



ATTACHMENT A

WORK AUTHORIZATION NO. 01

This Work Authorization is made pursuant to the terms and conditions of the Agreement entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (*the "County"*) and Loomis Partners, Inc. (*the "Engineer"*).

**Part 1.** The *Engineer* will provide engineering, surveying and environmental services required for the development of a route study for the Seward Junction Loop, including preliminary environmental studies.

**Part 2.** The maximum amount payable for services under this Work Authorization without modification is \$380,741.75.

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

**Part 4.** This Work Authorization shall become effective on the date of final acceptance of the parties hereto and shall terminate on December 31, 2012, unless extended by a Supplemental Work Authorization.

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

**Part 6.** This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this \_\_\_\_ day of \_\_\_\_\_, 2011.

ENGINEER:  
Loomis Partners, Inc.

By: Tracy A. Bratton  
Signature

Tracy A. Bratton, P.E.  
Printed Name

Senior Project Manager  
Title

COUNTY:  
Williamson County, Texas

By: [Signature]  
Signature 8-14-11

\_\_\_\_\_  
Printed Name

County Judge  
Title

OK  
my 8/14/2011

## **LIST OF EXHIBITS**

Exhibit A - Services to be Provided by County

Exhibit B - Services to be Provided by Engineer

Exhibit C - Work Schedule

Exhibit D - Fee Schedule

Exhibit E - Anticipated Study Area

## **EXHIBIT A to WORK AUTHORIZATION NO. 01**

### **SERVICES TO BE PROVIDED BY THE COUNTY**

In addition to the services listed in the Agreement, the County will provide the following services:

1. Provide a Project Manager to coordinate all aspects of the Work Authorization.
2. Furnish available reference documents, information and project data needed for the work in this Contract. In particular, files produced from the SH29 Route Study (including editable Microstation / AutoCAD files for the approved schematic, environmental constraints documentation, and drainage reports).
3. Assist in the coordination with property owners, as appropriate.
4. Provide timely reviews and approvals of required documentation including, working documents, reports, and drawings.
5. Perform timely review and processing of monthly invoice submissions.
6. Provide public relations firm / consultants to arrange, advertise and coordinate public open house(s).

## **EXHIBIT B to WORK AUTHORIZATION NO. 01**

### **SERVICES TO BE PROVIDED BY THE ENGINEER**

The work to be performed under this contract shall consist of providing surveying, engineering and environmental services required for the development of the route study for the Seward Junction Loop, including public involvement, preliminary environmental studies and preliminary hydrologic/hydraulic investigations. Preliminary engineering will assess alternatives for incorporating and widening existing county roadways as part of the loop and of new roadway alignments. The typical section should accommodate an *interim* undivided roadway with 2 lanes and should provide enough ROW for a future *ultimate* 4 lane divided roadway. The project is generally centered on the intersection of US 183 and State Highway 29 east of Liberty Hill. It is anticipated that the loop will be approximately 6 miles long and will incorporate the following existing county roads: CR 259 to CR266, CR 260, CR 258, CR 213. A completely new road route will be required from SH 29 and CR 213 (or Stonewall Parkway) south and west to the planned overpass of 183A at CR 259. The anticipated study area is provided in Exhibit E.

The focus of the route study will be: 1) evaluation of innovative alternatives to existing intersections along the proposed loop to enhance mobility, 2) evaluation of alignments connecting the US 183A / CR 259 overpass to SH 29 and CR 213 (or Stonewall Parkway), and 3) evaluation of the impact of the proposed loop on SH 29 and US 183 for both the current and proposed (schematic) roadway alignments.

Following the completion of the route study, a schematic of the proposed roadway identifying all right-of-way needs will be developed (under a separate Work Authorization). At the schematic stage, environmental studies will identify likely permitting issues, map possible constraints, and provide data that will be used to develop a schematic with minimized environmental impacts and agency coordination needs.

This scope of work assumes that ultimate construction of the project will be subject to the environmental requirements of the Texas Commission on Environmental Quality (TCEQ) for projects within the Edwards Aquifer Contributing Zone and that Texas Department of Transportation coordination and permitting will be required for intersections at SH 29 and US 183 (assuming environmental assessment at the level of a Categorical Exclusion). This scope also anticipates that future agency coordination and permitting may be needed for water quality, waters of the U.S., endangered species, migratory birds, and cultural resources. The environmental studies described in this scope of work are intended to support such future coordination and permitting needs; however, direct agency coordination and preparation of permitting documents is not included at this time. The Engineer will develop approximate additional ROW required to accomplish the anticipated Best Management Practices (BMPs) within the Edwards Aquifer Contributing Zone as necessary to comply with TCEQ and Corps of Engineers regulations.



The Engineer shall provide the services described below for surveying, route study, public involvement, environmental study, and hydrologic/hydraulic study. All deliverables will be submitted in hardcopy format and uploaded to Projectwise in pdf format. All native design files will be uploaded to Projectwise at project milestones or on request.

## **1. CONSTRAINTS AND BASELINE DATA FOR ROUTE STUDY**

Project constraints and baseline data for the anticipated study area shown in Exhibit E will be developed. The following activities will gather the information needed to analyze the feasibility and impacts of alternative alignments and intersection geometry developed during the Route Study.

- 1.1. Right of entry: During the development of constraints mapping for the route study, the only right of entry anticipated will be for two large tracts of land on the southwest quadrant of the proposed loop for the purpose of verifying topographic data (refer to detailed topographic survey scope below).
- 1.2. Environmental and Cultural Constraints: Prepare a preliminary review of the environmental and cultural resources of the study area to support alternatives analyses and identify potential future permitting needs. The range of issues to be evaluated shall be consistent with the information typically provided for a Categorical Exclusion through the TxDOT environmental review process.
  - 1.2.1. Review Published Information: Conduct a review of relevant published and publically available environmental and cultural resource information pertaining to the study area. Such information will include, to the extent available, recent aerial imagery, topographic maps, soils, geology, vegetation, wildlife, land uses, water resources, endangered species and migratory birds, socioeconomic characteristics, hazardous materials, historic landmarks and structures, archeological sites, and noise and air quality.
  - 1.2.2. Preliminary Field Investigation: Conduct field investigations of the study area from publically accessible roads and other properties where right-of-entry has been obtained. Field investigations will focus on confirming information gathered from the review of published materials and from on-site observations to support the alternatives analysis. Field investigations under this task are not intended to be at the level of detail needed to support detailed impacts analysis or future permitting actions.
  - 1.2.3. Document Preliminary Findings: Prepare a memo or letter report summarizing the potential environmental and cultural resource issues and constraints associated with the study area. The memo or report will also identify issues needing additional study and highlight potential future permitting
- 1.3. Survey: Engineer will utilize publicly available LIDAR data from CAPCOG to create a TIN and 1-foot contour mapping of the project area and conduct field work to verify the accuracy and appropriateness of this data for conducting the route study. Should the LIDAR be found to be inaccurate or insufficient for conducting of the route study, the Engineer will notify the County and prepare a supplemental work authorization proposing alternate ways to gather the required topographic data.

- 1.3.1. Topography: Utilizing digital terrain modeling software, a one-foot contour interval topographic map will be prepared for the project area based on LIDAR data available from CAPCOG.
- 1.3.2. Establish Project Control: Horizontal control shall be based on Texas State Plane Coordinate System, Central Zone, NAD-83. Vertical Control shall be based on NAVD-88. Locate published benchmarks (i.e. LCRA, TXDOT, CTRMA, FEMA, GPS point, etc.); establish benchmark circuit (run levels) throughout the project; establish additional benchmarks at intervals not to exceed 1,000 feet for the limits of the project; Benchmarks shall be 20M (ASTM) (3/4 inch) diameter, 48 inches long, or equivalent as warranted by terrain, and shall be located near the existing ROW line or proposed ROW line at a measured distance. Perform the benchmark circuits in accordance with good surveying practice. Provide location of permanent project benchmarks and traverse points (description, coordinates and elevations).
- 1.3.3. Field Verification of LIDAR: Obtain on-the-ground field elevations at 100-ft intervals and major grade breaks along proposed roadways as specified by the project engineer for purposes of verifying the accuracy of LIDAR topographic information being used as the basis for infrastructure design.
- 1.3.4. Analysis of LIDAR: Based on the provided field measurements and LIDAR TIN, prepare a report showing the vertical difference between the surveyed points and the TIN surface.
- 1.4. Physical Constraints
  - 1.4.1. Property Boundaries and Rights-of-way: Engineer will use mapping data available from the Williamson County Appraisal District to approximate property boundaries and rights-of-way for the purpose of the route study. The Engineer will contact the City of Liberty Hill and Williamson County development review officials for input on any planned developments along the corridor that may not yet be reflected in the Appraisal District maps.
  - 1.4.2. Improvements along the corridor: Publically available aerial imagery from CAPCOG will be used to identify existing structures and improvements in the study area that may create constraints on proposed alignments.
  - 1.4.3. US 183 & SH 29: Engineer will use available design schematics of existing and proposed US 183 and SH 29 in evaluating alignments during the route study.
  - 1.4.4. Utilities: Engineer will contact utility providers in the area to obtain utility data and approximate locations. The approximate location of any utilities from obtained information will be included in constraints mapping and analysis. An initial assessment of approximate cost and schedule to relocate utilities within the study area will be sought from the utility providers.
  - 1.4.5. Meetings with land owners of properties as deemed necessary.
- 1.5. Traffic Data Collection
  - 1.5.1. Traffic, Land Use and Historical Data: The Engineer will obtain any existing data and information, which will include any transportation and land development plans/studies/reports that have been performed within the study area and historical count data along roadways.

- 1.5.2. Identification of Key Intersections: Through discussions with the project team, identify key intersections to be studied further in a detailed analysis. Intersections may include but are not limited to:
  - o SH 29 and US 183
  - o CR 260 and SH 29
  - o CR 213 and SH 29
  - o CR 213 and CR 258
  - o CR 258 and CR 213
  - o CR 258 and Stonewater Parkway
  - o US 183 and CR 259/CR 263
- 1.5.3. Traffic Data: To supplement the data obtained above, the Engineer will collect existing traffic data at the following locations:
  - o 24-Hour Birectional Traffic Counts at up to 10 locations in the study including CR 213, CR 260, and CR 259/CR263, CR 213, SH 29, and US 183
  - o AM and PM peak hour turning movement counts at the key study area intersections identified previously.
- 1.5.4. Field Inventory: A detailed field review will be performed to document existing intersection geometry at each identified key intersection.
- 1.6. Traffic Forecasts
  - 1.6.1. Perform traffic forecasts for the proposed Seward Junction Loop for the future year of 2035 for a No-Build and Proposed Build scenario (assuming Loop is in place). Traffic forecasts will be based on historic and existing traffic count information and the 2035 CAMPO Model traffic forecasts. Traffic forecasts will include 2035 ADT for the Loop roadway and 2035 AM and PM peak hour traffic forecasts for the key study area intersections.
  - 1.6.2. Traffic forecasts will be summarized in a technical memorandum and submitted to the County for review and comment .
  - 1.6.3. Finalize 2035 No-Build and Build traffic forecasts based on comments received from County staff.
  - 1.6.4. Perform AM and PM peak hour capacity analyses using Synchro for the key study area intersections for the 2035 No-Build and Build condition.
  - 1.6.5. Provide recommendations on intersection layouts and traffic control to achieve an acceptable level of service under 2035 traffic conditions at each intersection.
- 1.7. Drainage
  - 1.7.1. Develop drainage basin maps for major crossing waterways.
  - 1.7.2. Utilize appropriate methodology based on basin size to estimate discharges crossing the ROW.

## **2. PRE-DESIGN PUBLIC OPEN HOUSE**

- 2.1. The Engineer will develop exhibits showing the constraints and the study area in layman terms for use at a public open house. The Engineer will also prepare a project summary, a description of the purpose and need for the project, and a broad bulleted summary of the process and approximate project timeline.



- 2.2. Williamson County's public involvement consultant(s) will: 1) coordinate public notice of the open house; 2) arrange the venue; 3) setup / tear down any tables / chairs from the event; 4) provide a court reporter or transcribers to take verbal statements from the public (if desired); and 5) collect all verbal and written comments from the meeting, prepare a summary and forward it to the Engineer.
- 2.3. The Engineer will have relevant staff (at least three members of the engineering team and one member of the environmental team) attend the open house.
- 2.4. The Engineer will review all public comments forwarded by the County's public involvement team for consideration during preparation of the Route Study. Engineer will assist with preparation of comment responses.

### **3. ROUTE STUDY**

- 3.1. Right of entry: No additional right-of-entry is anticipated with this phase of the project.
- 3.2. Survey: No additional survey services are anticipated with this phase of the project.
- 3.3. Environmental Support for Alternative Route Analysis: Provide environmental and cultural resource information in a format that facilitates the analysis of alternative project alignments. Coordinate with and assist Engineer as needed to consider preliminary environmental and cultural resource constraints in the identification of a preferred alignment.
- 3.4. Drainage & Water Quality: To support developing key constraints, engineering feasibility, approximate ROW / easement needs for the initial alternative alignments:
  - 3.4.1. Initial determination of drainage structures (bridge vs. culverts) and approximate size.
  - 3.4.2. Develop preliminary TCEQ Edwards Aquifer Contributing Zone compliance strategy(ies) for alternative alignments and estimate type, locations / sizes and costs for BMP including approximate ROW / easement needs.
- 3.5. Route Design and Intersection Analysis
  - 3.5.1. Preliminary Design Concept Conference: Analyze and determine the design criteria for the project prior to determining the final preferred alignment.
  - 3.5.2. Alternative Corridors: Review the overall project limits for possible corridors and realigned intersection geometry. Once Williamson County and the Engineer have reviewed possible corridors; TxDOT and CTRMA will be consulted regarding intersections of the project with US 183 and SH 29 existing roadways, and future mainlanes, ramps, and frontage roads. Up to three (3) alternatives (including variations of intersection geometry at key nodes) will be selected for further detailed analysis.
  - 3.5.3. Preliminary Typical Sections: Create typical sections for each quadrant of the roadway depicting current, interim and final roadway widths and ROW.
  - 3.5.4. For each alternate alignment intersections at SH 29 and/or US 183, prepare sketches showing anticipated revisions to the existing schematics. If



ramp configurations change significantly, the Engineer will prepare a supplemental agreement for traffic studies as directed by the County.

3.5.5. Alternative Alignment and Intersection Analysis: Prepare base maps for alternatives analysis. Develop alternative alignments to provide for mobility around the loop and enhance economic development potential in the area and of adjoining tracts.

3.5.6. Finalize Preferred Alignment: Make recommendations to Williamson County after the alignment analysis. The final preferred alignment would be based on a matrix of relevant measures of effectiveness, and quantifiable environmental and engineering criteria.

3.6. Prepare a preliminary Construction Cost Estimate for the preferred alignment.

3.7. Meetings with review /approval agencies and land owners.

#### **4. SECOND PUBLIC OPEN HOUSE**

4.1. The Engineer will develop exhibits showing the preferred alignment and typical sections in layman terms for use at a public open house. The Engineer will also prepare a project summary / justification and broad bulleted summary of the process and approximate project timeline.

4.2. Williamson County's public involvement consultant(s) will: 1) coordinate public notice of the open house; 2) arrange the venue; 3) setup / tear down any tables / chairs from the event; 4) provide a court reporter or transcribers to take verbal statements from the public (if desired); and 5) collect all verbal and written comments from the meeting, prepare a summary and forward it to the Engineer.

4.3. The Engineer will have relevant staff (at least three members of the engineering team and one member of the environmental team) attend the open house.

4.4. The Engineer will review all public comments forwarded by the County's public involvement team and consult with Williamson County prior to proceeding to development of the design schematic. Engineer will assist with preparation of comment responses.

#### **5. PROJECT MANAGEMENT**

5.1. Attend Project Coordination Meetings – Engineer will have relevant staff attend six meetings to coordinate the project with County staff / representatives and to obtain concurrence with project status.

5.2. County Commissioner Meetings - Attend up to four County Commissioners Court Meetings. After discussion of project-related agenda items, the Engineer will not be required to be present during the remainder of the Court session. Minimal exhibits and handouts will be required.

5.3. Project Administration and Coordination - Provide up to twelve (12) monthly project team meetings to discuss the status of the project with TCEQ, Williamson County representatives, TxDOT, CTRMA, and other relevant staff.

5.4. Coordination with Agencies – Coordinate with TxDOT, CTRMA, City of Liberty Hill and Williamson County on proposed improvements.

5.5. Progress Reports - Prepare progress reports and submit them along with monthly invoices. Invoices will be submitted by the twelfth (12th) day of each month.

## **EXHIBIT C to WORK AUTHORIZATION NO. 01**

### **WORK SCHEDULE**

The work to be performed by the Engineer under this work authorization shall be completed by October 11, 2012, unless amended by a Supplemental Work Authorization. The Engineer will make efforts to adhere to the following milestone dates on the project:

1. Notice to Proceed – August 15, 2011
2. Constraints and Baseline Data Gathering – October 24, 2011
3. First Open House – November 8, 2011
4. Second Open House – February 24, 2012
5. Route Study – April 13, 2012

Note: This work schedule show above is based upon timely review and approval of submittals by the County and other review agencies. If at any time it appears that a delay in a submittal review or approval will cause a delay on any subsequent milestones, the Engineer will advise the County and provide a revised schedule. Since the timeliness of reviews and approvals of outside agencies are beyond the control of the Engineer, the Engineer shall not be held responsible for delays to individual or subsequent milestones that result from extended technical reviews, comment periods or delays in the holding of public meetings.

# EXHIBIT D to WORK AUTHORIZATION NO. 01

## EXHIBIT D - FEE SCHEDULE

SEWARD JUNCTION LOOP  
 MAINTENANCE BREAKDOWN  
 ROUTE STUDY

WILLIAMSON COUNTY ROAD BOND PROGRAM

CONTRACT NO. WAF1

Dist. Class Mile	Dist. Class Mile	A	B	C	D	E	F	G	H	I	J	K	L	TOTAL HRS	DIRECT LAB. OH & PROFIT	% Total per Code
0	0	175	140	115	95	85	160	140	140	0	0	0	4	571	\$ 63,905.00	26.87%
0	0	49	88	16	116	218	8	72	0	0	0	0	4	246	\$ 30,100.00	12.66%
0	0	48	28	48	32	64	22	0	0	0	0	0	4	929	\$ 114,820.00	48.29%
0	0	190	216	120	256	134	1	0	0	0	0	0	0	0	\$ -	0.00%
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ -	0.00%
0	0	100	50	16	0	0	14	0	0	0	0	0	6	186	\$ 28,970.00	12.18%
0	0	365	382	200	404	416	45	72	0	0	0	0	18	1912	\$ 237,795.00	
TOTAL DIRECT LABOR COST																
% of Total Hours by Labor Classification																
20.45% 19.77% 10.35% 20.31% 21.53% 2.33% 3.73% 0.00% 0.00% 0.00% 0.00% 0.00% 0.93%																

-TOTAL LABOR COST W/OH \$ 237,795.00

ENGINE - TOTAL PROJECT ADJUT COSTS  
 Printing and Reproduction \$ 6,074.25  
 Travel \$ 1,070.00  
 PC & PC CAD \$ -  
 Delivery Services \$ 261.00

TOTAL DIRECT COSTS \$ 7,405.25

SUBCONTRACT - TOTAL PROJECT

SUBCONSULTANT  
 Cultural Resources (Applied Archaeology) \$ 8,472.00  
 Survey (Walker Trout Surveys) \$ 10,980.00  
 State System (Agates & Fields) \$ 30,952.00  
 Traffic (HCR) \$ 61,892.50  
 Dry Utilities (Enco) \$ 22,245.00

TOTAL SUBCONTRACT COST \$ 115,541.50

TOTAL PROJECT COST \$ 350,411.75

SEWARD JUNCTION LOOP  
NINTHOOR BREAKDOWN  
ROUTE STUDY

CONSTRAINT SAND BASELINE DATA														
Start Cont Date	Task	W/C Description	Labor Rates	TOTAL DIRECT LABOR										
				A	B	C	D	E	F	G	H	I	J	TOTAL HRS
			\$ 17.6	\$ 14.0	\$ 11.5	\$ 9.5	\$ 8.5	\$ 10.0	\$ 14.0	\$ -	\$ -	\$ -	\$ 6.5	\$
		Right of Entry	4				4						12	\$ 1,300.00
		Environmental & Cultural Constraints											0	\$ -
		Review Published Information					60						0	\$ -
		Palms Field Investigation	2				10						12	\$ 1,150.00
		Document Findings	8				60		4				80	\$ 2,600.00
		Review and Review with Project OEC	2				16		4				30	\$ 3,400.00
		Survey											0	\$ -
		Topography (TUI, Consensus from LIDAR point data)				32							0	\$ -
		Project Control		12		40			32				124	\$ 15,460.00
		Field Verification of LIDAR	4	6		8							18	\$ 2,300.00
		Analysis of LIDAR	4	4		16							34	\$ 2,780.00
		Physical Constraints											0	\$ -
		Property Boundaries and Right-of-Way	1		4		8						13	\$ 1,315.00
		Existing Improvements	2		4		20						26	\$ 2,000.00
		Existing Utilities	6										16	\$ 2,560.00
		Meeting with Land Owner	12										12	\$ 2,100.00
		Drainage	4			20							0	\$ -
				32			40						96	\$ 10,480.00
													0	\$ -
													0	\$ -
0	0		49	88	16	116	218	8	72	0	0	0	4	\$ 61,960.30
		% Total by Classification	15.50%	17.47%	2.80%	20.12%	35.16%	1.40%	12.00%	0.00%	0.00%	0.00%	0.70%	

**Table 1. Courses\***

1	Project Management I; Engineering II
2	Project Management II; Engineering III
3	Project Management III
4	Project Engineering I
5	Project Engineering II
6	CAL Tech I (1200 staff, 5 semester)
7	Engineering Design
8	Engineering Design II
9	2 Personal Journey Field Course
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\* Chemical / Automotive track

Printing and Reproduction \$	4,500.00
Travel \$	350.00
PC & PC CALID	-
Delivery services \$	75.00
	(Computers included in the Overhead Multiple)

DIRECT COSTS	
Printing and Reproduction \$	4,500.00
Travel \$	320.00
PC & PC-CALUD \$	-
Delivery Services \$	78.00
<b>TOTAL DIRECT COSTS</b>	<b>\$ 4,900.00</b>

<b>SUB CONTRACTS</b>		
Cultural Resources (Archaeology)	\$	8,477.00
City of Dallas (Flood Survey)	\$	10,900.00
State 5 (Flood Survey)	\$	2,784.00
Trials: (HDB)	\$	25,037.50
Dry Urban (Kno)	\$	13,715.00
<b>TOTAL SUBCONTRACT COST</b>	<b>\$</b>	<b>62,964.50</b>

TOTAL COST/PER FUNCTION CODE 118		\$ 131,774.98
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SEWARD JUNCTION LOOP  
MANHOUS BREAKDOWN  
ROUTE STUDY

[illegible]

Labor Categories:	
A = Sr. Project Manager / Sr. Engineer II	
B = Ppt. Eng. V/Sr. Communications Surveyor	
C = Project Engineer III	
D = Senior Designer / Project Surveyor I	
E = FAD Tech I / Draftsman	
F = Asst. Draft. Head	
G = J Person Survey Field Crew	
H =	
I =	
J =	
K =	
L =	
M =	
N =	
O =	

DIRECT COSTS	
Printing and Reproduction \$	516.00
Travel \$	200.00
PC & PC CALD \$	-
Delivery Services \$	39.00
<b>TOTAL DIRECT COSTS</b>	<b>\$ 755.00</b>

(Computers included in the Overhead Multiplier)

SUBCONTRACTS	
Cultural Resources (Applied Archeology)	\$ -
Survey (Wilbur Smith Surveyors)	\$ -
State System (Agurte & Fields)	\$ 10,213.00
Truck (AGURTE)	\$ 4,750.00

TOTAL COSTS FOR FUNCTION CODE 120 \$ 4,393.00

SEWARD JUNCTION LOOP  
MANHOUS BREAKDOWN  
ROUTE STUDY

[illegible]

DIRECT COSTS		SUB-CONTRACTS	
Printing and Reproduction \$	902.25	Cultural Resources (Applied Archaeology)	\$
Travel	422.00	Survey/Walking Tunnel Services)	\$
PC & PC CADD \$	-	Site Services (Acquarry & Field)	\$ 17,080.00
Delivery/Services \$	114.00		
<b>TOTAL DIRECT COSTS</b>	<b>\$ 1,438.25</b>		

A= St. Project Manager / St. Engineer II  
 B= Proj. Eng. V/61, Specialist/5, Surveyor  
 C= Project Engineer III  
 D= Senior Draftsp./ Project Surveyor I  
 E= CAD Tech. I/II/III/IV/ Senior  
 F= Est. Dept. Head  
 G= 2 Fresno Survey Field Crew  
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TOTAL COSTS FOR FUNCTION CODE 110 1 113,791.25

## EXHIBIT D'- FEE SCHEDULE

SEWARD JUNCTION LOOP  
 MANHOUR BREAKDOWN  
 ROUTE STUDY

PROJECT MANAGEMENT														TOTAL DIRECT LABOR		
Sched Control Line	M.W. No.	Task Description	(Labor Rates)											TOTAL HRS	LAB. OH & PROFIT	DIRECT
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
\$ 175	\$ 140	\$ 115	\$ 95	\$ 85	\$ 160	\$ 140	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	65		
12	12	12			4									46	\$ 6,190.00	
														0	\$ -	
8		4			4									16	\$ 2,500.00	
48	18				2									66	\$ 10,560.00	
														0	\$ -	
12	12				4									28	\$ 4,410.00	
														0	\$ -	
30	18													30	\$ 4,500.00	
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DIRECT COSTS		TOTAL DIRECT COSTS	
Printing and Reproduction \$	156.00		
Travel \$	125.00		
PC & PC CALD \$	-		
Delivery Services \$	30.00		
		\$	311.00
Cultural Resources (Applied Archaeology)			
Survey (Walker Texas Surveyors)			
State System (Aguirre & Fields)			

STUDY CONTRACTS

STUDY CONTRACTS

A = Air Photo Manager / Sky Engineer II  
 B = Asst. Project Manager / Surveyor II  
 C = Proj. Eng. V/Asst. Surveyor  
 D = Project Designer III  
 E = Senior Designer / Project Surveyor I  
 F = CAD Tech I / Draftsman  
 G = Equip. Dept. Head  
 H = 2 Person Survey Field Crew  
 I =  
 J =  
 K = Crew / Asst. Surveyor

TOTAL COSTS FOR FUNCTION CODE 161	\$ 29,281.00
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## EXHIBIT TP - FEE SCHEDULE

SEWARD JUNCTION LOOP  
MANHOOR BREAKDOWN  
ROUTE STUDY

## WILLIAMSON COUNTY ROAD BOND PROGRAM

CONTRACT NO. WA01

Direct Expense			Constraints	Public Inv.	Route Study	Schematic	Project Mgmt							
New Sheet Count (11x17)			0	0	0	0	0							
Standard (11x17)			0	0	0	0	0							
Printing & Reproduction (# of sets) (Cost) (Units)														
Other Direct Expenses														
Historic aerial: radius map for REC's	1	\$1,000.00 ea	\$	1,000.00	\$	-	\$	-	\$	-				
Color Plots & Exhibits for Public Meetings	30	\$ 12.00 ea	\$	-	\$	360.00	\$	-	\$	-				
Title Co. Easement Research	1	\$1,500.00 ea	\$	1,500.00	\$	-	\$	-	\$	-				
ROE Mailings	75	\$ 3.59 ea	\$	-	\$	-	\$	419.25	\$	-				
11 x 17 Sheets														
Plotting Working Drawings	10	\$ 0.15 ea	\$	-	\$	-	\$	-	\$	-				
30% Schematic Review	3	\$ 0.15 ea	\$	-	\$	-	\$	-	\$	-				
60% Schematic Review	3	\$ 0.15 ea	\$	-	\$	-	\$	-	\$	-				
90% Schematic Review	3	\$ 0.15 ea	\$	-	\$	-	\$	-	\$	-				
95% Schematic Review	3	\$ 0.15 ea	\$	-	\$	-	\$	-	\$	-				
Final	3	\$ 0.15 ea	\$	-	\$	-	\$	-	\$	-				
Roll plots														
Public involvement	78	\$ 2.00 sf	\$	-	\$	156.00	\$	-	\$	-				
Route Study	234	\$ 2.00 sf	\$	-	\$	-	\$	468.00	\$	-				
Schematic	156	\$ 2.00 sf	\$	-	\$	-	\$	-	\$	-				
Other	78	\$ 2.00 sf	\$	-	\$	-	\$	-	\$	-				
8 1/2 x 11 Sheets														
Env. Reports	0	\$ 0.10 ea	\$	-	\$	-	\$	-	\$	-				
Drainage and Water Quality Report	130	\$ 0.10 ea	\$	-	\$	-	\$	13.00	\$	-				
Design Summary	23	\$ 0.10 ea	\$	-	\$	-	\$	-	\$	-				
Total Direct Cost Associated w/ Printing			\$	4,500.00	\$	316.00	\$	902.25	\$	-	\$	156.00	\$	6,074.25

SEWARD JUNCTION LOOP  
MANHOOR BREAKDOWN  
TRAVEL

CONTRACT NO. WA01

Direct Expense				Constraints	Public Inv.	Route Study	Schematic	Project Mgmt
Trips to Client				2	0	2	0	3
Trips to Subconsultants				2	0	4	0	0
Trips to Site				6	4	8	0	1

Travel Expense									
(miles or days)		(# of persons)	(Cost)	(Units)					
0	Airfare to Client	0	\$	-	ticket	\$	-	\$	-
0	Airfare to Subs	0	\$	-	ticket	\$	-	\$	-
0	Airfare to Site	0	\$	-	ticket	\$	-	\$	-
0	Airport Parking (client)	****	\$	-	day	\$	-	\$	-
0	Airport Parking (subs)	****	\$	-	day	\$	-	\$	-
0	Airport Parking (site)	****	\$	-	day	\$	-	\$	-
0	Rental Car (client)	****	\$	-	day	\$	-	\$	-
0	Rental Car (subs)	****	\$	-	day	\$	-	\$	-
0	Rental Car (site)	****	\$	-	day	\$	-	\$	-
0	Lodging (if Client person)	0	\$	-	day	\$	-	\$	-
	Lodging (if Sub-person)	0	\$	-	day	\$	-	\$	-
	Lodging (if Site-person)	0	\$	-	day	\$	-	\$	-
	Subsistence (if Client person)	0	\$	-	day	\$	-	\$	-
	Subsistence (if Sub-person)	0	\$	-	day	\$	-	\$	-
	Subsistence (if Site-person)	0	\$	-	day	\$	-	\$	-
50	Car Mileage (client)	****	\$	0.553	mile	\$	36.00	\$	-
15	Car Mileage (subs)	****	\$	0.553	mile	\$	17.00	\$	33.00
75	Car Mileage (site)	1	\$	0.553	mile	\$	240.00	\$	167.00
Subconsultants									
Total Direct Cost Associated w/ Travel				\$	323.00	\$	300.00	\$	422.00

SEWARD JUNCTION LOOP  
MANHOOR BREAKDOWN  
SHIPPING / POSTAGE

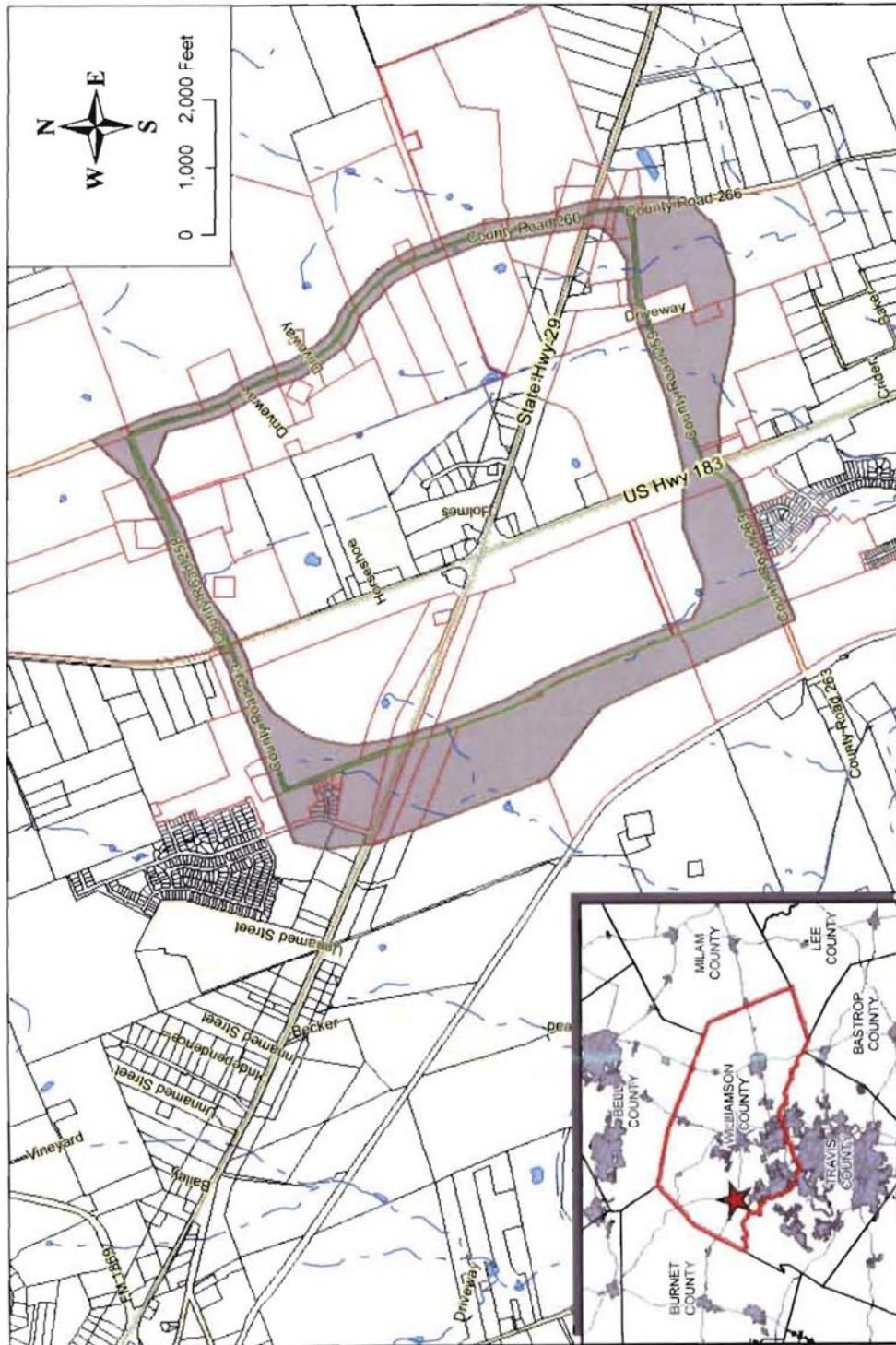
CONTRACT NO. WA01

Direct Expense			Constraints	Public Inv.	Route Study	Schematic	Project Mgmt
Number of Shipments to Client			2	1	0	0	2
Number of Shipments to Subconsultants			4	2	2	0	0
<b>Express Mailing</b>							
	(Cost)	(Units)					
To Client	\$15.00	ea	\$ 30.00	\$ 15.00	\$ 90.00	\$ -	\$ 30.00
To Subconsultants	\$12.00	ea	\$ 48.00	\$ 24.00	\$ 24.00	\$ -	\$ -
<b>Total Direct Cost Associated w/ Mailing</b>			<b>\$ 78.00</b>	<b>\$ 39.00</b>	<b>\$ 114.00</b>	<b>\$ -</b>	<b>\$ 30.00</b>

\$ 7,405.25



# EXHIBIT E to WORK AUTHORIZATION NO. 01



**EXHIBIT**  
**AREA OF STUDY**  
**SEWARD JUNCTION ROUTE CONSTRAINTS ANALYSIS**  
**WILLIAMSON COUNTY, TEXAS**