WORK AUTHORIZATION NO. 1

PROJECT: TRANSPORTATION CORRIDOR H – SAM BASS ROAD

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated _____ and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and **K Friese & Associates, Inc.** (the "Engineer").

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

Part 2. The maximum amount payable for services under this Work Authorization without modification is **$ 491,775.35 .**

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

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on **December 31, 2017** . The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

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

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

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

EXECUTED this ____ day of _____, 20___.

ENGINEER:	COUNTY:
K Friese & Associates, Inc.	Williamson County, Texas
By: _____ Signature	By: _____ Signature
Thomas M. Owens, P.E. Printed Name	DAN A GATTIS Printed Name
Executive Vice President Title	County Judge Title

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

ATTACHMENT A
SERVICES TO BE PROVIDED BY THE COUNTY
PRELIMINARY ENGINEERING FOR TRANSPORTATION CORRIDOR H – SAM BASS ROAD

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 that are unwilling to grant access to the Engineer.

4. Provide available appropriate County data on file, 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 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.

7. Submittal of documentation to regulatory agencies for review and comment, when specified.

8. Support project development efforts with stakeholders, coordinate meetings and interface with stakeholders, as needed.

9. Post and maintain project information for public consumption on the County website.

10. Assist with Coordination between the Engineer and the County's other subconsultants.

11. Negotiate with all utility companies for any agreements and/or relocations required.

12. Provide an agent as necessary to secure proposed ROW.

13. Provide construction observation and review contractor pay applications and progress.

14. Provide Engineer with Contractor submittals, Requests for Information (RFI's), shop drawings, and correspondence.

15. Review Engineer progress, submittals, and plan changes.

ATTACHMENT B
SERVICES TO BE PROVIDED BY THE ENGINEER
PRELIMINARY ENGINEERING FOR SAM BASS ROAD

PROJECT DESCRIPTION

Existing Facility

The project encompasses Sam Bass Road from FM 1431 to Wyoming Springs Drive. The existing facility is a two-lane roadway from FM 1431 to Tonkawa Trail and widens to four lanes from Tonkawa Trail to Wyoming Springs Drive. The existing right-of-way is variable width along the corridor. The roadway utilizes open drainage along the corridor. There is an existing traffic signal at FM 1431 and at Wyoming Springs Drive.

Proposed Facility

The proposed facility will be a five-lane roadway with shoulders open drainage, vegetative filter strips where possible. A proposed right-of-way width will be determined based on the proposed typical section. Signal modifications may be necessary at Wyoming Springs Drive. As the roadway footprint falls within 200-feet of the Upper Brushy Creek WCID (UBCWCID) Dam #13A, coordination with UBCWCID will be necessary. For this proposal, it is assumed that modifications to the dam and reservoir will not be necessary and are not included herein.

Design Criteria

This project will utilize Williamson County Design Criteria and will incorporate Texas Department of Transportation Standard Details and Specifications except where superceded by County details or specifications.

1. PROJECT MANAGEMENT

    a. Shall designate one Licensed Professional Engineer (Texas) to be responsible for the project management, and all communications with the County and its representatives.

    b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS:

        - Submit monthly progress status reports to the GEC. Progress reports will include: tasks completed, tasks/objectives that are planned for the upcoming periods, lists or descriptions of items or decisions needed from the County and its representatives. 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 on a monthly basis in accordance with current County requirements.

c. QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PLAN:

- Prepare a project specific QA/QC plan and submit to the County within thirty (30) days of notice to proceed.
- For each deliverable, 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:

- Prepare and maintain routine project record keeping including records of meetings.
- 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, 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 (Two (2)external meetings assumed):

- Attend a kickoff meeting and coordination/progress meeting with the County and its representatives and stakeholders, as necessary to communicate development of the project and design issues.
- Prepare agenda and sign-in sheets for external coordination/progress meetings.
- Prepare meeting minutes for review via email within three (3) business days of the external coordination/progress meeting.
- Conduct internal coordination meetings as required to advance the development of the project.

f. PROJECT SCHEDULE:

- Maintain a project schedule indicating tasks, subtasks, critical dates, milestones, and deliverables.

g. DELIVERABLES:

- Monthly Invoices and Progress Reports
- Project Specific QA/QC Plan
- Meeting Minutes, Sign-In Sheets, and Agendas
- Project Schedule

2. ROUTE AND DESIGN STUDIES

a. DATA COLLECTION:

- Perform record research and obtaining existing information, including but not limited to: as-built plans, construction plans, right of way maps, environmental reports, studies, future land use maps, floodplain data, water quality data, floodplain and drainage models and analyses. Obtain construction plans for projects within the project limits and abutting TxDOT and County Roads. Obtain drainage studies, reports, and mapping for the project area, including reports for developments affecting the drainage area.

- Conduct a field investigation of the proposed roadway alignment and the surrounding area to determine field conditions including photographic record of notable existing features.

- Develop and maintain adjacent property ownership information (including owner's name, mailing address, property address, property id number) spreadsheet to be used for disseminating project information.

- Review the data collected and organize the information.

b. CONSTRAINTS MAP (1 preliminary alignment assumed):

- Environmental data collection will address land use and community impacts, ecological resources including biological and water resources, and cultural resources including recorded historic and archeological resources. Develop a constraints map and technical memorandum that includes environmental

concerns, known constraints (structures, floodplain), aerial photography, contour information, utility information, based on research of public databases and sources and details screening measures and decision practices for eliminating non-viable corridors.

c. DELIVERABLES:

- Constraints Map Preliminary Alignment and Technical Memorandum (pdf and hardcopies)
- Design Summary Form (pdf and hardcopies)

3. PUBLIC INVOLVEMENT

a. PUBLIC INVOLVEMENT PLAN

- CD&P will develop a Public Involvement Plan which outlines the objectives, strategies, tools and timeline of the engagement process. The overall approach will be to inform, and update stakeholders, and define methods of collecting input from stakeholders. The Plan may include elements such as: general public meetings, meetings with neighborhood groups, one-on-one meetings with affected property owners and businesses and outlined communication tools to be used. Development of the plan will start with thorough research of the project area, areas of concern, and identification of stakeholders. Tasks and deliverables:
    - Draft Public Engagement Plan - within 30 days of NTP
    - Final Public Engagement Plan

b. OUTREACH TOOLS

- A stakeholder database will be developed and include County contacts, elected/public officials, city and agency contacts, neighborhood associations, churches, community groups, nearby businesses, and any interested individuals. Communication will be logged in the database.
  Project status updates, meeting notices, and notices of opportunities to participate will be emailed to stakeholders in the database.
  CD&P will set up and monitor a project email address and be the point of contact to reply to questions and comments in a timely manner. All communication will be logged and team members and County staff will be involved in development of messages.
    - Develop and maintain the stakeholder database

- Up to 4 email updates (outside of meeting notices)
- Communications and responses to stakeholders

c. STAKEHOLDER OUTREACH AND MEETINGS

- Prior to any public meetings, KFA and CD&P will identify and reach out to key stakeholders to set up one-on-one meetings. CD&P will arrange, facilitate, and document meetings. KFA will attend meetings to answer questions and give general project considerations. It is assumed that there will be up to two rounds of outreach to key stakeholders, the project introduction and sharing proposed solution.

  There may also be opportunities to attend other meetings to make presentations and share updates such as HOA, Community Groups, etc. No meetings will be planned or held without prior county approval.

  - Identify and reach out to stakeholders
  - Coordinate and facilitate meetings (up to 2 rounds of outreach)
  - Attend up to 10 other group meetings to share information
  - Document meetings

d. PUBLIC MEETING/OPEN HOUSE (Two (2) public meetings assumed):

- Prepare handout materials, presentation, and exhibits for public viewing. Develop an invitation list of affected property owners, elected officials, stakeholders, school districts, local affected agencies, utility owners, and any other individuals who have showed interest in the project.

- Plan, schedule, conduct, and facilitate public meeting(s) to share project information with and collect feedback from citizens and stakeholders. Tasks may include, but not limited to: calling and/or visiting potential meeting sites; reserving meeting space; announcing the meetings by distributing meeting information and coordinating with attendees; holding and participating in meeting rehearsals; and facilitating meetings.

- Coordinate meeting announcements such as letters, email notices, signage, media releases, and postings.

- Provide experienced meeting facilitator and attend public open house meeting to solicit input from the general public.

- Prepare public meeting summary and responses to any comments or questions provided.

  DELIVERABLES:

  - Sign-In Sheets, Handouts, Presentations, Maps, and Exhibits for Public Meeting.
  - Open House Meeting Summary and comment responses.

e. PROJECT MATERIALS AND TOOLS

- CD&P will develop a template and coordinate materials for consistency and project branding. Materials will relay project information and provide opportunities to give input during the project. The approach to materials will be to tell the story of why these improvements are needed, explain the approach the County is taking to address transportation needs, and encourage involvement. Materials may include but are not limited to handouts, fliers, or fact sheets.
  - Project Templates
  - Illustrations to share project information
  - Handouts, flyers, FAQs, or fact sheets

f. WEBPAGE

- CD&P will develop content and coordinate with the County for posting on the County website. It will include project information, information on how to get involved and share input, project contact information, project materials and materials from public meetings. Tasks and deliverables:
  - Draft Content for webpage (general project information, project materials, meeting materials, photos)
  - Coordinate with County for posting
  - Monthly updates to content as needed

g. MEDIA OUTREACH

- CD&P will identify opportunities for, and place advertisements for public meetings in local media outlets. Print and digital advertisements allow the message to be broadcast to a broader audience in the county and promote the public meetings. Tasks and deliverables:

    - Development of up to 2 display advertisements for print or digital placement

4. SURVEYING

a. RIGHT OF ENTRY (68 letters assumed):

- Prepare and mail right of entry letters per the County's standard for the project team including geotechnical and environmental. Send a second follow up letter to non-responsive property owners.

b. FIELD SURVEYING:

- Project Control – SAM, Inc. will utilize the Western Data Systems (WDS) network to establish horizontal and vertical control including a minimum of six (6) primary survey control points within the survey limits. The survey control points (5/8 inch iron rods with "SAM Control" plastic caps) will be set in locations that will likely be undisturbed by construction or County maintenance. The project control will be placed on horizontal and vertical datums [NAD83/93/NAVD88 values (Texas State Plane, Central Zone)]. Elevations will be derived from GPS observations using Geoid 2012A model. Digital levels will be run through all survey control points to confirm the established elevations.

  SAM, Inc. will establish up to fifteen (15) ground targets to be utilized as project control for the Aerial LiDAR and tie to the primary project control. Elevations will be derived from GPS observations.

- Aerial LIDAR - The Surveyor will acquire LiDAR data at not less than 20 points per square meter average density, and will simultaneously collect color imagery suitable to generate 3-inch pixel GSD resolution orthoimagery.

  Aerial acquisition will be controlled with GPS base stations during the acquisition. Base station data is logged at 2 Hz and merged with GPS and IMU

data recorded on-board the aircraft using post-processed kinematic techniques to produce a highly accurate position for the laser aperture and cameras.

Captured LiDAR data will be recorded on removable data storage units onboard the aircraft. After acquisition, the data will be copied to SATA drives and returned to our offices where it will be copied onto our network drives. The data will then be post-processed and reviewed to confirm complete data acquisition coverage. Any seams, holes, or other unwanted artifacts can be quickly identified to assess the need for any data acquisition re-capture. Once approved, the data will be archived and prepared for production.

Daily acquisition QC procedures will be utilized to ensure data integrity from the mapping systems. These procedures include using a current satellite ephemeris for tracking the satellite constellation to plan scanning operations around the time of GPS Position Dilution of Precision (PDOP) spikes, adequate GPS static collection for receiver initialization and dynamic flying to initialize the IMU. During data acquisition, technicians constantly monitor the scanning system, checking the data logging rate, data storage capacity, GPS PDOP and imagery being collected.

- Supplemental Ground Survey - The Surveyor will supplement the Aerial LiDAR with conventional on-the-ground survey in areas obscured from the LiDAR sensors field of view. In such areas, cross-sections and break lines will be obtained at approximate 50 foot intervals. Major grade-break lines necessary to produce a one-foot interval contour DTM will be collected, as well as any visible improvements including driveways (with type noted), driveway pipes, drainage structures (noting size, material and flowline elevation), edge of pavement, edge (shoulder) line, crown (physical centerline), roadway striping, guardrail, fences, signs (with text) and mailboxes, visible utilities and visible evidence of underground utilities.

  The Surveyor will locate trees 8 inches in diameter at breast height (DBH) and larger within the design survey limits.

  The Surveyor will notify Texas One-Call to have utilities marked prior to survey. Locate any pin flags or markings found at the time of the survey.

  The Surveyor will merge and append the supplemental design survey to the Aerial LiDAR to create a seamless DTM and Planimetric DGN.

Obtaining supplemental design survey shall be excluded from the following limits

- Beyond the existing Sam Bass ROW from Wyoming Springs Drive to Great Oaks Drive
- Beyond the edge of water for existing stock tanks and ponds

c. RECORDS RESEARCH AND EXISTING ROW DELINEATION

- The Surveyor will conduct research in the Williamson County Appraisal District offices to confirm property ownership for approximately seventy-six (76) properties. Concurrently, copies of the current deeds and any plats for the properties will be obtained from the Williamson County Clerks' records. Monumentation and other physical evidence of the existing ROW, front property corners or limits of county maintenance for a prescriptive ROW easement found within the above described projects limits will be recovered and tied to the project control. The record deed information will be plotted to create a base file for use by the Engineer for design purposes only. Locating rear property corners is outside of this scope of services. This ROW Delineation is not a ROW retracement or Boundary Survey and is not intended to be used for ROW acquisition.

d. DELIVERABLES:

- 2D planimetrics and 3D DTM (Microstation V8i) – suitable for final P,S,&E design.
- Gpk and TIN file.
- Word doc file of surveyed points list and descriptor code list.
- Survey Control Index Sheet and Horizontal and Vertical Control Sheet signed, sealed, and dated by a registered professional land surveyor on 11x17 paper and pdf.
- PDF file of scanned field book copies.
- Digital Orthophotography Image Files
- Analytical Aerial Triangulation Summary Report
- Tiled LiDAR data files of classified points in .las format

5. SCHEMATIC DEVELOPMENT

a. SCHEMATIC:

- Prepare preliminary schematic submittal per Williamson County submittal requirements and selected design criteria including proposed cross sections, typical sections, roadway centerline, proposed drainage structures, proposed water quality BMPs, direction of flow and number of travel lanes, intersecting streets, property boundaries and information, ROW and easement locations, preliminary pavement section, driveway locations, horizontal alignment data, profile data, identification of known utilities.

b. DELIVERABLES:

- Preliminary Ultimate Schematic Submittal including cost estimate per submittal requirements.
- Electronic .kmz files for the County's database.

6. DRAINAGE STUDY

a. HYDROLOGIC/HYDRAULIC MODELING (1 major channel crossing, 7 cross drainage structures assumed):

- Prepare hydrologic and hydraulic models or modify existing models (FEMA, drainage districts, river authorities, cities, etc.) if available, to define the drainage infrastructure required for the project. Detail the methodologies employed and recommendations. The analysis will include: preparation of a preliminary design of the right of way drainage system; preliminary sizing of cross drainage structures and major channel crossings to reflect the existing and proposed conditions; recommended minimum pavement elevations based on cross drainage flood elevations; right-of-way requirements; identify potential needs for FEMA Coordination. HEC-RAS shall be utilized for all stream modeling. HY-8 shall be used for non-bridge class culverts.

- Develop existing channel cross sections based on data collection.

- Exhibits and analysis will be prepared in the GIS environment to the extent practical.

- Onsite parallel drainage for ditch and/or storm sewer sizing will only be analyzed to determine project ROW needs. Detailed inlet level calculations are not included in this scope.

- Coordinate with the Upper Brushy Creek Water Control Improvement District (UBCWCID) as necessary throughout the project.

b. FEMA COORDINATION:

- Coordinate with Local Floodplain Administrator as necessary throughout the project.

c. IMPACT AND MITIGATION ANALYSIS:

- Prepare an impact analysis at defined points of interest (POI) where water leaves project ROW to determine increases in peak flow rates for the 100-year storm including: existing and proposed peak flow rates, mitigation analysis, conceptual detention basin layouts, design of control structures, routing of storm hydrographs through basins, calculate the volume of fill to be placed in the 100-year floodplain, and recommend locations for compensatory storage.

d. WATER QUALITY:

- Develop preliminary load calculations and identify location, type, and size of preliminary BMP's required to comply with TCEQ Edwards Aquifer Protection Program regulations.

- Document water quality assumptions, calculations, and proposed BMP's in Drainage Report.

e. DELIVERABLES:

- Preliminary Drainage Report.

7. <u>ENVIRONMENTAL SERVICES</u>

a. COUNTY DUE DILIGENCE

- The Environmental Services will include studies and documentation required, per the Williamson County Environmental Protocol, for the various regulating authorities, including the Texas Historical Commission (THC), U.S. Army Corp of Engineers (USACE), U.S. Fish and Wildlife Service

(USFWS), Williamson County Conservation Foundation (WCCF), and the City of Georgetown. The intention of the Environmental Services is to attain necessary clearance letters and approvals in order to proceed with the proposed project.

This effort is for an Existing Conditions Report only – compliance would occur in future phases and it is assumed there is no federal nexus or NEPA requirement.

b. DATA COLLECTION & FIELD RECONNAISSANCE:

- Obtain and update periodically publicly available information including but not limited to: locations of public buildings (schools, churches, parks), aerial photography, National Wetland Inventory Maps, County Soil Survey Maps, TCEQ & EPA Hazardous Materials Database Information, FEMA Floodplain Information, Vegetation Information, Environmental Information from the appropriate local, state, or federal agencies, including information from TPWD and USFWS.

c. HAZARDOUS MATERIALS INITIAL SITE ASSESSMENT:

- Conduct a regulatory records review to identify listed hazardous waste generators, treatment, storage and disposal facilities; solid waste landfills, unauthorized sites; documented spills; oil and gas exploration and production sites; and underground storage tank sites within the proposed site location. The review will also identify other environmental risks along the project corridor.

- Prepare a Hazardous Materials Initial Site Assessment (ISA) based on the data collection and field reconnaissance conducted and identify potential hazardous material sites that may be impacted by the proposed project. **Existing Conditions portion only.**

d. SECTION 404 CLEAN WATER ACT COMPLIANCE:

- Prepare a wetland determination and delineation existing conditions report identifying: specific impacts of the project on the Waters of the U.S., measures to minimize the impacts will be identified, and discuss applicable Section 404 options in accordance with current permits and conditions based on data collection and field reconnaissance.

e. ECOLOGICAL RESOURCES AND ENDANGERED SPECIES ACT COMPLIANCE:

- Prepare Existing Conditions documenting the project's potential effects on federally listed Threatened & Endangered Species to document the project's compliance with the Endangered Species Act based on data collection and field reconnaissance.

- It is assumed SWCA would handle coordination related to the Jollyville Plateau Salamander critical habitat.

f. HISTORICAL SITE COMPLIANCE

- Prepare a study that will include database searches of the Texas Historical Commission's (THC) Historic Sites Atlas and TxDOT databases to identify previously documented cemeteries, historical markers, properties and districts. A field visit will be required to obtain photographs for the PCR attachments. **Existing Conditions only.**

g. TEXAS ANTIQUITIES CODE (TAC) COMPLIANCE:

- Prepare an Archeological Existing Conditions study that will be used to determine if archeological survey is warranted. The study will include review of the THC's Texas Archeological Sites Atlas maintained by the Texas Archeological Research Laboratory (TARL) for all known sites and previous cultural resources studies, as well as historic cemeteries, historical markers, NRHP listed properties and districts, and State Antiquities Landmarks (SALs) within one kilometer of the project area. Other resources used in the study would include soils, geology, and historic maps and on-line-available aerial photographs.

h. COMMUNITY IMPACT ASSESSMENT – DATA COLLECTION

- Prepare census-based socioeconomic data collection for understanding of project area demographics to assist public involvement.

i. DELIVERABLES

- Draft & Final Environmental Existing Conditions Report including:

    - Regulatory Records Review for Hazardous Materials

- Water Resources/Wetlands
- Ecological Resources and Endangered Species Letter
- Historic Resources
- Archeological Resources
- Socioeconomic Data

8. GEOTECHNICAL SERVICES

a. GEOTECHNICAL INVESTIGATION (19 roadway borings assumed, spaced approximately 750 feet to a 10 foot depth):

- Provide a Geotechnical Investigation for the project evaluated by a professional geotechnical engineer Licensed in the State of Texas. 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 and slope stability of the earthen embankments; and culvert bedding, analysis and recommendations for wingwalls, headwalls, and retaining walls, general earthwork recommendations, Swell potential evaluations, Pavement thickness design alternatives with subgrade stabilization, Potential Vertical Rise (PVR) calculations.
- The soil borings will be properly backfilled with bentonite chips and a single lift of cold patch asphalt where applicable. The soil samples will be obtained using Shelby tubes and/or split-spoon samplers. Field-testing of soil samples will include pocket penetrometer in the cohesive soils and Standard Penetration Test (SPT) in the cohesionless soils. Texas Cone Penetrations will be performed in the culvert borings at five foot intervals.
- 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, resilient modulus, and free swell, sulfate testing, and particle size analysis tests, visual

classification, dry density, California Bearing Ratio (CBR) tests, sulfate content tests, lime series analyses.

- Provide geotechnical analysis needed for pavement design, foundation design, and slope stability, as required. For retaining walls, Engineer will provide calculations including global stability, sliding, bearing capacity, and overturning and recommendations for minimum footing depth. Where retaining walls will be inundated due to water, a drawdown analysis is required. In addition, retaining wall backfill type shall be specified.
- The pavement design will include consideration of traffic loads to be based on the County's average daily traffic (ADT) projections. The traffic data required includes current and projected traffic counts and truck percentages. The Engineer will prepare three (3) flexible pavement design alternatives and one (1) rigid pavement design alternative. Flexible pavement design alternatives shall include: subgrade stabilization (utilizing lime or cement) and flexible base layer; full depth asphalt section; temporary full depth asphalt pavement section. Rigid design alternative shall include flexible base, HMAC Bond Breaker, and continuous reinforced concrete pavement. Geogrid reinforcement will also be considered in these designs. Pavement thickness options using TxDOT FPS-21.

9. <u>EXCLUSIONS</u>

   a. LOMR and/or CLOMR

   b. Water Pollution Abatement Plan (WPAP)

   c. Geologic Assessment for WPAP

   d. ROW Parcel Exhibits

   e. Plan/Profile of parallel drainage systems

   f. Utility Coordination

   g. Authorization or permitting under Section 404 of the Clean Water Act

   h. Archeological Permitting and Field Studies

   i. Complete Environmental Technical Reports Required for NEPA Clearance including complete Community Impact Assessment

j. Water Resources Technical Report

k. Noise and Air Quality Technical Reports

l. Indirect and Cumulative Impacts Analysis

m. NEPA Clearance Documentation (CE or EA)

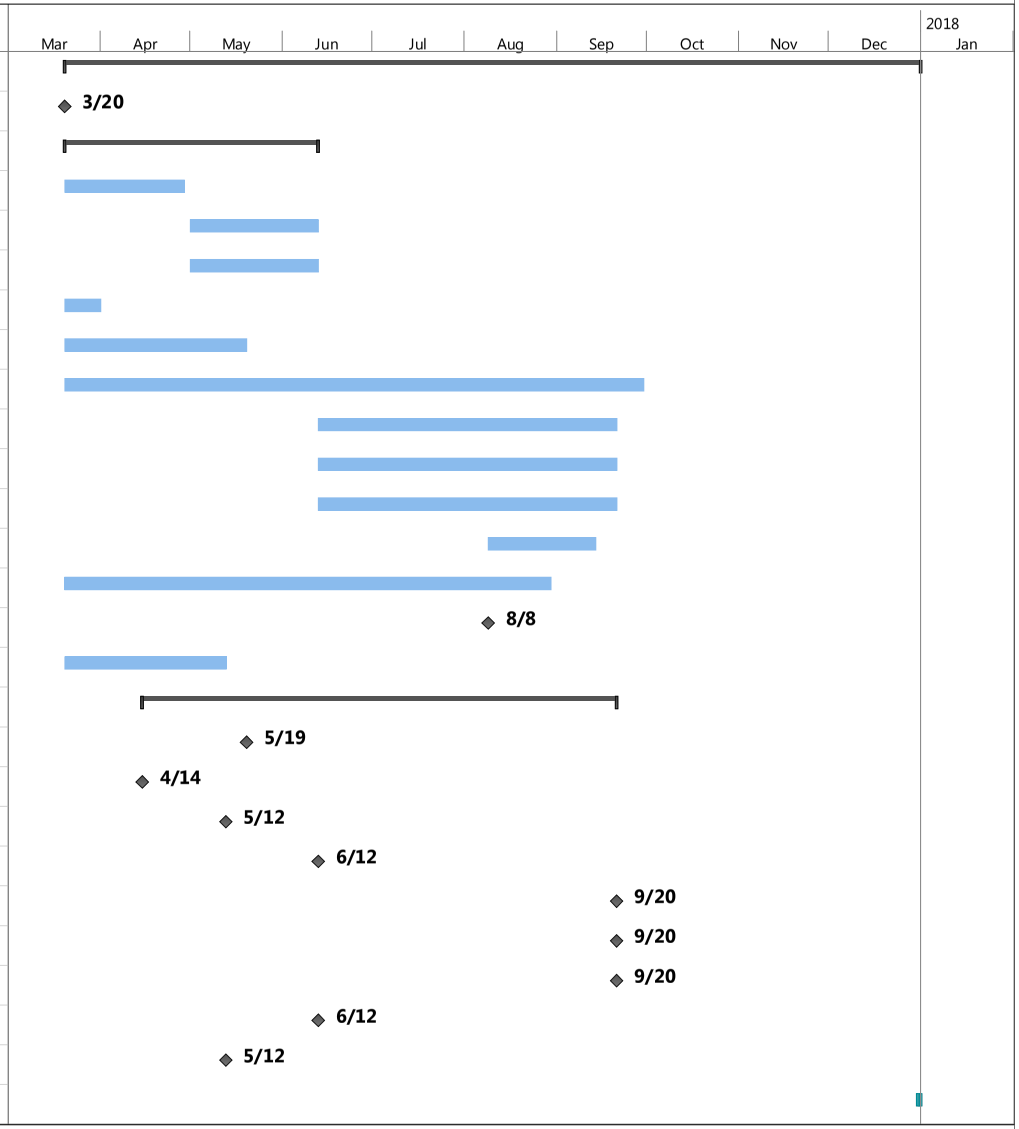
n. Research Design and Historic Resources Survey Report

o. Final P,S,&E Documents

p. Exclusions listed in individual sections

WILLIAMSON COUNTY
TRANSPORTATION CORRIDOR H
ATTACHMENT C - WORK SCHEDULE

ID	Task Name	Duration	Start	Finish
1	**Corridor H (Sam Bass Road)**	**199 days**	**Mon 3/20/17**	**Sun 12/31/17**
2	Notice to Proceed (NTP)	0 days	Mon 3/20/17	Mon 3/20/17
3	**Surveying**	**60 days**	**Mon 3/20/17**	**Mon 6/12/17**
4	Right of Entry	30 days	Mon 3/20/17	Fri 4/28/17
5	Field Surveying	30 days	Mon 5/1/17	Mon 6/12/17
6	Record Research and Exist ROW Delineation	30 days	Mon 5/1/17	Mon 6/12/17
7	Data Collection	10 days	Mon 3/20/17	Fri 3/31/17
8	Constraints Map	45 days	Mon 3/20/17	Fri 5/19/17
9	Public Involvement & Stakeholder Meetings	137 days	Mon 3/20/17	Fri 9/29/17
10	Schematic	70 days	Tue 6/13/17	Wed 9/20/17
11	Drainage	70 days	Tue 6/13/17	Wed 9/20/17
12	Water Quality	70 days	Tue 6/13/17	Wed 9/20/17
13	Cost Estimate	25 days	Wed 8/9/17	Wed 9/13/17
14	Environmental	115 days	Mon 3/20/17	Tue 8/29/17
15	Public Meeting	0 days	Tue 8/8/17	Tue 8/8/17
16	Geotechnical	40 days	Mon 3/20/17	Fri 5/12/17
17	**Deliverables**	**110 days**	**Fri 4/14/17**	**Wed 9/20/17**
18	Constraints Map	0 days	Fri 5/19/17	Fri 5/19/17
19	Draft Public Engagement Plan	0 days	Fri 4/14/17	Fri 4/14/17
20	Final Public Engagement Plan	0 days	Fri 5/12/17	Fri 5/12/17
21	Survey files (.dgn, .tin, .pdf)	0 days	Mon 6/12/17	Mon 6/12/17
22	Preliminary Schematic Submittal	0 days	Wed 9/20/17	Wed 9/20/17
23	Preliminary Cost Estimate	0 days	Wed 9/20/17	Wed 9/20/17
24	Preliminary Drainage Report	0 days	Wed 9/20/17	Wed 9/20/17
25	Draft Environmental Documents	0 days	Mon 6/12/17	Mon 6/12/17
26	Geotechnical Report	0 days	Fri 5/12/17	Fri 5/12/17
27	**Work Authorization Termination Date**	**1 day**	**Sun 12/31/17**	**Sun 12/31/17**



Project: Sam Bass Schedule
Date: Wed 3/1/17

Task	Inactive Task	Manual Summary Rollup	External Milestone
Split	Inactive Milestone	Manual Summary	Deadline
Milestone	Inactive Summary	Start-only	Progress
Summary	Manual Task	Finish-only	Manual Progress
Project Summary	Duration-only	External Tasks	

Attachment D - Fee Schedule
Transportation Corridor H
K Friese Associates, Inc.

TASK	KFA	CMEC	SAM	CD&P	Arias	Total Labor Cost
1. PROJECT MANAGEMENT						
b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS	$ 3,630.00	$ 2,460.00	$ -	$ 1,680.00	$ -	$ 7,770.00
c. QA/QC PLAN	$ 3,400.00	$ -	$ -	$ -	$ -	$ 3,400.00
d. PROJECT COORDINATON AND ADMINISTRATION	$ 7,920.00	$ 3,120.00	$ -	$ -	$ -	$ 11,040.00
e. PROGRESS COORDINATION MEETINGS (2)	$ 3,495.00	$ 1,200.00	$ -	$ 2,160.00	$ -	$ 6,855.00
f. PROJECT SCHEDULE	$ 1,320.00	$ -	$ -	$ -	$ -	$ 1,320.00
2. ROUTE AND DESIGN STUDIES	$ -	$ -	$ -	$ -	$ -	
a. DATA COLLECTION	$ 7,860.00	$ -	$ -	$ -	$ -	$ 7,860.00
b. CONSTRAINTS MAP	$ 1,020.00	$ 7,430.00	$ -	$ -	$ -	$ 8,450.00
3. PUBLIC INVOLVEMENT	$ -	$ -	$ -	$ -	$ -	
a. PUBLIC INVOLVEMENT PLAN	$ -	$ -	$ -	$ 1,830.00	$ -	$ 1,830.00
b. OUTREACH TOOLS	$ -	$ -	$ -	$ 9,940.00	$ -	$ 9,940.00
c. STAKEHOLDER OUTREACH AND MEETINGS (10)	$ 14,325.00	$ -	$ -	$ 15,560.00	$ -	$ 29,885.00
d. PUBLIC MEETING/OPEN HOUSE (2)	$ 10,100.00	$ 5,800.00	$ -	$ 19,320.00	$ -	$ 35,220.00
e. PROJECT MATERIALS AND TOOLS	$ -	$ -	$ -	$ 5,780.00	$ -	$ 5,780.00
f. WEBPAGE	$ -	$ -	$ -	$ 2,930.00	$ -	$ 2,930.00
g. MEDIA OUTREACH	$ -	$ -	$ -	$ 755.00	$ -	$ 755.00
4. SURVEYING					$ -	
a. RIGHT OF ENTRY (76)	$ 2,660.00	$ -	$ 9,112.00	$ -	$ -	$ 11,772.00
b. FIELD SURVEYING	$ -	$ -	$ 44,022.00	$ -	$ -	$ 44,022.00
c. RECORDS RESEARCH AND EXISTING ROW DELINEATION	$ -	$ -	$ 22,520.00	$ -	$ -	$ 22,520.00
5. SCHEMATIC DEVELOPMENT					$ -	
a. SCHEMATIC	$ 93,150.00	$ -	$ -	$ -	$ -	$ 93,150.00
6. DRAINAGE STUDY					$ -	
a. HYDROLOGIC/HYDRAULIC MODELING	$ 35,530.00	$ -	$ -	$ -	$ -	$ 35,530.00
b. FEMA COORDINATION	$ 625.00	$ -	$ -	$ -	$ -	$ 625.00
c. IMPACT AND MITIGATION ANALYSIS	$ 19,760.00	$ -	$ -	$ -	$ -	$ 19,760.00
d. WATER QUALITY	$ 31,780.00	$ -	$ -	$ -	$ -	$ 31,780.00
e. DELIVERABLES	$ 25,340.00	$ -	$ -	$ -	$ -	$ 25,340.00
7. ENVIRONMENTAL SERVICES					$ -	
a. COUNTY DUE DILIGENCE (see below)	$ -	$ -	$ -	$ -	$ -	$ -
b. DATA COLLECTION AND FIELD RECONNAISSANCE	$ -	$ 6,650.00	$ -	$ -	$ -	$ 6,650.00
c. HAZARDOUS MATERIALS ISA BASELINE	$ -	$ 2,070.00	$ -	$ -	$ -	$ 2,070.00
d. SECTION 404 WATER RESOURCES CONSIDERATIONS	$ -	$ 1,850.00	$ -	$ -	$ -	$ 1,850.00
e. ECOLOGICAL RESOURCES	$ -	$ 3,020.00	$ -	$ -	$ -	$ 3,020.00
f. HISTORIC RESOURCES	$ -	$ 1,420.00	$ -	$ -	$ -	$ 1,420.00
g. ARCHEOLOGICAL RESOURCES	$ -	$ 2,010.00	$ -	$ -	$ -	$ 2,010.00
h. COMMUNITY IMPACTS - BASELINE	$ -	$ 2,970.00	$ -	$ -	$ -	$ 2,970.00
8. GEOTECHNICAL SERVICES					$ -	
a. GEOTECHNICAL INVESTIGATION AND PAVEMENT REPORT	$ -	$ -	$ -	$ -	$ 4,960.00	$ 4,960.00
LABOR COST:	**$ 261,915.00**	**$ 40,000.00**	**$ 75,654.00**	**$ 59,955.00**	**$ 4,960.00**	**$ 442,484.00**
TOTAL DIRECT EXPENSES COST:	**$ 1,040.00**	**$ 1,881.35**	**$ 30,084.00**	**$ 4,761.00**	**$ 11,525.00**	**$ 49,291.35**
TOTAL PROJECT COST:	**$ 262,955.00**	**$ 41,881.35**	**$ 105,738.00**	**$ 64,716.00**	**$ 16,485.00**	**$ 491,775.35**

Attachment D - Fee Schedule
Transportation Corridor H
K Friese Associates, Inc.

TASK Hourly Rate: K Friese & Associates, Inc.	SHEETS/ UNITS	Principal $ 250.00	Sr. Roadway Engineer $230.00	QA/QC Engineer $190.00	Sr. Drainage Engineer $187.50	Sr. Project Manager $165.00	Project Engineer $125.00	Engineer in Training $100.00	CADD Technician $90.00	Admin. $75.00	Sub Total Hours	Hr/Unit	KFA Labor Cost
						Hours							
1. PROJECT MANAGEMENT													
b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS	12	3				12				12	27	2.3	$ 3,630.00
c. QA/QC PLAN				4		16					20		$ 3,400.00
d. PROJECT COORDINATON AND ADMINISTRATION						48					48		$ 7,920.00
e. PROGRESS COORDINATION MEETINGS (2)			6		6	6					18		$ 3,495.00
f. PROJECT SCHEDULE						8					8.0		$ 1,320.00
2. ROUTE AND DESIGN STUDIES													$ -
a. DATA COLLECTION			8		8	8		32			56.0		$ 7,860.00
b. CONSTRAINTS MAP						4			4		8.0		$ 1,020.00
3. PUBLIC INVOLVEMENT													$ -
a. PUBLIC INVOLVEMENT PLAN													$ -
b. OUTREACH TOOLS													$ -
c. STAKEHOLDER OUTREACH AND MEETINGS (10)	10	20	10		10	20	10			8	78.0	7.8	$ 14,325.00
d. PUBLIC MEETING/OPEN HOUSE (2)	2	4	8	8	8	16	8			8	60.0	30.0	$ 10,100.00
e. PROJECT MATERIALS AND TOOLS													$ -
f. WEBPAGE													$ -
g. MEDIA OUTREACH													$ -
4. SURVEYING													$ -
a. RIGHT OF ENTRY (76)	76					4		20			24.0	0.3	$ 2,660.00
b. FIELD SURVEYING													$ -
c. RECORDS RESEARCH AND EXISTING ROW DELINEATION													$ -
5. SCHEMATIC DEVELOPMENT													$ -
a. SCHEMATIC			135	45		120		300	40	2	642.0		$ 93,150.00
6. DRAINAGE STUDY													$ -
a. HYDROLOGIC/HYDRAULIC MODELING				12	60		80	120			272.0		$ 35,530.00
b. FEMA COORDINATION					2		2				4.0		$ 625.00
c. IMPACT AND MITIGATION ANALYSIS				4	32		40	80			156.0		$ 19,760.00
d. WATER QUALITY				12	40		80	120			252.0		$ 31,780.00
e. DELIVERABLES				8	24	40	80	20	8		180.0		$ 25,340.00
7. ENVIRONMENTAL SERVICES													$ -
a. COUNTY DUE DILIGENCE (see below)													$ -
b. DATA COLLECTION AND FIELD RECONNAISSANCE													$ -
c. HAZARDOUS MATERIALS ISA BASELINE													$ -
d. SECTION 404 WATER RESOURCES CONSIDERATIONS													$ -
8. GEOTECHNICAL SERVICES													$ -
a. GEOTECHNICAL INVESTIGATION AND PAVEMENT REPORT													$ -
TOTAL NUMBER OF SHEETS:											Column Total = 1,853		
HOURS:		**27**	**167**	**93**	**190**	**302**	**300**	**692**	**52**	**30**	Row Total = 1,853		
LABOR COST:		**$ 6,750**	**$ 38,410**	**$ 17,670**	**$ 35,625**	**$ 49,830**	**$ 37,500**	**$ 69,200**	**$ 4,680**	**$ 2,250**			**$ 261,915.00**
		1.5%	**9.0%**	**5.0%**	**10.3%**	**16.3%**	**16.2%**	**37.3%**	**2.8%**	**1.6%**			**$ 261,915.00**

DIRECT EXPENSES:							
Travel:							
Mileage		1500	miles			$ 0.56	$840.00
Copies:							
Reproduction		500	copies			$ 0.20	$100.00
Media (mylar)			sheets				
Misc Expenses:							
Express delivery		4	each			$ 25.00	$100.00
TOTAL DIRECT COST:							**$ 1,040**
TOTAL PROJECT COST:							**$ 262,955.00**

Attachment D - Fee Schedule
Transportation Corridor H
Cox/McLain and Associates

TASK Hourly Rate: Cox McLain & Associates, Inc.	SHEETS/ UNITS	SR. ENV SCI II $ 150.00	SR. ENV SCI I $130.00	ENVIRON PROF. II $110.00	ENVIRON. PROF. I $95.00	ENVIRON STAFF III $85.00	ENVIRON STAFF II $75.00	ENVIRON STAFF I $65.00	ENVIRON TECH II $55.00	ENVIRON TECH I $45.00	Sub Total Hours	Hr/Unit	CMEC Labor Cost
						Hours							
1. PROJECT MANAGEMENT													
b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS		12							12		24		$ 2,460.00
c. QA/QC PLAN													$ -
d. PROJECT COORDINATON AND ADMINISTRATION		12		12							24		$ 3,120.00
e. PROGRESS COORDINATION MEETINGS (2)		8									8		$ 1,200.00
f. PROJECT SCHEDULE													$ -
2. ROUTE AND DESIGN STUDIES													$ -
a. DATA COLLECTION													$ -
b. CONSTRAINTS MAP		10	8	10	6	4	10	16	10	12	86.0		$ 7,430.00
3. PUBLIC INVOLVEMENT													$ -
a. PUBLIC INVOLVEMENT PLAN													$ -
b. OUTREACH TOOLS													$ -
c. STAKEHOLDER OUTREACH AND MEETINGS (10)													$ -
d. PUBLIC MEETING/OPEN HOUSE (2)		16		16		8	8			8	56.0		$ 5,800.00
e. PROJECT MATERIALS AND TOOLS													$ -
f. WEBPAGE													$ -
g. MEDIA OUTREACH													$ -
4. SURVEYING													$ -
a. RIGHT OF ENTRY (76)													$ -
b. FIELD SURVEYING													$ -
c. RECORDS RESEARCH AND EXISTING ROW DELINEATION													$ -
5. SCHEMATIC DEVELOPMENT													$ -
a. SCHEMATIC													$ -
6. DRAINAGE STUDY													$ -
a. HYDROLOGIC/HYDRAULIC MODELING													$ -
b. FEMA COORDINATION													$ -
c. IMPACT AND MITIGATION ANALYSIS													$ -
d. WATER QUALITY													$ -
e. DELIVERABLES													$ -
7. ENVIRONMENTAL SERVICES													$ -
a. COUNTY DUE DILIGENCE (see below)													$ -
b. DATA COLLECTION AND FIELD RECONNAISSANCE		8	8	8	6	4	10	12	10	12	78		$ 6,650.00
c. HAZARDOUS MATERIALS ISA BASELINE		1		8				16			25		$ 2,070.00
d. SECTION 404 WATER RESOURCES CONSIDERATIONS		1		8			8		4		21		$ 1,850.00
e. ECOLOGICAL RESOURCES		2			8		12		16	4	42		$ 3,020.00
f. HISTORIC RESOURCES		1		8			4			2	15		$ 1,420.00
g. ARCHEOLOGICAL RESOURCES		1		2	8				16		27		$ 2,010.00
h. COMMUNITY IMPACTS - BASELINE		1	4	8	8				12		33		$ 2,970.00
8. GEOTECHNICAL SERVICES													$ -
a. GEOTECHNICAL INVESTIGATION AND PAVEMENT REPORT													$ -
TOTAL NUMBER OF SHEETS:											Column Total = 439		
HOURS:		**73**	**20**	**80**	**36**	**16**	**52**	**44**	**80**	**38**	Row Total = 439		
LABOR COST:		**$ 10,950**	**$ 2,600**	**$ 8,800**	**$ 3,420**	**$ 1,360**	**$ 3,900**	**$ 2,860**	**$ 4,400**	**$ 1,710**			**$ 40,000.00**
		16.6%	**4.6%**	**18.2%**	**8.2%**	**3.6%**	**11.8%**	**10.0%**	**18.2%**	**8.7%**			**$ 40,000.00**

DIRECT EXPENSES:						
Travel:						
Overnight Mail (Letter Size)	3	each			$ 22.95	$68.85
Overnight Mail (Box Size)	2	each			$ 70.00	$140.00
8 1/2" x 11" B/W Paper Copies	500	each			$ 0.16	$80.00
11" x 17" Paper Copies	250	each			$ 0.32	$80.00
8 1/2" X 11" Color Paper Copies	150	each			$ 0.75	$112.50
11" x 17" Color Paper Copies	100	each			$ 1.50	$150.00
Plots (B/W on Bond)	60	SF			$ 0.75	$45.00
Plots (Color on Bond)	60	SF			$ 1.75	$105.00
Hazardous Materials Database Search	2	each			$ 550.00	$1,100.00
TOTAL DIRECT COST:						**$ 1,881**
TOTAL PROJECT COST:						**$ 41,881.35**

Attachment D - Fee Schedule
Transportation Corridor H
Surveying and Mapping, Inc.

TASK Hourly Rate: Surveying and Mapping, Inc.	SHEETS/ UNITS	PROJECT MANAGER $ 135.00	SR SURV TECH $ 96.00	SURV TECH $ 88.00	ADMIN / CLERICAL $ 70.00	2 PERS SURV CREW $ 130.00	3 PERS SURV CREW $ 160.00	PROJ COORD - AER MAPPING $ 130.00	CERT PHOTOGR AM. SPEC. $ 120.00	ANALYT. TRIANG. SPEC. $95.00	AERIAL MAP TECH $95.00	ORTHO PHOT SPEC $95.00	MAPPING EDITOR $90.00	AERIAL OFFICE TECH $80.00	PROJ COORD - HAL $130.00	HAL PROCESS. TECH $110.00	HELICOP. FLIGHT CREW $195.00	Sub Total Hours	Hr/Unit	SAM Labor Cost
		Hours																		
4. SURVEYING																				$ -
a. RIGHT OF ENTRY (76)		4	8	8		30	20											70.0		$ 9,112.00
b. FIELD SURVEYING		22	40	64	2	120		4	3	12	50	34	18	8	2	16	8	403.0		$ 44,022.00
c. RECORDS RESEARCH AND EXISTING ROW DELINEATION		16	40	40		100												196.0		$ 22,520.00
TOTAL NUMBER OF SHEETS:																		Column Total = 669		
HOURS:		**42**	**88**	**112**	**2**	**250**	**20**	**4**	**3**	**12**	**50**	**34**	**18**	**8**	**2**	**16**	**8**	Row Total = 669		
LABOR COST:		**$ 5,670**	**$ 8,448**	**$ 9,856**	**$ 140**	**$ 32,500**	**$ 3,200**	**$ 520**	**$ 360**	**$ 1,140**	**$ 4,750**	**$ 3,230**	**$ 1,620**	**$ 640**	**$ 260**	**$ 1,760**	**$ 1,560**			**$ 75,654.00**
		6.3%	**13.2%**	**16.7%**	**0.3%**	**37.4%**	**3.0%**	**0.6%**	**0.4%**	**1.8%**	**7.5%**	**5.1%**	**2.7%**	**1.2%**	**0.3%**	**2.4%**	**1.2%**			**$ 75,654.00**

DIRECT EXPENSES:						
	Travel:					
	Mileage	1500	miles	$ 0.56	$840.00	
	LiDAR:					
	Aerial LiDAR System	1	day	$ 6,500.00	$6,500.00	
	Helicopter Airborne LiDAR	8	hour	$ 1,650.00	$13,200.00	
	Photo Lab Service - Digital Image Processing	100	frame	$ 29.00	$2,900.00	
	Aerial Photography - Airborn GPS/IMU Data Collection	1	project	$ 2,500.00	$2,500.00	
	Copies:					
	Deed Records	200	sheet	$ 1.00	$200.00	
	Map Records	24	sheet	$ 6.00	$144.00	
	Misc Expenses:					
	Express Delivery	2	each	$ 25.00	$50.00	
	GPS Receiver	150	hour	$ 25.00	$3,750.00	
TOTAL DIRECT COST:					**$ 30,084**	
TOTAL PROJECT COST:					**$ 105,738.00**	

Attachment D - Fee Schedule
Transportation Corridor H
Concept Development and Planning, Inc.

TASK Hourly Rate: Concept Development & Planning, Inc.	SHEETS/ UNITS	PRINCIPAL $ 165.00	PROJECT MGR $130.00	SR MEDIA SPEC $115.00	SR PUBLIC INV SPEC $115.00	PUBLIC INVOLV SPEC $100.00	SR GRAPHIC DESIGN AND WEB $90.00	GRAPHIC DESIGN & WEB $65.00	JR PUBLIC INVOLV SPEC $65.00	ADMIN/ CLERICAL $50.00	Sub Total Hours	Hr/Unit	CD&P Labor Cost
		Hours											
1. PROJECT MANAGEMENT													
b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS		3	3			6			3		15		$ 1,680.00
c. QA/QC PLAN													$ -
d. PROJECT COORDINATON AND ADMINISTRATION													$ -
e. PROGRESS COORDINATION MEETINGS (2)		6	6						6		18		$ 2,160.00
f. PROJECT SCHEDULE													$ -
3. PUBLIC INVOLVEMENT													$ -
a. PUBLIC INVOLVEMENT PLAN		4	6						6		16.0		$ 1,830.00
b. OUTREACH TOOLS		10	24			32	3		20	8	97.0		$ 9,940.00
c. STAKEHOLDER OUTREACH AND MEETINGS (10)		32	40			30			32		134.0		$ 15,560.00
d. PUBLIC MEETING/OPEN HOUSE (2)		22	34	2		48	28		48	12	194.0		$ 19,320.00
e. PROJECT MATERIALS AND TOOLS		6	7	4			38				55.0		$ 5,780.00
f. WEBPAGE		2	2	4		8	12				28.0		$ 2,930.00
g. MEDIA OUTREACH		1		2			4				7.0		$ 755.00
TOTAL NUMBER OF SHEETS:											Column Total = 564		
HOURS:		**86**	**122**	**12**		**124**	**85**		**115**	**20**	Row Total = 564		
LABOR COST:		**$ 14,190**	**$ 15,860**	**$ 1,380**	**$ -**	**$ 12,400**	**$ 7,650**	**$ -**	**$ 7,475**	**$ 1,000**			**$ 59,955.00**
		15.2%	**21.6%**	**2.1%**		**22.0%**	**15.1%**		**20.4%**	**3.5%**			**$ 59,955.00**

DIRECT EXPENSES:					
	Travel:				
	Mileage	1100	miles	$ 0.56	$616.00
	Corrugated meeting signs	15	each	$ 25.00	$375.00
	Foam Boards (24x36)	15	each	$ 70.00	$1,050.00
	Postage			Postal Rate	$500.00
	Photocopies B/W (11" X 17")	100		$ 0.20	$20.00
	Photocopies B/W (8 1/2" X 11")	100		$ 0.10	$10.00
	Photocopies Color (11" X 17")	250		$ 0.80	$200.00
	Photocopies Color (8 1/2" X 11")	600		$ 0.40	$240.00
	AV Rental (estimate)				$300.00
	Misc. Meeting Supplies (estimate)				$200.00
	Venue Rental (estimate)				$250.00
	Advertisements (estimate)				$1,000.00
TOTAL DIRECT COST:					**$ 4,761**
TOTAL PROJECT COST:					**$ 64,716.00**

Attachment D - Fee Schedule
Transportation Corridor H
Arias Geoprofessionals, Inc.

TASK Hourly Rate: Arias Geoprofessionals, Inc.	SHEETS/ UNITS	SR GEOTECH ENGR $ 135.00	PROJECT ENGR $95.00	FIELD COORD $85.00	LOGGER $65.00	DRAFTING $65.00	ADMIN/CLERICAL $55.00				Sub Total Hours	Hr/Unit	Arias Labor Cost
		Hours											
8. GEOTECHNICAL SERVICES													$ -
a. GEOTECHNICAL INVESTIGATION AND PAVEMENT REPORT		10	16	8	16	4	2						$ 4,960.00
TOTAL NUMBER OF SHEETS:													
HOURS:		**10**	**16**	**8**	**16**	**4**	**2**				Row Total = 56		
LABOR COST:		**$ 1,350**	**$ 1,520**	**$ 680**	**$ 1,040**	**$ 260**	**$ 110**	**$ -**	**$ -**	**$ -**			**$ 4,960.00**
		17.9%	**28.6%**	**14.3%**	**28.6%**	**7.1%**	**3.6%**						**$ 4,960.00**

DIRECT EXPENSES:							
Travel:							
Trip Charge	2	each			$ 55.00	$110.00	
Mobilization (drill rig, support equip, rock core)	1	each			$ 425.00	$425.00	
Drilling and Sampling (Soil)	190	ft			$ 19.00	$3,610.00	
Backfill Boreholes	190	ft			$ 5.00	$950.00	
Traffic Control	2	day			$ 1,800.00	$3,600.00	
Laboratory Soil Testing	1	LS			$ 2,830.00	$2,830.00	
TOTAL DIRECT COST:						**$ 11,525**	
TOTAL PROJECT COST:						**$ 16,485.00**	