

SUPPLEMENTAL WORK AUTHORIZATION NO. 2
TO
WORK AUTHORIZATION NO. 5

WILLIAMSON COUNTY ROAD BOND PROJECT:
Southeast Loop Phase 2 PS&E

This Supplemental Work Authorization No. 2 to Work Authorization No. 5 is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated March 13, 2017 ("Contract") and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and Johnson, Mirmiran & Thompson, Inc. (the "Engineer").

WHEREAS, the County and the Engineer executed Work Authorization No. 5 dated effective July 16, 2021 (the "Work Authorization");

WHEREAS, pursuant to Article 14 of the Contract, amendments, changes and modifications to a fully executed Work Authorization shall be made in the form of a Supplemental Work Authorization; and

WHEREAS, it has become necessary to amend, change and modify the Work Authorization.

AGREEMENT

NOW, THEREFORE, premises considered, the County and the Engineer agree that the Work Authorization shall be amended, changed and modified as follows:


- I. The Services to be Provided by the County that were set out in the original Attachment "A" of the Work Authorization are hereby amended, changed and modified as shown in the attached revised Attachment "A" (must be attached).
- II. The Services to be Provided by the Engineer that were set out in the original Attachment "B" of the Work Authorization are hereby amended, changed and modified as shown in the attached revised Attachment "B" (must be attached).
- III. The Work Authorization shall terminate on July 22, 2024. The Services to be Provided by the Engineer shall be fully completed on or before said date unless extended by an additional Supplemental Work Authorization. The revised Work Schedule is attached hereto as Attachment "C" (must be attached).
- IV. The maximum amount payable for services under the Work Authorization is hereby increased from \$3,355,117.25 to \$4,356,768.71. The revised Fee Schedule is attached hereto as Attachment "D" (must be attached).

Except as otherwise amended by prior or future Supplemental Work Authorizations, all other terms of the Work Authorization are unchanged and will remain in full force and effect.

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

IN WITNESS WHEREOF, the County and the Engineer have executed this Supplemental Work Authorization, to be effective as of the date of the last party's execution below.

ENGINEER:

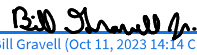
By: 
Signature

Kristi Flagg
Printed Name

Senior Vice President
Title

10/04/2023
Date

COUNTY:

By: 
Signature

Bill Gravell
Printed Name

County Judge
Title

Oct 11, 2023
Date

LIST OF ATTACHMENTS

Attachment A5-2 - Services to be Provided by County

Attachment B5-2 - Services to be Provided by Engineer

Attachment C5-2 - Work Schedule

Attachment D5-2 - Fee Schedule

APPROVED
By Christen Eschberger at 9:37 am, Oct 05, 2023

ATTACHMENT A5-2
SERVICES TO BE PROVIDED BY THE COUNTY
SOUTHEAST LOOP PHASE 2

In general, Williamson County and its representatives to their best efforts will render services as follows:

1. Name, business address, and phone number of County's project manager.
2. Assistance to the Engineer, as necessary, with obtaining data and information from other local, regional, State and Federal agencies required for this project.
3. Obtain Rights of Entry from landowners
4. Provide available appropriate County data on file including plans and specifications that are deemed pertinent to the completion of the work required by the scope of services (including previous hydraulic studies, models, previous reports and studies, available existing traffic counts, and design year traffic projections)
5. Provide available criteria and full information as to the client's requirements for the project. Provide examples of acceptable format for the required deliverables.
6. Provide information on any meetings/discussions held with adjoining property owners that may impact the project.
7. Provide timely reviews and decisions necessary for the Engineer to maintain the project work schedule. Review recommendations offered by the Engineer, progress of work, and final acceptance of all documents.
8. Submittal of documentation and permits to regulatory agencies for review and comment, when specified.
9. Support project development efforts with stakeholders, coordinate meetings and interface with stakeholders, as needed.
10. Post and maintain project information for public consumption on the County website.
11. Assist with Coordination between the Engineer and the County's other consultants.
12. Negotiate with all utility companies for any agreements and/or relocations required.
13. Provide an agent as necessary to secure proposed ROW and relocate/remove improvements on proposed ROW.

ATTACHMENT B5-2
SERVICES TO BE PROVIDED BY THE ENGINEER FOR
SOUTHEAST LOOP PHASE 2

PROJECT DESCRIPTION

Project Limits

New location from CR 137 to CR 404.

Proposed Facility

Construct a new 2 lane roadway with a continuous two-way left turn lanes and shared use path to serve as the future eastbound / northbound frontage road.

TASK DESCRIPTIONS

The Engineer shall categorize each task performed to correspond with the following Task Numbers and descriptions.

Scope of work

Johnson, Mirmiran, & Thompson, Inc. has been requested and given notice to proceed on June 9, 2021 at scoping meeting to provide a detailed 45% Plans, Specification, and Estimate (PS&E) for Phase 2 of the Southeast Loop.

Supplemental #1 was to continue the effort and scope needed to advance the 45% PS&E to final construction documents.

Supplemental #2 adds Project Management effort past the original design effort to change project limits (tie into FM 3349 project north of Boggy Creek), incorporate QL A SUE not available prior to the 100% Submittal, missing ROE to complete the PS&E, for environmental services and supporting ROW exhibit requests. The supplemental adds additional effort for Submittal of an Approved Jurisdictional Determination, Submittal of Nationwide Permit and Historic Resources Coordination. Finally, the supplemental is needed to allow for design coordination, alternatives analysis and design revisions based on QL A SUE and coordination with utility companies to address utility conflicts, to reduce Waters of the U.S. impacts, and to support ongoing ROW acquisition efforts.

1. PROJECT MANAGEMENT (JMT)

a. General Project Management (April 2023 to May 2024):

- Designate one Licensed Professional Engineer (Texas) to be responsible for project management, and all communications with the County and its representatives.
- The Engineer shall establish a schedule for the engineering services to be performed by the subconsultants. The engineer shall be responsible for the coordination, supervision, review, and incorporation of the subconsultants' work.

b. Monthly Progress Report, Invoices, and Billings (April 2023 to May 2024):

- Submit monthly progress status reports to the GEC. Progress reports will include deliverable table, tasks completed, tasks/objectives that are planned for the upcoming periods, list or description of items or decisions needed from the County and its representative. Subconsultant progress will be incorporated into the monthly progress report. A copy of the monthly progress report will be uploaded to ProjectWise.

- Prepare correspondence, invoices, and progress reports monthly in accordance with current County requirements.
- c. Quality Assurance and Quality Control (QA/QC) Plan:
- For each deliverable submittal, provide evidence of their internal review and mark-up of that deliverable as preparation for submittal and in accordance with submitted project specific QA/QC plan.
 - Provide continuous QA/QC throughout the duration of the scheduled services included herein to appraise both technical and business performance and provide direction for project activities.
- d. Project Coordination & Administration (April 2023 to May 2024):
- Prepare and maintain routine project record keeping including records of meetings and minutes.
 - Correspondence and coordination will be handled through & with the concurrence of the GEC.
 - Manage project activities (including documenting emails, phone and conference calls, maintain project files for the length of the project, meeting agendas, meeting minutes, and schedule meetings), direct Engineer's team/staff, coordinate and review sub consultant work, correspond with the County and its representatives, and assist the County and its representatives in preparing responses to project-related inquiries.
- e. Progress/Coordination Meetings:
- Attend monthly coordination/progress meeting with the County and its representatives and stakeholders, as necessary to communicate development of the project and design issues (11 external meeting assumed).
 - Prepare agenda and sign-in sheets for external coordination/progress meetings (11 external meeting assumed).
 - Prepare meeting minutes for review via email within three (3) business days of the external coordination/progress meeting (11 external meeting assumed).
 - Conduct internal coordination meetings as required to advance the development of the project (11 internal meeting assumed).
- f. Stakeholder Coordination (Utility coordination and peer review coordination meetings):
- Coordinate with affected local agencies and County's consultants.
 - Attend meeting with stakeholders (6 meetings assumed).
 - Prepare agendas, sign in sheets, discussion topics, presentations, overall exhibits, and maps of the project limits for stakeholder coordination (6 meetings assumed).
 - Prepare meeting minutes for review via email within three (3) business days of the stakeholder coordination meetings (6 meetings assumed).

g. Project Schedule (April 2023 to May 2024):

- Maintain a project schedule indicating tasks, subtasks, critical dates, milestones, and deliverables. Submit to County as requested.

h. Submittal Review Process:

- Attend Comment Resolution Meetings for each milestone submittal (Pre-final and Final 100% Update submittal).
- Respond to Review Comments (Pre-final and Final 100% Update submittal).

Deliverables:

- Monthly Invoices and Progress Reports including Deliverable Table
- Meeting Minutes, Sign-In Sheets, and Agendas
- Project Schedule and Updates
- Project Files
- QA/QC Documentation with Deliverable
- Document Response Comments

2. ROUTE AND DESIGN STUDIES (JMT) (No additional work in this supplemental)

3. DRAINAGE STUDY (JMT) Update H&H modeling and analysis to account for i) QL A SUE (includes Pond G1 near STA 11360+00 and ditches near STA 11258+00 and 1415+00), ii) requests for reduced impact areas for jurisdictional crossings (Waters of the U.S.) ((includes crossing F1, F2, and G near STA 11360+00)) and iii) to adjust pond configurations for ultimate conditions (including ponds E1 near STA 11285+00 and F5 near STA 11315+00), iv) an additional outfall to the project at Boggy Creek has been added to the plans set which will necessitate additional drainage P&P analysis/sheets, additional Hydrologic (HEC-HMS) and Hydraulic (HEC-RAS) modeling for the new bridge structure, and an impervious cover analysis. For the ultimate condition, the Engineer will analyze detention pond mitigation needed to attenuate adverse impacts to the receiving outfall stream.

a. Hydrologic Study & Modeling:

The 45% UCM identified conflicts with gas lines including Enterprise and Flint Hills Resources and recommended design changes. GEC and the Engineer were to review the UCM after the 100% Submittal and generate alternate designs for discussion with HNTB as applicable when SUE data is received. Additional modeling will be performed to account for the ultimate condition incorporating changes in mitigation requirements..

Detail the criteria, methodologies, results, and recommendations of the analysis.

- Modify existing hydrologic & hydraulic models to reflect updates needed for the existing & proposed conditions. Compare and document the study results with existing studies or models from WCIDs, USACE, TWDB, cities, etc., if available.

- Updated proposed condition drainage area maps.
 - Updates to the FEMA hydrologic models to incorporate revised Atlas 14 values is not included with this WA and will be considered additional services if added.
- b. Hydraulic Study & Modeling:
- Provide hydraulic models and/or calculations for the proposed structures and existing structures to remain.
 - Document existing conditions including size, length, flowline elevations, scour, flooding, erosion, or other notable conditions. Document source of hydraulic/channel cross sections.
 - Prepare design of the right of way drainage system, including cross drainage structures, using appropriate software (HEC-RAS, HY-8, SWMM, Bentley or other approved hydraulic modeling software). Culverts will be sized hydraulically, all other design of ROW drainage including roadside ditches will be included in the PS&E (Section 9) Section.
 - Compare and document the study results with existing studies or models from WCIDs, USACE, TWDB, cities, etc., if available.
 - Minimum pavement elevations based on design event WSEL for cross drainage flood elevations.
 - Determine the need for ROW or easements for the project. Coordinate with the County's GEC as needed to ensure that ROW, easements, and the space required for the appropriate maintenance equipment, activities and personnel is provided.
 - Provide electronic files for all data collected and any developed Hydrologic & Hydraulic models. Provide CAD and/or GIS files used in the study.
- c. Impact and Mitigation Analysis:
- Provide documentation of all adverse impacts resulting from the proposed facility in proposed condition. Provide a comparison of existing vs proposed at each outfall from the project area.
 - Coordinate with the County's GEC as needed to ensure that proposed mitigation and/or detention facilities are in an acceptable location and have acceptable access for both adjacent property owners and future maintenance activities. Provide landscaping setbacks, if requested. Criteria for this determination will be based, in part, on drainage information provided by the Engineer and on the existing and proposed design for the project area.
 - Provide analysis on adverse impacts to nearby buildings, property access points, and runoff patterns.
 - If detention is required, provide routing analysis of storm hydrographs for the proposed condition. Design stormwater control structures (both structural and non-structural), detention basin layouts and details and provide a detailed maintenance plan.

- The drainage peer review meetings will define the drainage approach and required mitigation.

d. **Deliverables:**

- Updated Drainage Report (Ultimate and Interim Design)
- Provide electronic files for all data collected and any developed Hydrologic & Hydraulic models. Provide CAD and/or GIS files used in the study.

4. PUBLIC INVOLVEMENT (JMT)

a. Individual Property Owner Meeting Support

- Prepare materials and provide support for meetings with Individual Property Owners. One person will attend from engineering team as requested (Support for 10 parcels/exhibits).

5. RIGHT OF WAY (ROW) MAPPING (JMT/SAM)

a. Right of Entry (ROE) Coordination: (JMT)

- Track and maintain list of parcels requiring ROE and priority parcels for the project team including surveying, geotechnical, environmental and drainage.

b. Parcel Acquisition Documents (3 remainder parcels, 3 parcels and additional ROW staking)

- Prepare draft parcel sketches and field notes documents for right of way parcel and easement acquisition.
- Set appropriate monumentation in accordance with County requirements. Prepare signed and sealed documents for right of way parcel and easement acquisition.
- Stake proposed right of way with suitable markers as requested on a parcel-by-parcel basis for the purposes of fence construction, utility installation, or property owner requests.

Deliverables:

- ROE parcel list updates with prioritization
- Draft Parcel Acquisition Documents (pdf)
- Final Parcel Acquisition Documents (one original and pdf)

6. FIELD SURVEYING (SAM) (No additional work in this supplemental)

7. ENVIRONMENTAL SERVICES (STN) (JMT)

a. Preparation and Submittal of an Approved Jurisdictional Determination (AJD) Request:

- Prepare and submit an AJD request to the Fort Worth District-USACE for the project. This includes the submittal of the AJD request letter, Delineation of Waters of the U.S. (including wetlands) Technical Report, and the appropriate federal forms.
- Submit the reports for review and comment, one time, make revisions based upon the reviews of the reports, and submit the final reports in a digital format.

- b. Preparation and Submittal of a Nationwide Permit (NWP) Application with pre-construction notification (PCN):
- Prepare and submit a NWP application to USACE and obtain the final permit for the project. NWP will be prepared in accordance with current USACE policies and regulations.
 - Prepare the appropriate documentation to support a NWP PCN, including figures, delineation documentation, cultural resources reports, and threatened and endangered species documentation.
- c. Historic Resources Coordination and Reporting
- Cultural resources personnel will conduct database searches of the Historic Sites Atlas maintained by the Texas Historical Commission (THC) to identify previously documented archeological sites, cemeteries, historical markers, properties, and districts listed on the NRHP, and SALs. Results of the search will be integrated with topographic maps, aerial photographs, and other appropriate data sources, including datasets from the Texas Department of Transportation, to prepare a letter to coordinate the project with the USACE and THC, including the establishment of an area of potential effects (APE). The APE is anticipated to be 300' from the project footprint, including documentation of the entirety of each parcel intersected by the APE. This scope includes documentation of a maximum of 50 resources.
 - Once the APE is approved, field investigations will be conducted, to the extent possible given restricted right of entry. Historians would produce a letter report including the items required by the THC's Request for SHPO Consultation Form. The report would include an inventory form for all historic-age properties surveyed, NRHP eligibility recommendation for each resource, an evaluation of the presence of eligible historic districts, and a recommendation regarding whether the proposed project would adversely affect NRHP listed or eligible properties or districts. A draft report will be submitted first to County for comments; these comments will be incorporated into a revised draft report to be submitted to the THC/USACE for review.
 - Establishment of permittee responsible mitigation solutions, including the acquisition of suitable mitigation land, is not included under this scope and fee.
- d. TxDOT Categorical Exclusion (CE) Documentation Update
- Update environmental documentation prepared previously for the TxDOT clearance at the intersections of FM 1660 and CR 3349.

Deliverables:

- Approved Jurisdictional Determination (AJD) Request
- NWP with PCN
- THC/USACE Cultural Resources Letter Report
- Updated CE documentation

8. GEOTECHNICAL SERVICES (HVJ)

a. Soil Borings:

- Perform three (3) retaining wall borings at requested locations and two (2) bridge borings at Boggy Creek to support 100% PS&E design updates. Borings will be drilled to a depth of 40' below existing grade.
- The Geotechnical Investigation Report will be updated to report the findings of the above referenced borings. The following items will be included in the geotechnical report: soil boring locations, boring logs (TxDOT WinCore output graphs/format), and plan of borings, subsurface exploration procedures, encountered subsurface conditions, field and laboratory test results, description of surface and subsurface conditions, groundwater conditions, analysis and recommendations for settlement, general earthwork recommendations, swell potential evaluations, pavement thickness design alternatives with subgrade stabilization, and PVR calculations. Follow the procedures in the Williamson County Design Criteria Manual and contact the appropriate utility location services to have underground utilities located prior to drilling in an area.
- Perform appropriate laboratory tests on soil samples recovered from the borings. Laboratory testing will include but not limited to moisture content, liquid limit, plastic limit, unconfined compression, Texas Triaxial, and free swell, sulfate testing, and particle size analysis tests, visual classification, dry density, California Bearing Ratio (CBR) tests, sulfate content tests, and lime series analyses.
- Analysis of the samples will include slope stability analysis, and settlement analysis.

Deliverables:

- Updated Geotechnical Investigation Report

9. PLAN PREPARATION (PS&E) SERVICES (JMT/H&H) (Update 100% PS&E)

Update 100% design to account for i) pending geotechnical investigations, ii) QL A SUE, iii) requests for reduced impact areas for jurisdictional crossings (Waters of the U.S.), iv) to adjust interim access near Parcel 36/40 and Parcel 47, v) change in project limits (tie into FM 3349 project north of Boggy Creek) and v) per the current Williamson County Design Criteria Manual including applicable submittal requirements including cost estimate, checklists, hardcopies, CAD files, general notes, quantities, updated design schedule, construction time determination.

a. Roadway Design/General:

- Index of Sheets
 - Update index sheets for plan sheet updates resulting from the additional work included in this supplemental work authorization.
- Project Layout
 - Update project layout sheets to include revised design resulting from the additional

work included in this supplemental work authorization.

- General Notes
 - Update general notes to comply with design changes included in this supplemental work authorization.
- Construction Cost Estimate
 - Update construction cost estimate to comply with design changes included in this supplemental work authorization. In addition, update estimate bid item unit prices to reflect recent industry pricing trends.
- Horizontal Alignment Data
 - Update horizontal alignment data sheets to include revised design resulting from the additional work included in this supplemental work authorization.
- Quantity Summary Sheets
 - Update summary sheets to include revised design resulting from the additional work included in this supplemental work authorization.
- Roadway Plan & Profiles
 - Update roadway plan and profile sheets to include revised design resulting from the additional work included in this supplemental work authorization.
- Driveway Details
 - Update driveway layout sheets to include revised design resulting from the additional work included in this supplemental work authorization.
- Miscellaneous Roadway Details
 - Develop miscellaneous roadway detail sheets for the project that depict details required, which are not defined in standard detail sheets.
- Existing Utility Layouts
 - Develop design concepts to minimize impacts to major existing utilities. Provide these to the GEC and coordinate the provided concepts with the GEC to determine the recommended concepts. Update design to reflect the agreed upon concepts as coordinated with the GEC.
- Boring Layouts
 - Update boring layouts to reflect bores obtained after the 100% Submittal.
- Retaining Walls
 - Retaining wall key maps, alignment data sheets, typical sections, layouts, and miscellaneous retaining wall details sheets (including design data) will be updated to include revised design resulting from the additional work included in this supplemental work authorization.
- Cross Sections / Cut and Fill Quantities

- Update cross sections and earthwork analysis to include reflect revised design resulting from the additional work included in this supplemental work authorization.

b. Traffic Control:

- Traffic Control Plans (TCP)
 - Update traffic control narrative, traffic control typical sections, TCP layouts, and traffic control details to include revised design resulting from the additional work included in this supplemental work authorization.
 - Update Engineer's opinion of construction schedule to determine an approximate duration for each of the phases of construction.

c. Signing and Pavement Markings Layouts

- Update signing and pavement marking layouts.
 - Unless otherwise directed by the County, all at-grade intersections are assumed to be all-way stops.
- Update pavement marking details for non-standard conditions.
- Update detail sheets for small signs for non-standard signs.

d. Bridge Design:

Bridge design will be completed with the availability of new geotechnical information. Bridge design shall comply with the COUNTY's Design Criteria Manual, and relevant sections of the latest edition of TxDOT's LRFD Bridge Design Manual, Bridge Project Development Manual, Bridge Detailing Guide, and respective checklists, and the AASHTO LRFD Bridge Design Specifications. The ENGINEER will analyze/ identify project-specific bridge design criteria per Wilco and TxDOT. Bridge structures are assumed to be typical TxDOT prestressed concrete girder superstructures with standardized bents and abutments with drilled shaft foundations and are based on the approved Interim Schematic.

- Prepare updated bridge layouts with typical sections for three bridges to incorporate new geotechnical information for the bridges below:
 - Brushy Creek Bridge, approximately 2,176 ft long (JMT)
 - SE Loop underpass near Station 1327+00, approximately 220 ft long (H&H)
 - SE Loop underpass near Station 1336+00, approximately 100 ft long (JMT)
 - SE Loop underpass near Station 1357+00, approximately 100 ft long (JMT)
- Prepare new bridge layout with typical section for one bridge as follows:
 - Boggy Creek Bridge, approximately 95 ft long (JMT)
- The bridge layouts shall include bridge typical sections, structural dimensions, abutment and bent locations, superstructure, and substructure types. The ENGINEER shall locate and plot soil borings, utilities, and show proposed retaining walls in the vicinity of the bridge. No phased construction is anticipated for the bridges listed above.

- Provide structural design calculations, plans, and details required for the bridge construction plans. Use TxDOT standards and details when practical. Modify TxDOT standards as required for project specific conditions. No special aesthetic features are anticipated for the bridge structure or bridge railing; standard TxDOT details will be used. Structural design, details, and tasks will include the following:
 - Estimated quantities and bearing seat elevations
 - Foundation details
 - Abutment details
 - Interior bent details
 - Prepare Final Bridge Cost Estimates.
 - Prepare Final PS&E submittals including Williamson County checklist.
 - Prepare Final calculation packages and CADD files.

- e. Scour Analyses (No additional work in supplemental).

- f. Drainage:
 - Drainage Area Maps
 - Develop proposed external drainage area maps for updates to show the overall project and drainage basin divides.
 - Add up to one sheet for the Boggy Creek Watershed analysis and up to two additional sheets for the ditch drainage areas.

 - Culvert Layout Sheets
 - Develop culvert layout sheets at all the major crossing locations, up to one (1) locations.
 - Identify areas of the culvert construction that will require trench protection or special shoring.

 - Hydraulic Data Sheets
 - Develop updated hydraulic data sheet at affected crossing locations.
 - Up to three sheets will be added for the Boggy Creek Hydraulic analysis.

 - Culvert Standards and Detail Sheets
 - Select culvert standards based on headwall configuration and fill conditions. Develop details as needed for non-standard headwalls, special grading at upstream and downstream transitions and energy dissipation.

 - Parallel Drainage design
 - Update interior drainage area maps that depict drainage area boundaries and flow direction arrows. Each area will be identified and cross-referenced to the calculation sheets.

- Two sheets will be added for the Boggy Creek additional roadway tie-ins.
 - Update Drainage plan and profiles
 - Storm Sewer Design
 - Design and analyze storm drains using Geopak Drainage.
 - Size inlets, laterals, trunk line and outfall. Develop designs that minimize the interference with the passage of traffic or incur damage to the highway and local property in accordance with the State’s Hydraulic Design Manual, District criteria and any specific guidance provided by the County.
 - Determine hydraulic grade line starting at the outfall channel each storm drain design. Use the design water surface elevation of the outfall as the starting basis (tailwater) for the design of the proposed storm sewer system.
 - Limit discharge into existing storm drains and existing outfalls to the capacity of the existing system, which will be determined by the Subconsultant.
 - Roadside Ditch Design
 - Update calculations for run-off to each hydraulic crossing or driveway culvert(s) and ditch hydraulic information in accordance with Williamson County Design Criteria Manual and shown on the run-off and ditch computation sheets.
 - New calculations will be performed for the additional roadway crossing over Boggy Creek.
 - Update tabular ditch layout schedule that depicts pertinent information about the roadside ditch geometry and design. This table will include station, offset, flow line elevation, velocity, ditch lining material, as well as ditch bottom width. The tables will be shown on the hydraulic data sheets.
 - Provide drainage design details for “non-standard” drainage structures in instances where they are not covered by County or TxDOT standard details. Use standard details where practical.
 - Update storm sewer standard details sheets
 - Update miscellaneous drainage details sheet(s)
- g. Stormwater Pollution Prevention Plan (SW3P):
- Update SWP3 sheet, and temporary erosion control layouts to include revised design resulting from the additional work included in this supplemental work authorization.
- h. Traffic Signal Design:
- The Engineer will prepare construction documents including plans, specifications and estimates (PS&E) for the installation of a four-approach traffic control signal at the intersection of FM 1660.
 - Preliminary Plans and Specifications:
 - The Engineer will prepare preliminary traffic signal designs for the project location.

The traffic signal design will be prepared based on TxDOT design standards & specifications plus the criteria outlined in the 2011 TMUTCD. The Engineer will prepare a conceptual layout showing the locations of the controller cabinet and signal poles. The conceptual layout will be utilized in a field review meeting with County staff, TxDOT and the electric utility provider. Adjustments will be made based on field conditions.

- Following the field review meeting, the Engineer will produce, provide internal quality control/quality assurance and submit preliminary plans to the County and TxDOT for review and comment. The plans will consist of the following:
 - Proposed Signal Layout
 - Signal Elevations
 - ADA Ramps and associated pedestrian poles, pedestrian signal heads, and pedestrian push button units
- Final PS&E: Following the review meeting described in Task 1, the Engineer will produce the final plans, specifications, and engineer's opinion of probable construction cost. Final plans and specifications will consist of:
 - General Notes and Summary of Quantities
 - Proposed Signal Layout
 - Signal Elevations
 - Signal Electrical Wiring Details
 - Signal Phasing and Detection Schemes
 - ADA Ramps and associated pedestrian poles, pedestrian signal heads, and pedestrian push button units
 - TxDOT Standard Details

Deliverables:

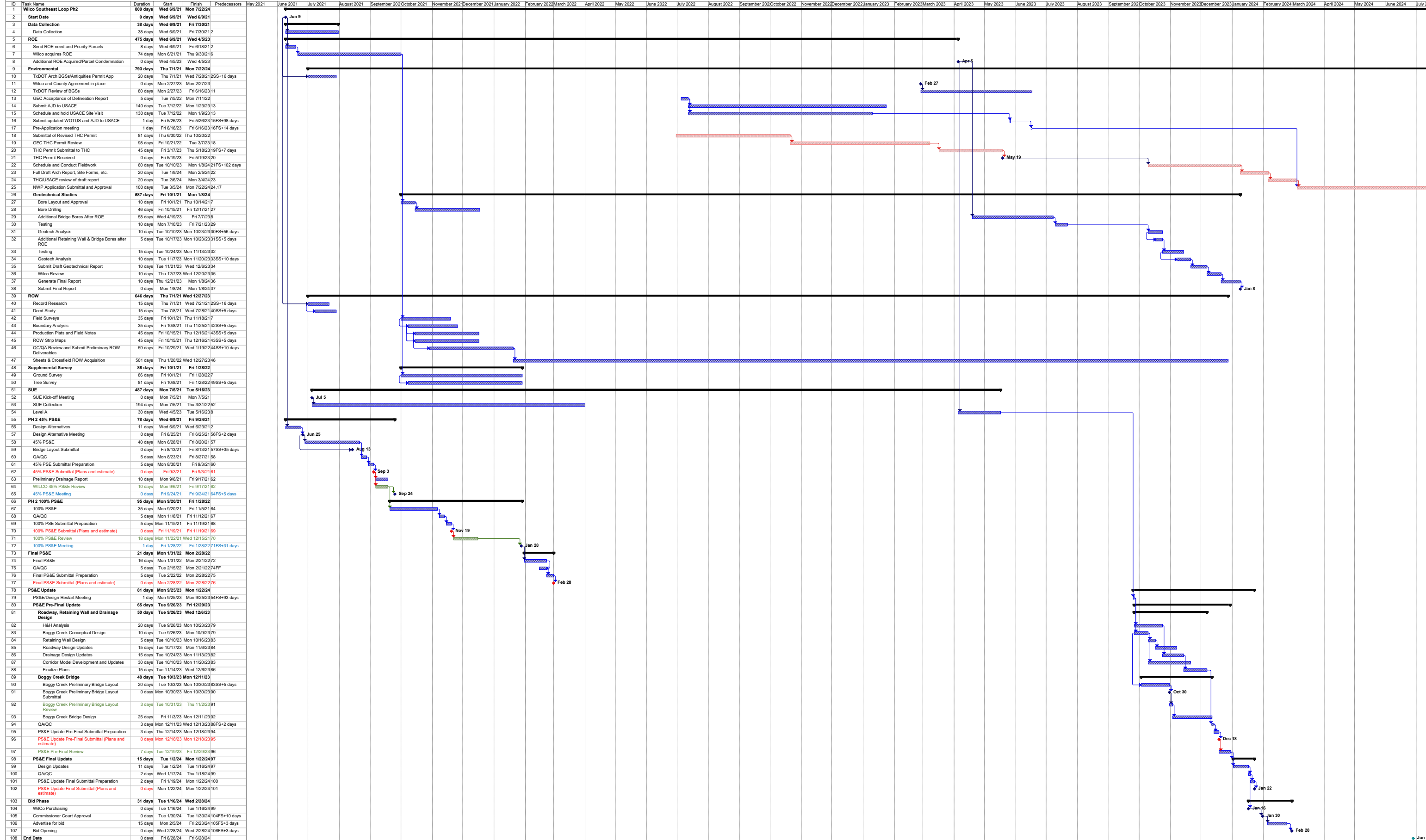
- Updated 100% PS&E and Final Submittals including applicable items per Williamson County Submittal Checklists.
- Preliminary and Final Bridge & Retaining Wall Layouts
- Drainage Models
- Bridge Calculations
- Traffic Signal Conceptual Layout (FM 1660)

10. BIDDING PHASE SERVICES (No additional work in this supplemental)

11. EXCLUSIONS:

- a. The following items are not included in this work authorization:
 - TRAFFIC DATA COLLECTION OR TRAFFIC ANALYSIS.
 - SCHEMATIC DEVELOPMENT.

- CLOMR OR LOMR.
- ENVIRONMENTAL REPORT FOR TEXAS ANTIQUITIES COMPLIANCE.
- ENVIRONMENTAL TECHNICAL REPORTS REQUIRED FOR NEPA EA CLEARANCE.
- CONSTRUCTION PHASE SERVICES.
 - UTILITY COORDINATION OR RELOCATION ESTIMATES.
 - PHASED BRIDGE CONSTRUCTION DETAILS.
 - BRIDGE COST COMPARISONS.



**EXHIBIT D5-2
FEE SCHEDULE**

**FOR
JOHNSON, MIRMIRAN & THOMPSON, INC**

Southeast Loop Phase 2

For services described in the Scope of Services, we request the compensation as detailed below. Cost breakdowns for engineering services and explanation of expenses are shown on the following pages.

SWA2 to WA5 AMOUNT

\$1,001,651.46

EXHIBIT D5-2 - FEE SCHEDULE

Fee Schedule Summary Johnson, Mirmiran & Thompson, Inc. Southeast Loop Phase 2

	Description of Work or Task	JMT (90.6%)	SAM (2.4%)	STN (3.4%)	HVJ (0.0%)	H&H (3.6%)	Cost / Task Totals
W A 5	Task 1. PROJECT MANAGEMENT	\$170,962.50	\$0.00	\$10,680.00	\$0.00	\$0.00	\$181,642.50
	Task 2. ROUTE AND DESIGN STUDIES	\$44,750.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44,750.00
	Task 3. DRAINAGE STUDY	\$368,490.00	\$0.00	\$0.00	\$0.00	\$0.00	\$368,490.00
	Task 4. PUBLIC INVOLVEMENT (to be included at a later date)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Task 5. RIGHT OF WAY (ROW) MAPPING	\$22,800.00	\$33,024.00	\$0.00	\$0.00	\$0.00	\$55,824.00
	Task 6. SURVEYING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Task 7. ENVIRONMENTAL SERVICES	\$0.00	\$0.00	\$36,040.00	\$0.00	\$0.00	\$36,040.00
	Task 8. GEOTECHNICAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Task 9. PLAN PREPARATION (PS&E)	\$646,500.00	\$0.00	\$0.00	\$0.00	\$50,260.30	\$696,760.30
	Task 10. BIDDING PHASE SERVICES (To be included at a later date)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	FEE SCHEDULE SUMMARY		\$1,253,502.50	\$33,024.00	\$46,720.00	\$0.00	\$50,260.30
S W A 1 t o W A 5	Task 1. PROJECT MANAGEMENT	\$89,145.00	\$0.00	\$33,098.95	\$0.00	\$0.00	\$122,243.95
	Task 2. ROUTE AND DESIGN STUDIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Task 3. DRAINAGE STUDY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Task 4. PUBLIC INVOLVEMENT	\$54,540.00	\$0.00	\$0.00	\$0.00	\$0.00	\$54,540.00
	Task 5. RIGHT OF WAY (ROW) MAPPING	\$0.00	\$171,763.00	\$0.00	\$0.00	\$0.00	\$171,763.00
	Task 6. SURVEYING	\$0.00	\$48,717.00	\$0.00	\$0.00	\$0.00	\$48,717.00
	Task 7. ENVIRONMENTAL SERVICES	\$0.00	\$0.00	\$64,790.00	\$0.00	\$0.00	\$64,790.00
	Task 8. GEOTECHNICAL	\$0.00	\$0.00	\$0.00	\$338,176.50	\$0.00	\$338,176.50
	Task 9. PLAN PREPARATION (PS&E)	\$961,320.00	\$0.00	\$0.00	\$0.00	\$171,110.00	\$1,132,430.00
	Task 10. BIDDING PHASE SERVICES	\$37,060.00	\$0.00	\$0.00	\$0.00	\$1,890.00	\$38,950.00
	FEE SCHEDULE SUMMARY		\$1,142,065.00	\$220,480.00	\$97,888.95	\$338,176.50	\$173,000.00

EXHIBIT D5-2 - FEE SCHEDULE

Fee Schedule Summary Johnson, Mirmiran & Thompson, Inc. Southeast Loop Phase 2

	Description of Work or Task	JMT (77.8%)	SAM (3.6%)	STN (7.5%)	HVJ (4.5%)	H&H (6.5%)	Cost / Task Totals
S W A 2 t o W A 5	Task 1. PROJECT MANAGEMENT	\$137,395.92	\$0.00	\$940.60	\$0.00	\$0.00	\$138,336.52
	Task 2. ROUTE AND DESIGN STUDIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Task 3. DRAINAGE STUDY	\$171,232.16	\$0.00	\$0.00	\$0.00	\$0.00	\$171,232.16
	Task 4. PUBLIC INVOLVEMENT	\$22,451.60	\$0.00	\$0.00	\$0.00	\$0.00	\$22,451.60
	Task 5. RIGHT OF WAY (ROW) MAPPING	\$17,673.96	\$36,148.00	\$0.00	\$0.00	\$0.00	\$53,821.96
	Task 6. SURVEYING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	Task 7. ENVIRONMENTAL SERVICES	\$13,230.88	\$0.00	\$74,397.90	\$0.00	\$0.00	\$87,628.78
	Task 8. GEOTECHNICAL	\$0.00	\$0.00	\$0.00	\$45,334.04	\$0.00	\$45,334.04
	Task 9. PLAN PREPARATION (PS&E)	\$417,368.91	\$0.00	\$0.00	\$0.00	\$65,477.49	\$482,846.40
	Task 10. BIDDING PHASE SERVICES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	FEE SCHEDULE SUMMARY	\$779,353.43	\$36,148.00	\$75,338.50	\$45,334.04	\$65,477.49	\$1,001,651.46
	Supplemental Work Authorization 2						
	Johnson, Mirmiran & Thompson, Inc.						\$779,353.43
	Surveying And Mapping, Inc.						\$36,148.00
	Stantec Consulting Services, Inc.						\$75,338.50
	HVJ, Inc.						\$45,334.04
	Hardesty & Hanover, Inc.						\$65,477.49
	SWA2 to WA5 SUBTOTAL						\$1,001,651.46
	PROJECT TOTAL						\$4,356,768.71

Summary of Manhours by Classification
Johnson, Mirmiran & Thompson, Inc.
Southeast Loop Phase 2

Description of Work or Task	Project Director \$278.48/Hr	Sr. Project Manager \$272.29/Hr	Senior Prof. 2 \$247.54/Hr	Senior Prof. 1 \$216.60/Hr	Prof. 2 / Sr. Eng. Tech \$185.65/Hr	Prof. 1 / Eng. Tech \$142.33/Hr	Admin / Clerical \$80.45/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 1. PROJECT MANAGEMENT									
a. General Project Management									
Subconsultant Supervision - (14 Mo.)		26	26					52	\$13,515.58
b. Monthly Progress Reports, Invoices, and Billing									
Progress Reports, Invoices, and Billing - (14 Mo.)		14	14				14	42	\$8,403.92
Project Correspondence - (14 Mo.)		52	78			26		156	\$37,167.78
c. Quality Assurance / Quality Control (QA/QC) Plan									
Submittal QA/QC		2	8					10	\$2,524.90
d. Project Coordination and Administration									
Prepare and maintain records - (14 Mo.)		12	12				12	36	\$7,203.36
Correspondence and coordination with GEC - (14 Mo.)		12	12					24	\$6,237.96
Correspondence and coordination outside GEC - (14 Mo.)		12	12					24	\$6,237.96
e. Progress / Coordination Meetings									
Attend Monthly Meeting - (12 Mtg.)		12	24				12	48	\$10,173.84
Prepare agenda and sign-in sheets for coordination meetings - (12 Mtg.)		12	6				6	24	\$5,235.42
Prepare meeting minutes - (12 Mtg.)		6	6				6	18	\$3,601.68
Internal coordination meetings - (12 Mtg.)		8	12			8		28	\$6,287.44
f. Stakeholder Coordination									
Coordinate with local agencies and County's consultants		8	16			16		40	\$8,416.24
Attend stakeholder meetings - (6 Mtg.)		6	12					18	\$4,604.22
Prepare agenda and sign-in sheets for stakeholder coordination - (6 Mtg.)		6	12					18	\$4,604.22
Prepare meeting minutes - (6 Mtg.)		6	12					18	\$4,604.22
g. Project Schedule									
Maintain Project Schedule - (12 Mo.)		6	6					12	\$3,118.98
h. Submittal Review Process									
Attend comment resolution meetings - (2 Mtg.)		6	12			6		24	\$5,458.20
Direct Expenses									\$0.00
PROJECT MANAGEMENT Subtotal:	0	206	280	0	0	56	50	592	\$137,395.92
Task 3. DRAINAGE STUDY									
<i>Redesign to connect to NBFR north of Boggy Creek (STA 1438+00)</i>									
a. Hydrologic Modeling								0	\$0.00
Drainage Areas		1	4	16	24	30		75	\$13,453.55
Update FEMA Models								0	\$0.00
Peak Impact Analysis / Detention Design		1	4	8	25	40		78	\$13,329.70
Erosion Protection Design								0	\$0.00
b. Hydraulic Modeling								0	\$0.00
Hydraulic Design non-FEMA crossings								0	\$0.00
Hydraulic Design FEMA crossings		1	4	8	16	20		49	\$8,812.25
Mitigation Recommendations		1	4	6				11	\$2,562.05
Floodplain Volume Calculation								0	\$0.00
Floodway Impact Analysis								0	\$0.00
c. Impact & Mitigation Analysis								0	\$0.00
Provide Documentation of all adverse impacts resulting from the proposed facility		1	2	4	8			15	\$3,118.97
Coordination Meeting with GEC		4	8		10			22	\$4,925.98
d. Deliverables								0	\$0.00
Comment Review Resonse and Revise Study		12	6	30	52	2		102	\$21,189.18
Draft and Final Drainage Report and Exhibits		1	2	8	12	4		27	\$5,297.29
<i>Redesign to avoid gas conflicts at STA 11360+00</i>									

Summary of Manhours by Classification
Johnson, Mirmiran & Thompson, Inc.
Southeast Loop Phase 2

Description of Work or Task	Project Director \$278.48/Hr	Sr. Project Manager \$272.29/Hr	Senior Prof. 2 \$247.54/Hr	Senior Prof. 1 \$216.60/Hr	Prof. 2 / Sr. Eng. Tech \$185.65/Hr	Prof. 1 / Eng. Tech \$142.33/Hr	Admin / Clerical \$80.45/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
a. Hydrologic Modeling									
Drainage Areas		1	2	4	15	30		52	\$8,688.42
Update FEMA Models								0	\$0.00
Peak Impact Analysis / Detention Design		1	4	8	40	55		108	\$18,249.40
Erosion Protection Design								0	\$0.00
b. Hydraulic Modeling									
Hydraulic Design non-FEMA crossings								0	\$0.00
Hydraulic Design FEMA crossings								0	\$0.00
Mitigation Recommendations								0	\$0.00
Floodplain Volume Calculation								0	\$0.00
Floodway Impact Analysis								0	\$0.00
c. Impact & Mitigation Analysis									
Provide Documentation of all adverse impacts resulting from the proposed facility		1	1	1	6		2	11	\$2,011.23
Coordination Meeting with GEC		2	4		8			14	\$3,019.94
d. Deliverables									
Comment Review Resonse and Revise								0	\$0.00
Draft and Final Drainage Report and Exhibits								0	\$0.00
<i>Redesign to avoid gas conflicts at ditches (STA 11258+00 & 1415+00)</i>									
a. Hydrologic Modeling								0	\$0.00
Drainage Areas		1	2	4	25	30		62	\$10,544.92
Update FEMA Models								0	\$0.00
Peak Impact Analysis / Detention Design								0	\$0.00
Erosion Protection Design								0	\$0.00
b. Hydraulic Modeling								0	\$0.00
Hydraulic Design non-FEMA crossings								0	\$0.00
Hydraulic Design FEMA crossings								0	\$0.00
Mitigation Recommendations								0	\$0.00
Floodplain Volume Calculation								0	\$0.00
Floodway Impact Analysis								0	\$0.00
c. Impact & Mitigation Analysis								0	\$0.00
Provide Documentation of all adverse impacts resulting from the proposed facility								0	\$0.00
Coordination Meeting with GEC								0	\$0.00
d. Deliverables								0	\$0.00
Comment Review Resonse and Revise								0	\$0.00
Draft and Final Drainage Report and Exhibits								0	\$0.00
<i>Redesign for access at STA 11315+00 and to avoid WOTUS at F1-F2 & G (STA 11360+00)</i>								0	\$0.00
a. Hydrologic Modeling									
Drainage Areas		1	2	4	16	32		55	\$9,158.73
Update FEMA Models								0	\$0.00
Peak Impact Analysis / Detention Design		1	2	4	16	32		55	\$9,158.73
Erosion Protection Design								0	\$0.00
b. Hydraulic Modeling									
Hydraulic Design non-FEMA crossings		1	2	4	10	16		33	\$5,767.55
Hydraulic Design FEMA crossings								0	\$0.00
Mitigation Recommendations		1	2	4	12	18		37	\$6,423.51
Floodplain Volume Calculation								0	\$0.00
Floodway Impact Analysis								0	\$0.00
c. Impact & Mitigation Analysis									
Provide Documentation of all adverse impacts resulting from the proposed facility								0	\$0.00
Coordination Meeting with GEC								0	\$0.00

Summary of Manhours by Classification
Johnson, Mirmiran & Thompson, Inc.
Southeast Loop Phase 2

Description of Work or Task	Project Director \$278.48/Hr	Sr. Project Manager \$272.29/Hr	Senior Prof. 2 \$247.54/Hr	Senior Prof. 1 \$216.60/Hr	Prof. 2 / Sr. Eng. Tech \$185.65/Hr	Prof. 1 / Eng. Tech \$142.33/Hr	Admin / Clerical \$80.45/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
d. Deliverables									
Draft and Final Drainage Report and Exhibits								0	\$0.00
Comment Review Resonse and Revise (applies to all locations)								0	\$0.00
<i>Redesign for cross street at STA 11285+00</i>									
a. Hydrologic Modeling									
Drainage Areas		1	2	4	12	24		43	\$7,277.49
Update FEMA Models								0	\$0.00
Peak Impact Analysis / Detention Design		1	2	4	12	24		43	\$7,277.49
Erosion Protection Design								0	\$0.00
b. Hydraulic Modeling									
Hydraulic Design non-FEMA crossings		1	2	4	8	12		27	\$4,826.93
Hydraulic Design FEMA crossings								0	\$0.00
Mitigation Recommendations		1	2	4	12	16		35	\$6,138.85
Floodplain Volume Calculation								0	\$0.00
Floodway Impact Analysis								0	\$0.00
c. Impact & Mitigation Analysis									
Provide Documentation of all adverse impacts resulting from the proposed facility								0	\$0.00
Coordination Meeting with GEC								0	\$0.00
d. Deliverables									
Comment Review Resonse and Revise								0	\$0.00
Draft and Final Drainage Report and Exhibits								0	\$0.00
DRAINAGE STUDY Subtotal:	0	36	63	129	339	385	2	954	\$171,232.16
Task 4. PUBLIC INVOLVEMENT									
a. Individual Property Owner Meeting Support (10 parcels/exhibits)		12	28	12	52			104	\$22,451.60
PUBLIC INVOLVEMENT Subtotal:	0	12	28	12	52	0	0	104	\$22,451.60
Task 5. RIGHT OF WAY (ROW) MAPPING									
a. ROE Coordination									
ROE Coordination		20				36	20	76	\$12,178.68
b. Parcel Acquisition Documents									
Support Parcel Acquisition and staking coordination		16				8		24	\$5,495.28
RIGHT OF WAY (ROW) MAPPING Subtotal:	0	36	0	0	0	44	20	100	\$17,673.96
Task 7. ENVIRONMENTAL SERVICES									
a. Preparation and Submittal of an AJD Request								0	
Preperation and submittal of an AJD request		4	2					6	\$1,584.24
Site visit with the USACE for verification - coordination		8	4					12	\$3,168.48
b. Preparation and submittal of an IP or NWP application								0	
Preparation and submittal of an IP or NWP application		8	4				4	16	\$3,490.28
c. Preparation and submittal of Historic Resources Survey								0	
Preparation, submittal, and coordination of historic resources survey		8	4				4	16	\$3,490.28
d. CE Documentation Update									
Preparation, submittal, and coordination of documentation for CE		4	1				2	7	\$1,497.60
ENVIRONMENTAL Subtotal:	0	32	15	0	0	0	10	57	\$13,230.88

Summary of Manhours by Classification
Johnson, Mirmiran & Thompson, Inc.
Southeast Loop Phase 2

Description of Work or Task	Project Director \$278.48/Hr	Sr. Project Manager \$272.29/Hr	Senior Prof. 2 \$247.54/Hr	Senior Prof. 1 \$216.60/Hr	Prof. 2 / Sr. Eng. Tech \$185.65/Hr	Prof. 1 / Eng. Tech \$142.33/Hr	Admin / Clerical \$80.45/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 9. Plan Preparation (PS&E)									
a. Roadway Design/General PS&E									
<i>General</i>									
Title Sheet		1			1	1		3	\$600.27
Index of Sheets		1			2	2		5	\$928.25
Project Layout		1			2	4		7	\$1,212.91
Typical Sections		1	1	2	6	16		26	\$4,344.21
General Notes		1	1	1	1	2		6	\$1,206.74
Construction Cost Estimate		1	1	2	4	4		12	\$2,264.95
Survey Control Data								0	\$0.00
Horizontal Alignment Data		1			2	4		7	\$1,212.91
Quantity Summary Sheets		1	1	2	4	8		16	\$2,834.27
Standard Details		1	1		1	2		5	\$990.14
Submittal Preparation / Comment Responses		2	2	6	8	6		24	\$4,678.44
<i>Redesign to connect to NBFR north of Boggy Creek (STA 1438+00)</i>									
Title Sheet								0	\$0.00
Index of Sheets								0	\$0.00
Project Layout								0	\$0.00
Typical Sections								0	\$0.00
General Notes								0	\$0.00
Construction Cost Estimate								0	\$0.00
Survey Control Data								0	\$0.00
Horizontal Alignment Data								0	\$0.00
Quantity Summary Sheets								0	\$0.00
Removal Layouts		1	1	2	10	16		30	\$5,086.81
Roadway Plan & Profiles		1	4	12	36	72		125	\$20,792.81
Cross Street / Intersection Layouts								0	\$0.00
FM 3349 TxDOT Coordination								0	\$0.00
FM 1660 TxDOT Coordination								0	\$0.00
Driveway Details		1	1	1	2	4		9	\$1,677.05
Miscellaneous Roadway Details								0	\$0.00
Existing Utility Layouts								0	\$0.00
Existing Utility Coordination		1	1	2	4	6		14	\$2,549.61
Boring Layouts								0	\$0.00
Retaining Wall Key Map								0	\$0.00
Retaining Wall Alignment Data Sheets								0	\$0.00
Retaining Wall Typical Sections								0	\$0.00
Retaining Wall Layouts								0	\$0.00
Miscellaneous Retaining Wall Details								0	\$0.00
Cross Sections / Cut and Fill Quantities		1	2	12	16	24		55	\$9,752.89
Standard Details								0	\$0.00
Submittal Preparation / Comment Responses								0	\$0.00
<i>Redesign to avoid gas conflicts at STA 11360+00</i>									

Summary of Manhours by Classification
Johnson, Mirmiran & Thompson, Inc.
Southeast Loop Phase 2

Description of Work or Task	Project Director \$278.48/Hr	Sr. Project Manager \$272.29/Hr	Senior Prof. 2 \$247.54/Hr	Senior Prof. 1 \$216.60/Hr	Prof. 2 / Sr. Eng. Tech \$185.65/Hr	Prof. 1 / Eng. Tech \$142.33/Hr	Admin / Clerical \$80.45/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Title Sheet								0	\$0.00
Index of Sheets								0	\$0.00
Project Layout								0	\$0.00
Typical Sections								0	\$0.00
General Notes								0	\$0.00
Construction Cost Estimate								0	\$0.00
Survey Control Data								0	\$0.00
Horizontal Alignment Data								0	\$0.00
Quantity Summary Sheets								0	\$0.00
Removal Layouts								0	\$0.00
Roadway Plan & Profiles								0	\$0.00
Cross Street / Intersection Layouts								0	\$0.00
FM 3349 TxDOT Coordination								0	\$0.00
FM 1660 TxDOT Coordination								0	\$0.00
Driveway Details								0	\$0.00
Miscellaneous Roadway Details								0	\$0.00
Existing Utility Layouts								0	\$0.00
Existing Utility Coordination		1	1	2	4	6		14	\$2,549.61
Boring Layouts								0	\$0.00
Retaining Wall Key Map								0	\$0.00
Retaining Wall Alignment Data Sheets								0	\$0.00
Retaining Wall Typical Sections								0	\$0.00
Retaining Wall Layouts								0	\$0.00
Miscellaneous Retaining Wall Details								0	\$0.00
Cross Sections / Cut and Fill Quantities			2	2	4	8		16	\$2,809.52
Standard Details								0	\$0.00
Submittal Preparation / Comment Responses								0	\$0.00
<i>Redesign to avoid gas conflicts at ditches (STA 11258+00 & 1415+00)</i>									
Title Sheet								0	\$0.00
Index of Sheets								0	\$0.00
Project Layout								0	\$0.00
Typical Sections								0	\$0.00
General Notes								0	\$0.00
Construction Cost Estimate								0	\$0.00
Survey Control Data								0	\$0.00
Horizontal Alignment Data								0	\$0.00
Quantity Summary Sheets								0	\$0.00
Removal Layouts								0	\$0.00
Roadway Plan & Profiles		1	1	1	4	8		15	\$2,617.67
Cross Street / Intersection Layouts								0	\$0.00
FM 3349 TxDOT Coordination								0	\$0.00
FM 1660 TxDOT Coordination								0	\$0.00
Driveway Details		1	1	2	3	6		13	\$2,363.96
Miscellaneous Roadway Details								0	\$0.00
Existing Utility Layouts								0	\$0.00
Existing Utility Coordination		1	1	2	4	6		14	\$2,549.61
Boring Layouts		1	1	2	4	6		14	\$2,549.61
Retaining Wall Key Map								0	\$0.00
Retaining Wall Alignment Data Sheets								0	\$0.00
Retaining Wall Typical Sections								0	\$0.00
Retaining Wall Layouts								0	\$0.00
Miscellaneous Retaining Wall Details								0	\$0.00
Cross Sections / Cut and Fill Quantities		1	2	6	8	12		29	\$5,260.13

Summary of Manhours by Classification
Johnson, Mirmiran & Thompson, Inc.
Southeast Loop Phase 2

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Standard Details								0	\$0.00
Submittal Preparation / Comment Responses								0	\$0.00
<i>Redesign for access at STA 11315+00 and to avoid WOTUS at F1-F2 & G (STA 11360+00)</i>									
Title Sheet								0	\$0.00
Index of Sheets								0	\$0.00
Project Layout								0	\$0.00
Typical Sections								0	\$0.00
General Notes								0	\$0.00
Construction Cost Estimate								0	\$0.00
Survey Control Data								0	\$0.00
Horizontal Alignment Data								0	\$0.00
Quantity Summary Sheets								0	\$0.00
Removal Layouts								0	\$0.00
Roadway Plan & Profiles		2	4	8	16	24		54	\$9,653.86
Cross Street / Intersection Layouts								0	\$0.00
FM 3349 TxDOT Coordination								0	\$0.00
FM 1660 TxDOT Coordination								0	\$0.00
Driveway Details								0	\$0.00
Miscellaneous Roadway Details		1	2	2	4	8		17	\$3,081.81
Existing Utility Layouts								0	\$0.00
Existing Utility Coordination								0	\$0.00
Boring Layouts								0	\$0.00
Retaining Wall Key Map		1	1	2	2	2		8	\$1,608.99
Retaining Wall Alignment Data Sheets		1	1	1	2	2		7	\$1,392.39
Retaining Wall Typical Sections		1	2	4	4	4		15	\$2,945.69
Retaining Wall Layouts		2	6	12	24	32		76	\$13,639.18
Miscellaneous Retaining Wall Details		1	1	2	4	4		12	\$2,264.95
Cross Sections / Cut and Fill Quantities		1	2	4	8	16		31	\$5,396.25
Standard Details								0	\$0.00
Submittal Preparation / Comment Responses								0	\$0.00
<i>Redesign for cross street at STA 11285+00</i>								0	\$0.00
Title Sheet								0	\$0.00
Index of Sheets								0	\$0.00
Project Layout								0	\$0.00
Typical Sections		1	2	4	6	10		23	\$4,170.97
General Notes								0	\$0.00
Construction Cost Estimate								0	\$0.00
Survey Control Data								0	\$0.00
Horizontal Alignment Data								0	\$0.00
Quantity Summary Sheets								0	\$0.00
Removal Layouts								0	\$0.00
Roadway Plan & Profiles		2	2	6	12	20		42	\$7,413.66
Cross Street / Intersection Layouts								0	\$0.00
FM 3349 TxDOT Coordination		1	2	2	4	8		17	\$3,081.81
FM 1660 TxDOT Coordination		1	2	2	4	8		17	\$3,081.81

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Southeast Loop Phase 2

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Driveway Details								0	\$0.00
Miscellaneous Roadway Details								0	\$0.00
Existing Utility Layouts								0	\$0.00
Existing Utility Coordination								0	\$0.00
Boring Layouts								0	\$0.00
Retaining Wall Key Map								0	\$0.00
Retaining Wall Alignment Data Sheets								0	\$0.00
Retaining Wall Typical Sections								0	\$0.00
Retaining Wall Layouts								0	\$0.00
Miscellaneous Retaining Wall Details								0	\$0.00
Cross Sections / Cut and Fill Quantities								0	\$0.00
Standard Details								0	\$0.00
Submittal Preparation / Comment Responses								0	\$0.00
b. Traffic Control PS&E									
<i>Redesign to connect to NBFR north of Boggy Creek (STA 1438+00)</i>									
Traffic Control Plans (TCP)		2	4	12	16	28		62	\$11,089.58
Construction Schedule		1	4					5	\$1,262.45
<i>Redesign to avoid gas conflicts at STA 11360+00</i>									
Traffic Control Plans (TCP)								0	\$0.00
Construction Schedule								0	\$0.00
<i>Redesign to avoid gas conflicts at ditches (STA 11258+00 & 1415+00)</i>									
Traffic Control Plans (TCP)			1	2	4	12		19	\$3,131.30
Construction Schedule								0	\$0.00
<i>Redesign for access at STA 11315+00 and to avoid WOTUS at F1-F2 & G (STA 11360+00)</i>									
Traffic Control Plans (TCP)								0	\$0.00
Construction Schedule								0	\$0.00
<i>Redesign for cross street at STA 11285+00</i>									
Traffic Control Plans (TCP)		1	2	4	6	12		25	\$4,455.63
Construction Schedule								0	\$0.00
c. Signing and Pavement Marking PS&E									
<i>Redesign to connect to NBFR north of Boggy Creek (STA 1438+00)</i>									
Signing and Pavement Marking Layouts		1	2	4	12	24		43	\$7,277.49
Pavement Marking Details			1		2	4		7	\$1,188.16
Small Sign Details			1		2	6		9	\$1,472.82
<i>Redesign for access at STA 11315+00 and to avoid WOTUS at F1-F2 & G (STA 11360+00)</i>									
Signing and Pavement Marking Layouts		1	1	1	1	4		8	\$1,491.40
Pavement Marking Details			1		2	4		7	\$1,188.16
Small Sign Details			1		1	4		6	\$1,002.51
<i>Redesign for cross street at STA 11285+00</i>									
Signing and Pavement Marking Layouts		1	1	1	4	8		15	\$2,617.67
Pavement Marking Details			1		2	6		9	\$1,472.82
Small Sign Details			1		4	8		13	\$2,128.78

Summary of Manhours by Classification
Johnson, Mirmiran & Thompson, Inc.
Southeast Loop Phase 2

Description of Work or Task	Project Director \$278.48/Hr	Sr. Project Manager \$272.29/Hr	Senior Prof. 2 \$247.54/Hr	Senior Prof. 1 \$216.60/Hr	Prof. 2 / Sr. Eng. Tech \$185.65/Hr	Prof. 1 / Eng. Tech \$142.33/Hr	Admin / Clerical \$80.45/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
d. Bridge Design								0	\$0.00
<i>Boggy Creek Bridge (95' long x 68.5' wide)</i>								0	\$0.00
Bridge Layout (1 sheet)		1	4	8	32	20		65	\$11,782.65
Typical Section			2	4	8			14	\$2,846.68
Estim Qtys and Brg Seat Elevs			2	8	16	12		38	\$6,906.24
Foundation Layout (includes Fdn design)			1	16	16	8		41	\$7,822.18
Abutment Details (2 sheets)			1	12	36	24		73	\$12,946.06
Girder Layout - Unit 1 (includes bridge geometry)			1	6	8	12		27	\$4,740.30
Slab Unit 1 Details (Unit 1) (includes girder design)			1	12	40	24		77	\$13,688.66
Constructability and Interdiscipline Review		8	4					12	\$3,168.48
Prepare Final Calculation Packages and CADD files				2	6	6		14	\$2,401.08
<i>Brushy Creek Bridge (2,176' long x 62' wide) (variable skews)</i>								0	\$0.00
Bridge Layout		1	1	2	4			8	\$1,695.63
Typical Section								0	\$0.00
Estim Qtys and Brg Seat Elevs				1	2	4		7	\$1,157.22
Foundation Layout (includes Fdn design for 6 bents & 1 abut)				4	40	20		64	\$11,139.00
Abutment Details				2	20	10		32	\$5,569.50
Interior Bents - detail revisions for fdn design				2	4	2		8	\$1,460.46
<i>SE Loop underpass near Sta 1336+00 (100' long x 54' wide)</i>									
Bridge Layout		1	1	1	2			5	\$1,107.73
Typical Section								0	\$0.00
Estim Qtys and Brg Seat Elevs				1	1	2		4	\$686.91
Foundation Layout (includes Fdn design for 2 abuts)				1	16	8		25	\$4,325.64
Abutment Details				2	4	2		8	\$1,460.46
<i>SE Loop underpass near Sta 1357+00 (100' long x 54' wide)</i>									
Bridge Layout		1	1	1	2			5	\$1,107.73
Typical Section								0	\$0.00
Estim Qtys and Brg Seat Elevs				1	1	2		4	\$686.91
Foundation Layout (includes Fdn updates for 2 abuts)				1	16	8		25	\$4,325.64
Abutment Details				2	4	2		8	\$1,460.46
<i>General</i>									
Update Bridge Estimate including unit prices				1	2	4		7	\$1,157.22
Review and respond to final review comments		1	2	16		8		27	\$5,371.61
Internal Coordination		1	4	2		4		11	\$2,264.97
e. Scour Analysis									
Prepare Scour Analysis For Each Bridge								0	\$0.00
Coordinate Results								0	\$0.00
f. Drainage PS&E									
<i>Redesign to connect to NBFR north of Boggy Creek (STA 1438+00)</i>									
Drainage Area Maps		1	2	6	12	20		41	\$7,141.37
Culvert Layout Sheets								0	\$0.00
Hydraulic Data Sheets		1	2	4	8	16		31	\$5,396.25
Culvert Standards and Detail Sheets								0	\$0.00
Parallel Drainage Design		1	2	4	8	12		27	\$4,826.93
Storm Sewer Inlet Design								0	\$0.00
Grading Quantities and Design								0	\$0.00
Detention Pond Sheets and Details								0	\$0.00
Roadside Ditch & Channel Design								0	\$0.00
Hydraulic Data Ditches								0	\$0.00
<i>Redesign to avoid gas conflicts at STA 11360+00</i>									

Summary of Manhours by Classification
Johnson, Mirmiran & Thompson, Inc.
Southeast Loop Phase 2

Description of Work or Task	Project Director \$278.48/Hr	Sr. Project Manager \$272.29/Hr	Senior Prof. 2 \$247.54/Hr	Senior Prof. 1 \$216.60/Hr	Prof. 2 / Sr. Eng. Tech \$185.65/Hr	Prof. 1 / Eng. Tech \$142.33/Hr	Admin / Clerical \$80.45/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Drainage Area Maps		1	1	1	2	4		9	\$1,677.05
Culvert Layout Sheets								0	\$0.00
Hydraulic Data Sheets				1	2	4		7	\$1,157.22
Culvert Standards and Detail Sheets			1		2	4		7	\$1,188.16
Parallel Drainage Design			2	4	4	16		26	\$4,381.36
Storm Sewer Inlet Design								0	\$0.00
Grading Quantities and Design			1	1	4	6		12	\$2,060.72
Detention Pond Sheets and Details								0	\$0.00
Roadside Ditch & Channel Design			1	1	2	4		8	\$1,404.76
Hydraulic Data Ditches			1	2	4			7	\$1,423.34
<i>Redesign to avoid gas conflicts at ditches (STA 11258+00 & 1415+00)</i>									
Drainage Area Maps		1	1	1	2	4		9	\$1,677.05
Culvert Layout Sheets								0	\$0.00
Hydraulic Data Sheets								0	\$0.00
Culvert Standards and Detail Sheets								0	\$0.00
Parallel Drainage Design			1	2	2	4		9	\$1,621.36
Storm Sewer Inlet Design								0	\$0.00
Grading Quantities and Design			1	1	4	6		12	\$2,060.72
Detention Pond Sheets and Details								0	\$0.00
Roadside Ditch & Channel Design			1	2	4	8		15	\$2,561.98
Hydraulic Data Ditches			1	6	16			23	\$4,517.54
<i>Redesign for access at STA 11315+00 and to avoid WOTUS at F1-F2 & G (STA 11360+00)</i>									
Drainage Area Maps								0	\$0.00
Culvert Layout Sheets								0	\$0.00
Hydraulic Data Sheets				4	8	12		24	\$4,059.56
Culvert Standards and Detail Sheets								0	\$0.00
Parallel Drainage Design			2	4	4	16		26	\$4,381.36
Storm Sewer Inlet Design								0	\$0.00
Grading Quantities and Design			2	6	12	24		44	\$7,438.40
Detention Pond Sheets and Details								0	\$0.00
Roadside Ditch & Channel Design			1	4	8	12		25	\$4,307.10
Sheet Flow Erosion Protection Design and Details								0	\$0.00
<i>Redesign for cross street at STA 11285+00</i>									
Drainage Area Maps								0	\$0.00
Culvert Layout Sheets			1	2	4	8		15	\$2,561.98
Hydraulic Data Sheets				1	2	4		7	\$1,157.22
Culvert Standards and Detail Sheets								0	\$0.00
Parallel Drainage Design			2	4	4	16		26	\$4,381.36
Storm Sewer Inlet Design								0	\$0.00
Grading Quantities and Design								0	\$0.00
Detention Pond Sheets and Details								0	\$0.00
Roadside Ditch & Channel Design			1	4	8	12		25	\$4,307.10
Sheet Flow Erosion Protection Design and Details								0	\$0.00

Summary of Manhours by Classification
Johnson, Mirmiran & Thompson, Inc.
Southeast Loop Phase 2

Description of Work or Task	Project Director \$278.48/Hr	Sr. Project Manager \$272.29/Hr	Senior Prof. 2 \$247.54/Hr	Senior Prof. 1 \$216.60/Hr	Prof. 2 / Sr. Eng. Tech \$185.65/Hr	Prof. 1 / Eng. Tech \$142.33/Hr	Admin / Clerical \$80.45/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
g. Stormwater Pollution Prevention Plans (SW3P)									
<i>Redesign to connect to NBFR north of Boggy Creek (STA 1438+00)</i>									
SWP3 Sheet		1	1		1	2		5	\$990.14
Temporary Erosion Control Layouts		1	2	6	12	20		41	\$7,141.37
Miscellaneous Erosion Control Details		1	1	2	3	6		13	\$2,363.96
<i>Redesign to avoid gas conflicts at STA 11360+00</i>									
SWP3 Sheet								0	\$0.00
Temporary Erosion Control Layouts		1	1	1	4	6		13	\$2,333.01
Miscellaneous Erosion Control Details								0	\$0.00
<i>Redesign to avoid gas conflicts at ditches (STA 11258+00 & 1415+00)</i>									
SWP3 Sheet								0	\$0.00
Temporary Erosion Control Layouts		1	1	1	4	6		13	\$2,333.01
Miscellaneous Erosion Control Details								0	\$0.00
<i>Redesign for access at STA 11315+00 and to avoid WOTUS at F1-F2 & G (STA 11360+00)</i>									
SWP3 Sheet								0	\$0.00
Temporary Erosion Control Layouts		1	2	4	8	12		27	\$4,826.93
Miscellaneous Erosion Control Details								0	\$0.00
<i>Redesign for cross street at STA 11285+00</i>									
SWP3 Sheet								0	\$0.00
Temporary Erosion Control Layouts		1	1	2	4	8		16	\$2,834.27
Miscellaneous Erosion Control Details								0	\$0.00
h. Traffic Signal Design (FM 1660)									
Preliminary Plans and Specifications									
Conceptual Layout		1	1	8		8		18	\$3,391.27
Field Meeting				4				4	\$866.40
Preliminary Plan		1	1	28		16		46	\$8,861.91
Final PS&E									
General Notes, Standards and Quantities			1	4		4		9	\$1,683.26
Proposed Signal Layout			2	16		8		26	\$5,099.32
Signal Elevations			1	8		4		13	\$2,549.66
Electrical Wiring Details			1	8		4		13	\$2,549.66
Signal Phasing and Detection Schemes			1	8		4		13	\$2,549.66
ADA Ramps			1	4		4		9	\$1,683.26
PLAN PREPARATION (PS&E) Subtotal:	0	72	143	409	718	987	0	2329	\$417,368.91
JMT SUMMARY	0	394	529	550	1109	1472	82	4136	\$779,353.43

Summary of Manhours by Classification
Surveying And Mapping, Inc.
Southeast Loop Phase 2 PS&E

Description of Work or Task	Sr. PM	Project Manager	Senior Survey Technician	Survey Technician	Two Person Survey Crew	Three Person Survey Crew	Staff-Hr. Totals	Staff Cost / Task
	\$179.46/Hr	\$154.71/Hr	\$118.82/Hr	\$108.92/Hr	\$160.90/Hr	\$198.03/Hr		Totals
Task 5. RIGHT OF WAY (ROW) MAPPING								
b. Parcel Acquisition Documents								
Remainder Parcels (Up to 3)	4	2	20		20		46	\$6,621.66
Additional Parcels (Up to 3 - parcel 35, 36, 47, and other)	4	2	20				26	\$3,403.66
Establishing Additional Monumentation	2	2	20		50		74	\$11,089.74
Additional ROW Staking	2	2	20		50		74	\$11,089.74
Direct Expenses								\$3,943.20
RIGHT OF WAY (ROW) MAPPING Subtotal:	12	8	80	0	120	0	220	\$36,148.00
SAM SUMMARY	12	8	80	0	120	0	220	\$36,148.00

**Summary of Direct Expenses
 Surveying And Mapping, Inc.
 Southeast Loop Phase 2 PS&E**

Item Description	Unit	Quantity	Unit Cost	Total Cost
Direct Expenses				
I. Mileage	Mile	1,440	\$0.655	\$943.20
II. GPS Receiver	Hour	120	\$25.00	\$3,000.00
Surveying And Mapping, Inc. Total Direct Expenses				\$3,943.20

Summary of Manhours by Classification
Stantec Consulting Services, Inc.
Southeast Loop Phase 2

Description of Work or Task	Sr. ENV Scientist II	Sr. ENV Scientist I	ENV Professional II	ENV Professional I	ENV Staff III	ENV Staff II	ENV Staff I	ENV Tech II	ENV Tech I	Staff-Hr. Totals	Staff Cost / Task Totals
	\$185.65/Hr	\$160.90/Hr	\$136.15/Hr	\$117.58/Hr	\$105.20/Hr	\$92.83/Hr	\$80.45/Hr	\$68.07/Hr	\$55.70/Hr		
Task 1 PROJECT MANGEMENT											
Direct Expenses											\$940.60
PROJECT MANGEMENT Subtotal:	0	0	0	0	0	0	0	0	0	0	\$940.60
Task 7 ENVIRONMENTAL SERVICES											
a. Preparation and Submittal of an AJD Request											\$0.00
Preperation and submittal of an AJD request	8	6	4	20						38	\$5,346.80
Site visit with the USACE for verification	8	8		4						20	\$3,242.72
b. Preparation and submittal of a NWP application											\$0.00
Preparation and submittal of a NWP application	14	40	50	30						134	\$19,370.00
c. Preparation and submittal of Historic Resources Survey											
Preparation, submittal, and coordination of historic resources survey	28	40	100	40	40		20		12	280	\$36,437.80
d. CE Documentation Update											
Preparation, submittal, and coordination of documentation for CE	2	8	8	12	16	24	24			94	\$10,000.58
Environmental Services Subtotal:	60	102	162	106	56	24	44	0	12	566	\$74,397.90
Stantec Consulting Services, Inc. SUMMARY	60	102	162	106	56	24	44	0	12	566	\$75,338.50

**Summary of Direct Expenses
Stantec Consulting Services, Inc.
Southeast Loop Phase 2**

Item Description	Unit	Quantity	Unit Cost	Total Cost
Direct Expenses				
I. Mileage	Mile	120	\$0.655	\$78.60
II. Photocopies B/W (8 1/2" X 11")	Per Page	120	\$0.16	\$19.20
III. Photocopies Color (8 1/2" X 11")	Per Page	40	\$0.75	\$30.00
IV. Photocopies B/W (11" X 17")	Per Page	40	\$0.32	\$12.80
V. Photocopies Color (11" X 17")	Per Page	40	\$1.50	\$60.00
VI. Plots (B/W on Bond)	SF	0	\$0.75	\$0.00
VII. Plots (Color on Bond)	SF	0	\$1.75	\$0.00
VIII. Historic Aerial Photographs	EACH	20	\$35.00	\$700.00
IX. Hazardous Materials Database Search	Per Search	0	\$550.00	\$0.00
X. Noise Meter Rental	Per Project	0	\$165.00	\$0.00
XI. Environmental Database Search	Per Mile	0	\$250.00	\$0.00
XII. Environmental Field Supplies (lathes, stakes, flagging, spray paint, etc.)	Day	1	\$40.00	\$40.00
XIII. Backhoe Rental	Day	0	\$1,350.00	\$0.00
XIV. TARL Curation Fee	Drawer	0.0	\$3,640.00	\$0.00
XV. TARL Site Registration	Site	0	\$96.00	\$0.00
XVI. Overnight Mail - Letter Size	Each	0	\$22.95	\$0.00
XVII. Overnight Mail - Oversized Box	Each	0	\$70.00	\$0.00
Stantec Consulting Services, Inc. Total Direct Expenses				\$940.60

Summary of Manhours by Classification
HVJ, Inc.
Southeast Loop Phase 2 PS&E

Description of Work or Task	Senior Project Manager \$216.60/Hr	Project Engineer \$154.71/Hr	Staff Engineer \$123.77/Hr	Senior Technician \$74.26/Hr	Technician \$68.07/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 8 Geotechnical Services							
Field Investigating							
Staking/ Clearing Utilities/ Logging			44		24	68	\$7,079.56
Plan of Boring/ Traffic Control Plan			4			4	\$495.08
Clearing						0	\$0.00
Reporting and Analysis							
Boring Log Prep			4			4	\$495.08
Wincore graphs/logs			8			8	\$990.16
Bridge Foundations		18				18	\$2,784.78
CAD			4			4	\$495.08
Slope Stability		24				24	\$3,713.04
Settlement Analysis		10				10	\$1,547.10
Geo Report		20				20	\$3,094.20
QA/QC Report	6	6				12	\$2,227.86
Final Report	1	2	4			7	\$1,021.10
Direct Expenses							\$21,391.00
Geotechnical Services Subtotal:	7	80	68	0	24	179	\$45,334.04
HVJ, Inc. SUMMARY	7	80	68	0	24	179	\$45,334.04

**Summary of Direct Expenses
HVJ, Inc.
Southeast Loop Phase 2 PS&E**

Item Description	Unit	Quantity	Unit Cost	Total Cost
Direct Expenses				
I. Rig Mobilization	Each	1	\$566.50	\$566.50
II. Undisturbed sample boring w/3" Shelby tube	LF	265	\$22.50	\$5,962.50
III. Add Rock Coring (rock coring cost-soft&hard rock)	LF	160	\$22.50	\$3,600.00
IV. Texas Cone Penetration	Each	53	\$25.00	\$1,325.00
V. Standard Penetration Test	Each	14	\$22.50	\$315.00
VI. Grout Backfill	LF	265	\$5.00	\$1,325.00
VII. Moisture Content	Each	16	\$18.00	\$288.00
VIII. Hydrometer Test	Each	4	\$200.00	\$800.00
Atterberg Limits Test	Each	20	\$75.00	\$1,500.00
Unconfined Compressive Strength Test	Each	12	\$65.00	\$780.00
Texas Triaxial Test	Each	0	\$1,750.00	\$0.00
Percent Passing No. 200 Sieve Test	Each	20	\$35.00	\$700.00
Sulfate Testing	Each	0	\$75.00	\$0.00
Soil pH Testing	Each	0	\$200.00	\$0.00
Consolidation Testing	Each	2	\$350.00	\$700.00
Swell Test	Each	0	\$300.00	\$0.00
Mobilization/Demobilization for Falling Weight	Each	0	\$400.00	\$0.00
FWD Equipment	Day	0	\$2,600.00	\$0.00
Sieve Analysis	Each	4	\$77.25	\$309.00
Consolidated Undrained Triaxial Testing	Each	2	\$725.00	\$1,450.00
Unconsolidated Undrained Triaxial Testing	Each	2	\$135.00	\$270.00
Soil Lime/Cement Compression Testing	Each	0	\$1,750.00	\$0.00
California Bearing Ratio Testing	Each	0	\$600.00	\$0.00
Traffic Control	Day	0	\$2,500.00	\$0.00
Clearing	Day	0	\$3,000.00	\$0.00
ATV Rig Mobilization Surcharge	Each	1	\$1,500.00	\$1,500.00
HVJ, Inc. Total Direct Expenses				\$21,391.00

Summary of Manhours by Classification
Hardesty & Hanover, LLC
Southeast Loop Phase 2 PS&E - Supplemental Work Authorization

Description of Work or Task	Principal Engineer \$247.54/Hr	Sr Project Manager \$191.84/Hr	Sr Engineer \$179.46/Hr	Sr QC Engineer \$204.22/Hr	Project Engineer \$148.52/Hr	Design Engineer \$129.96/Hr	EIT II \$117.58/Hr	Senior CAD Manager \$148.52/Hr	CAD Technician \$105.20/Hr	Admin/ Clerical \$74.26/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 1 Project Management												
b. Monthly Progress Report and Invoice												
Prep correspondence, invoices, progress reports on monthly basis	This task as sub is embedded in bridge tasks below										0	\$0.00
c. QA/QC Plan												
Prep QA/QC documentation for each deliverable	This task as sub is embedded in bridge tasks below										0	\$0.00
d. Project Coordination and Admin												
Prep QA/QC documentation for each deliverable	This task as sub is embedded in bridge tasks below										0	\$0.00
e. Progress Coordination Meetings												
Attend meetings as needed	This task as sub is embedded in bridge tasks below										0	\$0.00
h. Submittal Review Process												
Attend meetings as needed	This task as sub is embedded in bridge tasks below										0	\$0.00
Project Management Subtotal:	0	0	0	0	0	0	0	0	0	0	0	\$0.00
Task 9 Plan Preparation (PS&E) Services												
f1. Bridge Design - EBFR over Cottonwood Creek Bridge (~725', 6 Tx-54 spans, ~ 22-deg constant skew, curved alignment, constant width, SUP on bridge)												
Review Data (Prelim Schem, H&H, Survey, etc.) & confirm structure configuration											0	\$0.00
Bridge Layout											0	\$0.00
Bridge Quantities & Bearing Seat Elevations											0	\$0.00
Abutment Plans and Details (assume 2 unique abutments)											0	\$0.00
Interior Bent Plans and Details (assume 2 unique bents)											0	\$0.00
Foundation Design and Details											0	\$0.00
Bridge Framing Plan											0	\$0.00
Slab Plan, Transverse Section & Details											0	\$0.00
Prestressed Concrete Girder Design and Data Sheets											0	\$0.00
Identify/prepare appropriate Bridge Standards											0	\$0.00
Modify standards as req'd (2 sheets max)											0	\$0.00
Prepare special structural details where req'd (2 shts max)											0	\$0.00
Constructability & Interdiscipline Review											0	\$0.00
Prepare 45%, 100% and Final Bridge Cost Estimates											0	\$0.00
Prepare 45%, 100% and Final PS&E Submittals incl Wilco Checklist											0	\$0.00
Prep Final Calculation Packages & CADD files											0	\$0.00
f2. Bridge Design - SE Loop underpass near Station 1298+00 (~100', 1 TX46 span, ~22-deg constant skew, curved alignment, constant width, SUP on bridge, extra width)												
Review Data (Prelim Schem, H&H, Survey, etc.) & optimize structure											0	\$0.00
Bridge Layout											0	\$0.00
Bridge Quantities & Bearing Seat Elevations											0	\$0.00
Abutment Plans and Details (assume 2 unique abutments)											0	\$0.00
Interior Bent Plans and Details - N/A - single span											0	\$0.00
Foundation Design and Details											0	\$0.00
Bridge Framing Plan											0	\$0.00
Slab Plan, Transverse Section & Details											0	\$0.00
Prestressed Concrete Girder Design and Data Sheets											0	\$0.00
Identify/prepare appropriate Bridge Standards											0	\$0.00
Modify standards as req'd (1 sheet max)											0	\$0.00
Prepare special structural details where req'd (1 sht max)											0	\$0.00
Constructability & Interdiscipline Review											0	\$0.00
Prepare 45%, 100% and Final Bridge Cost Estimates											0	\$0.00
Prepare 45%, 100% and Final PS&E Submittals incl Wilco Checklist											0	\$0.00
Prep Final Calculation Packages & CADD files											0	\$0.00

Summary of Manhours by Classification
Hardesty & Hanover, LLC
Southeast Loop Phase 2 PS&E - Supplemental Work Authorization

Description of Work or Task	Principal Engineer \$247.54/Hr	Sr Project Manager \$191.84/Hr	Sr Engineer \$179.46/Hr	Sr QC Engineer \$204.22/Hr	Project Engineer \$148.52/Hr	Design Engineer \$129.96/Hr	EIT II \$117.58/Hr	Senior CAD Manager \$148.52/Hr	CAD Technician \$105.20/Hr	Admin/ Clerical \$74.26/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
f3. Bridge Design - Unnamed Creek bridge near Station 1327+00 (220' (120-100), 2-span TX54 unit, ~30 deg skew, curved alignment, constant bearing, constant width, SUP on bridge)												
Review Data (changes, H&H, Survey, etc.), confirm structure configuration	1	2			2			2			7	\$1,225.30
Bridge Layout	1	6		4	8		16	2	16		53	\$7,265.14
Typical Section		1		1					2		4	\$606.46
Bridge Quantities & Bearing Seat Elevations		2		2	8		8	4	8		32	\$4,356.60
Abutment 1 Plans and Details		2		2	4		4	2	8		22	\$2,995.16
Abutment 3 Plans and Details		2		4	6		8	4	16		40	\$5,309.60
Interior Bent 2 Plans and Details		4		4	8		8	4	12		40	\$5,569.52
Foundation Design and Details		2		2	4		6				14	\$2,091.68
Bridge Framing Plan		2		1	4		8	4	8		27	\$3,558.30
Slab Plan, Transverse Section & Details		6		2	8		16	12	16		60	\$8,094.36
Prestressed Concrete Girder Design and Data Sheets		2		2	4		12	3	6		29	\$3,873.92
Identify appropriate Bridge Standards		1		1	2						4	\$693.10
Modify standards as req'd (1 sheet max)											0	\$0.00
Prepare special structural details where req'd (1 shts max)											0	\$0.00
Constructability & Interdiscipline Review	1	1		2	1						5	\$996.34
Prepare initial and Final Bridge Cost Estimates		2		2	4		12				20	\$2,797.16
Prepare initial and Final PS&E Submittals incl Wilco Checklist	2	2		4	4		4	4	4		24	\$3,774.92
Prep Final Calculation Packages & CADD files	1	2		4	4		2	2		2	17	\$2,722.90
f4. Bridge Design - Common Tasks												
Design Criteria											0	\$0.00
Field Reconnaissance											0	\$0.00
General Notes, Specifications		4			2			2			8	\$1,361.44
Coordination Meetings - Interdiscipline Team (6 total)		6									6	\$1,151.04
Weekly coordination meetings - bridge design team (4 total)		6			4						10	\$1,745.12
Review and respond to review comments (initial and final Submittals)		4	2	2	4						12	\$2,128.80
Participate in initial and final review meetings		4									4	\$767.36
Prepare Monthly Progress Reports	3	6								6	15	\$2,339.22
Direct Expenses												\$54.05
Plan Preparation (PS&E) Services Subtotal:												\$65,477.49
Task 10 Bidding Phase Services												
Subtask Description1												
Assist Prime with assembling bid docs											0	\$0.00
Attend pre-bid meeting											0	\$0.00
Analyze bid items for bridge and provide recommendation											0	\$0.00
Attend Pre-construction Conference											0	\$0.00
Bidding Phase Services Subtotal:												\$0.00
Hardesty & Hanover, LLC. SUMMARY												\$65,477.49

Assumptions:

Updated design entails Bridge at Station 11327+00 only

Current bridge config of single 120.00-ft span on variable skew (constant bearing) between 2 abutments with sloped riprap revised to 2-span (120-100) with retaining wall (design by JMT) at north east corner.

**Summary of Direct Expenses
Hardesty & Hanover, LLC
Southeast Loop Phase 2 PS&E**

Item Description	Unit	Quantity	Unit Cost	Total Cost
Direct Expenses				
I. MILEAGE	MI	33	\$0.665	\$21.95
II. Photocopies B/W (8 1/2" X 11") (per page)	PAGE	20	\$0.16	\$3.20
III. Photocopies Color (8 1/2" X 11") (per page)	PAGE	10	\$0.75	\$7.50
IV. Photocopies B/W (11" X 17") (per page)	PAGE	20	\$0.32	\$6.40
V. Photocopies Color (11" X 17") (per page)	PAGE	10	\$1.50	\$15.00
Hardesty & Hanover, LLC. Total Direct Expenses				\$54.05