.

- a. The Engineer shall arrange and attend coordination meetings with TxDOT and the Mobility Authority to obtain information on areas with storm water conveyance issues. Two (2) meetings/coordination calls are assumed.
- b. The Engineer shall review as-builts and georeferenced plans as needed in MicroStation. A summary of the as-builts and available GIS data was produced as part of the Preliminary Drainage Impact and Water Quality Treatment Implementation Memo prepared for TxDOT.
- c. The Engineer shall prepare a GeoPak model to analyze the trunk lines (parallel to the corridor and 30-inches and larger) for the 10-year design frequency for the managed lanes and mainlane work. Inlet modeling is not included.

- d. The Engineer shall prepare a summary of trunk line service including hydraulic capacity and significant changes in future D-Load conditions.
- e. The Engineer shall prepare summary of high risk areas suggested for survey and further analysis. Further analysis of high risk areas is not included in this task.
- f. The Engineer shall prepare a summary of drainage improvement assumptions for the project cost estimate including the below.
 - a. Inlets
 - b. Storm sewer trunk lines
 - c. Laterals

3.3.1.2 Storm Sewer Outlet Assessment.

The Engineer shall analyze project outlets. The outlets will be coordinated with TxDOT's Preliminary Drainage Impact and Water Quality Treatment Implementation Memo.

- a. The Engineer shall arrange and attend coordination meetings with TxDOT and the Mobility Authority to obtain information on areas with storm water conveyance issues. Two (2) meetings/coordination calls are assumed.
- b. The Engineer shall review as-builts and georeferenced plans as needed in MicroStation. A summary of the as-builts and available GIS data was produced as part of TxDOT's Preliminary Drainage Impact and Water Quality Treatment Implementation Memo.
- c. The Engineer shall prepare as appropriate a GeoPak model, HY-8, and/or HEC-RAS model to analyze the outlet structure capacity for the design frequency per TxDOT HDM. This analysis will be coordinated with the downstream system analysis produced as part of TxDOT's Detention and Water Quality Treatment Implementation Memo.
- d. The Engineer shall prepare a summary of outfall service including hydraulic capacity and significant changes in future D-Load conditions.
- e. The Engineer shall prepare summary of high risk areas suggested for survey and further analysis. The further analysis is not included in this scope.
- f. The Engineer shall prepare a summary of drainage improvement assumptions for the project cost estimate including the below.
 - a. System Outfalls
 - b. Detention and water quality components. It is assumed that the results of the improvement summary from the Preliminary Drainage Impact and Water Quality Treatment Implementation Memo prepared for TxDOT will be agreeable to the Mobility Authority

and that the detention and water quality component cost assumptions will be based upon that work.

3.3.1.3 Pavement Drainage Assessment

The Engineer shall analyze project scenarios of pavement drainage to assist in an assessment of three potential management lane configurations described below.

- a. The Engineer shall perform review of proposed DTM. The purpose of this review is to identify all areas of super elevation transition and other high-risk hydroplaning pavement areas.
- b. The Engineer shall prepare a pavement drainage analysis of the cross-sections including hydroplaning calculations and ponded width calculations. The ponded width calculations will be based on appropriate TxDOT statewide standard inlets or existing inlets. This task assumes fifteen (15) locations, each analyzed for the three potential typical sections described below. This is a total of forty-five (45) pavement analysis sections.
 - a. Managed lanes draining to the outside across the mainlanes.
 - b. Managed lanes draining to the outside, towards the mainlanes, to a barrier to intercept flow.
 - c. Managed lanes with a crown in the middle of the outside managed lane.

3.3.2 ATLAS 14 Implementation

The Enineer, to better understand the impacts of ATLAS 14 on the Project shall:

- Arrange and attend coordination meeting with TxDOT and the Mobility Authority to discuss the ATLAS 14 approach and assumptions to be used for the Project.
- Prepare meeting summaries and summaries of policy approaches to document TxDOT and Mobility Authority design decisions.

3.3.2.1 ATLAS 14 Pond Analysis

The Engineer shall update the existing and proposed HEC-HMS hydrologic models to with ATLAS 14 precipitation, review model to ensure no additional model modifications are needed to accommodate the increased precipitation. For the purposes of this scope it is assumed no model modifications in addition to the precipitation update will be required.

- a. The Engineer shall update the existing and proposed HEC-RAS and SWMMM hydraulic models with the results from the ATLAS 14 hydrology. Review the models to assess the impacts and risks of the ATLAS 14 peak flows.
- b. The Engineer shall develop mitigation options for identified ATLAS 14 impacts. These options include:

- a. Increasing the volume of the previously proposed ponds.
 - b. Determining if detention mitigation is needed at locations where detention was not previously proposed.
 - c. Evaluate other options besides detention ponds such as channel improvements.
 - d. Preparing schematic level plans for implementing the above mitigation options.
- c. The Engineer shall review existing water quality pond splitter structures from available as-built and survey data to determine if previously recommended modifications are still feasible considering ATLAS 14 impacts.
 - d. The Engineer shall prepare summary memo of ATLAS 14 impact assessment including updated H&H model results, mitigation recommendations, and schematic level exhibits for implementing the mitigation options.
 - e. The Engineer shall prepare updates for the project cost estimate assumptions previously developed under Task Order Amendment 1 for detention and water quality components changes due to ATLAS 14 incorporation.

3.3.2.2 ATLAS 14 Pavement Drainage Assessment

The Engineer shall update the previously produced project scenarios of pavement using ATLAS 14 rainfall data to assist in the potential managed lane configurations and costs estimate assumptions.

- a. Update ponded width calculations using the ATLAS 14 rainfall data.
- b. The deliverable will be an updated calculation summary noting changes in the results from the non-ATLAS 14 results.
- c. Hydroplane calculations are not affected by the ATLAS 14 precipitation because they are not based on a storm frequency. Revisions to the hydroplane assessment or calculations are excluded from this scope.

3.3.2.3 ATLAS 14 Storm Sewer Trunk Line Assessment

The Engineer shall update the storm sewer trunk line analysis using ATLAS 14 precipitation data to improve understanding of scope of work and identify project risks in support of the procurement documentation.

- a. The Engineer shall update GeoPak models previously produced to analyze the trunk lines (parallel to the corridor and 30-inches and larger) for the ATLAS 14 flows. Inlet modeling is excluded from this scope.
- b. The Engineer shall revise the models as needed or explain any major discrepancies between the referenced data and the results.

- c. The Engineer shall prepare an updated summary of high-risk areas suggested for survey.
- d. The Engineer shall prepare an updated summary of drainage improvement assumptions for the project cost estimate assumptions including the below.
 - a. Inlets
 - b. Storm sewer trunk lines
 - c. Laterals

3.3.2.4 ATLAS 14 Storm Sewer System Outlet Assessment

The Engineer shall update the impact analysis for the project outlets using ATLAS 14 rainfall data. The outlets will be coordinated with the TxDOT Preliminary Drainage Impact and Water Quality Treatment Implementation Memo.

- a. The Engineer shall update hydraulic models to analyze the outlet structure capacity for the design frequency per TxDOT HDM using the updated ATLAS 14 rainfall data.
- b. If necessary to calibrate the existing conditions model results, the Engineer shall perform a review of as-builts and any other appropriate data and shall revise the models as needed or explain any major discrepancies between the referenced data and the results.
- c. The Engineer shall prepare an updated summary of high-risk areas suggested for survey.
- d. The Engineer shall prepare an updated summary of drainage improvement assumptions for the project cost estimate assumptions.

3.3.2.5 Deliverables

- Preliminary ATLAS 14 Impact Memo;
- A summary of infrastructure cost assumptions; and
- Electronic native format of MicroStation storm sewer DGN and GeoPak gdf and all exhibits prepared.

3.4 Landscaping and Aesthetics Guide

The portion of the corridor includes treatments to the following interchanges:

- Lakeline Mall Drive
- SH 45
- Lake Creek Parkway
- Anderson Mill Road.
- McNeil Dr./Pond Spring Road.
- Oak Knoll Road.
- Duval Road.

- Balcones Woods Drive.
- Braker Lane.
- Great Hill Trail.
- MoPac Loop 1.

3.4.1 The Engineer shall prepare a Landscaping and Aesthetics Guide which will define the desired aesthetic requirements for the built and landscape components of the project. The Guide will be an illustrative document with sufficient details and dimensions to describe and define the forms, textures and or colors for the following project elements:

- Bridge substructures, (new and widened structures)
- Vehicle barriers
- Noise wall art patterns
- Retaining wall art patterns (single concept with up to six unique panels reusable for entire corridor)
- Barrier and Fence at Biofiltration Basin
- Planter walls at Interchange bridge abutments
- Shared Use Path specialty and standard paving
- Shared Use Path specialty overhead art panels and lighting
- General Corridor surface paving beneath structures at interchanges
- Major Guide Sign Support structures
- Tollway Gantry support structures
- Tollway Lane Lighting- pole color
- Detail Planting - interchange focus area planters
- Detail Planting - cut slope focus area Loop 360 area
- Biofiltration Basin -Planting Palette
- Corridor Wide Landscape Concepts and Plant Palette
- Color Palette
- Aesthetics Matrix

3.4.2 Deliverables

- Table of Contents/Outline for Mobility Authority to review and comment.
 - Using the Context Sensitive Design Summary as modified by Mobility Authority staff at scope discussion meeting 10/12/201/, per par a TOC/Outline for the Design Guide for Mobility Authority review and comment.
- 60% submission for Mobility Authority to review and comment.
- 90% submission for Mobility Authority to review and comment.

- 100% submission for Mobility Authority to review and comment.
- Final Document for Mobility Authority acceptance.

3.5 Geotechnical Investigation

3.5.1 The Engineer shall prepare a geotechnical data report using historical boring information provided by TxDOT. The report shall include WinCore log and lab testing data. To support this effort, the Engineer shall drill 24 borings totaling 540 feet of drilling.

- a. 22 borings at a depth of 20 ft., along US 183 and N MoPac Express Way.
- b. 2 borings at a depth of 50 ft., near the intersection of US 183 and N MoPac Express Way.

3.5.2 Deliverables

- Geotechnical Data Report

3.6 183 North / MoPac Direct Connection

3.6.1 Roadway Schematic Design

This effort assumes only one submittal to TxDOT for review prior to final review and it assumes that the final submittal is only for verification that comments were addressed.

3.6.1.1 Environmental Exhibit Preparation

3.6.1.1.1 The Engineer shall prepare exhibits, as required, to support the environmental re-evaluation.

3.6.1.1.2 The Engineer shall provide updated exhibits for the traffic noise workshop and coordinate with the traffic noise modeler for the reassessment of the noise wall needs. The limits of the removal of the existing sound wall and the proposed sound shall be shown at the revised schematic layout and updated sound wall exhibits for the environmental document.

3.6.1.1.3 The Engineer shall provide exhibits such as draft schematics, constraints maps, and other necessary exhibits for the meetings with the affected property owners (MAPOs). The Engineer shall participate and facilitate 10 assumed MAPOs.

3.6.1.1.4 The Engineer shall provide excavation volumes that will be included in the Biological Assessment submittal. The excavation volumes will be for the following items:

- a. Roadway Excavation.
- b. Bridge Foundation Drilled Shafts.
- c. Large Sign Structure Drill Shafts.
- d. High Mast Illumination Drill Shafts.
- e. Noise Wall Drilled Shafts.

f. Retaining Wall Foundation.

3.6.1.2 Roadway Geometrics and Design

The Engineer shall utilize the same roadway design criteria previously used for the development of the 183 North Mobility Project Final Design Schematic to make any updates to the schematic. If design criteria cannot be achieved, the Engineer shall identify design exceptions and waivers, and shall prepare preliminary documentation for approval. The work in this task shall generally consist of revisions to the schematic necessary to reflect proposed revisions to the 183 North MoPac direct connector.

3.6.1.2.1 The Engineer shall develop or modify proposed typical sections for the added and modified roadway improvements that depict the number and type of lanes, shoulders, median width, curb offsets, cross slope, and ROW limits to match the current schematic.

3.6.1.2.2 The Engineer shall prepare roadway geometric design consisting of horizontal alignments and profiles of the added and modified roadways and update the schematic to contain the following elements:

- a. Roadway alignments including horizontal curve data.
- b. Cross-slopes including super elevation transitions.
- c. Pavement edges, barriers, curb lines for roadway improvements.
- d. Typical sections of existing and proposed roadways.
- e. Preliminary proposed bridge structure limits, abutments, bents, and rail locations.
- f. Preliminary retaining wall limits.
- g. Proposed sound walls.
- h. Existing ROW and easements
- i. Large signs and preliminary locations for changeable message signs.
- j. Lane lines, shoulder lines, and direction of traffic flow arrows indicating the number of lanes on all roadways.
- k. Calculated profile grade and vertical curve data.

3.6.1.3 Roadway Cross-Sections

The Engineer shall generate preliminary cross-sections every 200 feet and at culvert locations within the revised roadway portion of the direct connector at 183 North and MoPac. The Engineer shall determine earthwork volumes for use in the cost estimate.

3.6.1.4 Large Guide Signs and Illumination

- a. The Engineer shall review the existing and proposed large guide signs for both the toll and non-toll routes which include advance signage outside of the project limits.

- b. The Engineer shall develop SignCad signs to import into the updated the signing schematic, and develop an updated signage layout for the Draft roadway schematic.
- c. The Engineer shall use AGi32 templates to perform photometric analysis to aid determination of pole placement. An AGi32 model will not be created.
- d. Using the data from the effort above, the Engineer shall update the high mast and/or conventional pole locations shown in the schematic.

3.6.1.5 Preliminary Cost Estimate and Draft Engineering Report

- a. The Engineer shall prepare a preliminary cost estimate for the schematic revisions to include the roadway items and associated roadway modifications.
- b. The Engineer shall prepare a draft engineering report to provide the basis of design, document the changes to the schematic, list potential design exceptions and waivers, and provide the basis of estimate.

3.6.1.6 Deliverables

This task assumes that the review of the Pre-Final Schematic submittal will be conducted concurrently by the Mobility Authority and TxDOT. Current TxDOT design schematic check-lists will not be applicable. The Engineer shall provide similar information with the schematic and as described by this scope. The Engineer shall provide:

- Draft Environmental Exhibit.
- Typical sections
- Preliminary retaining wall concepts
- Updated signage layout.
- Pre-final schematic
- Final schematic
- Preliminary cost estimate
- Draft Engineering report

3.6.2 Drainage Schematic Design

3.6.2.1 Impact Analysis

The Engineer shall assess the hydrologic and hydraulic impacts of adding the collector distributor lanes and to develop mitigation recommendations for unacceptable impacts.

- 3.6.2.1.1 The Engineer shall update the existing and proposed HEC-HMS hydrologic model previously modified for the 183 North project to include the change in impervious cover. It is anticipated that the following drainage areas FOB_05, FOB_04A, SH20a, SHL23a, SHL23b, and SHL24 will be modified.

- 3.6.2.1.2 The Engineer shall update the existing and proposed HEC-RAS hydraulic model for Shoal Creek that was previously modified for the 183N project to include the changes in peak flow.
- 3.6.2.1.3 The Engineer shall update the post project hydrologic models previously developed for the MoPac Improvement Project (MIP) to calculated peak flow changes to project outfalls.
- 3.6.2.1.4 The Engineer shall update the post project hydraulic models previously developed for the MIP to calculate if the outfalls have sufficient capacity to convey the increase in flow to the floodplain.
- 3.6.2.1.5 If the above tasks indicate there are floodplain or outfall impacts that are unacceptable mitigation strategies will be investigated. These strategies could include:
 - a. Providing new detention ponds or structures in the MoPac Corridor.
 - b. Modifying the existing detention ponds in at the MoPac and 183 interchanges.
 - c. Providing new or additional detention in corridor.
 - d. Making improvements to the outfall conveyance.
- 3.6.2.1.6 The Engineer shall prepare a memo summarizing the approach and results to the modeling performed in the above tasks. The Engineer shall prepare, for inclusion in the memo, schematic level exhibits for the mitigation recommendations

3.6.2.2 Pavement Drainage Assessment.

The Engineer shall assess the addition of the collector distributor system to determine if it introduces an unacceptable increase in hydroplane risk or calculated ponding widths.

- 3.6.2.2.1 The Engineer will perform review of proposed merged with existing DTM or openroads surface. The purpose of this review is to identify all areas of super elevation transition and other high-risk hydroplaning pavement areas and prepare hydroplane calculations for these locations
- 3.6.2.2.2 Using the MIP GeoPak drainage model, the Engineer will prepare a pavement ponding width analysis of locations with existing inlets and pavement widening. The ponded width calculations will be based on appropriate TxDOT statewide standard inlets or existing inlets. If the GeoPak drainage model is not available an analysis of typical inlet scenarios will be performed. It assumed 10 inlet locations will be modeled.

3.6.2.3 Storm Sewer Assessment

The Engineer shall analyze the project storm sewer trunk lines to improve understanding of scope of work and identify project risks in support of the procurement documentation.

3.6.2.3.1 The Engineer shall obtain and review the GeoPak drainage model from the MIP. The MIP models will be updates using ATLAS 14 flows. The Engineer shall prepare the proposed condition model that reflects the changes to drainage areas and impervious cover. Other modeling parameters such as time of concentration paths and calculations will not be revised. No inlet modeling is assumed.

3.6.2.3.2 The Engineer shall prepare a summary memo that outlines which pipes are not meeting criteria under proposed conditions and as summary of inlet ponded width calculations. The memo will also include considerations for minimum pipe and inlet cover at locations of cut such as underpasses.

3.6.2.3.3 The Engineer shall prepare a summary of drainage improvement assumptions for the project cost estimate included below.

- a. Inlets
- b. Storm sewer trunk lines
- c. Laterals

3.6.2.4 Deliverables

- Drainage Impact and Mitigation summary memo with cost estimate assumptions
- Storm Sewer Assessment summary memo with cost estimate assumptions
- Electronic native format of MicroStation storm sewer DGN, GeoPak gdf, HEC-HMS and HEC-RAS models and all exhibits prepared.

3.6.3 Structure Schematic Design

3.6.3.1 The Engineer shall review the existing information, as it relates to the design efforts in this task, including as built plans, BRINSAP report, available survey and utility info.

3.6.3.2 The Engineer shall provide up to two alternatives for the Collector Distributor DC Bridge Bent Layout. Advance the selected alternative to the final schematic design.

3.6.3.3 The Engineer shall prepare one alternative bent layout for the two-lane DC from US 183 EB to Loop 1 SB.

3.6.3.4 Deliverables:

- A MicroStation file to be used within the Schematic Layouts with bridge bent locations.

3.6.4 Utility Coordination

3.6.4.1 The Engineer shall complete a quality level B investigation within the following areas impacted by the design revisions explained in this task:

- Along the alignment of the proposed retaining walls. The investigation area will cover 10' each side of the proposed retaining walls.
- Within the footprint of the proposed sidewalk extensions.
- Within the footprint of the areas of main lane pavement widening along US 183 (excluding TxDOT ITS).
- Mapping of the TxDOT ITS system along US 183 from SH 45 to MoPac.
- From the west ROW of MoPac to the west pavement edge of the southbound main lanes; from US 183 to 1000' south of Spicewood Springs Road/W Anderson Lane.
- Within the footprint of the areas of pavement widening from 1000' south of Spicewood Springs Road/W Anderson Lane to Northland Drive/Allendale Road.

3.6.4.2 The Engineer shall complete quality level A investigation at seven (7) test hole locations to support utility conflict analysis, including permits and traffic control required for completion of the work. This effort is limited to the area impacted by the design revisions described in this task. It involves subsurface utility exploration and utility engineering for those utilities inside the footprint.

3.6.4.3 Deliverables:

- A utility file in MicroStation format depicting all designated and located utilities.
- A summary sheet of all test hole coordinate data and depth information.
- 8.5" x 11" Test Hole Data Forms for all test hole locations completed. These plans shall be signed and sealed by a Professional Engineer and delivered in electronic PDF form.
- 11"x17" Sue Plan Sheets depicting all designed and located utilities. These plans shall be signed and sealed by a Professional Engineer and delivered in electronic PDF form

3.6.5 Survey

3.6.5.1 The Engineer shall survey the following elements of each structure impacted by the proposed improvements, in the area of the improvements only: abutment, bearing seat and backwall, girder low chord elevations, column locations, riprap slope, and wing wall locations with lengths of barrier along wingwall. This survey information will be collected using the control used for the MoPac & US 183A (Non-Harn). The following structures will be surveyed (West End Spans Only):

- a. The bridge at Steck Ave.
- b. The bridge at Spicewood Springs Rd

c. The bridge at Far West Blvd.

3.6.5.2 Deliverable:

- MicroStation 3D dgn file, Tin file and DAT file.

4.0 Pre-Investment Grade Traffic & Revenue Analysis Coordination [Code 13120]

4.1 Coordination with CTRMA's T&R Consultant

4.1.1 The Engineer shall support the Authority during its coordination efforts with the Traffic & Revenue consultant, as directed by the Authority.

4.2 Provide project information to T&R Consultant

4.2.1 The Engineer shall prepare and provide project configuration and scope information to the Traffic & Revenue consultant and review Draft Traffic & Revenue Analyses to ensure consistency with project information.

5.0 Investment Grade Traffic & Revenue Analysis Coordination [Code 13330]

5.1 Coordination with CTRMA's T&R Consultant

5.1.1 The Engineer shall support the Authority during its coordination efforts with the Traffic & Revenue consultant, as directed by the Authority.

5.2 Provide project information to T&R Consultant

5.2.1 The Engineer shall prepare and provide project configuration and scope information to the Traffic & Revenue consultant and review Draft Traffic & Revenue Analyses to ensure consistency with project information.

6.0 Project Oversight - Design Build Agreement [Code 13730]

6.1 Request for Qualifications (RFQ) Process

6.1.1 The Engineer shall conduct a Preliminary Risk Allocation Workshop with the Authority staff, subject matter experts, legal counsel, financial advisors, and others to develop a policy and methodology to divide and assign the risks associated with the design, construction, operation, maintenance and financing elements of the project. A Preliminary Risk Allocation matrix will be developed which will divide and assign all potential risks associated with the development and implementation of the project.

6.1.2 The Engineer shall develop a RFQ for the project, post the RFQ as required by the Authority rules, and provide responses to questions/modifications as may be required during the process. RFQ provisions shall include at a minimum:

- a. General Understanding of the Project
- b. Scope of Services to be requested
- c. Developer team and personnel requirements
- d. Financial statements and requirements
- e. Bonding and insurance requirements

- f. General Disclosures
- g. Qualifications Submittal Requirements
- h. Evaluation Criteria

- 6.1.3 The Engineer shall assist in the evaluation of responses to the RFQ for the Project based on the qualifying/measurable components posed in the RFQ and the associated evaluation criteria/procedures established by the Authority. The Engineer shall prepare summaries of strengths and weaknesses of all proposers for each component.
- 6.1.4 The Engineer shall plan, organize, and administer a series of oral presentations / briefings / discussions (the “orals”) by and with the proposers if requested by the Authority, prepare questions to be asked by the Authority at the orals, assist and advise the Authority in planning and managing the orals, assist the Authority in answering questions at the orals, and prepare written answers to respondent questions posed at the orals for consideration by the Authority.
- 6.1.5 The Engineer shall participate with the Authority in discussions and reviews of the proposers’ comments and answers to the Authority questions post orals, prepare final written synopses of those responses in a style and format suitable for review and evaluation by the Selection Committee, and document for the record the review and shortlist selection procedure followed.
- 6.1.6 The Engineer shall assist in preparing for and presenting the recommendations of the Selection Committee to the Authority Board of Directors, prepare and organize all documents, exhibits, and visual aids helpful to the comprehension and supporting of the presentation to the Board.
- 6.1.7 The Engineer shall assist in preparing for and facilitating one Pre-Submittal Conference prior to issuance of RFQ.

6.2 Draft Request for Detailed Proposals (RFDP)

- 6.2.1 The Engineer shall work closely with the Authority in the preparation of a procurement process / protocol and reasonable time schedule to define progress achievement milestones between the issuance of the RFDP and the issuance of Notice(s) to Proceed to the selected Proposer. This schedule will allow sufficient time for all elements of the procurement process, including: development of the RFDP by the Authority and the Engineer; preparation of Detailed Proposals by the shortlisted Proposers; assessment of the Detailed Proposals by the Authority and the Engineer; selection of the “Best Value” proposal; and negotiation of the terms and execution of Design Build Agreement.
- 6.2.2 The Engineer shall develop the main sections of the Preliminary Draft RFDP. These main sections will include:
 - a. Draft Instructions to Proposers – This document will contain relevant information to the shortlisted Proposers regarding the project and associated submittals, including: an introduction and summary of the project; a procurement schedule defining the major milestone dates to be adhered to during the procurement process; detailed description of the procurement process which the Authority will utilize during the review and evaluation of the responses to the RFDP; detailed information pertaining to the Proposal delivery, content and format; Proposal evaluation criteria and weighting; alternative technical concept

(ATC) evaluation criteria and weighting; award and approval process; and stipend information and amounts (if applicable).

- b. Draft Design Build Agreement – This document will contain the actual Design Build Agreement to be executed between the Authority and successful Proposer. This section of the RFDP will be prepared by the Authority legal counsel and the Engineer will serve in a coordination / review role in the development of same. The Engineer will be responsible for coordinating with the Authority legal counsel on this element of the Draft RFDP deliverable.
- c. Draft Scope of Work – This document will contain detailed information, specifications, and associated guidance intended to apply specifically to the development and implementation of the project.
- d. Draft Technical Provisions – This document will contain detailed information, specifications, and associated guidance intended to apply to the development and implementation of all toll facility projects procured by the Authority.

6.2.3 The Engineer shall conduct a Risk Workshop with the Authority staff, subject matter experts, legal counsel, financial advisors, and others to develop a policy and methodology to further divide and assign the risks identified during the Preliminary Risk Workshop. A Revised Risk Allocation matrix will be developed which will divide and assign all potential risks associated with the development and implementation of the project, including:

- a. Design Process: design defect (damages, third party injury); design defect (Nonconforming Work); system integrator (SI) delays; other cost increases and delays; accuracy of schematics and reference documents; alignment change creating need for additional right-of-way; change in standards, latent defects; and coordination with adjacent projects.
- b. Right of Way: right-of-way acquisition costs; right-of-way acquisition delays.
- c. Utility Relocation: delay due to Utility Adjustments, including unidentified utilities; cost of unidentified utilities; failure of Utility Owners to comply with Adjustment Agreements.
- d. Governmental Approvals: City of Austin approvals, governmental approvals; new environmental approvals and changes to the Authority-Provided Approvals due to changes in Final Design; governmental approvals required due to Force Majeure or the Authority-Directed Change After NTP
- e. Force Majeure Events: actions of the elements; acts of war; strikes and labor disputes; archaeological, paleontological or cultural resource; threatened or endangered species; changes in law; injunctions against the Project; temporary no-work restrictions resulting from the discovery within the Site of any karst features; hazardous materials (third party spills after proposal date); hazardous materials (existing).
- f. Construction, Supply and Installation: cost increase due to the Authority-Directed Change or the Authority-Caused Delay; differing site conditions; delay in completion (other than Authority-Caused Delay, Force Majeure and certain uncooperative utility delays); delay in completion due to Authority-Caused Delay, Force Majeure and certain uncooperative utility delays; construction defect (damages, third party injury); construction defect (Nonconforming

Work); delays in opening Project for revenue service due to System Integrator work, material and labor shortages.

- g. Operations and Maintenance: evaluation of allowable system designs and controls, defects, warranties, contracting terms and hand-back requirements.
- h. Financing: evaluations of allowable contracting terms and options, alternative financial concepts, and payment structures.

6.2.4 Prepare a Draft RFDP which incorporates the Risk Allocation assignments, agreed to by the Authority into the Preliminary Draft RFDP. An extensive internal review of this Draft RFDP will be completed by senior level staff having experience in procurement processes to ensure completeness. Comments developed / identified during this internal review process will be discussed with the Authority staff, legal counsel, and financial advisers to obtain their approval prior to modifying the Preliminary Draft RFDP / preparing the Draft RFDP.

6.2.5 Organize Reference Documents that will be provided along with the Draft RFDP for reference information only. Status assessments will be prepared for inclusion in the RFDP for those documents which have not been fully completed at the time of Draft RFDP issuance to the shortlisted Proposers.

6.3 Final RFDP

6.3.1 The Engineer shall facilitate the industry review of the Draft RFDP, prepare correspondence for the Authority formally issuing the Draft RFDP to the shortlisted Proposers for review and comment. Written comments will be requested from each shortlisted Proposer. Individual one-on-one meetings will be held with each of the shortlisted Proposers, as required by the Authority, to discuss specific comments, questions, or concerns.

6.3.2 The Engineer shall, working jointly and cooperatively with the Authority, compile industry review comments and meeting documentation. Based on discussions with Authority staff, legal counsel, and financial advisers, a Final RFDP will be prepared by incorporating applicable industry review comments into the Draft RFDP.

6.3.3 The Engineer shall attend meetings with the Authority to present the Final RFDP to TxDOT and FHWA; written comments will be formally requested from both agencies. Comments received from TxDOT and FHWA will be discussed with the Authority staff, legal counsel, and financial advisers as appropriate to obtain approval prior to modifying the Final RFDP.

6.3.4 The Engineer shall prepare correspondence for execution by the Authority for distributing the Final RFDP to shortlisted Proposers upon FHWA's approval of the Final RFDP (if applicable).

6.4 Proposal Coordination Support

6.4.1 The Engineer shall plan, organize, and administer workshops to be attended by the Authority staff, legal counsel, financial advisers, Engineer staff, and shortlisted Proposers. These workshops will allow the Authority to brief the shortlisted Proposers on the background and status of the various project elements such as design/geometrics, maintenance of traffic, landscape/aesthetics, environmental, right-of-way, utility coordination/relocations, and tolling.

- 6.4.2 The Engineer shall plan, organize, and administer one round of one-on-one meetings to allow shortlisted Proposers the opportunity to ask specific questions/request clarifications on the Final RFDP; it will also provide the shortlisted Proposers the opportunity to solicit preliminary feedback regarding potential Alternative Technical Concepts and Value-Added Concepts they intend to include in their Technical Proposals. The Engineer will solicit information from the shortlisted Proposers such that agendas and related documents / exhibits can be prepared and distributed prior to these one-on-one meetings; minutes of all one-on-one meetings will also be prepared by the Engineer. The Engineer will evaluate questions (oral and written) posed at these meetings (and submitted later in writing) and draft answers for consideration by the Authority. Upon receipt of the Authority approval, the Engineer will assemble and distribute the Authority answers to questions.
- 6.4.3 The Engineer shall prepare and issue up to two addenda to the Final RFDP, if required, suggested by meetings, discussions, workshops, questions posed by potential Proposers, and clarifications suggested and/or approved by the Authority; addenda will also include status updates on Reference Documents originally included in the Final RFDP, if required.
- 6.4.4 The Engineer shall work with the Authority staff and counselors, to conduct a detailed and thorough procedure and methodology for evaluating preliminary Proposal elements to be submitted by the shortlisted Proposers, as follows:
- a. Initial submittal of conceptual information pertaining to ATCs, Alternative Financial Concepts (AFCs) and Draft Value-Added Concepts (VACs) will be evaluated. The evaluation procedure and methodology for these initial submittals will include a preliminary review by a Technical Subcommittee approved by the Authority and will be completed such that the Authority can provide initial feedback regarding their opinion of each ATC, AFC and VAC. One-on-one meetings will be held, as required by the Authority, to discuss the ATCs, AFCs and VACs with each shortlisted Proposer.
 - b. Alternative Technical Concepts (ATCs) formally submitted by the shortlisted Proposers will be evaluated. These ATCs will include proposed changes to the minimum project requirements set forth in the Final RFDP. The Engineer will establish an ATC Review Core Team composed of senior level staff to lead the review of these Concepts. Upon completion of the review, recommendations will be made to the Authority regarding which ATCs should be “Approved”, “Conditionally Approved”, or “Rejected”; recommendations that “Additional Information is Required” or that an “ATC does not qualify as an ATC but may be included in the Proposal” may also be made. Upon acceptance of the Engineer’s recommendations by the Authority, the Engineer will assist the Authority in obtaining necessary agency approvals, including TxDOT and FHWA, if required. The Engineer will attend meetings with the Authority to present and discuss the selected ATCs with TxDOT and FHWA; written comments will be formally requested from both agencies.
 - c. Alternative Financial Concepts (AFCs) formally submitted by the shortlisted Proposers will be evaluated. These AFCs will include proposed changes to the minimum project requirements set forth in the Final RFDP. The Engineer will support the Authority’s Financial Consultants to establish an AFC Review Core Team composed of senior level staff to lead the review of these Concepts. Upon completion of the Engineer’s review, recommendations will be made to the

Authority regarding which AFCs should be “Approved”, “Conditionally Approved”, or “Rejected”; recommendations that “Additional Information is Required” or that an “AFC does not qualify as an AFC but may be included in the Proposal” may also be made. Upon acceptance of the Engineer’s recommendations by the Authority, the Engineer will assist the Authority in obtaining necessary agency approvals, including TxDOT and FHWA, if required. The Engineer will attend meetings with the Authority to present and discuss the selected ATCs with TxDOT and FHWA; written comments will be formally requested from both agencies.

- 6.4.5 The Engineer shall prepare correspondence for execution by the Authority transmitting the findings of the Authority’s evaluation of the preliminary Proposal elements. This correspondence will be utilized by the shortlisted Proposers during their preparation of their Technical Proposals.
- 6.4.6 The Engineer shall plan, organize, and administer a series of Final one-on-one meetings to allow shortlisted Proposers the opportunity to ask final specific questions/request final clarifications prior to submittal of their Final Technical Proposal and Price Proposals. The Engineer shall solicit information from the shortlisted Proposers such that agendas and related documents / exhibits can be prepared and distributed prior to these Final one-on-one meetings; minutes of all Final one-on-one meetings will also be prepared by the Engineer. The Engineer will evaluate questions (oral and written) posed at these meetings (and submitted later in writing) and draft answers for consideration by the Authority. Upon receipt of the Authority approval, the Engineer will assemble and distribute the Authority answers to questions.
- 6.4.7 Working with the Authority staff and counselors, the Engineer shall develop a detailed and thorough procedure and methodology for evaluating final Proposal elements to be submitted by the shortlisted Proposers, as follows:
 - a. Technical Proposals, which include detailed information pertaining to the development of the Project as defined in the Final RFDP, innovative financing plans, opening schedule, and overall approach to the project will be evaluated. The evaluation procedure and methodology for the Technical Proposals will utilize the “Best Value Concept” process and will include detailed reviews by a series of specialized Technical Subcommittees approved by the Authority. The findings of each Technical Subcommittees’ review will be documented for presentation to the Detailed Proposal Evaluation Committee (appointed by the Authority) such that an objective evaluation process can be completed by each Committee member for each proposal. Upon completion of the individual Committee member evaluation / scoring, an average of all scores will be prepared for each Proposal.
 - b. Price Proposals, which include detailed cost information for the development of the Project as defined in the shortlisted Proposers’ Technical Proposals and as defined in the Final RFDP. The evaluation procedure and methodology will be completely independent from the Technical Proposal evaluation and will include review of the Price Proposals for mathematical accuracy and completeness.

Upon receipt of the Authority approval on the evaluation procedures and methodologies, a workshop will be held to convey this information to the Detailed Proposal Evaluation Committee appointed by the Authority.

- 6.4.8 The Engineer shall develop a secure system for receiving, handling, distributing, tracking, storing, and dating all documents, correspondence, facsimile transmissions, and other telecommunications after the date of acceptance of the Final RFDP. Search and locate a secure site acceptable to the Authority to store all documents and correspondence received and created on and after the date of receipt of the Final RFDP. With the assistance of the Authority staff, create and maintain a list of parties who have been authorized access to the secured data by the Authority staff. Create a controlled system in which the evaluators must check out, check in, and be recorded as holding the secured data.

6.5 Proposal Review Support

- 6.5.1 The Engineer shall receive and commence detailed reviews of the Technical Proposals submitted by the shortlisted Proposers, which include detailed information pertaining to the development of the Project as defined in the Final RFDP, innovative financing plans, opening schedule, and overall approach to the project; review of the associated price proposals submitted by the shortlisted Proposers defining their maximum price for the aforementioned minimum interim build scenario of the Project will also be reviewed. The Engineer shall establish a series of specialized Technical Subcommittees approved by the Authority to evaluate the thoroughness and quality of the Technical Proposal responses to each inquiry item contained in the Final RFDP utilizing the evaluation procedures and formulae adopted by the Authority. There may be other unsolicited technical, contractual or financial proposals in addition to the base guidelines provided by the Authority in the Final RFDP; such alternate responses also shall be evaluated and reported by the Engineer. The Engineer will prepare documentation of the findings resulting from the Technical Subcommittee evaluations; meetings with the Authority staff, legal counsel, and financial advisors will also be held to discuss same.
- 6.5.2 The Engineer shall assist the Authority in the identification and selection of the “Best Value” Proposal. An evaluation outline will be prepared which documents the procedure followed during the evaluation of the Proposals, indicating what measurable developer performance categories were identified and individually analyzed. Using the outline, a detailed summary report of the review and analysis process followed by the Engineer will be prepared, describing how the evaluators used the analytical work performed by the Engineer to rank the responses in a best value order.
- 6.5.3 The Engineer shall serve as a resource participant with the evaluators and the Authority staff in delivering final reports and recommendations for best value developer selections and designations to the Committee and to the Board. The Engineer will also prepare final reports summarizing the deliberations, actions, and recommendations of the Committee and the Board relative to the review and consideration of the Proposals and their final selection and designation of the developer for the Project based on the “Best Value” evaluations.
- 6.5.4 Update Risk Allocation matrix based on Final RFDP.

6.6 Design Build Agreement Support

- 6.6.1 Complete various Contracting phase efforts associated with the Design Build Agreement procurement, including:

- a. Assist the Authority in identifying Proposer commitments and negotiating the final agreement language.
- b. Assist the Authority in reviewing insurance and bond documents for inclusion in the conformed agreement.
- c. Assist the Authority in preparing the final conformed document for execution.
- d. Conduct debriefings on behalf of the Authority, under the guidance of general counsel of the Authority, for proposers to the RFDP that were not selected by the Authority.
- e. Final filing and documentation.

6.7 Bond Sale Support

The Engineer, in order to support the sale of bond, do the following:

- 6.7.1 Develop a capital cost estimate defining elements necessary for project implementation.
- 6.7.2 Develop detailed annualized cost estimate for funding of necessary operations, maintenance, and renewal & replacement elements for the duration of the bonds.
- 6.7.3 Develop comprehensive schedules defining all elements of the project, including the critical path tasks that directly affect the opening of the project.
- 6.7.4 Prepare the Consulting Engineer's Report necessary for the bond sale with a detailed description and history of the bonded project, comprehensive schedules, detailed capital cost estimates, and annualized operations, maintenance, and renewal & replacement cost estimates.
- 6.7.5 Support the Authority in development of the Preliminary Official Statement and the Final Official Statement.
- 6.7.6 Coordinate as necessary with the Authority, Bond Counsels, Financial Advisors, and Underwriters on the bond finance team.
- 6.7.7 Issue such certificates as are required to be delivered by the Engineer regarding specific scope of the project; estimated capital costs; estimated operations, maintenance, and renewal & replacement costs; implementation/open to traffic schedule; and necessity to acquire certain real property for the project.
- 6.7.8 Present the accuracy and reliability of project costs and schedules to the bond rating agencies and insurers during bond sales.

6.8 CE&I Procurement

- 6.8.1 The Engineer shall support the Authority in the procurement of a construction engineering and inspection consultant using existing documents from other projects. It shall support the Authority in:
 - 6.8.1.1 Advertisement of the procurement.
 - 6.8.1.2 Revision contract.
 - 6.8.1.3 Reviewing and revising a scoring criterion and assisting with the assessment of proposals.

6.8.1.4 Assisting the Mobility Authority in the negotiating with the selected consultant.

6.9 Development of Procurement Portal

6.9.1 Working within the framework of the CTRMA SharePoint system, the Engineer shall develop a secure Procurement Portal with user accounts for each Proposer that would assure confidentiality in communication between the Proposers and CTRMA

6.9.1.1 The portal shall be capable of receiving data from each Proposer as well as distributing materials from CTRMA to each Proposer.

6.9.1.2 The system shall be capable of receiving (in a confidential manner) questions or other sensitive materials from Proposers.

6.9.2 Testing of Procurement Portal

6.9.2.1 The Engineer will develop testing accounts for use in distribution and receipt of materials in a “test” environment

6.9.2.2 Engineer shall make any adjustments necessary to correct issues identified during the testing process and shall ready the system to go live 7 days prior to issuance of the Draft Request for Detailed Proposals

7.0 Environmental Permit Support [Code 13220]

7.1 Preconstruction Notice for (USACE)

7.1.1 The Engineer shall coordinate with TxDOT and the U.S. Army Corps of Engineers (USACE) in the agency review process, provide assistance in the development of documents supporting the use of a Nation Wide Permit (NWP 14) and/or Individual Permit, and respond to any TxDOT Austin District, TxDOT Environmental Affairs, FHWA and USACE comments. Responses to comments and revisions to the PCN would be performed until environmental clearance is obtained from the USACE.

8.0 Final Design Services [Code 13310]

8.1 Utility Coordination

8.1.1 The Engineer shall provide technical expertise in the areas of Utility Accommodation Rules (UAR), utility coordination, utility reimbursement procedures and real property interest issues.

8.1.2 The Engineer shall review existing utility information for conflicts with preliminary roadway configuration, conduct a utility conflict analysis, and provide a conceptual utility relocation plan.

8.1.3 The Engineer shall represent the Authority in coordination efforts related to utility matters; includes coordination with Utility Companies and TxDOT utility staff.

8.1.4 The Engineer shall assist the Authority with negotiating the details of utility agreements with the utility companies. Details will include any necessary betterment percentages, indirect costs, plans, estimates and schedules for the utility companies' activities.

- 8.1.5 The Engineer shall review utility plans for compliance with the TxDOT Utility Accommodation Policy, compatibility with roadway features, betterment inclusion and constructability.
- 8.1.6 The Engineer shall prepare draft agreements for Authority's use including the necessary exhibits and information concerning the Project (such as reports, plans and surveys).
- 8.1.7 The Engineer shall prepare and maintain schedules which will identify utility ownership and include milestones and operations and activities pertinent to each assigned project.

8.2 Subsurface Utility Engineering (SUE)

As it relates to SUE, the Engineer shall:

- 8.2.1 Conduct Quality Level A and Quality Level B SUE efforts at specific locations as necessary to adequately identify existing utility locations which are potentially in conflict with the proposed roadway configuration.
- 8.2.2 Provide traffic control and utilize traffic control devices in conformance with the MUTCD in the event that the SUE efforts will affect the movement of traffic or traffic/SUE personnel safety.
- 8.2.3 Obtain all necessary permits from TxDOT and/or local jurisdictions as required to work within public rights of way.
- 8.2.4 Obtain written permission from property owners allowing entry onto private property/premises.

8.3 Enhanced Utility Identification

- 8.3.1 The Engineer shall review Subsurface Utility Engineering (SUE) plans, provided by TxDOT, for completeness. Determine if additional SUE data is required including Intelligent Transportation Systems (ITS) information
- 8.3.2 The Engineer shall review existing SUE data with the project schematic and develop and update, as required, a utility conflict analysis.
- 8.3.3 The Engineer shall prepare utility relocation cost estimate(s) based on the utility conflict analysis.
- 8.3.4 The Engineer shall prepare utility disposition sheets depicting the following:
 - a. Utility.
 - b. Location.
 - c. Conflicts.
- 8.3.5 The Engineer shall develop utility strip maps.
- 8.3.6 The Engineer shall prepare and negotiate the details of utility agreements with the utility companies, as required. Details will include any necessary betterment percentages, indirect costs, plans, estimates, and schedules for the utility companies' activities.
- 8.3.7 The Engineer shall meet with the utility owners and designers as necessary to resolve matters related to schedules, utility identification, design changes, conflict resolution, and negotiations with utility owners.

- 8.3.8 The Engineer shall review utility adjustment agreements including plans, estimates, and property interest. Utility plans will be reviewed for compliance with the TxDOT Utility Accommodation Policy, compatibility with the project features, betterment inclusion, and constructability.
- 8.3.9 The Engineer shall assist in the preparation of draft and final RFDP, Technical Provisions and Reference Documents related to the utility work associated with the project.
- 8.3.10 The Engineer shall assist in the proposal evaluation process for utility related scope.
- 8.3.11 The Engineer shall complete a QL “B” investigation, estimate for 163,000 LF within the following areas:
- a. Along the alignment of the proposed retaining walls. The investigation area will cover 10’ each side of the proposed retaining walls.
 - b. Within the footprint of the proposed sidewalk extensions
 - c. Within the footprint of the areas of main lane pavement widening along US 183 (excluding TxDOT ITS).
 - d. Mapping of the TxDOT ITS system along US 183 from SH 45 to MoPac
- 8.3.12 The Engineer shall complete a QL “A” test holes at an estimate twenty-five (25) locations, as needed to support utility conflict analysis, including permits and traffic control required for complete of the work.

8.4 Deliverables

- A utility file in MicroStation format depicting all designated and located utilities.
- A summary sheet of all test hole coordinate data and depth information.
- 8.5” x 11” Test Hole Data Forms for all test hole locations completed. These plans shall be signed and sealed by a Professional Engineer and delivered in electronic PDF form.
- 11”x17” Sue Plan Sheets depicting all designed and located utilities. These plans shall be signed and sealed by a Professional Engineer and delivered in electronic PDF form.

9.0 Right-of-Way Acquisition & Relocation Services [Code 13410]

9.1 Appraisals

As it relates to the performance of services of this task, the Engineer shall:

- 9.1.1 Review completed right-of-way maps and documents to ensure all necessary information is provided prior to initiating acquisition efforts.
- 9.1.2 Obtain title reports for parcels to be acquired; the title reports will be preliminarily reviewed for accuracy, ownership verification, to determination if there are any existing liens or encumbrances which may prohibit the owner from conveying clear title.
- 9.1.3 Conduct appraisals to determine the fair market value of the property to be acquired; appraisals will contain sufficient documentation, including valuation data and the appraiser's analysis of that data, to support his or her opinion of value.
- 9.1.4 Conduct review appraisals to confirm that the appraisal has been completed in accordance with defined specifications/procedures and follows accepted appraisal

principles/techniques; contains information and consideration of all compensable items, damages, and benefits; and includes written approval of the fair market value contained in the appraisal.

- 9.1.5 Conduct environmental site assessments, prior to acquisition of real property, on certain parcels to determine the potential of, and extent of liability for hazardous substances or other environmental remediation or injury. This includes a determination of the absence or presence of hazardous substances, as well as conditions that indicate an existing or past release.

9.2 Negotiations / Voluntary Settlement

The Engineer shall:

- 9.2.1 Provide written notification, consistent with Federal regulations, to effected property owners stating the Authority's intent to acquire right-of-way; this correspondence will also inform the affected property owners of the basic protections provided to them by law.
- 9.2.2 Develop offer letter and participate in a meeting with the affected property owner to present the offer.
- 9.2.3 Participate in negotiations with the affected property owner; documentation of ALL negotiations will be maintained in writing in a negotiators log.
- 9.2.4 In the event that negotiations result in a voluntary settlement acceptable to both parties, assemble a closing package containing all documents necessary to timely process the acquisition and relocations checks necessary for closing.

9.3 Relocation Assistance

- 9.3.1 The Engineer shall conduct determination of relocation benefits, consistent with the Uniform Relocation Act, for both residential and business relocations.

9.4 Right of Way Status Tracking

- 9.4.1 The Engineer shall track status of Appraisals, Offers, Counter Offers, Condemnation, property management services and relocation assistance in both dollars and schedule.

10.0 Right-of-Way Litigation / Condemnation Services [Code 13450]

10.1 Litigation Support

- 10.1.1 In the event that negotiations do NOT result in a voluntary settlement acceptable to both parties, the Engineer shall assemble a condemnation package containing all documents necessary to initiate the eminent domain process.
- 10.1.2 The Engineer shall provide expert testimony and review in preparation for litigation. Includes development of exhibits copies, depositions, etc.
- 10.1.3 The Engineer shall provide support for title and deed acquisition.

10.2 General Attorney Consultation

- 10.2.1 The Engineer shall support the Authority in matters related to right of way consultation with the office of the attorney general.

11.0 Public Involvement

11.1 Communications & Public Involvement Plan

- 11.1.1 The Engineer shall develop a public involvement plan to inform, educate and mitigate concerns and impacts, and actively engage project stakeholders' in a meaningful and convenient involvement process. Involvement must be early, inclusive, continuous and tailored to address the identified needs within the project area including LEP needs. The public involvement plan should proactively and effectively communicate the project's scope, its impacts and benefits, while ascertaining stakeholder input.

11.2 Communications & Stakeholder Engagement

11.2.1 Stakeholder List Update and Maintenance

- 11.2.1.1 The Engineer shall compile, maintain and update a mailing list of people, agencies and organizations interested in the proposed project. The Mobility Authority shall provide the Engineer with relevant data available to the Mobility Authority

11.2.2 Fact Sheets and Frequently Asked Questions (FAQs).

- 11.2.2.1 Prepare Fact Sheets to provide more in-depth information on special project topics than can be provided in the project newsletter. The fact sheets will be no longer than two (2) two-sided pages with appropriate graphics.

- Send fact sheets to community members upon request.
- Make the fact sheets available in PDF format on the project website and at public involvement activities including neighborhood and public meetings, project presentations, and other project events.

- 11.2.2.2 The Engineer will update the FAQs for approval by the Mobility Authority and post on the project website.

11.2.3 Website Content Updates and Management.

- 11.2.3.1 The Engineer shall update content on the Project Website and manage web development firm on any necessary design changes. Content could include, but not be limited to:

- Project description information
- Upcoming events and activities
- Project reports and documentation
- Project newsletters and fact sheets
- Frequently Asked Questions
- Public engagement forum questions and responses

11.2.4 E-Newsletters

- 11.2.4.1 The Engineer will distribute project e-newsletters, up to four (4), to keep stakeholders informed about the project.

- 11.2.5 Public Inquiry Response
 - 11.2.5.1 The Engineer will work with the Mobility Authority to respond to stakeholder inquiries about the project as information requests arise.
- 11.2.6 Elected Official Briefing Materials
 - 11.2.6.1 This task is to assure coordination with local and regional jurisdictions and agencies related to the Project; to actively solicit their participation in the planning and decision process for the project. The Engineer will work with the Mobility Authority to identify public agencies and jurisdictions that should be included in the Project outreach program.
 - 11.2.6.2 The Engineer will:
 - a. Work with the Mobility Authority and TxDOT to identify elected officials at the local, regional, and federal levels who need to be briefed at key points in the project (e.g. city council members, board members of regional agencies, and federal elected representatives).
 - b. Work with the Mobility Authority to prepare briefings of elected officials on a regular basis, in advance of major project related community events or activities.
- 11.2.7 Media Inquiry Management
 - 11.2.7.1 The Engineer will work with the Mobility Authority to keep the public informed about the project through distribution of information to the media and responding to media inquiries.
- 11.2.8 Issues Management
 - 11.2.8.1 The Engineer will develop an advanced list of potential significant issues of public interest or concern and prepare contingencies for dealing with each issue and pre-prepared language or response outlines for each issue.
- 11.2.9 Crisis Communications
 - 11.2.9.1 The ENGINEER shall work with the Mobility Authority to assist in communications of a crisis nature requiring rapid response times, in particular to the local new media.
- 11.2.10 Groundbreaking Event
 - 11.2.10.1 The Engineer shall make all arrangements for up to one (1) groundbreaking event. The event shall be coordinated and held in accordance with the following:
 - a. The Engineer shall confirm the event location, date and time (includes securing a/v equipment, chairs/tables, podium, etc.), and shall provide personnel to staff the event, including two (2) public involvement and coordination staff.
 - b. The Engineer shall prepare and send invitations to appropriate stakeholders.
 - c. The Engineer shall prepare handouts, name tags, sign-in sheets, and talking points.

- d. The Engineer shall make up to three (3) rounds of revisions on all event materials. The ENGINEER shall obtain the Mobility Authority's approval on all materials prior to production or publication.

11.2.11 Construction Website Launch

11.2.11.1 The Engineer shall work with the Web Developer to prepare a website that functions as an information source during construction including real-time construction alerts, project background, and construction status. The task comprises of development of content, working with the Web Developer on design and functionality, access to content management systems, and maintaining the website with accurate and current content.

11.3 Procurement Support

11.3.1 The Engineer shall inform industry stakeholders of the Request for Qualifications (RFQ) through legal notice, respond to industry inquiries and maintain communication with shortlisted firms during the procurement process.

11.3.2 The Engineer shall make all arrangements for up to one (1) pre-bid industry event. The event shall be coordinated and held in accordance with the following:

11.3.2.1 The Engineer shall secure the date and time and shall provide personnel to staff the event, including two (2) public involvement and coordination staff.

11.3.2.2 The Engineer shall prepare and send invitations to industry stakeholders. The Engineer will work with the Mobility Authority to identify industry stakeholders that should be included in the pre-bid event.

11.3.2.3 The Engineer shall prepare handouts, name tags, sign-in sheets, and talking points.

11.3.2.4 The Engineer shall make up to three (3) rounds of revisions on all event materials. The Engineer shall obtain the Mobility Authority's approval on all materials prior to production or publication.

11.4 Reporting and Meetings

11.4.1 The Engineer shall compile reports as required, organize and attend meetings to coordinate and provide updates on public involvement activities.

11.5 Project Branding

11.5.1 The ENGINEER shall prepare project branding prior to the start of construction. The brand and subsequent brand guidelines will be upheld through all facets of communication and marketing collateral including presentations, newsletters, fliers, etc.

11.6 Deliverables

- Call for Support / Funding Fact Sheet
- Public Involvement Plan
- Updated project database/ mailing list

- Fact Sheet and FAQs
- Updated website content during procurement as described above
- Up to four (4) project e-newsletters
- Notice of Upcoming Procurement
- Construction-phase Website
- Monthly Project Development Reports
- Brand Guidelines
- Templates (Word and PowerPoint)

ATTACHMENT B - Fee Estimate

183 North Mobility Project SWA No. 2 to WA No. 2		TOTAL	TOTAL
TASK / WORK DESCRIPTION			
Task 1	PROJECT OVERSIGHT - PRE CONSTRUCTION [13710]	4,144	\$ 893,509.09
Task 2	ENVIRONMENTAL STUDY AND TRAFFIC MODELING [13210, 13110]	2,504	\$ 362,358.36
Task 3	PRELIMINARY ENGINEERING [13110]	2,569	\$ 406,190.69
Task 4	PRE-INVESTMENT GRADE TRAFFIC & REVENUE ANALYSIS COORDINATION [13120]	48	\$ 10,007.96
Task 5	INVESTMENT GRADE TRAFFIC AND REVENUE ANALYSIS COORDINATION [13120]	314	\$ 66,403.03
Task 6	PROJECT OVERSIGHT - DESIGN BUILD AGREEMENT [13330]	6,201	\$ 1,383,414.20
Task 7	ENVIRONMENTAL PERMIT SUPPORT [13220]	671	\$ 128,704.69
Task 8	ENHANCED UTILITY IDENTIFICATION [13310]	538	\$ 74,394.49
Task 9	RIGHT-OF-WAY ACQUISITION & RELOCATION SERVICES [13410]	782	\$ 151,285.94
Task 10	RIGHT-OF-WAY LITIGATION / CONDEMNATION SERVICES [13450]	958	\$ 164,186.50
Task 11	PUBLIC INVOLVEMENT [13750]	843	\$ 182,121.07
Total Loaded Labor			\$ 3,747,576.02
Task 2 Subconsultant	CJ Hensch	\$	12,000.00
Task 2 Subconsultant	Cambrian	\$	40,996.40
Task 3 Subconsultant	McGray & McGray	\$	307,136.04
Task 3 Subconsultant	K Friese & Associates	\$	125,306.59
Task 3 Subconsultant	Gorrondona & Associates	\$	130,246.98
Task 3 Subconsultant	K Friese & Associates	\$	69,848.45
Task 8 Subconsultant	Rios Group	\$	366,075.00
Task 8 Subconsultant	Anderson Infrastructure	\$	248,323.02
Task 11 Subconsultant	Monkee Boy	\$	138,250.00
Total Subconsultants		\$	1,438,182.48
Direct Expenses (\$2000 / month)		\$	48,000.00
Total cost to complete		\$	5,233,758.50
Value of Previous Work Authorizations (WA No. 2 and SWA No. 1)		\$	3,707,545.79
Additional Field and Design Work (Geotechnical, Utilities, Drainage, Survey, ROW validation)		\$	958,517.25
Material and Labor Cost Validation and Cost Estimates - TxDOT Coordination		\$	460,241.25
Pre-Procurement Planning and Coordination		\$	436,345.50
Public Involvement		\$	400,434.75
CE&I Procurement		\$	49,921.76
USFWS Coordination, Biological Assessment and Reevaluation		\$	380,541.65
Traffic Modeling and Operations Support		\$	534,364.94
Preliminary Engineering and Technical Coordination		\$	979,627.37
Work Completed as of January 31, 2018 (WA No. 2 and SWA No. 1)		\$	(2,588,781.78)
Work Remaining in WA No. 2 and SWA No. 1		\$	(1,118,764.01)
Supplemental Work Authorization Total		\$	4,199,994.47

ATTACHMENT B - Fee Estimate

183North Mobility Project Task 1		Transportation Program Manager	Principal Consultant II	Sr. Engineering Manager	Sr Scheduler	Sr. Supervising Engineer	Tolling Specialist I	Supervising Traffic Manager	Sr. Information Coordinator	Sr. Computer Graphics Specialist	Engineer II	Project Accountant II	TOTAL	TOTAL
TASK / WORK DESCRIPTION														
Task 1	PROJECT OVERSIGHT - PRE CONSTRUCTION [13710]	14	40	1,795	533	327	278	410	12	278	337	120	4,144	\$ 893,509.09
Task 1.1	Project Management			1169									1169	\$ 305,440.73
Task 1.2	Project Reporting			120								120	240	\$ 44,022.36
Task 1.3	Project Scheduling			40	533								573	\$ 114,386.35
Task 1.4	Project Development Support	8		400		300		400			337		1445	\$ 297,486.09
Task 1.5	Financial Planning Support	2		30		27		10	12				81	\$ 18,379.60
Task 1.6	Conceptual Operations Plan	4	40	36			278			278			636	\$ 113,793.97
TOTAL DIRECT LABOR		14	40	1795	533	327	278	410	12	278	337	120	4,144	\$ 893,509.09
<i>% Total by Classification</i>		0.34%	0.97%	43.32%	12.86%	7.89%	6.71%	9.89%	0.29%	6.71%	8.13%	2.90%		
Labor Costs		\$ 1,666.00	\$ 4,200.00	\$ 177,705.00	\$ 103,935.00	\$ 29,430.00	\$ 23,630.00	\$ 30,750.00	\$ 576.00	\$ 8,340.00	\$ 15,165.00	\$ 4,800.00		
Overhead Rate		1.3993	1.3993	1.3993	0	1.3993	1.6944	1.3993	1.3993	1.3993	1.3993	1.3993		
Overhead Costs		\$ 2,331.23	\$ 5,877.06	\$ 248,662.61	\$ -	\$ 41,181.40	\$ 40,038.67	\$ 43,028.48	\$ 806.00	\$ 11,670.16	\$ 21,220.38	\$ 6,716.64		
Profit		10%	10%	10%	0%	10%	10%	10%	10%	10%	10%	10%		
Profit Costs		\$ 399.72	\$ 1,007.71	\$ 42,636.76	\$ -	\$ 7,061.14	\$ 6,366.87	\$ 7,377.85	\$ 138.20	\$ 2,001.02	\$ 3,638.54	\$ 1,151.66		
Total Loaded Labor		\$ 4,396.96	\$ 11,084.77	\$ 469,004.37	\$ 103,935.00	\$ 77,672.54	\$ 70,035.54	\$ 81,156.32	\$ 1,520.20	\$ 22,011.18	\$ 40,023.92	\$ 12,668.30		\$ 893,509.09
<i>% Total by Class</i>		0.49%	1.24%	52.49%	11.63%	8.69%	7.84%	9.08%	0.17%	2.46%	4.48%	1.42%		
Total														\$ 893,509.09

ATTACHMENT B - Fee Estimate

183North Mobility Project Task 2		Transportation Program Manager	Sr. Engineering Manager	Sr. Supervising Engineer	Sr. Supervising Planner	Supervising Traffic Manager	Supervising Planner	Lead Engineer	Lead Engineer	Sr. Planner	Sr. Information Coordinator	Sr. Computer Graphics Specialist	Engineer II	Planner I	TOTAL	TOTAL
TASK / WORK DESCRIPTION																
Task 2	ENVIRONMENTAL STUDY AND TRAFFIC MODELING [13210, 13110]	6	62	93	196	32	136	358	24	546	260	92	619	80	2,504	\$ 362,358.36
Task 2.1	Vissim Modeling - Combined Model Phase III														0	\$ -
Task 2.1.1	Volume Development			7		2		32					80		121	\$ 16,627.15
Task 2.1.2	Develop OD Matrices			18		2		80					90		190	\$ 28,028.62
Task 2.1.3	Convert to Dynamic Routing			36		4		140					241		421	\$ 60,134.86
Task 2.1.4	Modify Network and Analyze			16		4		100					200		320	\$ 44,180.71
Task 2.1.5	Prepare Technical Memorandum		2	16		4		6				20	8		56	\$ 8,598.61
Task 2.2	Biological Assessment / USFWS Consultation	2	16		60	8	48		24	30					188	\$ 34,104.13
Task 2.3	NEPA Re-evaluation	2	36		40	8	56			140		24			306	\$ 49,306.09
Task 2.4	Environmental Re-Evaluation – 183 North / MoPac Direct															
Task 2.4.1	NEPA Re-evaluation		4		40		32			312				80	468	\$ 62,697.55
Task 2.4.2	Stakeholder Involvement	2	4		56					64	260	48			434	\$ 58,680.64
TOTAL DIRECT LABOR		6	62	93	196	32	136	358	24	546	260	92	619	80	2504	\$ 362,358.36
<i>% Total by Classification</i>		0.24%	2.48%	3.71%	7.83%	1.28%	5.43%	14.30%	0.96%	21.81%	10.38%	3.67%	24.72%	3.19%		
Labor Costs		\$ 714.00	\$ 6,138.00	\$ 8,370.00	\$ 15,680.00	\$ 2,400.00	\$ 8,160.00	\$ 21,480.00	\$ 1,320.00	\$ 27,300.00	\$ 12,480.00	\$ 2,760.00	\$ 27,855.00	\$ 2,640.00		
Overhead Rate		1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993		
Overhead Costs		\$ 999.10	\$ 8,588.90	\$ 11,712.14	\$ 21,941.02	\$ 3,358.32	\$ 11,418.29	\$ 30,056.96	\$ 1,847.08	\$ 38,200.89	\$ 17,463.26	\$ 3,862.07	\$ 38,977.50	\$ 3,694.15		
Profit		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%		
Profit Costs		\$ 171.31	\$ 1,472.69	\$ 2,008.21	\$ 3,762.10	\$ 575.83	\$ 1,957.83	\$ 5,153.70	\$ 316.71	\$ 6,550.09	\$ 2,994.33	\$ 662.21	\$ 6,683.25	\$ 633.42		
Total Loaded Labor		\$ 1,884.41	\$ 16,199.59	\$ 22,090.36	\$ 41,383.13	\$ 6,334.15	\$ 21,536.12	\$ 56,690.66	\$ 3,483.78	\$ 72,050.98	\$ 32,937.59	\$ 7,284.27	\$ 73,515.75	\$ 6,967.57		\$ 362,358.36
<i>% Total by Class</i>		0.52%	4.47%	6.10%	11.42%	1.75%	5.94%	15.64%	0.96%	19.88%	9.09%	2.01%	20.29%	1.92%		
Task 2 Subconsultant	CJ Hensch															\$ 12,000.00
Task 2 Subconsultant	Cambrian															\$ 40,996.40
Total																\$ 362,358.36

ATTACHMENT B - Fee Estimate

183North Mobility Project Task 3		Transportation Program Manager	Sr. Engineering Manager	Sr. Supervising Engineer	Sr. Supervising Architect	Engineering Manager	Supervising Traffic Manager	Supervising Engineer	Lead Engineer	Lead Engineer
TASK / WORK DESCRIPTION										
Task 3	PRELIMINARY ENGINEERING [13110]	18	217	86	160	86	62	292	228	84
Task 3.1	Survey and Right of Way Validation		24				12			4
Task 3.2	Bridge Layout and Constructibility									
Task 3.2.1	Preliminary Bridge Layout and Typical Sections		4	42			8	60		8
Task 3.2.2	Identify Issues and Constructability Review	2	17	13			0	20		12
Task 3.3	Drainage									
Task 3.3.1	Proof of Concept		16				32	128	24	4
Task 3.3.2	ATLAS 14 Implementation		24					24	24	
Task 3.4	Landscaping and Aesthetics Guide		12		160		10			
Task 3.5	Geotechnical Investigation		8	11						
Task 3.6	183 North / MoPac Direct Connection									
Task 3.6.1	Roadway Schematic Design									
Task 3.6.1.1	Environmental Exhibit Preparation	8	16							
Task 3.6.1.2	Roadway Geometrics and Design	8	60			40			160	
Task 3.6.1.3	Roadway Cross Sections								20	
Task 3.6.1.4	Large Guide Signs & Illumination					46	0	28		
Task 3.6.1.5	Preliminary Cost Estimate and Draft Engineering Report		24	0						16
Task 3.6.2	Drainage Schematic Design	0	0			0	0			0
Task 3.6.3	Structure Schematic Design		4	20			0	32		16
Task 3.6.4	Utility Coordination		8				0			24
Task 3.6.5	Survey									
TOTAL DIRECT LABOR		18	217	86	160	86	62	292	228	84
<i>% Total by Classification</i>		0.70%	8.45%	3.35%	6.23%	3.35%	2.41%	11.37%	8.88%	3.27%
Labor Costs		\$ 2,142.00	\$ 21,483.00	\$ 7,740.00	\$ 13,600.00	\$ 7,310.00	\$ 4,650.00	\$ 20,440.00	\$ 13,680.00	\$ 4,620.00
Overhead Rate		1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993
Overhead Costs		\$ 2,997.30	\$ 30,061.16	\$ 10,830.58	\$ 19,030.48	\$ 10,228.88	\$ 6,506.75	\$ 28,601.69	\$ 19,142.42	\$ 6,464.77
Profit		10%	10%	10%	10%	10%	10%	10%	10%	10%
Profit Costs		\$ 513.93	\$ 5,154.42	\$ 1,857.06	\$ 3,263.05	\$ 1,753.89	\$ 1,115.67	\$ 4,904.17	\$ 3,282.24	\$ 1,108.48
Total Loaded Labor		\$ 5,653.23	\$ 56,698.58	\$ 20,427.64	\$ 35,893.53	\$ 19,292.77	\$ 12,272.42	\$ 53,945.86	\$ 36,104.67	\$ 12,193.24
<i>% Total by Class</i>		1.39%	13.96%	5.03%	8.84%	4.75%	3.02%	13.28%	8.89%	3.00%
Task 3 Subconsultant	McGray & McGray									
Task 3 Subconsultant	K Friese & Associates									
Task 3 Subconsultant	Gorrondona & Associates									
Task 3 Subconsultant	K Friese & Associates									
Total										

ATTACHMENT B - Fee Estimate

183North Mobility Project Task 3		Lead Architect	Sr. Engineer	Sr. CADD Designer III	Sr. Computer Graphics Specialist	Engineer II	Engineer I	CADD Operator III	TOTAL	TOTAL
TASK / WORK DESCRIPTION										
Task 3	PRELIMINARY ENGINEERING [13110]	176	276	366	40	124	334	20	2,569	\$ 406,190.69
Task 3.1	Survey and Right of Way Validation								40	\$ 9,226.75
Task 3.2	Bridge Layout and Constructibility									
Task 3.2.1	Preliminary Bridge Layout and Typical Sections		140	210					472	\$ 68,266.32
Task 3.2.2	Identify Issues and Constructability Review								64	\$ 13,594.67
Task 3.3	Drainage									
Task 3.3.1	Proof of Concept						154	20	378	\$ 54,616.23
Task 3.3.2	ATLAS 14 Implementation								72	\$ 14,505.21
Task 3.4	Landscaping and Aesthetics Guide	176							358	\$ 64,233.58
Task 3.5	Geotechnical Investigation								19	\$ 4,703.11
Task 3.6	183 North / MoPac Direct Connection									
Task 3.6.1	Roadway Schematic Design									
Task 3.6.1.1	Environmental Exhibit Preparation		56	40		24			144	\$ 21,683.91
Task 3.6.1.2	Roadway Geometrics and Design		20	80			100		468	\$ 73,877.33
Task 3.6.1.3	Roadway Cross Sections		60				80		160	\$ 18,474.61
Task 3.6.1.4	Large Guide Signs & Illumination					100			174	\$ 27,368.82
Task 3.6.1.5	Preliminary Cost Estimate and Draft Engineering Report								40	\$ 8,593.33
Task 3.6.2	Drainage Schematic Design									
Task 3.6.3	Structure Schematic Design			36	40				148	\$ 21,472.78
Task 3.6.4	Utility Coordination								32	\$ 5,574.05
Task 3.6.5	Survey									
TOTAL DIRECT LABOR		176	276	366	40	124	334	20	2569	\$ 406,190.69
<i>% Total by Classification</i>		6.85%	10.74%	14.25%	1.56%	4.83%	13.00%	0.78%		
Labor Costs		\$ 8,800.00	\$ 13,800.00	\$ 16,470.00	\$ 1,200.00	\$ 5,580.00	\$ 11,690.00	\$ 700.00		
Overhead Rate		1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993		
Overhead Costs		\$ 12,313.84	\$ 19,310.34	\$ 23,046.47	\$ 1,679.16	\$ 7,808.09	\$ 16,357.82	\$ 979.51		
Profit		10%	10%	10%	10%	10%	10%	10%		
Profit Costs		\$ 2,111.38	\$ 3,311.03	\$ 3,951.65	\$ 287.92	\$ 1,338.81	\$ 2,804.78	\$ 167.95		
Total Loaded Labor		\$ 23,225.22	\$ 36,421.37	\$ 43,468.12	\$ 3,167.08	\$ 14,726.90	\$ 30,852.60	\$ 1,847.46		\$ 406,190.69
<i>% Total by Class</i>		5.72%	8.97%	10.70%	0.78%	3.63%	7.60%	0.45%		
Task 3 Subconsultant	McGray & McGray									\$ 307,136.04
Task 3 Subconsultant	K Friese & Associates									\$ 125,306.59
Task 3 Subconsultant	Gorronдона & Associates									\$ 130,246.98
Task 3 Subconsultant	K Friese & Associates									\$ 69,848.45
Total										\$ 713,326.73

ATTACHMENT B - Fee Estimate							
183North Mobility Project Tasks 4 and 5		Transportation Program Manager	Sr. Engineering Manager	Sr. Supervising Engineer	Supervising Traffic Manager	TOTAL	TOTAL
TASK / WORK DESCRIPTION							
Task 4	PRE-INVESTMENT GRADE TRAFFIC & REVENUE ANALYSIS	0	8	0	40	48	\$ 10,007.96
Task 4.1	Coordination with CTRMA's T&R Consultant		4		20	24	\$ 5,003.98
Task 4.2	Provide project information to T&R Consultant		4		20	24	\$ 5,003.98
Task 5	INVESTMENT GRADE TRAFFIC AND REVENUE ANALYSIS C	4	16	70	224	314	\$ 66,403.03
Task 5.1	Coordination with CTRMA's T&R Consultant	2	8	40	136	186	\$ 39,139.78
Task 5.2	Provide project information to T&R	2	8	30	88	128	\$ 27,263.25
TOTAL DIRECT LABOR		4	24	70	264	362	\$ 76,410.99
<i>% Total by Classification</i>		1.10%	6.63%	19.34%	72.93%		
Labor Costs		\$ 476.00	\$ 2,376.00	\$ 6,300.00	\$ 19,800.00		
Overhead Rate		1.3993	1.3993	1.3993	1.3993		
Overhead Costs		\$ 666.07	\$ 3,324.74	\$ 8,815.59	\$ 27,706.14		
Profit		10%	10%	10%	10%		
Profit Costs		\$ 114.21	\$ 570.07	\$ 1,511.56	\$ 4,750.61		
Total Loaded Labor		\$ 1,256.27	\$ 6,270.81	\$ 16,627.15	\$ 52,256.75		\$ 76,410.99
<i>% Total by Class</i>		1.64%	8.21%	21.76%	68.39%		
Total							\$ 76,410.99

ATTACHMENT B - Fee Estimate

183North Mobility Project Task 6		Transportation Program Manager	Sr. Engineering Manager	Sr. Procurement Engineer	Sr. Supervising Engineer	Sr. Supervising Architect	Engineering Manager	Sr. Supervising Planner	Supervising Traffic Manager	Supervising Engineer	Computer Systems Specialist
TASK / WORK DESCRIPTION											
Task 6	PROJECT OVERSIGHT - DESIGN BUILD AGREEMENT [13330]	46	1,364	1,498	200	120	233	92	937	163	176
Task 6.1	Request for Qualifications (RFQ) Process		116	116					116		
Task 6.2	Draft Request for Detailed Proposals (RFDP)		153	197	112	32	141	4	232	55	
Task 6.3	Final RFDP	16	350	400	40	40	40	40	180	40	
Task 6.4	Proposal Coordination Support	8	160	200	20	20	20	20	90	20	
Task 6.5	Proposal Review Support	8	275	358	20	20	20	20	160	20	
Task 6.6	Design Build Agreement Support	2	50	75	8	8	8	8	20	8	
Task 6.7	Bond Sale Support	8	200	72					100		
Task 6.8	CE&I Procurement	4	40	80					35	20	
Task 6.9	Development of Procurement Portal		20				4		4		176
TOTAL DIRECT LABOR		46	1364	1498	200	120	233	92	937	163	176
<i>% Total by Classification</i>		0.74%	22.00%	24.16%	3.23%	1.94%	3.76%	1.48%	15.11%	2.63%	2.84%
Labor Costs		\$ 5,474.00	\$ 135,036.00	\$ 146,804.00	\$ 18,000.00	\$ 10,200.00	\$ 19,805.00	\$ 7,360.00	\$ 70,275.00	\$ 11,410.00	\$ 12,320.00
Overhead Rate		1.3993	1.3993	1.6944	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993
Overhead Costs		\$ 7,659.77	\$ 188,955.87	\$ 248,744.70	\$ 25,187.40	\$ 14,272.86	\$ 27,713.14	\$ 10,298.85	\$ 98,335.81	\$ 15,966.01	\$ 17,239.38
Profit		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Profit Costs		\$ 1,313.38	\$ 32,399.19	\$ 39,554.87	\$ 4,318.74	\$ 2,447.29	\$ 4,751.81	\$ 1,765.88	\$ 16,861.08	\$ 2,737.60	\$ 2,955.94
Total Loaded Labor		\$ 14,447.15	\$ 356,391.06	\$ 435,103.57	\$ 47,506.14	\$ 26,920.15	\$ 52,269.95	\$ 19,424.73	\$ 185,471.89	\$ 30,113.61	\$ 32,515.31
<i>% Total by Class</i>		1.04%	25.76%	31.45%	3.43%	1.95%	3.78%	1.40%	13.41%	2.18%	2.35%
Total											

ATTACHMENT B - Fee Estimate

183North Mobility Project Task 6		Supervising Planner	Lead Engineer	Sr. Planner	Lead Architect	Sr. Engineer	Sr. Information Coordinator	Sr. Computer Graphics Specialist	Engineer I	TOTAL	TOTAL
TASK / WORK DESCRIPTION											
Task 6	PROJECT OVERSIGHT - DESIGN BUILD AGREEMENT [13330]	124	359	88	88	88	406	139	40	6,201	\$ 1,383,414.20
Task 6.1	Request for Qualifications (RFQ) Process						60			408	\$ 94,564.13
Task 6.2	Draft Request for Detailed Proposals (RFDP)	36					6		40	1048	\$ 240,225.09
Task 6.3	Final RFDP	40	80	40	40	40	85	39		1510	\$ 339,208.02
Task 6.4	Proposal Coordination Support	20	68	20	20	20	60	19		785	\$ 171,926.53
Task 6.5	Proposal Review Support	20	80	20	20	20	67	20		1148	\$ 264,430.07
Task 6.6	Design Build Agreement Support	8	20	8	8	8	8	22		269	\$ 58,184.48
Task 6.7	Bond Sale Support		81				80	39		580	\$ 120,456.69
Task 6.8	CE&I Procurement		30							209	\$ 49,921.76
Task 6.9	Development of Procurement Portal						40			244	\$ 44,497.42
TOTAL DIRECT LABOR		124	359	88	88	88	406	139	40	6201	\$ 1,383,414.20
<i>% Total by Classification</i>		2.00%	5.79%	1.42%	1.42%	1.42%	6.55%	2.24%	0.65%		
Labor Costs		\$ 7,440.00	\$ 19,745.00	\$ 4,400.00	\$ 4,400.00	\$ 4,400.00	\$ 19,488.00	\$ 4,170.00	\$ 1,400.00		
Overhead Rate		1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.6944		
Overhead Costs		\$ 10,410.79	\$ 27,629.18	\$ 6,156.92	\$ 6,156.92	\$ 6,156.92	\$ 27,269.56	\$ 5,835.08	\$ 2,372.16		
Profit		10%	10%	10%	10%	10%	10%	10%	10%		
Profit Costs		\$ 1,785.08	\$ 4,737.42	\$ 1,055.69	\$ 1,055.69	\$ 1,055.69	\$ 4,675.76	\$ 1,000.51	\$ 377.22		
Total Loaded Labor		\$ 19,635.87	\$ 52,111.60	\$ 11,612.61	\$ 11,612.61	\$ 11,612.61	\$ 51,433.31	\$ 11,005.59	\$ 4,149.38		\$ 1,383,414.20
<i>% Total by Class</i>		1.42%	3.77%	0.84%	0.84%	0.84%	3.72%	0.80%	0.30%		
Total											\$ 1,383,414.20

ATTACHMENT B - Fee Estimate

183North Mobility Project Task 7		Transportation Program Manager	Sr. Supervising Engineer	Sr. Supervising Planner	Sr. Planner	Sr. Information Coordinator	Sr. Computer Graphics Specialist	Planner I	TOTAL	TOTAL
TASK / WORK DESCRIPTION										
Task 7	ENVIRONMENTAL PERMIT SUPPORT [13220]	4	240	120	121	40	40	39	671	\$ 128,704.69
Task 7.1	Preconstruction Notice for (USACE)	4	240	120	121	40	40	39	671	\$ 128,704.69
TOTAL DIRECT LABOR		4	240	120	121	40	40	39	671	\$ 128,704.69
<i>% Total by Classification</i>		0.60%	35.77%	17.88%	18.03%	5.96%	5.96%	5.81%		
Labor Costs		\$ 476.00	\$ 21,600.00	\$ 9,600.00	\$ 6,050.00	\$ 1,920.00	\$ 1,200.00	\$ 1,287.00		
Overhead Rate		1.3993	1.3993	1.3993	1.3993	1.3993	1.3993	1.3993		
Overhead Costs		\$ 666.07	\$ 30,224.88	\$ 13,433.28	\$ 8,465.77	\$ 2,686.66	\$ 1,679.16	\$ 1,800.90		
Profit		10%	10%	10%	10%	10%	10%	10%		
Profit Costs		\$ 114.21	\$ 5,182.49	\$ 2,303.33	\$ 1,451.58	\$ 460.67	\$ 287.92	\$ 308.79		
Total Loaded Labor		\$ 1,256.27	\$ 57,007.37	\$ 25,336.61	\$ 15,967.34	\$ 5,067.32	\$ 3,167.08	\$ 3,396.69		\$ 128,704.69
<i>% Total by Class</i>		0.98%	44.29%	19.69%	12.41%	3.94%	2.46%	2.64%		
Total										\$ 128,704.69

ATTACHMENT B - Fee Estimate

183North Mobility Project Tasks 8		Transportation Program Manager	Sr. Engineering Manager	Supervising Traffic Manager	Lead Engineer	Sr. Engineer	Engineer I	TOTAL	TOTAL
TASK / WORK DESCRIPTION									
Task 8	ENHANCED UTILITY IDENTIFICATION [13310]	6	60	20	90	80	282	538	\$ 74,394.49
Task 8.1	Utility Coordination							0	\$ -
Task 8.2	Subsurface Utility Engineering (SUE)							0	\$ -
Task 8.3	Enhanced Utility Identification	6	60	20	90	80	282	538	\$ 74,394.49
TOTAL DIRECT LABOR		6	60	20	90	80	282	538	\$ 74,394.49
<i>% Total by Classification</i>		1.12%	11.15%	3.72%	16.73%	14.87%	52.42%		
Labor Costs		\$ 714.00	\$ 5,940.00	\$ 1,500.00	\$ 4,950.00	\$ 4,000.00	\$ 9,870.00		
Overhead Rate		1.3993	1.3993	1.3993	1.3993	1.3993	1.6944		
Overhead Costs		\$ 999.10	\$ 8,311.84	\$ 2,098.95	\$ 6,926.54	\$ 5,597.20	\$ 16,723.73		
Profit		10%	10%	10%	10%	10%	10%		
Profit Costs		\$ 171.31	\$ 1,425.18	\$ 359.90	\$ 1,187.65	\$ 959.72	\$ 2,659.37		
Total Loaded Labor		\$ 1,884.41	\$ 15,677.03	\$ 3,958.85	\$ 13,064.19	\$ 10,556.92	\$ 29,253.10		\$ 74,394.49
<i>% Total by Class</i>		2.53%	21.07%	5.32%	17.56%	14.19%	39.32%		
Task 8 Subconsultant	Rios Group								\$ 366,075.00
Task 8 Subconsultant	Anderson Infrastructure								\$ 248,323.02
Total Subconsultants									\$ 614,398.02
Total									\$ 688,792.51

ATTACHMENT B - Fee Estimate

183North Mobility Project Tasks 9 and 10		Transportation Program Manager	Sr. Engineering Manager	Sr. Supervising Engineer	Supervising Traffic Manager	Lead Engineer	TOTAL	TOTAL
TASK / WORK DESCRIPTION								
Task 9	RIGHT-OF-WAY ACQUISITION & RELOCATION SERVICES [13410]	6	122	160	148	346	782	\$ 151,285.94
Task 9.1	Appraisals	2	80	80	88	168	418	\$ 82,338.70
Task 9.2	Negotiation / Voluntary Settlement	2	30	40	20	59	151	\$ 30,491.02
Task 9.3	Relocation Assistance		4			13	17	\$ 2,932.18
Task 9.4	Right of Way Status Tracking	2	8	40	40	106	196	\$ 35,524.04
Task 10	RIGHT-OF-WAY LITIGATION / CONDEMNATION SERVICES [13450]	4	56	160	60	678	958	\$ 164,186.50
Task 10.1	Litigation Support	2	40	120	40	546	748	\$ 126,756.94
Task 10.2	General Attorney Consultation	2	16	40	20	132	210	\$ 37,429.56
TOTAL DIRECT LABOR		10	178	320	208	1024	1740	\$ 315,472.44
		<i>% Total by Classification</i>						
		0.57%	10.23%	18.39%	11.95%	58.85%		
Labor Costs		\$ 1,190.00	\$ 17,622.00	\$ 28,800.00	\$ 15,600.00	\$ 56,320.00		
Overhead Rate		1.3993	1.3993	1.3993	1.3993	1.3993		
Overhead Costs		\$ 1,665.17	\$ 24,658.46	\$ 40,299.84	\$ 21,829.08	\$ 78,808.58		
Profit		10%	10%	10%	10%	10%		
Profit Costs		\$ 285.52	\$ 4,228.05	\$ 6,909.98	\$ 3,742.91	\$ 13,512.86		
Total Loaded Labor		\$ 3,140.68	\$ 46,508.51	\$ 76,009.82	\$ 41,171.99	\$ 148,641.43		\$ 315,472.44
		<i>% Total by Class</i>						
		1.00%	14.74%	24.09%	13.05%	47.12%		
Total								\$ 315,472.44

ATTACHMENT B - Fee Estimate							
183North Mobility Project Task 11		Transportation Program Manager	Sr. Engineering Manager	Sr. Information Coordinator	Sr. Computer Graphics Specialist	TOTAL	TOTAL
TASK / WORK DESCRIPTION							
Task 11	PUBLIC INVOLVEMENT [13750]	2	48	656	137	843	\$ 107,121.07
Task 11.1	Communications &	2	4	16	8	30	\$ 4,333.62
Task 11.2	Communications &						
Task 11.2.1	Stakeholder List		4	16		20	\$ 3,072.06
Task 11.2.2	Fact Sheets and		4	20	9	33	\$ 4,291.39
Task 11.2.3	Website Content		4	30	8	42	\$ 5,479.04
Task 11.2.4	E-Newsletters		4	16	4	24	\$ 3,388.77
Task 11.2.5	Public Inquiry		4	40		44	\$ 6,112.46
Task 11.2.6	Elected Official		4	20	4	28	\$ 3,895.50
Task 11.2.7	Media Inquiry		4	58	8	70	\$ 9,026.17
Task 11.2.8	Issues Management		4	20		24	\$ 3,578.80
Task 11.2.9	Crisis		4	20		24	\$ 3,578.80
Task 11.2.10	Groundbreaking		4	80	12	96	\$ 12,129.90
Task 11.2.11	Construction Website		4	40	12	56	\$ 7,062.58
Task 11.3	Procurement Support			200	20	220	\$ 26,920.15
Task 11.4	Reporting and Meetings			60	12	72	\$ 8,551.11
Task 11.5	Project Branding			20	40	60	\$ 5,700.74
TOTAL DIRECT LABOR		2	48	656	137	843	\$ 107,121.07
<i>% Total by Classification</i>		0.24%	5.69%	77.82%	16.25%		
Labor Costs		\$ 238.00	\$ 4,752.00	\$ 31,488.00	\$ 4,110.00		
Overhead Rate		1.3993	1.3993	1.3993	1.3993		
Overhead Costs		\$ 333.03	\$ 6,649.47	\$ 44,061.16	\$ 5,751.12		
Profit		10%	10%	10%	10%		
Profit Costs		\$ 57.10	\$ 1,140.15	\$ 7,554.92	\$ 986.11		
Total Loaded Labor		\$ 628.14	\$ 12,541.62	\$ 83,104.07	\$ 10,847.24		\$ 107,121.07
<i>% Total by Class</i>		0.59%	11.71%	77.58%	10.13%		
Task 11 Subconsultant	Monkee Boy						\$ 138,250.00
Task 11 Event Expenses	Event Planner						\$ 75,000.00
Total Subconsultants							\$ 213,250.00
Total							\$ 320,371.07