

FORT BEND COUNTY FY 2010  
COMMISSIONERS COURT AGENDA REQUEST FORM  
Return Completed Form by E-Mail to: Agenda Coordinator, County Judge's Office

Date Submitted: 12/02/2009 Submitted By: P. Batts  
Court Agenda Date: 12/08/2009 Department: Engineering  
Phone Number: 281 633 7507

SUMMARY OF ITEM: Approve Payment of Invoice No.FBC2009-1001718 (Pay Estimate No. 2) in the amount of \$44,472.94 to SES Horizon Consulting Engineers, Inc. regarding Brand Lane expansion (from Ludwig to US90A), Mobility Bond Project #718, Precinct 2. (Fund: Mobility Bonds) Lawson P.O.#30923

RENEWAL AGREEMENT/APPOINTMENT YES  NO   
REVIEWED BY COUNTY ATTORNEY'S OFFICE: YES  NO

FINANCIAL SUMMARY:

BUDGETED ITEM: YES  NO

FUNDNG SOURCE: Accounting Unit: \_\_\_\_\_ Account Number: \_\_\_\_\_  
Activity (If Applicable): \_\_\_\_\_

DESCRIPTION OF LAWSON ACCOUNT: \_\_\_\_\_

**Instructions to submit Agenda Request Form:**

- Completely fill out agenda form: incomplete forms will not be processed.
- Agenda Request Forms should be submitted by e-mail, fax, or inter-office mail, and all back-up information must be provided by Wednesday at 2:00 p.m. to all those listed below.
- All original back-up must be received in the County Judge's Office by 2:00 p.m. on Wednesday.

**DISTRIBUTION:**

Original Form Submitted with back up to County Judge's Office  (✓ when completed)  
If by E-Mail to [ospindon@co.fort-bend.tx.us](mailto:ospindon@co.fort-bend.tx.us) If by Fax to (281) 341-8609

Distribute copies with back-up to all listed below. If by fax, send to numbers below:

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<input type="checkbox"/> Other:	<input type="checkbox"/> County Atty (281-341-4557)

**RECOMMENDATION / ACTION REQUESTED:**

Special Handling Requested (specify): \_\_\_\_\_



**INVOICE NO. FBC2009-1001718**

NOVEMBER 11, 2009

**INVOICE TO:**

D. JESSE HEGEMIER, P.E.  
 COUNTY ENGINEER  
 FORT BEND COUNTY  
 1124-52 BLUME ROAD  
 ROSENBERG, TEXAS 77471

**REFERENCE PROJECT:**

FORT BEND COUNTY  
 BRAND LANE  
 FBC PROJECT NUMBER 718  
 LIMITS: LUDWIG TO US 90A  
 PURCHASE ORDER NUMBER 30923

**SERVICE PERIOD: AUGUST 1, 2009 TO NOVEMBER 11, 2009**

DESCRIPTION: PRELIMINARY ENGINEERING

SCOPE OF WORK	CONTRACT MAXIMUM FEE TOTAL	AMOUNT AUTHORIZED TO DATE	PERCENT COMPLETE TO DATE	AMOUNT INVOICED TO DATE	AMOUNT PREVIOUSLY INVOICED	AMOUNT PAID TO DATE	AMOUNT DUE THIS INVOICE
SES - PRELIMINARY AND FINAL ENGINEERING SERVICES	\$271,258.00	\$61,583.60	80.00%	\$49,266.88	\$15,395.90	\$15,395.90	\$33,870.98
SUBPROVIDERS							
KLOTZ - TRAFFIC SIGNAL	\$2,272.40	\$2,272.40	95.00%	\$2,158.78	\$0.00	\$0.00	\$2,158.78
CENTURY ENGINEERING - SURVEY	\$49,129.60	\$49,129.60	64.62%	\$31,746.00	\$24,069.82	\$24,069.82	\$7,676.18
AUSTIN/REED - GEOTECHNICAL INVESTIGATION	\$15,340.00	\$15,340.00	90.00%	\$13,806.00	\$13,039.00	\$13,039.00	\$767.00
SUBTOTAL	\$338,000.00	\$128,325.60		\$96,977.66	\$52,504.72	\$52,504.72	\$44,472.94
SUBTOTAL AMOUNT DUE THESE INVOICE							\$44,472.94
TOTAL AMOUNT DUE THESE INVOICE							\$44,472.94

I CERTIFY THIS INVOICE TO BE TRUE AND CORRECT:

*Epi E. Salazar, Jr., P.E.*

*OK  
DJH*

EPIFANIO E. SALAZAR, JR., P.E.  
 PRINCIPAL



## **PROGRESS MEETING NUMBER 2 PROJECT STATUS**

### Reference Project:

**Fort Bend County  
2007 Fort Bend County Mobility Program  
Brand Lane, Avenue E To US90A  
Fort Bend County Project No. 718/769**

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### Project Status From August 1, 2009 To November 11, 2009:

1. Project Site Visitation and Photographs (95% complete)
2. Utility Coordination (95% complete)
3. Drainage Area Map Development (95% complete)
4. Survey – (95% complete)
5. Geotech Report (90% complete)
6. Right Turn Lane Study (90% complete)
7. FBC Drainage District Coordination for Basic Services Criteria (95% complete)
8. Meeting with City of Stafford to coordinate project
9. Meetings with City of Sugar Land to coordinate project with Dulles Avenue project
10. Dulles Avenue project status – coordination of drainage area maps (95% complete)
11. Sizing and location of proposed storm sewers (3 year and 100 year events) – cascading of flow in street is unlikely to convey 100 year event (95% complete)
12. Proposed plan layout of pavement edges – four 11' lanes (80% complete)
13. TCP strategy (80% complete)

### Planned Activities For Next 30 Days:

14. Existing ground profiles
15. Existing ground cross sections
16. Proposed profiles
17. Submit “Draft” PER by November 23, 2009

### Action Items from FBC Next 30 Days:

18. Rule out any environmental issues related to the project
19. Review “Draft” PER, Right Lane Turn Study and Geotech Report



## MEETING MINUTES

Reference Project:

**Fort Bend County  
2007 Fort Bend County Mobility Program  
Brand Lane, Avenue E To US90A  
Fort Bend County Project No. 718/769**

**Meeting Location: Fort Bend County Drainage District (FBCDD), 1004 Blume Road,  
Rosenberg, Texas, 77471 - Conference Room**

**Date & Time: September 22, 2009 at 9:00 am**

**Attendees: Mark Vogler, P.E. – FBCDD, Drainage District Manager/Chief Engineer  
Francisco Arevalo, P.E., CFM – SES Horizon Consulting Engineers, Inc. (SES)  
Epifanio (Epi) E. Salazar, Jr., P.E. - SES**

*ECS*

**Preparer: Epi Salazar - SES Horizon Consulting Engineers, Inc. (SES)**

**Date: October 6, 2009**

### INTRODUCTIONS:

***Mr. Salazar introduced himself and Mr. Arevalo as the Design Engineering Consultants for SES, working on the Brand Lane project for Fort Bend County.***

### 1. REVIEW OF PROJECT:

***Mr. Salazar presented a typical section, project location map and the associated drainage area map with preliminary storm sewer sizes to Mr. Vogler. Mr. Salazar indicated that the purpose of the meeting was to discuss the required FBCDD criteria for this project as well as the existing drainage capacity of Stafford Run @ Brand Lane. Mr. Salazar indicated that SES was proposing to utilize Stafford Run as the outfall for the Brand Lane Road project.***

### 2. COORDINATION OF OTHER MOBILITY PROJECTS:

***Mr. Salazar indicated that SES had attended numerous meetings with the City of Sugar Land in an effort to coordinate this project and the FBC Avenue E project with the Dulles Avenue Reconstruction Project being designed by Freese and Nichols, Inc. (FNI). Mr. Salazar indicated that at the last meeting FNI presented drainage issues and alternatives that could potentially impact the Brand Lane project such as the sharing of an outfall, upsizing the 7' X 5' and 8' X 5' RCB's draining from Dulles High School to the existing 10' X 7' RCB under Brand Lane at Stafford Run and/or providing a drainage detention pond adjacent to both projects. SES have attached the FNI meeting minutes for reference and use.***

Reference Project:

Fort Bend County

2007 Fort Bend County Mobility Program

Brand Lane, Avenue E To US90A

Fort Bend County Project No. 718/769

Page 2 of 2

3. BRAND LANE DRAINAGE CRITERIA:

*Mr. Salazar indicated that SES was utilizing a 3 year design storm frequency and stressing the proposed storm sewer system to insure that a 100 year storm frequency could be accommodated without exceeding the HGL maximum ponding elevations which are considered the existing elevations at the Brand Lane existing right of way. SES is utilizing the top of pipe for the 3 year event and the 25 year storm frequency water surface elevation in Stafford Run for the 100 year event, as required in the FBCDD criteria. Mr. Arevalo indicated that due to the very "flat" topographic conditions of Brand Lane, SES could not utilize the proposed street to cascade and convey flow from the North and South on Brand Lane, hence, the proposed storm sewers would be upsized to handle the 100 year event. Mr. Vogler agreed with SES's design approach.*

4. STAFFORD RUN FLOOD PLAIN AND CAPACITY:

*Mr. Vogler indicated that Stafford Run had the capacity to handle the Brand Lane widening and related improvements as long as SES could convey the storm sewer design flows to the existing flow line elevations at Stafford Run. Mr. Vogler indicated that no "in line" or "off site" detention would be required as a result of this project. Mr. Salazar concurred. Mr. Salazar indicated that SES had reviewed and assessed the FEMA FIRM Map Number 48157C0255J and the related LOMR Documents (copies attached for reference and use) that indicate that the entire project area lies outside the 100 year flood plain.*

5. DISCUSSION OF OTHER ITEMS:

- 1) Mr. Salazar indicated that SES would proceed with the development of the Preliminary Engineering Report (PER) and Final Design for the Brand Lane project.*
- 2) SES will continue to coordinate this project with FNI and the Dulles Avenue project as the Brand Lane project design progresses.*
- 3) No other items were discussed.*

*We believe the above accurately records the items discussed and decisions reached during this meeting. If there are any additions and/or corrections, please notify this office within five working days.*

Distribution: files

attendees





3100 Wilcrest, Ste 200  
Houston, Texas 77042

2010 E. Broadway  
Pearland, Texas 77581

Dulles Ave. Reconstruction  
SUG 08-466



Drainage Meeting Minutes

September 18, 2009

To:	Keisha Seals(KS), Engineer III, City of Sugar Land
From:	Ron Bavarian (RB) P. E., FNI Project Manager
cc:	Chris Steubing, Shashi Kumar, Lawrence Vaccaro, Charles Russell, Mike Wayts, Hector Olmos, Francisco Arevalo, Epi Salazar

**Drainage Coordination Meeting Minutes**

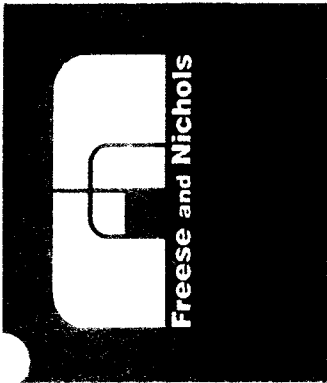
- The following is a summary of Drainage Coordination Meeting held on 9-18-09:
  1. Mike Wayts went over the drainage analyses FNI had conducted. He explained that the 7x5 outfall is considerably undersized to handle the flow. Exist. 100-yr flow is approx. 300 cfs whereas the box capacity is around 118 cfs. This creates a backwater condition that cannot be solved without outfall improvements. This was one of the options FNI presented in the 30%-level drainage meeting.
  2. FNI also explained that based on their analysis, approx. 200 cfs escapes the system towards US 90A. Depending on where the proposed profile will end up, this will be reduced however, the flow needs to be captured by Dulles Ave. outfall.
  3. FNI studied number of options:
    - 8x5 along Dulles, exist. outfall, reduced flow(140 cfs) from US 90A. There is couple of locations where 100-y HGL is greater than 18" above gutter.
    - 8x5 along Dulles, exist. outfall, entire flow(200 cfs)from US 90A(no losses to US 90A). There were several locations on north side where 100-yr HGL greater than 18" above gutter.
    - 8x5 along Dulles, and a parallel 6x5 along outfall, reduced flow(140 cfs) from US 90A. With outfall improv., the 100-yr HGL will be less than 18" above gutter however, the inside lane not passable.
    - 8x5 along Dulles, and a parallel 8x5 along outfall, entire flow(200 cfs) from US 90A(no losses to US 90A). With outfall improve, 100-yr will be less than 18" above gutter however, inside lane not passable.
  4. The proposed downstream improvements will send more flows downstream because of increased capacity and thus must be mitigated to avoid adverse impact to Stafford Run. This would require a detention pond. Preliminary size is around 30 ac-ft and would be located shortly after connecting to existing outfall.
  5. FNI explained that without downstream improvements it was not possible to meet 100-yr Criteria(18" above gutter). The possibility of lowering the design criteria to 50-yr was discussed, but was decided to design road for the 100-yr event.
  6. Consensus was reached to set a goal for 100-yr HGL to be at curb level. This would make inside lane passable eventhough there will be approx. 0 to 2" of ponding.
  7. Lawrence Vaccaro stated that as part of US 90A improv., certain amount of flows were diverted from Stafford Run thus bringing 100-yr storm within banks. Recommended that contacts be made with FBC to see if there is extra capacity in the Stafford Run to handle extra

flows.

8. There was discussion on a location for a detention pond, along the current outfall.
9. Mike Ways explained some of the discrepancies in preliminary drainage report that they had to revise and correct. The original model assumed all inlets at grade whereas, the road profile has high and sag points. Outfall pipes assumed do not match school plans and survey. Report assumed top of box as constant Tailwater(TW). This was changed to a variable TW condition. Pipe sizes along Dulles in north and south directions in model did not match the report. Previous model did not have xpSWMM model for 2-yr event. Report did not account for the 100-yr flow escaping the area to the north toward US 90A. Report did not identify outfall as being significantly undersized. Details of these and more will be covered in the Tech Memo.
10. Ron Bavarian stated that based on coordination with SES Horizon drainage area south of pipelines will drain to Ave. E system. There is sufficient elevation drop to make it work however, it appears the flow must be limited to 2.83 CFS per SES Horizon and that we have more 100-yr flows than they can handle. Mr. Arevalo suggested that high point be moved further south to reduce flow. FNI was to look into that with the understanding that cover over pipelines must be maintained.

#### **Summary of Action Items:**

- FNI to refine drainage analyses based on 100-yr at curb level, relief storm sewer, and a detention pond. Adjust roadway profile as needed.
- From existing model define the capacity of Stafford Run, add the increased flow from Dulles to see effect on Stafford Run. It will be done using Steady State RAS.
- Coordinate with FBC Drainage District on the Stafford Run possible extra capacity.
- Size pond and lay it out on the roughly 3.3 acre tract along exist. outfall.
- Document finding in a Technical Memo.
- Once the scope of additional work is well defined, FNI will submit a Change Order for additional surveying, easement & site acquisition, outfall & pond design and associated H&H work.



3100 Wilcrest, Ste 200

Houston, Texas 77042

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Dulles Ave. Reconstruction

SUG 08-466



Drainage Coordination Meeting September 18 2009

Name	Company	Phone	Email
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Lawrence Vaccaro	City of Stafford	281-261-3921	LVACCARO@CITYOFSTAFFORD.COM
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Shashi Kumbar	" "	281-275-2275	SKUMBAR@sugarlandtx.gov
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