


CENTRAL FLORIDA EXPRESSWAY AUTHORITY

MEMORANDUM

TO: Authority Board Members

FROM: Claude Miller 
Director of Procurement

DATE: February 24, 2015

RE: Supplemental Agreement No. 5 for HNTB Corporation
Design Consultant Services for S. R. 429 (Wekiva Parkway)
From US 441 Interchange to North of Ponkan Road
Project No. 429-202, Contract No. 000850

Board approval is requested for Supplemental Agreement No. 5 with HNTB Corporation in the not-to-exceed amount of \$725,000.00 for post design services for the referenced project. Services will include shop drawing reviews, attendance at construction meetings, site visits, and responding to the contractor's requests for information.

This Supplemental Agreement will be a continuation of an agreement previously approved by the Authority for this project.

Original Contract Amount	\$ 4,400,000.00
Supplemental Agreement No. 1	\$ 110,000.00
Supplemental Agreement No. 2	\$ 175,000.00
Supplemental Agreement No. 3	\$ 0.00
Supplemental Agreement No. 4	\$ 0.00
This Supplemental Agreement	<u>\$ 725,000.00</u>
Total Revised Contract Amount	\$ 5,410,000.00

cc: Joe Berenis, Deputy Executive Director, Engineering, Operations, Maintenance & Construction
Laura Kelley, Deputy Executive Director, Finance and Administration
Glenn Pressimone, Director of Engineering
Contract File

SUPPLEMENTAL AGREEMENT NO. 5
TO
AGREEMENT FOR PROFESSIONAL SERVICES
POST DESIGN SERVICES (FOR 429-202)

S.R. 429 (Wekiva Parkway) From US 441 Interchange to North of Ponkan Road

THIS SUPPLEMENTAL AGREEMENT is made and entered into this _____ day of _____, 2015, by and between the CENTRAL FLORIDA EXPRESSWAY AUTHORITY (F/K/A ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY), an agency of the State of Florida, hereinafter called the "AUTHORITY" and the consulting firm of HNTB CORPORATION, hereinafter called the "CONSULTANT."

WHEREAS, Section 4.27 of Exhibit "A" of the Agreement for Professional Services between the AUTHORITY and the CONSULTANT, dated the 21st day of May 2012 provides that after completion of the services outlined in Exhibit "A" for Project Number 429-202 of the said Agreement for Professional Services, the AUTHORITY may negotiate with the CONSULTANT a Supplemental Agreement for Post Design Services and whereas, Articles 2.00 and 12.00 of the Agreement for Professional Services provide that in the event that the AUTHORITY shall change the amount of work of the said Agreement for Professional Services, the fees to be paid to the CONSULTANT shall be subject to adjustment as shall be mutually agreed upon:

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The AUTHORITY hereby authorizes the CONSULTANT to proceed with Post Design Services required as outlined in the Wekiva Parkway Corridor Consultant's correspondence to the AUTHORITY dated February 27, 2015 which is attached hereto and made a part of this Supplemental Agreement.

2. All invoices from the CONSULTANT for Post Design Services shall be submitted to the AUTHORITY with complete documentation. Invoices for Post Design Services shall not be a continuation of the original CONSULTANT'S contract amount for final design services and shall only be for those services as outlined in this Supplemental Agreement. Compensation for Post Design Services shall be invoiced to the AUTHORITY at an hourly rate, inclusive of overhead, profit and expenses (exclusive of travel). The hourly rate shall be calculated using the employee's actual direct salary and the negotiated Post Design Services multiplier, as outlined in the Wekiva Parkway Corridor Consultant's correspondence to the AUTHORITY dated February 27, 2015. Direct expenses will be reimbursed for local travel only (per mile). The maximum fee for Post Design Services shall be \$725,000.00. This maximum fee includes an Allowance of \$28,857.58 to be approved for use by the CONSULTANT at the sole discretion of the AUTHORITY.

3. Section 4.27 of the original Agreement for Professional Services is revised as outlined in Exhibit "A," which is attached hereto and made a part of this Supplemental Agreement.

4. Any supplemental agreements for Post Design Services shall be in accordance with

the appropriate Articles within the original CONSULTANT Agreement for Professional Services.

All provisions of said Agreement for Professional Services, or any Supplements thereto, not modified by the above, shall remain in full force and effect, the same as if they had been set forth herein. In the event of a conflict between the provisions of this Supplemental Agreement and of the said Agreement for Professional Services, or any Supplements thereto, the provisions of this Supplemental Agreement, to the extent such provision is reasonable, shall take precedence.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed, in triplicate, the day and year first above written.

CENTRAL FLORIDA
EXPRESSWAY AUTHORITY

Witness: _____
Assistant Secretary

By: _____
Director of Procurement

HNTB CORPORATION

Witness: _____
Print Name:
Title:

By: _____
Print Name:
Title:

Exhibit "A"

Project 429-202

S.R. 429 (Wekiva Parkway) from US 441 Interchange to North of Ponkan Road Post-Design Scope of Services (Section 4.27)

4.27 Post Design Services

A. Compensation

The Consultant's compensation for post-design services may be added by supplemental agreement and shall be at an hourly rate, inclusive of overhead, profit and expenses, and exclusive of travel. No compensation will be made for correction of errors and omissions or clarifications.

B. General Support

The Consultant shall support the post-design process as follows:

- a) Answer questions relative to the plans, typical sections, quantities and special provisions.
- b) Make any necessary corrections to the plans, typical sections, quantities, notes, etc. as may be required.
- c) Attend pre-award meeting with Contractor, the Authority, and the Authority's CEI.

C. Pre-bid Conference

The Consultant shall, prior to the pre-bid conference, be prepared to walk the project with the assigned Authority Resident Construction Engineer to discuss the plans and details. The Consultant shall be prepared to attend the pre-bid conference and respond to questions related to the plans, details, and special provisions.

D. Addenda

The Consultant shall prepare any addenda required to clarify the work included in the contract documents. Addenda may be required based on the project inspection with the assigned Authority Resident Construction Engineer, or questions developed in the pre-bid conference, or conditions discovered by bidders during the bid period.

E. Field Visits

The Consultant shall be available to respond to questions in the field that may arise relative to the plans, details or special provisions during construction. The Consultant will periodically visit the project site to observe the progress of construction. This visit will not make the place of formal construction inspection by the Authority's Construction Manager and their inspection team. Rather, it is intended to provide the opportunity for members of the design team to observe whether work by the Contractor is being performed in general conformance with the project plans. Written memos of all such field visits shall be submitted to the Authority and their Construction Manager within five business days of the trip.

F. Shop Drawing Reviews

The Consultant shall review and approve shop drawings from the Contractor for roadway, utilities, structural, lighting, FON, signing and drainage elements. This work will include the erection procedure plans, review proposals for substitutions, development of supplemental agreements, and assistance with other engineering services required to facilitate construction of the project. Reviews will be conducted and returned within two weeks from receipt of information.

G. Post-Design Contact

The Consultant shall appoint a responsible member of the firm to be the contact person for all post-design services. This person shall be continually available during the course of construction for review of design plans.

H. Timeliness

The Consultant shall make every reasonable effort to process any material presented for review in a prompt manner recognizing a construction contract is underway.

I. Meetings

The Consultant shall attend partnering meetings as requested by the Authority. The Consultant will also attend progress / coordination meetings as requested by the Authority including, but not limited to, the Notice to Proceed meeting.

J. Bridge Load Ratings

Approved design bridge load ratings were obtained by the Consultant under the final design phase of this contract. The Contractor shall be responsible for revising and resubmitting the load ratings if changes to the bridge design occur during construction. Otherwise, the Consultant shall provide written correspondence to FDOT when construction is complete that the bridges were constructed in accordance with the plans and the design load ratings still apply.

K. Geotechnical Engineering

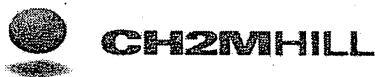
The Consultant shall provide geotechnical engineering services as needed by the Authority, relative to pile driving, earthwork, embankment and MSE wall construction.

L. Utilities

The Consultant shall provide utility consulting services as needed by the Authority, relative to proposed utility adjustments within the project limits.

M. Record Drawings

Based on information provided by the Contractor, the Contractor's surveyor and the Authority's Construction Manager, the Consultant will prepare record drawings reflecting improvements built for this project. This scope assumes surveys will be undertaken by a registered surveyor by the Contractor.



CH2M HILL
225 East Robinson Street
Suite 505
Orlando FL 32801-4321
Tel 407.423.0030
Fax 407.839.5901

February 27, 2015

Mr. Glenn Pressimone
Central Florida Expressway Authority
4974 ORL Tower Road
Orlando, FL 32807

RE: Wekiva Parkway
Contract No. 000850
Project No. 429-202
Post-Design Services Supplemental Agreement

Dear Mr. Pressimone:

As the project transitions from Design to Construction, we have requested and received a Post-Design Services proposal for the above referenced contract. The consultant, HNTB Corporation (HNTB), has submitted a Post-Design Services amendment package to address the post-design services and/or plan modifications required since the Bid Package was submitted.

We have reviewed the attached proposal from HNTB, and have determined the proposal is consistent with the original contract terms and category rates. HNTB has also elected to request new billing rates consistent with current employee rates and their employee roster is included with the package. The amendment addresses all anticipated scope of work.

The package submitted and reviewed is requesting a fee of \$696,142.42. It is our recommendation an amount of \$725,000 be submitted for approval to the Board in order to account for a contingency amount.

If you should have any questions or need additional information, please do not hesitate to contact me.

Sincerely,
CH2M HILL

A handwritten signature in black ink, appearing to read "Scott L. Bear".

Scott Bear
Project Manager

cc: File (w/attach)

HNTB Corporation

HNTB Corporation
Wekiva Parkway Section 1A
CFX Project No. 429-202
Post Design Services

ACTIVITY	CHIEF ENGINEER		SENIOR ENGINEER		SR PROJECT ENGINEER		PROJECT ENGINEER		ENGINEER		ENGINEER INTERN		CONTRACT COORDINATOR		MAN HR. BY	SALARY COSTS FOR	AVG.
	MAN HR.	RATE	MAN HR.	RATE	MAN HR.	RATE	MAN HR.	RATE	MAN HR.	RATE	MAN HR.	RATE	MAN HR.	RATE	ACTIVITY	ACTIVITY	RATE/ HOUR
Post Design Activities																	
A-Requests for Information/Non Compliance Reports	108	\$95.92	106	\$88.30	108	\$56.94	426	\$42.81	88	\$35.49	213	\$30.30	21	\$34.27	1,068	\$51,976.71	\$48.78
B-Shop Drawing Reviews	71	\$95.92	200	\$88.30	200	\$56.94	572	\$42.81	73	\$35.49	288	\$30.30	28	\$34.27	1,430	\$68,581.72	\$47.93
C-Plan Revisions	48	\$95.92	48	\$88.30	67	\$56.94	169	\$42.81	47	\$35.49	97	\$30.30	9	\$34.27	485	\$23,847.99	\$49.17
D-Meetings & Coordination	93	\$95.92	62	\$88.30	62	\$56.94	77	\$42.81	17	\$35.49	0	\$30.30	0	\$34.27	311	\$20,585.15	\$66.19
E-As-Built Load Ratings	0	\$95.92	58	\$88.30	0	\$56.94	67	\$42.81	10	\$35.49	33	\$30.30	0	\$34.27	168	\$8,184.48	\$48.72
F-As-Built Drawings	20	\$95.92	41	\$88.30	41	\$56.94	83	\$42.81	110	\$35.49	125	\$30.30	0	\$34.27	420	\$18,297.88	\$43.58
Additional Design for DMS																	
ITS Analysis	6	\$95.92	18	\$88.30	12	\$56.94	21	\$42.81	4	\$35.49	0	\$30.30	0	\$34.27	61	\$3,529.18	\$57.86
ITS Plans	4	\$95.92	12	\$88.30	8	\$56.94	14	\$42.81	4	\$35.49	0	\$30.30	0	\$34.27	42	\$2,400.11	\$57.15
TOTAL	348	\$33,380.16	545	\$37,223.50	496	\$28,242.24	1,429	\$61,175.49	353	\$12,527.97	754	\$22,846.20	58	\$1,987.66	3,983	197,383.22	\$49.55

Standard Post design Subconsultants: (see attachments for detail)

GTC	\$ 2,911.64
IDA	\$ 23,453.28
TEDS	\$ 15,307.02
GEC	\$ 19,907.21
Nadic	\$ 5,937.71
Total:	\$ 67,516.86

Additional Geotech Monitoring

GEC - Surcharge Evaluation	\$69,423.40
GEC - Grout Stabilization	\$14,424.47
Total:	\$83,847.87

SALARY RELATED COSTS:

\$197,383.22

EFFECTIVE MULTIPLIER

2.7600

\$544,777.69

POST DESIGN TOTAL WITH SUBS

\$612,294.55

Additional Geotech Monitoring

\$83,847.87

Total

\$696,142.42

HNTB Corporation
Wekiva Parkway Section 1A
CFX Project No. 429-202
Post Design Services

ACTIVITY: A - Requests for Information (RFIs) and Non-Conformance Reports (NCRs)

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD* HOURS	REMARKS
A-RFIs and NCRs							Based on 18 month construction schedule
Roadway/MOT	Each	72	5		360		4 per month
Utilities	Each	6	5		30		assumes 6 RFIs
Structures -Connector Road RFI	EA	24	4	0	96		2 RFIs/month x 12 months = 24 RFIs
Structures -Low Area Bridge	EA	12	4	0	48		1 RFIs/month x 12 months = 12 RFIs
Structures -Southfork Bridge	EA	12	4	0	48		1 RFIs/month x 12 months = 12 RFIs
Structures -Ramp C Bridge	EA	12	4	0	48		1 RFIs/month x 12 months = 12 RFIs
Structures -Ramp D Bridge	EA	12	4	0	48		1 RFIs/month x 12 months = 12 RFIs
Structures -Ponkan Bridge	EA	12	4	0	48		1 RFIs/month x 12 months = 12 RFIs
Structures -Walls	EA	18	4	0	72		Total of 18 RFIs.
NON-COMPLIANCE REPORTs	EA	12	4	0	48		Assume 12 NCR per job
Drainage/Permit	Each	36	5		180		2 per month
SPM	Each	6	5		30		Assume 6
Signals	Each	2	5		10		1 per location
A-RFI & NCR Subtotal		236			1066		

HNTB Corporation
Wekiva Parkway Section 1A
CFX Project No. 429-202
Post Design Services

ACTIVITY: B - Shop Drawing Reviews

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD* HOURS	REMARKS
Shop Drawing Reviews							
Roadway	LS	1	196		196		10 Shop drawings @ 4 hrs each and coordination- 2 hrs/week
Utilities	Each	0	0		0		Sub - GTC
Drainage/Permit	Each	8	5		40		
SPM	LS	1	50		50		sign panel review
Signals	Each	2	20		40		assumes 2 shop drawing submittals
Structures Shop Drawing Reviews							
General							
Light pole/light pole pilaster connections	Each	1	12	0	12		Review anchor bolt/anchor plate details and Specialty Engineer's design as per Index No. 21200
Conduit Expansion Jt. Details	Each	1	6	0	6		2' Dia. conduit expansion/deflection joint details.
Connector Road Bridges (Bridge Nos. 750851 & 750852)							
Deck Joints	Each	1	8	0	8		2 Expansion joint locations. Same geometry (1 unit).
Stay-in-Place Forms	Each	3	10	0	30		Review shop drawings for SIP layouts for each span (3 units @ 8 hrs) and review design calculations. One beam spacing (1 Unit @ 6 hrs).
Bridge Overhang Bracket	Each	1	10		10		Bracket for supporting slab cantilever. Assume one design.
Pot Borings	Each	4	8	0	32		Different bearings for each pier line
PCI U-Beams	Each	3	8	0	24		Three different segments - end, pier and middle. Same for all beam lines
Post-Tensioning System	Each	1	40	0	40		Includes review of all post-tensioning products being used, elongations,
Erection & Camber Information	Each	1	48	0	48		Includes reviewed complete erection and camber shop drawings to be provided by the Contractor.
Access Ramp	Each	1	10	0	10		Access ramp internal to box.
Access Opening	Each	1	8	0	8		Details of access opening to be provided by Contractor
Temporary Shoring Towers	Each	2	12	0	24		Temporary tower and bracing reviews.
Internal Bracing	Each	1	16	0	16		Internal bracing and lifting loop analysis
Swedge Anchors	Each	1	8		8		Assume one anchor type
U-Beam Screening Details	Each	1	6		6		Screening at diaphragms
Maintenance Lighting	Each	1	12		12		Inspection lighting thru bridge
Low Area Bridge (Bridge Nos. 750857 & 750858)							
Deck Joints	Each	1	6	0	6		4 Expansion joint locations. Very similar movements for both bridges (1 unit).
Stay-in-Place Forms	Each	2	14	0	28		Review shop drawings for SIP layouts. Each bridge has one span length for all span lengths but different beam spacing (2 units @ 8 hrs) and review design calculations. Two beam spacing (2 Unit @ 6 hrs).
Bridge Overhang Bracket	Each	1	10		10		Bracket for supporting slab cantilever. Assume one design.
Florida I-Beams	Each	2	12	0	24		Two FIB types with varying lengths (11 total). Assume 2 @ 12 hrs and the rest will be similar.
Temporary Bracing	Each	2	12	0	24		Review of temporary bracing details. 2 in table.
Precast Panels	Each	3	24	0	72		Contractor to submit shop drawings for three precast panels, which will include all handling, connection and erection details.

HNTB Corporation
Wekiva Parkway Section 1A
CFX Project No. 429-202
Post Design Services

ACTIVITY: B - Shop Drawing Reviews

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD* HOURS	REMARKS
Southfork Bridge (Bridge Nos. 750853 & 750854)							
Deck Joints	Each	1	6	0	6		2 Expansion joint locations. (1 unit).
Stay-in-Place Forms	Each	1	14	0	14		Review shop drawings for SIP layouts . Each bridge has same span length and beam spacing (1 units @ 8 hrs) and review design calculations (1 Unit @ 6 hrs).
Bridge Overhang Bracket	Each	1	10		10		Bracket for supporting slab cantilever. Assume one design.
Florida I-Beams	Each	1	12	0	12		One FIB type and span length. Plates vary.
Temporary Bracing	Each	1	12	0	12		Review of temporary bracing details. 2 in table.
Ramp C Bridge (Bridge No. 750856)							
Deck Joints	Each	1	6	0	6		2 Expansion joint locations. (1 unit).
Stay-in-Place Forms	Each	1	14	0	14		Review shop drawings for SIP layouts . Has one span length and beam spacing (1 units @ 8 hrs) and review design calculations (1 Unit @ 6 hrs).
Bridge Overhang Bracket	Each	1	10		10		Bracket for supporting slab cantilever. Assume one design.
Florida I-Beams	Each	1	12	0	12		One FIB type and span length. Plates vary.
Temporary Bracing	Each	1	12	0	12		Review of temporary bracing details. 2 in table.
Ramp D Bridge (Bridge No. 750855)							
Deck Joints	Each	1	6	0	6		2 Expansion joint locations. (1 unit).
Stay-in-Place Forms	Each	1	14	0	14		Review shop drawings for SIP layouts . Has one span length and beam spacing (1 units @ 8 hrs) and review design calculations (1 Unit @ 6 hrs).
Bridge Overhang Bracket	Each	1	10		10		Bracket for supporting slab cantilever. Assume one design.
Florida I-Beams	Each	1	12	0	12		One FIB type and span length. Plates vary.
Temporary Bracing	Each	1	12	0	12		Review of temporary bracing details. 1 in table.
Ponkan Bridges (Bridge Nos. 750861 & 750862)							
Deck Joints	Each	1	6	0	6		2 Expansion joint locations. (1 unit).
Stay-in-Place Forms	Each	1	14	0	14		Review shop drawings for SIP layouts . Has one span length and beam spacing (1 units @ 8 hrs) and review design calculations (1 Unit @ 6 hrs).
Bridge Overhang Bracket	Each	1	10		10		Bracket for supporting slab cantilever. Assume one design.
Florida U-Beams	Each	1	16	0	16		Non-standard beam. One beam length. Plates vary.
Temporary Bracing	Each	1	12	0	12		Review of temporary bracing details. 1 in table.
Walls							
MSE Walls	Each	14	8	0	112		Review of proprietary wall shop drawings to confirm that they are consistent with wall plans.
Planter Walls	Each	4	12	0	48		Review of planter wall shop drawings and calculations to be submitted by Contractor.
Closure Walls	Each	2	16	0	32		Review of closure wall shop drawings and calculations to be submitted by Contractor.
Temporary Critical Wall	Each	1	12	0	12		Review of TCW material and shop drawings.
Sign Structures							
Bridge Mounted Sign	Each	1	10	0	10		Review of shop drawing and material for bridge mounted sign.
Cantilever Sign Structure	Each	9	8	0	72		9 total @ 8 hrs each. Comparing shop drawings to standards.
Span Sign Structure	Each	3	8	0	24		3 total @ 8 hrs each. Comparing shop drawings to standards.
Butterfly Sign Structure	Each	1	16	0	16		1 total. Non-standard sign compared to modified index.
Shop Drawing Resubmittals	LS	10%		1004	100		Assume 10% Resubmittal rate.
TOTAL					1430		

HNTB Corporation
Wekiva Parkway Section 1A
CFX Project No. 429-202
Post Design Services

ACTIVITY: C - Plan Revisions

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD* HOURS	REMARKS
Plan Revisions							
Roadway	Each	6	20		120		# of revisions assumed
Utilities	Each	0			0		GTC
Drainage/Permit	Each	6	20		120		# of revisions assumed
SPM	Each	1	20		20		# of revisions assumed
Signals	Each	1	20		20		# of revisions assumed
Structures							
Connector Road Bridge	EA	1	60		60		
Low Area Bridge	EA	1	40		40		
Southfork Bridge	EA	1	30		30		
Ramp C Bridge	EA	1	20		20		
Ramp D Bridge	EA	1	20		20		
Ponkan Bridge	EA	1	35		35		
Plan Revisions Subtotal		20			485		

HNTB Corporation
Wekiva Parkway Section 1A
CFX Project No. 429-202
Post Design Services

ACTIVITY: D - Meetings and Coordination

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD* HOURS	REMARKS
D-Meetings and Coordination							
Pre-Construction Mtg.	LS	1	29		29		Attendance by 3 engineers and respond to questions: $3 \times 3 = 9 + 20 = 13$
Field Visits	Each	9	3		27		1 every 2 months x 1 eng x 3 hrs/ea
Coordination/Management	Each	76	2		152		2 hr/wk x 76 wks
Meetings	Each	9	3		27		1 every 2 months x 1 eng x 3 hrs/ea
Partnering	Each	2	18		36		2 mtgs x 3 eng x 6 hrs/mtg
Bidding Review and support	Each	1	40		40		Assume 40 hrs
D-Meetings & Coordination Subtotal		98			311		

HNTB Corporation Wekiva Parkway Section 1A CFX Project No. 429-202 Post Design Services								
ACTIVITY: E - As-Built Load Ratings								
TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD* HOURS	REMARKS	
As-Built Load Ratings								
Connector Road Bridge	Each	2	24		48		Assuming one beam for each bridge	
Low Area Bridge	Each	4	12		48		Assuming one of each beam type is required for each bridge.	
Southfork Bridge	Each	2	12		24		Assuming one beam for each bridge.	
Ramp C Bridge	Each	1	12		12		Assume one beam.	
Ramp D Bridge	Each	1	12		12		Assume one beam.	
Ponkan Bridge	Each	2	12		24		Assuming one beam for each bridge.	
							N/A	
		12			168			

HNTB Corporation
Wekiva Parkway Section 1A
CFX Project No. 429-202
Post Design Services

ACTIVITY: F- As-Built Drawings

TASK	BASIS OF ESTIMATE	NO. OF UNITS *	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD* HOURS	REMARKS
							* All as-built drawing efforts assumes 1/3 of the total number of sheets require minor CAD revisions, except for structure plans.
All Disciplines (minus Structures)							
Plan/Profile	EA	22.0	0.5	66	11.0		
General sheets (typicals, project layout)	EA	10.0	0.5	30	5.0		
Summary of Quantity	EA	1.0	0.5	3	0.5		
Roadway and Pond Cross-sections	EA	64.3	0.5	193	32.2		
Drainage plan views	EA	1.3	0.5	4	0.7		
Summary of Drainage	EA	2.0	0.5	6	1.0		
Drainage Structures	EA	23.0	0.5	69	11.5		
Traffic Control Plans	EA	4.7	0.5	14	2.3		
FON/Utility Adjustment	EA	9.3	1	28	9.3		
					0.0		
Signing	EA	32.7	0.5	98	16.3		
Signals	EA	3.0	1	9	3.0		
Structures							
Connector Road Bridge							
Revise Bridge Plans	EA	32	3	96	96		Assume 32 sheets out of 96 sheets total.
Low Area Bridge							
Revise Bridge Plans	EA	22	3	66	66		Assume 22 sheets out of 66 sheets total.
Southfork Bridge							
Revise Bridge Plans	EA	8	3	24	24		Assume 8 sheets out of 24 sheets total.
Ramp C Bridge							
Revise Bridge Plans	EA	6	3	17	18		Assume 6 sheets out of 17 sheets total.
Ramp D Bridge							
Revise Bridge Plans	EA	6	3	17	18		Assume 6 sheets out of 17 sheets total.
Ponkan Bridge							
Revise Bridge Plans	EA	8	3	23	24		Assume 8 sheets out of 23 sheets total.
Walls							
Revise Wall Plans	EA	27	3	83	81		Assume 27 sheets out of 83 sheets total.
TOTAL					420		

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
33.1	ITS Analysis	LS	1	6	6	Review existing documents.
33.2	Communications Plan Analysis	LS	1	6	6	Review as-built ITS design.
33.3	Lightning Protection Analysis	LS	1	4	4	
33.4	Power Subsystem	LS	1	4	4	
33.5	Voltage Drop Calculations	LS	1	4	4	
33.6	Design Documentation	LS	1	4	4	
33.7	Existing ITS System	LS	1	0	0	
33.8	Queue Analysis	LS	1	0	0	
33.9	Reference and Master ITS Design File	LS	1	4	4	
33.10	Reference and Master Communications Design File	LS	1	0	0	
33.11	Pole Elevation Analysis	LS	1	0	0	
33.12	Sign Panel Design Analysis	LS	1	0	0	
33.13	Quantities	LS	1	4	4	
33.14	Cost Estimate	LS	1	0	0	
33.15	Technical Special Provisions	LS	1	0	0	
33.16	Other ITS Analyses	LS	1	0	16	HNTB to review DRMP Structural Calcs. HNTB not to resign and seal.
Intelligent Transportation Systems Analysis Technical Subtotal					52	
33.17	Field Reviews	LS	1	0	0	
33.18	Technical Meetings	LS	2	1	2	
33.19	Quality Assurance/Quality Control	LS	%	5%	3	
33.20	Supervision	LS	%	3%	2	
Intelligent Transportation Systems Analysis Nontechnical Subtotal					7	
33.21	Coordination	LS	%	3%	2	
33. Intelligent Transportation Systems Analysis Total					61	

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
33.1	ITS Analysis	LS	1	6	6	Review existing documents.
33.2	Communications Plan Analysis	LS	1	6	6	Review as-built ITS design.
33.3	Lightning Protection Analysis	LS	1	4	4	
33.4	Power Subsystem	LS	1	4	4	
33.5	Voltage Drop Calculations	LS	1	4	4	
33.6	Design Documentation	LS	1	4	4	
33.7	Existing ITS System	LS	1	0	0	
33.8	Queue Analysis	LS	1	0	0	
33.9	Reference and Master ITS Design File	LS	1	4	4	
33.10	Reference and Master Communications Design File	LS	1	0	0	
33.11	Pole Elevation Analysis	LS	1	0	0	
33.12	Sign Panel Design Analysis	LS	1	0	0	
33.13	Quantities	LS	1	4	4	
33.14	Cost Estimate	LS	1	0	0	
33.15	Technical Special Provisions	LS	1	0	0	
33.16	Other ITS Analyses	LS	1	0	0	
Intelligent Transportation Systems Analysis Technical Subtotal					36	
33.17	Field Reviews	LS	1	0	0	
33.18	Technical Meetings	LS	2	1	2	
33.19	Quality Assurance/Quality Control	LS	%	5%	2	
33.20	Supervision	LS	%	3%	1	
Intelligent Transportation Systems Analysis Nontechnical Subtotal					5	
33.21	Coordination	LS	%	3%	1	
33. Intelligent Transportation Systems Analysis Total					42	

GTC Engineering Corporation

Project: Wekiva Parkway - Stanton Ridge Utility Design; Replatting

1 of 1

Date: February 18, 2015

CIP #:

Purchasing

Contract #:

Firm: GTC Engineering Corporation

FINAL DESIGN TASK LIST

Activity: Final Design

Sub-Activity: 5 Post Design Services (Limiting Amount)

Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	Principal		Project Manager		Sr Project Engineer		Project Engineer		Clerical		Total Salary Costs	Total Hours	Remarks
						\$60.00	(Rate)	\$55.00	(Rate)	\$45.53	(Rate)	\$34.00	(Rate)	\$15.00	(Rate)			
						Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost			
5.1 Construction Administration																		
b. Attend Pre-Bid Meeting	EA	1	1		1.00	0.00	0.00	1.00	55.00	0.00	0.00	0.00	0.00	0.00	0.00	\$55.00	1.00	
d. Respond to Comments	EA	1	3		3.00	0.00	0.00	1.00	55.00	2.00	91.06	0.00	0.00	0.00	0.00	\$146.06	3.00	
f. Attend Pre-Const Meeting	EA	1	1.25		1.25	0.00	0.00	1.25	68.75	0.00	0.00	0.00	0.00	0.00	0.00	\$68.75	1.25	
h. Respond to Request for Information		4	4		16.00	0.00	0.00	4.00	220.00	12.00	546.36	0.00	0.00	0.00	0.00	\$766.36	16.00	
Total					21.25	0.00	0.00	7.25	398.75	14.00	637.42	0.00	0.00	0.00	0.00	\$1,036.17	21.25	
SUBTOTAL 8					21.25	0.00	0.00	7.25	398.75	14.00	637.42	0.00	0.00	0.00	0.00	\$1,036.17	21.25	
Quality Control	5%-10%	set at 5%			0.00	0.00	0.00	0.00	0.00	0.00	0.00					\$0.00	0	
Supervision	5%-10%	set at 5%			0.00	0.00	0.00	0.00	0.00	0.00	0.00					\$0.00	0	
					21.25	0.00	0.00	7.25	398.75	14.00	637.42	0.00	0.00	0.00	0.00	\$1,036.17	21.25	

Task 5 Salary Costs \$ 1,036.17
Total Overhead 2.8100
TOTAL CONTRACT FEE \$ 2,911.64

IDA Consulting Engineers, Inc.

ESTIMATE OF WORK EFFORT AND COST - SUBCONSULTANT

Name of Project:
County:
FPN:
FAP No.:

WEKIVA PARKWAY (SR 429) - 429-202
Orange County
Sr 429-202
N/A

Consultant Name: IDA Consulting Engineers, Inc.
Consultant No.: N/A
Date: 9/22/2014
Estimator: KS

Staff Classification	Total Staff Hours From "IDA Post Design"	Project Manager	Senior Bridge	Bridge Engineer	CADD Technician	Staff Class-	Staff Class-	Staff Class-	Staff Class-	Staff Class-	Staff Class-	Staff Class-	Staff Class-	Staff Class- fication 12	SH By Activity	Salary Cost By Activity	Average Rate Per Task
13. Structures - Medium Span Concrete Bridge	178	36	53	53	36	0	0	0	0	0	0	0	0	0	178	\$8,144	\$45.75
Total Staff Hours	178	36	53	53	36	0	0	0	0	0	0	0	0	0	178		
Total Staff Cost		\$1,872.00	\$2,756.00	\$2,093.50	\$1,422.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$8,143.50	\$47.53

SALARY RELATED COSTS:
OVERHEAD:
OPERATING MARGIN:
EXPENSES:
EFFECTIVE MULTIPLIER: 2.8800
SUBTOTAL ESTIMATED FEE: \$23,453.28
Survey (Field) 0 4-man crew days @ \$ / day \$0.00
Geotechnical Field and Lab Testing \$0.00
SUBTOTAL ESTIMATED FEE: \$0.00
Optional Services \$0.00
GRAND TOTAL ESTIMATED FEE: \$23,453.28

#REF!

IDA Consulting Engineers, Inc.
Wekiva Parkway Section 1A
CFX Project No. 429-202
Post Design Services

ACTIVITY: As-Built Load Ratings

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD* HOURS	REMARKS
As-Built Load Ratings							
Yothers Bridge	Each	2	20		40		Non-standard beam type. Assume beam per span.
TOTAL		2			40		

ACTIVITY: RFIs

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD* HOURS	REMARKS
Yothers Bridge							
RFIs	EA	6	4	0	24		1 RFIs/month x 12 months = 12 RFIs
TOTAL		6			24		

ACTIVITY: Structures - Shop Drawing Reviews

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD* HOURS	REMARKS
Yothers Bridge (Bridge No. 750860)							
Deck Joints	Each	1	4	0	4		2 Expansion joint locations. (1 unit).
Stay-in-Place Forms	Each	1	10	0	10		Review shop drawings for SIP layouts. Has one span length and beam spacing (1 units @ 8 hrs) and review design calculations (1 Unit @ 6 hrs).
Bridge Overhang Bracket	Each	1	8	0	8		Bracket for supporting slab cantilever. Assume one design.
Haunched Beams	Each	1	20	0	20		Non-standard beam. One beam length. Plates vary.
Temporary Bracing	Each	1	12	0	12		Review of temporary bracing details. 1 in table.
Safety Line Anchorage Device	Each	1	6	0	6		One type
TOTAL		6			60		

ACTIVITY: Structures - Plan revisions

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD* HOURS	REMARKS
Yothers Bridge							
Revision	EA	1	24		24		
TOTAL		1			24		

ACTIVITY: As-Built Drawings

TASK	BASIS OF ESTIMATE	NO. OF UNITS *	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD* HOURS	REMARKS
							* All as-built drawing efforts assumes 1/3 of the total number of sheets require minor CAD revisions, except for structure plans.
Yothers Bridge							
Revise Bridge Plans	EA	10	3	30	30		Assume 10 sheets out of 30 sheets total.
TOTAL					30		

TOTAL PDS - Yothers Bridge

178

Traffic Engineering Data Solutions, Inc.

ESTIMATE OF WORK EFFORT AND COST - SUBCONSULTANT

Name of Project: Wekiva Parkway from US 441 to Ponkan Road (Section 1A) - POST DESIGN
 County: Orange
 FPN: 429-202
 FAP No.: N/A

Consultant Name: Traffic Engineering Data Solutions, Inc.
 Consultant No.: 10412
 Date: 2/25/2015
 Estimator: Fred Ferrell

Staff Classification	Total Staff Hours From "SH Summary Firm"	Chief Engineer	Engineer Intern	Designer	Sr. Designer	Staff Classification 5	Staff Classification 6	Staff Classification 7	Staff Classification 8	Staff Classification 9	Staff Classification 10	Staff Classification 11	Staff Classification 12	SH By Activity	Salary Cost By Activity	Average Rate Per Task
23. Lighting Analysis	80	20	8	0	52	0	0	0	0	0	0	0	0	80	\$3,136	\$39.20
33. Intelligent Transportation Systems Analysis	84	21	8	0	55	0	0	0	0	0	0	0	0	84	\$3,296	\$39.23
Total Staff Hours	164	41	16	0	107	0	0	0	0	0	0	0	0	164		
Total Staff Cost		\$2,111.50	\$461.80	\$0.00	\$3,858.42	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$6,431.52	\$39.22

Check = \$6,431.52

SALARY RELATED COSTS:
 OVERHEAD:
 OPERATING MARGIN:
 EXPENSES
 EFFECTIVE MULTIPLIER 2.380 \$15,307.02
 SUBTOTAL ESTIMATED FEE: \$15,307.02

Project Activity 23: Lighting Analysis

Estimator:

#REF!

#REF!

Task No.	Task	Units	No. of Units	Hours/ Units	Total Hours	Comments
	Lighting Post Design Support					
A	Review and Respond to RFIs	EA	3	4	12	Assumes three (3) RFIs
B	Shop Drawing / Submittal Data Reviews	EA	2	4	8	Assumes two (2) submittals
C	Meetings and Coordination	EA	3	4	12	Assumes three meetings (KO and 2 progress)
D	Plan Revisions	EA	1	8	8	
E	As-built drawings	LS	1	40	40	Provide as-built CAD drawings from CEI red-lines
Lighting Analysis Technical Subtotal					80	

Project Activity 33: Intelligent Transportation Systems Analysis

Estimator:

#REF!
#REF!

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
	ITS Post Design Support					
A	Review and Respond to RFIs	EA	3	4	12	Assumes three (3) RFIs
B	Shop Drawing / Submittal Data Reviews	EA	3	4	12	Assumes two (3) submittals
C	Meetings and Coordination	EA	3	4	12	Assumes three meetings (KO and 2 progress)
D	Plan Revisions	EA	1	8	8	
E	As-built drawings	LS	1	40	40	Provide as-built CAD drawings from CEI red-lines
Intelligent Transportation Systems Analysis Technical Subtotal					84	

Geotechnical & Environmental Consultants, Inc.



**Geotechnical
and
Environmental
Consultants, Inc.**

At the very foundation of our community

September 16, 2014
Revised January 6, 2015
Revised February 25, 2015

HNTB
610 Crescent Executive Court, Suite 400
Lake Mary, Florida 32746

Attention: Mr. John Hornbeck, P.E.
Project Manager

Subject: Proposal for Post-Design Geotechnical Services
Wekiva Parkway (SR 429-202)
Orange County, Florida
GEC Proposal No. 8071G

Dear Mr. Hornbeck:

Geotechnical and Environmental Consultants, Inc. (GEC) is pleased to present this proposal to provide post-design geotechnical engineering services for the above-referenced project. This proposal was requested by you and our recommended scope of services is based on the results of our geotechnical investigation for the Wekiva Parkway 429-202 design project.

Our scope of services will consist of three tasks: 1) Post-Design Geotechnical Engineering 2) Surcharge Monitoring at Ponkan Road Bridge and 3) Inspection of Grout Stabilization Program for Ground Subsidence between Stations 211+00 and 213+00. This proposal presents our recommended scope of services and a cost and schedule for providing those services.

Scope of Services

Task 1 – Post Design Geotechnical Engineering

Our scope of services will include geotechnical review of contractor submittals, responses to requests for information from the contractor, field observation of geotechnical conditions during construction, geotechnical analysis, recommendations to address construction geotechnical issues, written documentation of our field observations and recommendations, and attend meetings as requested.

Task 2 – Surcharge Monitoring at Ponkan Road Bridge

Our services for the anticipated 7-month surcharge program will include a field review of settlement plate installation by the contractor, observation of settlement plate conditions during the surcharge period, performing surveys of the settlement plate elevations, recommendations for the rate of filling and final removal of surcharge, and written documentation of our observations, surveyed plate elevations, review and recommendations.

The embankment/wall height at the south abutment of the Ponkan Road bridge is about 34 ft and the surcharge height is 3 feet, for a total height of 37 feet. In our settlement analysis, we estimated 108 days for surcharge embankment construction (all 37 feet) and 210 days for the surcharge period. GEC will perform the field survey of the 6 settlement plates at the following frequencies:

- Embankment/Surcharge Construction (108 days)
 - 15.5 weeks: 2 times per week - 31 surveys
- Surcharge Period (210 days)
 - First 8 weeks: 2 times per week - 16 surveys
 - Weeks 9 through 15: 1 time per week - 7 surveys
 - Weeks 16 through 30: 1 time per 2 weeks - 8 surveys
- Total Surveys - 62
- Survey Staffhours - 62 Surveys x 2 Technicians x 4 Hours per Survey = 496 hours

Task 3 – Inspection of Grout Stabilization of Ground Subsidence

Our services will include full-time field inspection of the grout stabilization program, including estimation of injection pipe depths and grout quantities, monitoring grout pressures and grout consistency, and reporting the grouting program results. The final report will document completion of the grouting program in accordance with the project plans and Technical Special Provisions.

Cost Breakdown

A summary of our estimated fees is shown below.

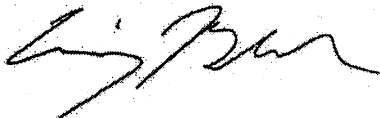
I.	Post-Design Geotechnical Engineering	\$19,907.21
II.	Surcharge Evaluation	\$69,423.40
III.	Inspection of Grout Stabilization Program	<u>\$14,424.47</u>
	Total Limiting Amount	\$103,755.08

Attachment 1 provides a detail of our estimated staffhours and fees for the services described above. Our estimated fee is based on the rates authorized under our original fee proposal. We will not exceed the Limiting Amount without prior authorization from you.

GEC appreciates the opportunity to work with you on this project. If you have any questions regarding this proposal, or if we can be of further assistance, please contact the undersigned.

Very truly yours,

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.



Craig G. Ballock, P.E.
Project Engineer



Gary L. Kuhns, P.E.
President

CGB/GLK/cew

Attachment 1
Post-Design Geotechnical Services
Wekiva Parkway 429-202
Geotechnical and Environmental Consultants, Inc.

Task 1 - Post-Design Geotechnical Engineering

Item	Description	Unit	Unloaded Unit Price	No of Units	Cost
03.01.00	Chief Engineer	HR	\$51.93	20	\$ 1,038.60
03.02.00	Senior Engineer	HR	\$45.08	20	\$ 901.60
03.03.00	Project Engineer	HR	\$30.53	80	\$ 2,442.40
03.04.00	Engineer	HR	---	---	---
03.05.00	Designer (CADD)	HR	\$29.79	10	\$ 297.90
03.06.00	Secretary	HR	\$25.96	20	\$ 519.20
03.07.00	Senior Engineering Technician	HR	\$24.47	24	\$ 587.28
03.08.00	Engineering Technician	HR	---	---	---
			Total Staff Cost		\$ 5,786.98
	Effective Multiplier	3.44	TOTAL		\$ 19,907.21

Task 2 - Surcharge Evaluation at Ponkan Road

Item	Description	Unit	Unloaded Unit Price	No of Units	Cost
03.01.00	Chief Engineer	HR	\$51.93	15	\$ 778.95
03.02.00	Senior Engineer	HR	\$45.08	45	\$ 2,028.60
03.03.00	Project Engineer	HR	\$30.53	135	\$ 4,121.55
03.04.00	Engineer	HR	---	---	---
03.05.00	Designer (CADD)	HR	\$29.79	20	\$ 595.80
03.06.00	Secretary	HR	\$25.96	20	\$ 519.20
03.07.00	Senior Engineering Technician	HR	\$24.47	496	\$ 12,137.12
03.08.00	Engineering Technician	HR	---	---	---
			Total Staff Cost		\$ 20,181.22
	Effective Multiplier	3.44	TOTAL		\$ 69,423.40

Task 3- Inspection of Grout Stabilization Program

Item	Description	Unit	Unloaded Unit Price	No of Units	Cost
03.01.00	Chief Engineer	HR	\$51.93	4	\$ 207.72
03.02.00	Senior Engineer	HR	\$45.08	8	\$ 360.64
03.03.00	Project Engineer	HR	\$30.53	40	\$ 1,221.20
03.04.00	Engineer	HR	---	---	---
03.05.00	Designer (CADD)	HR	\$29.79	8	\$ 238.32
03.06.00	Secretary	HR	\$25.96	8	\$ 207.68
03.07.00	Senior Engineering Technician	HR	\$24.47	80	\$ 1,957.60
03.08.00	Engineering Technician	HR	---	---	---
			Total Staff Cost		\$ 4,193.16
	Effective Multiplier	3.44	TOTAL		\$ 14,424.47

			Grand Total Staff Cost		\$ 30,161.36
	Effective Multiplier	3.44	GRAND TOTAL		\$ 103,755.08

Nadic Engineering Services, Inc.



NADIC ENGINEERING SERVICES, INC.
Civil, Environmental, and Geotechnical Consultants

February 25, 2015
(Original September 17, 2014)

HNTB
610 Crescent Executive Court
Suite 400
Lake Mary, FL. 32746

Attention: Mr. John Hornbeck, P.E.
Project Manager

Re: Proposal for Post Design Geotechnical Engineering Services
SR 429 (Wekiva Parkway), Section 1A
Orange County, Florida
OOCEA Project# 429-202
NES Project No.: R12007

Dear Mr. Hornbeck:

NES is pleased to submit the attached proposal for the post design services for the above referenced project. Our services will include the following:

- Review shop drawings for Miscellaneous Structures, including walls and sign structures.
- Provide soil parameters for Miscellaneous Structures.
- Review and evaluate shop drawing for Yothers Road Bridge.
- Attend project meetings.

The estimated total cost of these tasks is **\$5,937.71**. Please see Attachment A.

We sincerely appreciate the opportunity of submitting this fee proposal, and look forward to a continued association with you, HNTB and CFX. Please do not hesitate to contact the undersigned if you have any questions or if you need additional information.

Sincerely,

NADIC ENGINEERING SERVICES, INC.

Godwin N. Nnadi, Ph.D., P.E.
Principal Engineer

GNN: R12007 (SR429_Wekiva Parkway-Post Design).(Sept.152014)pro

Attachment:

Attachment A – Computation of Geotechnical Cost – Post Design SR 429 (Wekiva Parkway, Section 1A)

NES
601 N. Hart Boulevard
Orlando, FL. 32818

Phone: 407 521 4771
Fax: 407 521 4772
E-Mail: nadic@nadinc.com

ATTACHMENT A
COMPUTATION OF GEOTECHNICAL COST - POST DESIGN SERVICES
SR 429 (WEKIVA PARKWAY, SECTION 1A)

Component/Unit Description	UNIT	QTY	RATE	TOTAL COST
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III. ENGINEERING AND TECHNICAL SERVICES:

1. Project Manager/Chief Engineer:	Hr	10	\$55.71	\$557.10
2. Senior Engineer:	Hr		\$52.08	\$0.00
3. Project Engineer:	Hr	25	\$45.19	\$1,129.75
4. Engineer:	Hr		\$28.94	\$0.00
5. Engineer Intern	Hr		\$0.00	\$0.00
6. Cadd Technician:	Hr		\$24.42	\$0.00
7. Senior Engineering Technician:	Hr		\$22.15	\$0.00
8. Secretarial/Clerical:	Hr		\$16.64	\$0.00

Salary Related Fees

\$1,686.85

Multiplier

3.520

\$5,937.71

TOYAL ESTIMATED FEE

\$5,937.71

Nadic Engineering Services, Inc.
601 N. Hart Blvd.,
Orlando, FL. 32818
Phone: 407 521 4771
Fax: 407 521 4772