

AGENDA ITEM 9

Consider authorizing County Auditor to make any line item transfers necessary to complete 1999/2000 budget.

Moved: **Commissioner Heiligenstein**

Seconded: **Judge Doerfler**

Motion: To authorize County Auditor to make any line item transfers necessary to complete 1999/2000 budget.

Vote: Motion carried 4 – 0 with Commissioner Boatright absent from the dais.

Regular Agenda**AGENDA ITEM 10**

Consider approving agreement with PBS&J for work on D B Wood Road, utilizing certificates of obligation money.

Moved: **Commissioner Heiligenstein**

Seconded: **Commissioner Hays**

Motion: To authorize Commissioner Hays to sign professional services agreement with PBS&J for Cedar Breaks Park Road relocation from Farm-to-Market 2338 (Williams Drive) to D.B. Wood Road utilizing certificates of obligation funds.

Vote: Motion carried 5 – 0

< Clerk copy here >



PROFESSIONAL SERVICE AGREEMENT

THIS AGREEMENT, made and entered into _____, by and between Post, Buckley, Schuh & Jernigan, Inc. (PBS&J) and the Client identified herein, provides for the Professional Services described under Item 2 of this Agreement.

PHONE NUMBER: (512) 930-3330

CLIENT: Williamson County

CONTACT PERSON: Joe England, P.E.

ADDRESS: 1900 Georgetown Inner Loop, Suite B Georgetown,
Texas 78626

PROJECT NUMBER: 991007.48

SHORT TITLE: Cedar Breaks Road Relocation

1. DESCRIPTION OF PROJECT SITE:

The project site is located along Cedar Breaks Road in Georgetown, Texas between D.B. Woods Road (STA 10+00) and FM 2338 (STA 127+80).

2. SCOPE OF SERVICES TO BE PROVIDED BY PBS&J

(If additional pages are necessary, they are identified as Attachment A):

See Attachment A1 (Services to Be Provided By the County) and Attachment A2 (Services to Be Provided by the Engineer (PBS&J)).

3. THE COMPENSATION TO BE PAID PBS&J for providing the requested services shall be
(If additional pages are necessary, they are identified as Attachment B):

- ☐ Direct personnel expense plus a surcharge of _____ %, plus reimbursable costs.*
- ☐ A Lump-Sum charge of \$ _____, plus out-of-pocket expenses.*
- ☐ Unit Cost/Time Charges identified in Attachment B, plus reimbursable costs.*
- ☒ Other - See Attachment B.
* See explanation under Item 5 below.

4. IF PBS&J's SERVICES UNDER THIS AGREEMENT ARE DELAYED for reasons beyond PBS&J's control, the time of performance shall be adjusted appropriately. Except where the services provided are under a continuous service contract for more than one year, if the services under this Agreement are delayed for a period of more than one (1) year from the beginning date (as above provided), the fees shall be subject to renegotiation; any change in such fees shall apply only to the unfinished services as of the effective date of such change.

IN WITNESS WHEREOF, this Agreement is accepted on the date written above and subject to the terms and conditions set forth above.

(SIGN WITH BALL POINT PEN)

CLIENT: Williamson County

POST, BUCKLEY, SCHUH & JERNIGAN, INC.

SIGNED: John C. Doefler

SIGNED: Keith B. Jackson

TYPED NAME: John Doefler

TYPED NAME: Keith B. Jackson, P.E.

TITLE: Williamson County Judge

TITLE: Division Manager

DATE: 9-19-00

DATE: 9/18/00

5. **COMPENSATION:** Direct personnel expense shall be defined as: the cost of salaries and fringe benefit costs related to vacation, holiday, and sick leave pay; contributions for Social Security, Workers' Compensation Insurance, retirement benefits, and medical and insurance benefits; unemployment and payroll taxes; and other allowed costs of those employees directly engaged in the performance of the requested service.

LB Reimbursable costs include: fees of Professional Associates (whose expense is required to complete the project) and out-of-pocket expenses the cost of which is charged at actual costs plus an administrative charge of 18% and shall be itemized and included in the invoice. *SUBCONSULTANTS MUST BE PAID BY THE COUNTY PRIOR TO CONTRACTING.*

Typical out-of-pocket expenses shall include, but not be limited to, travel expenses (lodging, meals, etc.), job-related mileage at the prevailing Company rate, long distance telephone calls, courier, printing and reproduction costs, and survey supplies and materials. In the event the requested service involves the use of electronic means equipment, computers, plotters, and other special equipment such as boats, swamp buggies, etc., an additional direct charge shall be made for the use of this equipment.

LB It is understood and agreed that PBS&J's services under this Agreement are limited to those described in Item 2 hereof (and Attachment A, if applicable) and do not include participation in or control over the operation of any aspect of the project. Compensation under this Agreement does not include any amount for participating in or controlling any such operation. *EXPENSES ARE SHOWN IN ATTACHMENT B AND WILL NOT EXCEED \$10,000.*

6. **INVOICE PROCEDURES AND PAYMENT:** PBS&J shall submit invoices to the Client for work accomplished during each calendar month. For services provided on a Lump Sum basis, the amount of each monthly invoice shall be determined on the "percentage of completion method" whereby PBS&J will estimate the percentage of the total work (provided on a Lump Sum basis) accomplished during the invoicing period. Monthly invoices shall include, separately listed, any charges for services for which time and/or unit costs shall apply. Such invoices shall also include, separately listed, any charges for Professional Associates and reimbursable costs. Such invoices shall be submitted by PBS&J as soon as possible after the end of the month in which the work was accomplished and shall be due and payable by the client upon receipt.

LB The Client, as owner or authorized agent for the owner, hereby agrees that payment as provided herein will be made for said work within 30 days from the date the invoice for same is mailed to the Client at the address set out herein or is otherwise delivered, and, in default of such payment, hereby agrees to pay all costs of collection, including reasonable attorney's fees, regardless of whether legal action is initiated. The Client hereby acknowledges that unpaid invoices shall accrue interest at the maximum retail rate by law after they have been outstanding for over 30 days. PBS&J reserves the right to suspend all services on the Client's project without notice if an invoice remains unpaid 45 days after date of invoice. This suspension shall remain in effect until all unpaid invoices are paid in full.

It is understood and agreed that PBS&J's services under this Agreement do not include participation, whatsoever, in any litigation. Should such services be required, a supplemental Agreement may be negotiated between the Client and PBS&J describing the services desired and providing a basis for compensation to PBS&J.

7. **COST ESTIMATES:** Client hereby acknowledges that PBS&J cannot warrant that any cost estimates provided by PBS&J will not vary from actual costs incurred by the Client.

- LB* 8. **LIMIT OF LIABILITY:** The limit of liability of PBS&J to the Client for any cause or combination of causes shall be, in total amount, limited to the fees paid under this Agreement.

9. **CONSTRUCTION SERVICES:** If, under this Agreement, professional services are provided during the construction phase of the project, PBS&J shall not be responsible for or have control over means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work; nor shall PBS&J be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents or for the Contractor's failure to comply with applicable laws, ordinances, rules or regulations.

10. **INSURANCE:** PBS&J shall at all times carry Workers' Compensation insurance as required by statute; commercial general liability insurance including bodily injury and property damage; automobile liability coverage; and professional liability coverage. Insurance certificates will be provided to the Client upon request. Client agrees to require that PBS&J be named as an additional insured on insurance coverages provided by contractors on the project.

11. **ASSIGNMENT:** Neither the Client nor PBS&J will assign or transfer its interest in this Agreement without the written consent of the other.

12. **SUSPENSION, TERMINATION, CANCELLATION OR ABANDONMENT:** In the event the project described in Attachment A, or the services of PBS&J called for under this Agreement, is/are suspended, cancelled, terminated or abandoned by the Client, PBS&J shall be given seven (7) days prior written notice of such action and shall be compensated for the professional services provided up to the date of suspension, termination, cancellation or abandonment in accordance with the provisions of this Agreement for all work performed up to the date of suspension, termination, cancellation or abandonment, including reimbursable expenses.

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

14. **DOCUMENTS:** Any reuse by the client or others of documents and plans that result from PBS&J's services under this agreement shall be at the Client's or others' sole risk without liability to PBS&J.

15. **WAIVER:** Any failure by PBS&J to require strict compliance with any provision of this contract shall not be construed as a waiver of such provision, and PBS&J may subsequently require strict compliance at any time, notwithstanding any prior failure to do so.

- LB* 16. **DISPUTE RESOLUTION:** If a dispute arises out of or relates to this Agreement or the breach thereof, the parties will attempt to settle the matter between themselves. If no agreement can be reached the parties agree to use mediation with a mutually agreed upon mediator before resorting to a judicial forum. The cost of a third party mediator will be shared equally by the parties. In the event of litigation, the prevailing party will be entitled to reimbursement of all reasonable costs and attorneys' fees. The parties mutually agree that a similar dispute resolution clause will be contained in all other contracts executed by Client concerning or related to this contract and all subcontracts executed by PBS&J.

17. **HAZARDOUS WASTE, MATERIALS OR SUBSTANCES:** Unless otherwise specifically provided in this Agreement, PBS&J shall not be responsible for or have control over the discovery, presence, handling, removal, transport or disposal of hazardous waste, materials or substances in any form on the project site.

18. **GOVERNING LAW:** This Agreement shall be governed by and construed according to the laws of the State where the situs of the work is located.

19. **LIMITED COPYRIGHT LICENSE:** PBS&J grants Client a paid-up, non-transferable, non-exclusive license to make or have made copies of any copyrightable materials delivered under this Agreement and specifically marked by PBS&J as "Reproduction Authorized".

- LB* 20. **INTELLECTUAL PROPERTY:** With the sole exception of specifically marked reproducible materials subject to the Limited Copyright License herein, all worldwide right, title and interest in and to any and all Intellectual Property conceived, invented, authored or otherwise made by or on this Agreement shall remain the sole and exclusive property of PBS&J, its successors and assigns unless licensed or assigned by PBS&J pursuant to a separate written instrument. The term Intellectual Property shall be construed broadly to include all forms of intellectual property including without limitation all inventions, discoveries, designs, plans, improvements, trademarks, service marks and copyrights in drawings, computer programs, architectural works and in all other original works of authorship.

- LB* 21. **LIMITED COPYRIGHT LICENSE:** PBS&J GRANTS CLIENT A PAID-UP, NON-TRANSFERABLE, NON-EXCLUSIVE LICENSE TO MAKE OR HAVE MADE COPIES OF ANY COPYRIGHT MATERIALS DELIVERED UNDER THIS AGREEMENT AND SPECIFICALLY MARKED BY PBS&J AS "REPRODUCTION AUTHORIZED".

ATTACHMENT A: Scope of Services
ATTACHMENT B: Compensation
ADDENDUM A (if required)

**ATTACHMENT A1
SERVICES TO BE PROVIDED BY THE COUNTY**

PROJECT: Cedar Breaks Rd. Relocation
FROM: FM 2338 (Williams Rd.)
TO: D. B. Woods Rd.
COUNTY: Williamson
PROJECT LENGTH: 11, 780 ft (2.23 miles)

As part of their "2025 Plan", Williamson County (the "County") has commissioned the services of PBS&J (the "Engineer") to provide preliminary and final design engineering services for the relocation of Cedar Breaks Road within the above stated limits. To accomplish this task the Engineer will require the following assistance from the County:

Task 1 Preliminary Engineering

- A. Issue Notice to Proceed
- B. Provide copies of environmental report
- C. Provide copy of U.S. Army Corps of Engineers permit and conditions
- D. Assist in obtaining right of entry (ROE) for other properties
- E. Review and approve geometric design criteria
- F. Furnish Engineer with originals or copies of any existing uncontrolled mosaics, controlled flight data, or "as-built" plans.
- G. Review and approve construction sequencing
- H. Provide any applicable County standards to be used in lieu of TxDOT standards

Task 3 Geotechnical Investigations (HVJ Associates, Inc.)

- A. Review and approve boring plan
- B. Review and approve pavement design

Task 8 Miscellaneous

- A. Review and approve Project Control Plan (PCP)
- B. Specifications
 - 1.) Provide General Notes to be used in lieu of TxDOT General Notes
 - 2.) Review and approve Special Specifications
 - 3.) Review and approve Special Provisions
- C. Review and approve Design Schedule

**ATTACHMENT A1
SERVICES TO BE PROVIDED BY THE COUNTY**

PROJECT:	Cedar Breaks Rd. Relocation
FROM:	FM 2338 (Williams Rd.)
TO:	D. B. Woods Rd.
COUNTY:	Williamson
PROJECT LENGTH:	11, 780 ft (2.23 miles)

As part of their "2025 Plan", Williamson County (the "County") has commissioned the services of PBS&J (the "Engineer") to provide preliminary and final design engineering services for the relocation of Cedar Breaks Road within the above stated limits. To accomplish this task the Engineer will require the following assistance from the County:

Task 1 Preliminary Engineering

- A. Issue Notice to Proceed
- B. Provide copies of environmental report
- C. Provide copy of U.S. Army Corps of Engineers permit and conditions
- D. Assist in obtaining right of entry (ROE) for other properties
- E. Review and approve geometric design criteria
- F. Furnish Engineer with originals or copies of any existing uncontrolled mosaics, controlled flight data, or "as-built" plans.
- G. Review and approve construction sequencing
- H. Provide any applicable County standards to be used in lieu of TxDOT standards

Task 3 Geotechnical Investigations (HVJ Associates, Inc.)

- A. Review and approve boring plan
- B. Review and approve pavement design

Task 8 Miscellaneous

- A. Review and approve Project Control Plan (PCP)
- B. Specifications
 - 1.) Provide General Notes to be used in lieu of TxDOT General Notes
 - 2.) Review and approve Special Specifications
 - 3.) Review and approve Special Provisions
- C. Review and approve Design Schedule

**ATTACHMENT A2
SERVICES TO BE PROVIDED BY THE ENGINEER**

PROJECT: Cedar Breaks Rd. Relocation
FROM: FM 2338 (Williams Rd.)
TO: D. B. Woods Rd.
COUNTY: Williamson
PROJECT LENGTH: 11, 780 ft (2.23 miles)

The Engineer will perform preliminary engineering to develop design criteria and typical sections and identify necessary Texas Department of Transportation (TxDOT) standards to be used for the project.

Engineer will also perform services to provide a 40 MPH design speed on D.B. Woods Road from the intersection with Cedar Breaks to SH 29.

The detailed design will proceed after approval by the County of the preliminary engineering and a Notice to Proceed is issued to the Engineer. The following is a summary of the tasks involved to complete the project. These tasks are replicated in the fee estimate:

Task 1 Preliminary Engineering

- A. Develop geometric design criteria
- B. Develop bridge alternatives
 - 1.) Cost/Benefit analysis
 - a. Twin structures (ultimate)
 - b. Twin structures (phased construction)
 - c. Single structure (ultimate)
 - d. Single structure (phased construction)
 - 2.) Structural alternatives
 - e. Beam type
 - f. Rail type
 - g. Substructure configuration
 - 3.) Cost comparison between bridge alternatives
- C. Develop horizontal alignments
- D. Develop vertical profiles
- E. Develop typical sections (preliminary)
- F. Develop rough schematic
- G. Develop preliminary construction cost estimates
- H. ROW requirements
- I. Create digital terrain model
- J. Identify applicable TxDOT design guidelines, standards, & specs
- K. Perform QA/QC

Task 3 Geotechnical Investigations (HVJ Associates)
See Attachment D

Task 4 Roadway Design

- A. Project Layouts
- B. Horizontal Alignment Data
- C. Reference Ties and Control Monuments
- D. Typical sections (final)
 - 1.) Existing
 - 2.) Proposed
- E. Plan & Profiles (1"=100')
 - 1.) Cedar Breaks Rd.
 - 2.) D.B. Woods Rd.
- F. Intersection Layouts
 - 1.) FM 2338 @ Cedar Breaks Rd.
 - 2.) D.B. Woods @ Cedar Breaks Rd.
- G. Grading Layouts
 - 1.) FM 2338 @ Cedar Breaks Rd.
 - 2.) D.B. Woods @ Cedar Breaks Rd.
- H. Cut and Fill Quantities
- I. Plan Preparation
 - 1.) Title sheet
 - 2.) Index of sheets
- J. Driveway Details
 - 1.) U.S. Army Corps of Engineers Driveway
 - 2.) Sewer Treatment Plant Entrance
- K. Demolition Layouts (1"=100')
 - 1.) Existing Cedar Breaks
 - 2.) D.B. Woods Rd. (north of proposed Cedar Breaks Rd.)
- L. Miscellaneous Roadway Details
- M. Signing Layouts(1"=100')
 - 1.) Temporary signing layouts
 - 2.) Final signing layouts
- N. Pavement Marking Layouts (1"=100')
 - 1.) Temporary pavement marking layouts
 - 2.) Final pavement marking layouts
- O. Traffic Control Plan
 - 1.) Layouts (1"=100')
 - 2.) Detours (1"=100')
 - 3.) Temporary Drainage
- P. Cross-sections
- Q. Earthwork calculations
- R. Standards
- S. Perform QA/QC

Task 5 Drainage

- A. Data gathering
 - 1.) USGS digital maps
 - 2.) USGS Gaging Station data
- B. Drainage area maps
- C. Outfall determination/analysis
- D. Scour analysis
- E. Preliminary hydraulic design
 - 1.) Culvert sizing
 - 2.) Channel/outfall sizing
- F. Culvert Layouts
- G. Culvert Computations
- H. Storm Water Pollution Prevention Plan (1"=100')
- I. Drainage Details
 - 1.) Culverts
 - 2.) Outfall channels
 - 3.) Bridge deck drains
- J. Standards
- K. Perform QA/QC

Task 6 Right of Way (ROW) Mapping

- A. Update boundary surveys (5)
- B. Prepare ROW map depicting parcel plats and field notes
- C. Survey and stake ROW

Task 7 Bridge Design

- A. Prepare final bridge layouts (see item G)
- B. Prepare final bridge details (see item G)
- C. Prepare beam seat elevations (see item G)
- D. Prepare bar lists for bent and abutments (see item G)
- E. Prepare bridge quantities and cost estimate
- F. Prepare bridge special provisions and special specifications
- G. Sheets:
 - 1.) Layout sheets
 - 2.) Estimated Bridge Quantities
 - 3.) Boring Logs
 - 4.) Foundation Layouts
 - 5.) Foundation Details
 - 6.) Abutment No. 1
 - 7.) Abutment No. 10
 - 8.) Abutment Details
 - 9.) Bent Plan (2-9)
 - 10.) Bent Details
 - 11.) Bent Quantities
 - 12.) Framing plans

Cedar Breaks Road Relocation
Attachment A2: Services to be Provided by the Engineer

- 13.) Typical Sections
- 14.) Slab Span
- 15.) Slab Span Details
- 16.) Bridge Drain Details
- 17.) Beam Seat Elevations
- 18.) Prestressed Beam Design Table
- 19.) Miscellaneous structural details
- 20.) Assemble TxDOT Standards

H. Perform QA/QC

Task 8 Miscellaneous

- A. Quantity take-offs and summaries
- B. Specifications
 - 1.) Prepare General Notes
 - 2.) Prepare Special Specifications
 - 3.) Prepare Special Provisions
- C. Prepare Invoices (26)
- D. Prepare and Maintain Design Schedule
- E. Prepare Project Control Plan (PCP)
- F. Manage Sub-Consultants

Task 9 Additional Services

- A. Perform engineering services to provide a 40 MPH design speed facility on D.B. Woods Road from intersect with proposed Cedar Breaks Road to SH 29.
- B. Additional hours will not be added to the estimate for this service (see Attachment B for disclaimer).

Task 10 Construction Phases Services

- A. Shop Drawing review
- B. Construction Inspection:
 - 1.) Fulltime bridge inspection for bridge construction
 - 2.) Critical phase inspection for roadway.

ATTACHMENT B
COMPENSATION SUMMARY
Cedar Breaks Road Relocation
From FM 2338 (Williams Rd.) to D.B. Woods Rd.

LABOR

Classification	Hours	Rate	Labor
Principal	0	\$50.00	\$0.00
Project Manager	707	\$40.00	\$28,280.00
Senior Engineer	1,297	\$35.00	\$45,395.00
Design Engineer	1,032	\$32.00	\$33,024.00
Design EIT	1,150	\$29.00	\$33,350.00
CADD Technician	2,304	\$27.00	\$62,208.00
Clerical	168	\$15.00	\$2,520.00
Total Labor	6,658		\$204,777.00

OVERHEAD (157%) **\$321,499.89**

EXPENSES **\$5,200.74**

FEE (15%) **\$78,941.53**

PBS&J Survey Fee **\$65,500.00**

PBS&J Total Design Fee ***\$675,919.16***

SUBCONSULTANTS

HVJ Associates, Inc. **\$23,711.00**

Subtotal Subconsultants ***\$23,711.00***

Project Total Design Fee* **\$699,630**

CONSTRUCTION SERVICES

Bridge Inspection **\$165,155.00**

Critical Phase Inspection (Roadway) **\$59,280.00**

PBS&J Total Construction Fee **\$224,435**

Est'd Construction Cost (See Attached Memo Dated 11/99) **\$6,750,000**

Total Percent of Fee Construction Cost **10.4%**

*** Total fee will be equal to this amount or 10.4% of the final construction cost
whichever is greater.**

ATTACHMENT B
BUDGETARY COST ESTIMATE
Cedar Breaks Road Relocation
From FM 2338 (Williams Rd.) to D.B. Woods Rd.

Item		Estimated Amount
Construction Costs		
2-Lane Roadway Construction Cost		\$2,964,000.00
2-Lane Bridge Construction Cost		\$1,943,000.00
	<i>Subtotal</i>	<i>\$4,907,000.00</i>
Design Costs		
Roadway Design Fee		\$296,500.00
Bridge Design Fee		\$291,500.00
	<i>Subtotal</i>	<i>\$588,000.00</i>
Other Costs		
Survey Fee		\$90,000.00
Right-of-Way Acquisition		\$40,000.00
	<i>Subtotal</i>	<i>\$130,000.00</i>
Subtotal (All Items)		\$5,625,000.00
Contingency	20%	\$1,125,000.00
Total Estimated Project Cost (11/99)		\$6,750,000
Total Fee (from Summary)		\$924,065.16
Roadway Costs	60%	\$554,439.10
Bridge Costs	40%	\$369,626.07
Roadway Percent of Const. Cost		8.2%
Bridge Percent of Const. Cost		5.5%
Total Percent of Const. Cost		13.7%

ATTACHMENT B
MAN-HOURS
Cedar Breaks Road Relocation
From FM 2338 (Williams Rd.) to D.B. Woods Rd.

Task		Std Sheets	New Sheets	MANAGEMENT		Senior Engineer	ENGINEERING		SUPPORT		Total Hours	Hours/ Sheet
				Principal	Project Manager		Design Engineer	Design EIT	CADD Technician	Clerical		
1	Preliminary Engineering				8	8					16	
	A. Develop geometric design criteria											
	B. Develop bridge alternatives											
	1.) Cost/Benefit analysis											
	Twin structures (ultimate)											
	Twin structures (phased construction)				2	8			4		14	
	Single structure (ultimate)				2	8			4		14	
	Single structure (phased construction)				2	8			4		14	
	2.) Structural alternatives										0	
	Beam type					8			4		12	
	Rail type					8			4		12	
	Substructure configurations					8			4		12	
	3.) Cost comparison between bridge alternatives				2	4	4			4	14	
	C. Develop horizontal alignments				4	4		12			20	
	D. Develop vertical profiles				4	4		12			20	
	E. Develop typical sections (preliminary)				8	8	8		16		40	13
	F. Develop rough schematic		3		16	16	8		24		64	
	G. Develop preliminary construction cost estimates				8	8			4		20	
	H. ROW requirements				8	16		24			48	
	I. Create digital terrain model				4	16					20	
	J. Identify applicable TxDOT design guidelines, stds. & specs				8	8				8	24	
	K. Perform QA/QC				8	24					32	
	Subtotal	0	3	0	86	172	20	48	68	16	410	
2	Field Surveying											
3	Geotechnical Investigations (HVJ Associates)											
4	Roadway Design											
	A. Project Layouts				4	12			16		32	16
	B. Horizontal Alignment Data		2		2		8		4		14	14
	C. Reference Ties and Control Monuments		1		8		8		4		20	20
	D. Typical sections (final)											
	1.) Existing		1		1	8		8	12		29	29
	2.) Proposed		2		2	8		8	12		30	15
	E. Plan & Profiles (1"=100')											
	1.) Cedar Breaks Rd.		10		24	40	80		200		344	34
	2.) D.B. Woods Rd.		2		2	8	24		40		74	37
	F. Intersection Layouts											
	1.) FM 2338 @ Cedar Breaks Rd.		1		4		12	8	16		40	40
	2.) D.B. Woods @ Cedar Breaks Rd.		1		4		12	8	16		40	40
	G. Grading Layouts											
	1.) FM 2338 @ Cedar Breaks Rd.		1		4		8	4	16		32	32
	2.) D.B. Woods @ Cedar Breaks Rd.		1		4		8	4	16		32	32
	H. Cut and Fill Quantities				24		40		16		80	
	I. Plan Preparation											
	1.) Title sheet		1		2	4	8		8		18	18
	2.) Index of sheets		2		4	4	16		8		32	16
	J. Driveway Details											
	1.) U.S. Army Corps of Engineers Driveway		1		4	4	8		12		28	28
	2.) Sewer Treatment Plant Entrance		1		4	4	8		12		28	28
	K. Demolition Layouts (1"=100')											
	1.) Existing Cedar Breaks		1		8	8	12		16		44	44

From FM 2338 (Williams Rd.) to D.B. Woods Rd.

Task	Std Sheets	New Sheets	MANAGEMENT		ENGINEERING		SUPPORT		Total Hours	Hours/ Sheet
			Principal	Project Manager	Senior Engineer	Design Engineer	Design EIT	CADD Technician		
2.) D.B. Woods Rd. (north of proposed Cedar Breaks Rd.)										
L. Miscellaneous Roadway Details		2		8	8	12		16	44	22
M. Signaling Layouts (1"=100')		2		4	8	12		32	56	28
1.) Temporary signaling layouts		2		8	16			24	56	28
2.) Final signaling layouts		12		12	24	12		40	88	7
N. Pavement Marking Layouts (1"=100')										
1.) Temporary pavement marking layouts		2		8	12			24	52	26
2.) Final pavement marking layouts		12		12	16	24		40	92	8
O. Traffic Control Plan										
1.) Layouts (1"=100')		12		8	24	40		80	152	13
2.) Detours (1"=1000')		1		8	12	20		20	60	60
3.) Temporary Drainage				8	24			80	112	
P. Cross-sections				8	32			40	120	
Q. Barework calculations				8	16			8	48	
R. Assemble TxDOT Standards	20			8	8			16	32	
S. Perform QA/QC				40	80				120	
Subtotal	20	74	0	245	376	336		844	1,909	21
5. Drainage										
A. Data gathering				2					2	12
1.) USGS digital maps				2					4	7
2.) USGS Gaging Station data				2					6	
B. Drainage area maps				1	4	8		4	17	
C. Outfall determination/analysis				2	8	24		12	46	
D. Score analysis				8	80	120		24	244	
E. Preliminary hydraulic design									0	
1.) Culvert sizing				2	8	24		8	42	
2.) Channel/outfall sizing				2	10	40		8	60	
F. Culvert Layouts		5		20	40			80	220	44
G. Culvert Computations		3		24	120			40	224	75
H. Storm Water Pollution Prevention Plan (1"=100')		12		12				32	100	8
I. Drainage Details										
1.) Culverts		2		8	16			40	64	32
2.) Outfall channels		2		8	16			40	64	32
3.) Bridge deck drains		1		8	16			40	64	64
J. Assemble TxDOT Standards	10			2	4			8	14	
K. Perform QA/QC				5	35				40	
Subtotal	10	25	0	108	397	216		360	1,227	35
6. Right of Way (ROW) Mapping										
7. Bridge Design										
A. Prepare final bridge layouts (see item 7)									0	
B. Prepare final bridge details (see item 7)									0	
C. Prepare beam seat elevations. (see item 7)									0	
D. Prepare bar lists for bent and abutments. (see item 7)									0	
E. Prepare bridge quantities and cost estimate.					16				16	
F. Prepare bridge special provisions and special specifications					16				16	
G. Sheets:										
1.) Layout sheets	6				40			80	120	20
2.) Estimated Bridge Quantities	1				2			16	38	38
3.) Boring Logs	1				2			8	18	18
4.) Foundation Layouts	6				2			80	170	28

ATTACHMENT B
MAN-HOURS
Cedar Breaks Road Relocation
From FM 2338 (Williams Rd.) to D.B. Woods Rd.

Task	Std Sheets	New Sheets	MANAGEMENT		ENGINEERING			SUPPORT		Total Hours	Hours/Sheet
			Principal	Project Manager	Senior Engineer	Design Engineer	Design EIT	CADD Technician	Checker		
5.) Foundation Details		1			2	16	32	40		90	90
6.) Abutment No. 1		2			2	32	40	40		114	57
7.) Abutment No. 10		2			2	32	40	40		114	57
8.) Abutment Details		2			2	32	40	40		114	57
9.) Best Plan (2-9)		12			16	120	160	200		496	41
10.) Best Details		4			8	32	40	80		160	40
11.) Best Quantities		1			2	8	24	24		58	58
12.) Framing plans		6			12	40	64	80		196	33
13.) Typical Sections		2			2	8	12	16		38	19
14.) Slab Span		6			6	40	80	120		246	41
15.) Slab Span Details		2			4	8	16	32		60	30
16.) Bridge Drain Details		2			4	8	16	32		60	30
17.) Beam Seat Elevations		1			2	8	32	16		58	58
18.) Prestressed Beam Design Table		1			2	8	16	8		34	34
19.) Miscellaneous structural details		2			4	20	32	40		96	48
20.) Assemble TxDOT Standards		10				8	16			24	
H. Perform QA/QC					56					64	
					204	468	736	992	0	2,400	34
Subtotal	10	60	0	8	32		40	40		136	27
8 Miscellaneous											
A. Quantity take-off and summaries		5									
B. Specifications											
1.) Prepare General Notes					32				8	64	
2.) Prepare Special Specifications					32				8	64	
3.) Prepare Special Provisions					32				8	64	
C. Prepare Invoices (26)									60	120	
D. Prepare and Maintain Design Schedule					40					80	
E. Prepare Project Control Plan (PCP)					24				20	44	
F. Manage Subcontractors					40				40	100	
					188	0	40	40	144	672	
Subtotal	0	5	0	240							
9 Additional Services											
A. Engineering services to provide 40 MPH design speed facility on D.B. Woods from intersect with proposed Cedar Breaks to SH 29		5								0	0
Subtotal	0	5	0	0	0	0	0	0	0	0	
TOTAL PROJECT	40	172	0	707	1,297	1,032	1,150	2,304	168	6,658	31

ATTACHMENT B
SURVEY COST BREAKDOWN - PBS&J
Cedar Breaks Road Relocation
From FM 2338 (Williams Rd.) to D.B. Woods Rd.

<u>Item Description</u>	<u>Amount</u>
Work Completed to Date	\$5,000.00
Recover and Update Records and Files	\$2,000.00
Utility Research and Location	\$3,600.00
Recover Field Traverse and Control	\$5,400.00
Update Boundary Surveys (5 ea)	\$5,000.00
Complete and Densify Topo	\$30,700.00
Detailed Topo for Abutments and Piers	\$13,800.00
Total	\$65,500.00

ATTACHMENT B
GEOTECHNICAL COST BREAKDOWN - HVJ ASSOCIATES, INC.
Cedar Breaks Road Relocation
From FM 2338 (Williams Rd.) to D.B. Woods Rd.

<u>Item Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
<u>Field Investigation</u>				
Mobilization, Truck Mounted Rig	1	site	\$300.00	\$300.00
Mobilization, All-Terrain Vehicle Mounted Rig	1	site	\$1,100.00	\$1,100.00
Rock Coring - Hard-Truck Mounted	130	ft	\$23.00	\$2,990.00
Rock Coring - Hard-All Terrain Vehicle Mounted	200	ft	\$25.00	\$5,000.00
Field Technician - Utility Clearance, Field Work Coordination & Logg	40	hr	\$43.50	\$1,740.00
Tex-132-E, Texas Cone Penetration Test (in addition to drilling & sampling)	60	ea	\$15.00	\$900.00
Boring Backfill Material (50-foot borings) - Bentonite Chips	6	ea	\$75.00	\$450.00
Boring Backfill Material (10-foot borings) - Bentonite Chips	3	ea	\$25.00	\$75.00
Core Boxes	21	ea	\$10.00	\$210.00
				\$12,765.00
 Laboratory Testing	 330	 ft	 \$10.00	 <u>\$3,300.00</u> \$3,300.00

ATTACHMENT B
GEOTECHNICAL COST BREAKDOWN - HVJ ASSOCIATES, INC.
Cedar Breaks Road Relocation
From FM 2338 (Williams Rd.) to D.B. Woods Rd.

Engineering Personnel

Field Coordination

Project Engineer, P.E.	5	hr	\$73.50	\$367.50
------------------------	---	----	---------	----------

Laboratory Test Assignments & Results Review

Project Engineer, P.E.	1	hr	\$73.50	\$73.50
------------------------	---	----	---------	---------

Engineer Associate	3	hr	\$56.00	\$168.00
--------------------	---	----	---------	----------

Boring Log Preparation

Project Engineer, P.E.	1	hr	\$73.50	\$73.50
------------------------	---	----	---------	---------

Engineer Associate	5	hr	\$56.00	\$280.00
--------------------	---	----	---------	----------

Draft Person	9	hr	\$39.00	\$351.00
--------------	---	----	---------	----------

Bridge Foundation Recommendations - WINCORE Program

Project Manager, P.E.	2	hr	\$117.50	\$235.00
-----------------------	---	----	----------	----------

Project Engineer, P.E.	4	hr	\$73.50	\$294.00
------------------------	---	----	---------	----------

Engineer Associate	8	hr	\$56.00	\$448.00
--------------------	---	----	---------	----------

Embankment Settlement Analysis

Project Engineer, P.E.	2	hr	\$73.50	\$147.00
------------------------	---	----	---------	----------

Engineer Associate	6	hr	\$56.00	\$336.00
--------------------	---	----	---------	----------

Pavement Design - FPS 19 Analysis

Project Manager, P.E.	2	hr	\$117.50	\$235.00
-----------------------	---	----	----------	----------

Project Engineer, P.E.	8	hr	\$73.50	\$588.00
------------------------	---	----	---------	----------

Engineer Associate	12	hr	\$56.00	\$672.00
--------------------	----	----	---------	----------

Report Preparation & Project Management

Principal	1	hr	\$126.50	\$126.50
-----------	---	----	----------	----------

Project Manager, P.E.	8	hr	\$117.50	\$940.00
-----------------------	---	----	----------	----------

Project Engineer, P.E.	10	hr	\$73.50	\$735.00
------------------------	----	----	---------	----------

Engineer Associate	13	hr	\$56.00	\$728.00
--------------------	----	----	---------	----------

Draft Person	6	hr	\$39.00	\$234.00
--------------	---	----	---------	----------

Word Processor	3	hr	\$38.00	\$114.00
----------------	---	----	---------	----------

Report Reproduction				<u>\$500.00</u>
---------------------	--	--	--	-----------------

\$7,646.00

\$23,711.00

ATTACHMENT B
PBS&J EXPENSES
Cedar Breaks Road Relocation
From FM 2338 (Williams Rd.) to D.B. Woods Rd.

Direct Cost	Unit	Quantity	Unit Price	Total
CD-ROM	Each	5	\$35.00	\$175.00
Photocopy (outside)(b&w)(8.5 x 11)	Each	500	\$0.04	\$20.00
Photocopy (outside)(b&w)(11 x 17)	Each	212	\$0.12	\$25.44
Paper roll plot	SF	1,000	\$0.75	\$750.00
Mylar 11 x 17 plot (1 plot)	Each	212	\$7.00	\$1,484.00
Paper 11 x 17 plot (10 plots)	Each	2,120	\$0.50	\$1,060.00
Overnight express deliveries	Each	10	\$15.00	\$150.00
Hot shot deliveries (2 hour service)	Each	10	\$17.50	\$175.00
Binding plans	Book	50	\$2.45	\$122.50
Delivery of plan submittals	Each	8	\$77.50	\$620.00
FEMA Records & Electronic Files	Lump Sum	1	\$500.00	\$500.00
Mileage (6 trips @ 60 miles round trip)	Mile	360	\$0.33	\$118.80
Totals				\$5,200.74

AGENDA ITEM 11**Discuss and take appropriate action on appointments to Air Quality Technical Advisory Committee.**

Commissioner Heiligenstein advised current appointee Tony Grigsby has accepted a position with the office of the State of Texas Attorney General and can only serve on the Air Quality Technical Advisory Committee until October 15, 2000.

Moved: **Commissioner Heiligenstein**

Seconded: **Judge Doerfler**

Motion: To appoint Jack Johnson to Air Quality Technical Advisory Committee.

Vote: Motion carried 5 – 0

AGENDA ITEM 12**Consider appointing members of the Liberty Hill Emergency Services District.**

Moved: **Commissioner Boatright**

Seconded: **Judge Doerfler**

Motion: To appoint Angela Nicholson, Randall Williams, Wayne Benedict, Gene Gatlin and John Cascio to the Liberty Hill Emergency Services District.

Vote: Motion carried 5 – 0

AGENDA ITEM 13**Discuss and take appropriate action on change order for Broadmeade Bridge.**

Gary Tuttle with Baker Aicklen and Associates, Inc. discussed Change Order No. 1 for installation of toe wall.

Moved: **Commissioner Heiligenstein**

Seconded: **Commissioner Boatright**

Motion: To approve \$3,306.00 Change Order No. 1 for addition of installation of 18" toe wall to concrete apron of box culverts for Broadmeade Bridge.

Vote: Motion carried 5 – 0

< Clerk copy here >