



Meeting of the Board of Directors

October 30, 2023 - 1:30 p.m.

THEA Headquarters
1104 E. Twiggs Street
First Floor Board Room
Tampa, FL 33602

For any person who wishes to address the Board, a sign-up sheet is provided at the Board Room entrance. Presentations are limited to three (3) minutes. When addressing the Board, please state your name and address and speak clearly into the microphone. If distributing backup materials, please furnish ten (10) copies for the Authority Board members and staff. Any person who decides to appeal any decisions of the Authority with respect to any matter considered at its meeting or public hearing will need a record of the proceedings and, for such purpose, may need to hire a court reporter to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which an appeal is to be based.

I. Call to Order and Pledge of Allegiance

II. Public Input/Public Presentations

III. Consent Agenda

A. Approval of the Minutes from the September 25, 2023, Board Meeting

B. Increase funding to Burgess and Niple for CEI work on the ITS Generator Replacement Project, \$25,923

The present task amount is \$70,707. The project had delays associated with the supply chain and a scope enhancement for better emergency response capabilities. As a result, the CEI task with Burgess & Niple needs to be increased by \$25,923 to a new not-to-exceed amount of \$96,630.

IV. Discussion/Action Items

A. Planning & Innovation, John Weatherford, Committee Chair – *Bob Frey, Director*

1. I-4 FRAME Design Review and Project Management, HNTB, \$485,000

Purpose: As part of the FDOT I4 FRAME project, THEA will connect the Selmon Expressway to I-4 via several arterial roadways using fiberoptic cable

and Roadside Units (RSU). HNTB will perform systems engineering, design review, and project management for the collaboration between THEA and FDOT. All work will be done under a Joint Participation Agreement between THEA and FDOT.

Funding: Capital Budget - \$485,000

Action: Request Board approval to execute a task for HNTB to perform system engineering and project management services in the amount not to exceed \$485,000.

2. RITIS Trip Analytics & Customization Work, University of Maryland CATT Laboratory, \$326,000

Purpose: After investigating the available data for transportation planning and a gap in operational data, THEA has explored the use of the RITIS system to monitor operations and plan for our existing and future infrastructure. The objective of this project is to provide additional insights into road user movement and expressway performance to provide a better understanding of THEA's facilities to enhance operations, planning, and management of the Expressway.

Funding: \$326,000 (\$50,000 Start-up, \$276,000/year 1 subscription, plus \$276,000 each year for the next four years, subject to Board approval.

Action: Request Board approval to execute a task order for the UMD CATT Lab to provide data, access to the RITIS platform and trip analytics tools, and to integrate RSU data into the platform for the first-year cost of \$326,000.

B. Operations & Engineering, Bennett Barrow, Committee Chair – *Brian Pickard, P.E., Director*

1. East Selmon ITS Improvements Assistance through the GEC

Purpose: To utilize the GEC (HNTB) to assist THEA staff in developing the scope documents for procurement, managing the CEI, reviewing design documents, and managing the contractor for the East Selmon ITS Design/Build Project.

Funding: Capital Budget - \$420,510

Action: Request the Board to authorize the Executive Director to execute a task order with HNTB to provide GEC support for procuring, design approvals, and CEI and Contractor management on the East Selmon ITS Design/Build Project in the amount of \$420,510.

2. Design Consultant for Headquarters Security Upgrades

Purpose: To procure the services of a design consultant to develop plans and specifications for construction contracts to complete the recommended work

outlined in the security assessment dated April 4, 2023. This includes work both in the headquarters building and the surrounding grounds.

Funding: Capital Budget - \$328,833

Action: Request the Board to authorize the Executive Director to execute a task order with Jacobs Engineering for \$328,833 to provide design services for constructing the recommended work outlined in the security assessment report.

3. GEC (HNTB) Assistance in Evaluating Retaining Wall Capacity

Purpose: To utilize the GEC (HNTB) and their sub-consultants to assist THEA staff in identifying the capacity of the existing retaining walls between Himes Avenue and the Hillsborough River. This will significantly reduce the risk that the upcoming South Selmon Capacity Project contractor will incorporate into their price.

Funding: Capital - \$271,033

Action: Request the Board to authorize the Executive Director to execute a task order with HNTB to provide GEC support during FY24 to evaluate the capacity of the existing retaining walls from Himes Avenue to the Hillsborough River in an amount not to exceed \$271,033.

4. Fiber to DMS Project – New task - KCI, \$60,928.

Purpose: THEA received one bid on this project, and it exceeded the budget. As a result, the project will be a pay item job and will be combined with the Wrong-Way-Driving Project as one larger contract to limit unknown risks and attract more competition. The new task amount for the additional work is \$60,928. The original design task was \$130,000 and is now completed and closed.

Funding: Capital Budget - \$60,928

Action: Request the Board to authorize the Executive Director to execute a task order with KCI to provide system design services to THEA for scope items, including design revisions, for the Fiber to DMS project.

V. Staff Reports

- A.** Operations & Engineering – *Brian Pickard, P.E., Director*
- B.** IT & Security – *Shari Callahan, Director*
- C.** Budget & Finance – *Jeff Seward, Director*
- D.** Toll Operations – *Tim Garrett, Interim Director*
- E.** Strategy, Communications & Community Engagement – *Keisha Boyd, Director*

VI. Executive Reports

A. Executive Director – *Greg Slater, Executive Director*

- 1. Director’s Report**
- 2. Contract Renewals and Expirations**

B. General Counsel – *Amy Lettelleir*

C. Chairman – *Vincent Cassidy*

1. Upcoming Meetings

- Board Meeting – November 13, 2023
- Board Meeting – December 11, 2023

VII. Old Business

VIII. New Business

IX. Adjournment

III. A. Approval of Minutes

Tampa-Hillsborough County Expressway Authority
Minutes of the September 25, 2023, Board Meeting
1104 E. Twiggs Street
Tampa, FL 33602

The Tampa-Hillsborough County Expressway Authority held a public meeting at 1:30 p.m. on September 25, 2023, at THEA Headquarters, 1104 E. Twiggs Street in Tampa Florida. The following were present:

ATTENDANCE

Board:

Vincent Cassidy, Chairman
Bennett Barrow, Vice Chairman
John Weatherford, Secretary
FDOT District Secretary David Gwynn, Member
Mayor Jane Castor, Member

Staff:

Greg Slater	Shannon Bush
Amy Lettelleir	Toni Nhlapo
Jeff Seward	Brian Ramirez
Bob Frey	Gary Holland
Brian Pickard	Anna Quinones
Keisha Boyd	Tiana Hill
Shari Callahan	Frederick Pekala
Charlene Varian	
Chaketa Mister	

Others:

Sally Dee, Playbook	Matthew Sansbury, RBC
Sam Gabsi, Infotect	LaBaron Lewis, Infotect
Joseph Aguila, Infotect	Ethan Drew, Ardaman
Christina Matthews, WSP	Tracey Sansone, KCA
Len Becker, HNTB	Branan Anderson, KCA
Jim Drapp, HNTB	Brent Wilder, PFM
Tim Garrett, HNTB	Joseph Stanton, NMRS
Joe Stanton,	Brian Kirkpatrick, RSH
Sunil Jakhadi, HNTB	Stefanie McQueen, HDR
Snehal Ambare, CDM Smith	Chris Jadick, WSP
James VanSteenburg, HDR	Neil Mulrooney, Middlesex
John Olivio, HDR	Kevin Bennett, TMC
Abby Conner, Kiewit	Sarah Lesch, Playbook
Kunyar Sh?, Kiewit	Rick Patterson, Raymond James
John Generalli, Wells Fargo	
Doug Draper, BofA	
John Palsa, Parsons	
Jonathan Tursky, TransCore	

Call to Order and Pledge of Allegiance

Chairman Cassidy called the meeting to order at 1:30 p.m., followed by the Pledge of Allegiance.

I. Public Input/Public Presentations

There were no public comments or presentations.

II. Consent Agenda

A. Approval of the Minutes from the August 28, 2023, Board of Directors Meeting

B. Approval of Board Member Travel

C. ACN Modernization Project – Programmable Logic Controllers (PLCs) for the REL

Chairman Cassidy requested a motion to approve the consent items. Mr. Barrow moved approval, seconded by Mr. Weatherford.

The motion passed unanimously.

III. Discussion/Action Items

A. Executive Director – Greg Slater, Executive Director

1. Update - South Selmon Capacity Design Build Contract

Mr. Slater explained that, since the last meeting, staff have been evaluating the South Selmon bids to better understand the differences between our GEC estimate and the bids that came in. The differences came down to methodology, market factors, and how risk is priced.

We also looked at the differences between the two bids since they were so far apart. It became clear that the two teams viewed some of the technical risks very differently. There were also large variations in some of the pre-construction phases. We validated that the construction of the existing scope is extremely complicated – and it shows in the bids.

He added that he has been watching the market to get a better feel for what is happening. He explained that the market is more flush than we realized, and acquiring the skilled labor needed for larger projects is also having an impact and it’s showing up in the pricing.

Secretary Gwynn noted that FDOT is running into some of the same challenges. Contractors are pricing risk differently than what we’ve seen in the past, and we are all struggling on long-term, complicated projects – and it’s not just Florida.

Chairman Cassidy asked for a better definition of “risk” relative to this discussion.

Mr. Slater explained that the complexity of construction and potential unforeseen site conditions are two examples of unknowns that contractors would take into consideration when calculating risk.

Secretary Gwynn likened it to insurance, adding that we don’t know what prices are going to be in the future on these longer-term projects. It’s hard to anticipate what the economy is going to look like down the road.

Chairman Cassidy asked if there was a recommendation.

Mr. Slater noted that THEA has a responsibility to deliver a program over the next decade, not just a single project. In this market, we need to rethink the scope of the project and he recommended THEA close out the procurement, pay the stipends, develop a re-solicitation plan that meets the needs of the Expressway and is within our budget, and bring it back to the board.

Chairman Cassidy requested a motion.

Ms. Lettelleir provided the following recommended motion:

To reaffirm the rejection of all bids/proposals we received for this procurement, and declare our intent to reissue a competitive solicitation; and direct staff to develop an updated re-procurement plan that takes into consideration the innovative ideas we are seeking, with a focus on maximizing scope within the budget; and to approve the issuance of the stipend payment to the qualified proposers, given the costs and fees incurred by them in participating in this procurement.

Mr. Barrow moved the recommended motion, seconded by Mr. Weatherford.

Chairman Cassidy asked for additional questions or comments.

Mr. Weatherford noted he is now more comfortable with the new approach given others are seeing similar issues.

The motion passed unanimously.

2. Executive Toll Operations Support Task Order – HNTB

Mr. Slater presented a task to use HNTB, with a cost not to exceed \$480,034.17, to assist with higher level support in all areas of Toll Operations in FY24 due to the criticality of the efforts currently in process, combined with some key personnel vacancies. Tasks include toll staff training and development; oversight of the roadside toll collection system and operational back office procurements; business continuity assessment and plan; assessment, and potential update of the tolls business rules, standard operating procedures, and operations documentation; enhancements to customer service and community outreach; revenue preservation and revenue enhancement;

assessment of the integration of tolls, ITS and CV technologies; and assist in the tolls budget assessment and development for FY25.

Chairman Cassidy asked for a breakdown of the \$480K.

Mr. Slater pointed out that about 25% of the cost is oversight of the RTCS and OBOS – these are critical elements with many moving parts. The remainder is working with staff and leadership and providing strategic directions and higher-level support.

Chairman Cassidy requested a motion. Mr. Barrow moved approval, seconded by Mr. Weatherford.

The motion passed unanimously.

B. Operations & Engineering, Bennett Barrow, Committee Chair – Brian Pickard, P.E., Director

1. South Selmon Capacity Design-Build & CEI Support through the GEC

Mr. Pickard presented an item to utilize GEC (HNTB) to assist THEA staff in managing the South Selmon Capacity Project in FY24.

The requested action is for the Board to authorize the Executive Director to sign a task order with HNTB to provide GEC support during FY24 on the South Selmon Capacity Project in the amount of \$888,586.

Chairman Cassidy requested a motion. Mr. Weatherford moved approval, seconded by Mr. Barrow.

The motion passed unanimously.

2. South Selmon Capacity Public Information Consultant (PIC) Support through the GEC

Mr. Pickard presented a second item to utilize GEC (HNTB) to assist in providing Public Information support through their sub-consultant, Versant, on the South Selmon Capacity Project in FY24.

The requested action is for the Board to authorize the Executive Director to sign a task order with HNTB to provide PIC support during FY24 on the South Selmon Capacity Project in the amount of \$103,200.

Chairman Cassidy requested a motion. Mr. Weatherford moved approval, seconded by Mr. Barrow.

The motion passed unanimously.

V. Staff Reports

A. Planning & Innovation – *Bob Frey, Director*

Mr. Frey presented an update on the Selmon Greenway Masterplan. This is a programmatic approach that looks at the entire greenway. He reviewed the timeline beginning in 2010, noting that Tampa has changed dramatically and we're seeing more pedestrian and bicycle traffic on the greenway. The presentation will provide an idea of what a mature greenway, going from the river to 19th Street, will look like. We'll be looking at grants and partnership funding to offset some of the costs.

The Greenway is a mobility trail that will connect downtown, Ybor, and Channelside. He noted that THEA has received positive feedback about some of the areas where we've made improvements.

Mr. Fry reviewed the five zones of the Greenway starting with the West Greenway Anchor and working through to the Central Connector, to Greenway Flow, then crossing over the 12th Street Park ending at the East Greenway Anchor, discussing opportunities along the way.

Finally, Mr. Frey showed a rendering of what a central plaza might look like and reviewed the implementation of the master plan, including work plan funding and grant opportunities, both for funding and for diverse enhancements, such as Wi-Fi and upgrading monitoring to collect real-time data to help inform future improvements.

The Chairman commented that the Greenway should be part of the conversation as we move forward with our real estate RFP.

Mr. Weatherford asked about the distance of the trail. Mr. Frey responded that the Greenway is 1.9 miles.

Mr. Weatherford asked if THEA has any projections on use. Mr. Frey noted that we have counts and have seen upwards of 1,700 in a day, adding that it's picking up.

B. Operations & Engineering – *Brian Pickard, P.E., Director*

Mr. Pickard provided an update on the East Selmon Slip Ramp Project, pointing out that the present contract amount is \$25,222,836, with 94% of the contract earned. The current contract end date is October 2023, and the contract time is at 97%.

Chairman Cassidy asked for the original estimated completion date. Mr. Pickard noted it was September.

C. Finance – *Jeff Seward, Director*

Mr. Seward provided an update on FY2023 noting we ended in good fiscal health. He presented the unaudited summary. Revenue was above what we budgeted and reflects the \$6M reduction due to Hurricane Ian. He also noted that THEA underspent by almost \$4M. He added that the net gain to financials is around \$10.4M (unaudited).

Mr. Seward will present the FY2023 audit to the Board in January, noting that we estimate closing out FY2023 at 2.5 times the debt service ratio.

Finally, Mr. Seward reviewed July 1, 2023 – August 31, 2023, financials and estimated a \$2.1M impact due to toll suspension for Hurricane Idalia. FY2024 is under budget so far.

D. Toll Operations – *Gary Holland, Toll Systems Manager*

Mr. Holland provided the Board with updated statistics for Toll Operations. He began with weekly transactions for July 2023, which averaged 1.2M, followed by monthly transactions, which totaled 6.1M compared to 5.7M for July 2022. He also presented the year-to-year average weekday transactions for West Mainline, East Mainline, REL, and the West Extension, all showing an increase over the previous year, with an over Y2Y increase of 7.9%.

Finally, Mr. Holland reported 6.1M tolls processed in July 2023. Seventy-one percent were transponders and 29% were toll-by-plate transactions.

Chairman Cassidy asked how that might have looked three years ago. Mr. Holland responded that it would have shown less penetration on the transponder side – closer to the high 60s.

Mr. Weatherford pointed out that some of the transponders listed weren't available back then. Mr. Holland replied in the affirmative, noting the most recent additions are KTag, TexPass, and PikePass and in the next year we'll be incorporating two more.

Mr. Weatherford thought it would be a good idea to provide a timeline of transponders as they are added or projected to be added.

E. Communications – *Keisha Boyd, Director*

Ms. Boyd provided a summary of the FAV Summit held earlier this month. She noted we hosted 500 attendees, had three live demonstrations, and ten onsite exhibitors. The Honorable Fiona McFarland was awarded the Leadership & Innovation Award. Ms. Boyd thanked Team THEA for assisting with logistics and

a special thanks to Bob Frey, Brian Pickard, and Felipe Velasco for presenting, and to Mayor Castor for providing a welcome video.

Finally, Ms. Boyd also reported on media engagement, noting we had 34 media hits, as well as very robust social engagement with more than 200,000 social impressions.

Mr. Barrow congratulated Keisha and her team on a job well done.

VI. Executive Reports

A. Executive Director – *Greg Slater, Executive Director*

1. Director’s Report

Mr. Slater reported that, back on September 12, THEA experienced a significant lightning strike that took out the tolling cameras on the REL. They were repaired the next day, and we estimate about \$4k in lost revenue. Only video reads on the REL were impacted, all transponder transactions and all transactions on the local lanes were captured.

He also noted the success and efficiency of THEA's video toll processing. On a regular basis, we have maintained a 3–5-day backlog.

Mr. Slater mentioned THEA’s partnership with TECO and the coming installation of EV charging stations in THEA’s side parking lot and in the dog park parking area. These are being installed at no cost to THEA.

2. Contract Renewals and Expirations

Mr. Slater reported one contract expiration – the Contract with Kimley Horn for East Selmon expires on 3/31/24. He also reported the first one-year renewal of the service agreement for the contract with One Network and the first one-year renewal of the contract with Valor for toll collections.

Finally, Mr. Slater congratulated both Emma and Judith on the birth of their babies. Both moms and babies are doing great.

Chairman Cassidy asked if there is a revenue share on the EV charging stations. Mr. Slater noted there is not, but that THEA is looking at some innovative scenarios outside the TECO partnership.

B. General Counsel – *Amy Lettelleir*

Ms. Lettelleir thanked everyone for their hard work on the South Selmon procurement and had nothing to report.

C. Chairman – *Vincent Cassidy*

1. **Upcoming Meetings**

- Committees of the Whole – October 16, 2023 - Cancelled
- Board Meeting – October 30, 2023

IV. **Old Business**

No old business.

V. **New Business**

No new business.

VI. **Adjournment**

The meeting adjourned at 2:12 p.m.

APPROVED: _____

Chairman: Vincent Cassidy

ATTEST: _____

Vice Chairman: Bennett Barrow

DATED THIS 30th DAY OF October 2023.

III.B. ITS Generator Replacement

ESTIMATE OF WORK EFFORT AND COST - Burgess & Niple (PRIME CONSULTANT)
Exhibit "B"

Name of Project: Generator Replacement Project (TB O-00421)
 County: Hillsborough
 Client: Tampa Hillsborough Expressway Authority

Consultant Name: Burgess & Niple
 Consultant No.: _____
 Date: 10/24/2023
 Estimator: John Kilgore

Staff Classification	Total Staff Hours From "SH Summary - Firm"	Project Manager 3	Specialist Sec/Clerical															SH By Activity	Salary Cost By Activity	Average Rate Per Task
		\$91.38	\$35.58	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			
3. Project Common & Project General Tasks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0.00	#DIV/0!
4. Roadway Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
5. Roadway Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
6a. Drainage Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
6b. Drainage Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
7. Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
8a. Env. Permits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
8b. Env. Compliance & Clearances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
9. Structures - Misc. Tasks, Dwgs, Non-Tech.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
10. Structures - Bridge Development Report	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
11. Structures - Temporary Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
12. Structures - Short Span Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
13. Structures - Medium Span Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
14. Structures - Structural Steel Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
15. Structures - Segmental Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
16. Structures - Movable Span	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
17. Structures - Retaining Walls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
18. Structures - Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
19. Signing & Pavement Marking Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
20. Signing & Pavement Marking Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
21. Signalization Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
22. Signalization Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
23. Lighting Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
24. Lighting Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
25. Landscape Architecture Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
26. Landscape Architecture Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
27a. Survey- (Non-SUE) Field & Office Support)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
27b. Survey- (SUE) Field & Office Support	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
28. Photogrammetry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
29. Mapping	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
30. Terrestrial Mobile LIDAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
31. Architecture Development	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
32. Noise Barriers Impact Design Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
33. Intelligent Transportation Systems Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
34. Intelligent Transportation Systems Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
35. Geotechnical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
36. 3D Modeling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
Total Staff Hours	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
Total Staff Cost		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00	#DIV/0!

Survey Field Days by Subconsultant
4 - Person Crew.

- Notes:
 1. This sheet to be used by Prime Consultant to calculate the Grand Total fee.
 2. Manually enter fee from each subconsultant.
 3. **UNUSED** Survey by Prime & Subconsultant **"ROWS SHALL be hidden."**

SALARY RELATED COSTS:				
OVERHEAD:	154.29%			\$0.00
OPERATING MARGIN:	30.00%			\$0.00
FCCM (Facilities Capital Cost Money):	0.1350%			\$0.00
EXPENSES (Includes Permit Legal Notices):	1.12%			\$0.00
Environmental Permit Fees: Burgess & Niple				\$0.00
Survey Survey (Non-SUE) Field - # by Prime	0.0	4-person crew days @	\$0.00 / day	\$0.00
Survey (SUE-Designate) Field - # by Prime	0.0	3-person crew days @	\$0.00 / day	\$0.00
Survey (SUE-Locate) Field - # by Prime	0.0	3-person crew days @	\$0.00 / day	\$0.00
Survey (SUE-Survey) Field - # by Prime	0.0	3-person crew days @	\$0.00 / day	\$0.00
SUBTOTAL SURVEY (PRIME) ESTIMATED FEE:				\$0.00
SUBTOTAL (PRIME) ESTIMATED FEE:				\$0.00
Subconsultant: EXP (Generator Replacement)				\$25,922.79
SUBTOTAL (SUBCONSULTANT/s) ESTIMATED FEE:				\$25,922.79
SUBTOTAL ESTIMATED FEE:				\$25,922.79
Geotechnical Field and Lab Testing:				\$0.00
SUBTOTAL ESTIMATED FEE:				\$25,922.79
Optional Services:				\$0.00
GRAND TOTAL ESTIMATED FEE:				\$25,922.79

CEI CONSULTANT STAFF HOURS

Description: Generator Replacement Project ITB No. 0-00421 on Selmon Expressway

Consultant: <u>EXP U.S. Services Inc.</u>		2022												2023						Total In										
Personnel Classification/Name	Firm Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Months	Hours	RAW RATE	THEA Negotiated Multiplier	FEE	
Senior Project Engineer - Steven Martino, PE - EXP	EXP																							0.02	0.02	0.04	6.60	\$ 80.00	2.8843	\$ 1,522.91
Project Administrator/Roadway - Porter Reed - EXP	EXP																							0.20	0.10	0.30	49.50	\$ 62.90	2.8843	\$ 8,980.41
Senior Inspector - Joe Clark - EXP	EXP																						0.20	0.50	0.20	0.90	148.50	\$ 36.00	2.8843	\$ 15,419.47
																											0.00			
																											0.00			
																											0.00			
Totals in Man Months					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.32	1.24	204.60			\$ 25,922.79	
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov		0.32				

Page 1 of 1

TOTAL Man Hours ALL pages: 313.5 (Total Man Months x 165)

TOTAL MAN-MONTHS ALL pages: 1.24

Contract Term: _____ Months

Survey Party Estimate: _____ Man Party For _____ Days _____ Man Party For _____ Days

Notes: No need to type if kept legible.
Denote a time period for consultant services including 30 days for pre-construction and 30 days for post-construction services.
CEI Personnel are to be distributed to each construction project on separate sheets if needed.
A total staffing estimate inclusive of all projects is required separately.
For additional years, please add another page.

Legend: L=Letting P=Preconstruction C=Construction T=Post Construction

IV.A.1. I-4 FRAME Design Review & Project Management

HNTB PR 2024XXXX
HI-0248 P-02
2023-2024 THEA FDOT I-4 Frame Support (7/1/23 - 6/30/24)
Scope Of Services

Purpose & Need

With their small in-house staff, THEA requires support to provide project management, engineering and administrative support to assist THEA staff in the development/ implementation of the THEA FDOT I-4 Frame Project. This task work order is for support services from 7/1/23 - 6/30/24.

Scope

Provide support with the I-4 Frame Support project as required to assist THEA staff in the development/implementation of the project. Anticipated work includes providing project management, engineering, administrative, and operational data, and input and analyses necessary to assist with the development and implementation of the project. THEA will be installing and integrating additional equipment to enhance THEA CV capabilities and connect with FDOT and other agencies.

SUMMARY FEE SHEET

ATTACHMENT "A"

PROJECT DESCRIPTION: Tampa-Hillsborough Expressway Authority
 GEC CONTRACT NO. HNTB PR 2024XXXX
 HI-0248 P-02
 PRIME CONSULTANT: **HNTB Corporation**

HNTB PR 2024XXXX
2023-2024 THEA FDOT I-4 Frame Support (7/1/23 - 6/30/24)

ACTIVITY	Sr. Technical Advisor		Project Manager		Chief Eng./Planner Sr. Proj. Eng.		Sr. Eng./Planner		Proj. Eng./Planner		Engineer/Planner		Sr. Technician		Clerical		TOTAL		Avg. Hourly Rate	
	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Manhours By Activity	Salary Cost By Activity		
THEA FDOT I-4 Frame Support	8	\$1,386.96	400	\$57,816.00	400	\$40,876.00	400	\$31,980.00	480	\$29,577.60	168	\$8,099.28	39	\$1,519.44	22	\$498.52	1917	\$171,753.80	\$89.60	
Total Man Hours	8	\$1,386.96	400	\$57,816.00	400	\$40,876.00	400	\$31,980.00	480	\$29,577.60	168	\$8,099.28	39	\$1,519.44	22	\$498.52	1,917	\$ 171,753.80	\$89.60	
																		Basic Activities Maximum Limiting Fees (Salary Costs) Cost Elements & Additives	\$171,753.80	
																		(a) 2.78 Multiplier	\$477,475.56	
Direct Expenses		4.37%		\$ 7,505.64														SUBTOTAL (Cost Elements applied to Basic Activities Fee):	\$477,475.56	
																		(d) Direct Reimbursables	\$7,505.64	
																		Total Project Cost:	\$484,981.21	
																		Budget Amount:	\$484,981.21	

IV.A.2. RITIS Trip Analytics & Customization



-DRAFT-



Scope of Work
Tampa Hillsborough Expressway Authority
RITIS Trips Analytics + Customization Work

Background

Since 2012, the Regional Integrated Transportation Information System (RITIS), has been available to government agencies in Florida through funding from the Florida Department of Transportation (FDOT). As part of this program, the CATT Laboratory has been integrating FDOT ITS sensor data, probe data from HERE Technologies, and work zone and incident data from SunGuide into the RITIS platform—including the Detector Tools and the Probe Data Analytics Suite. As part of this ongoing relationship, Tampa Hillsborough Expressway Authority (THEA) is authorized to leverage many of the RITIS services already paid for by FDOT. However, there are several tools, capabilities, and data sets that FDOT has not purchased that would greatly benefit THEA.

Problem Statement

THEA has a need for historic trips/waypoint data that shows the origins, destinations, and waypoint (breadcrumb trails) of vehicles using THEA operated roadways. These data can be purchased from 3rd party data providers and made visible through the “Trip Analytics” RITIS add-on tool. THEA is also investing in roadside units that collect various data from connected vehicles—including speeds and travel times between RSUs. There is a desire to build capabilities to archive and visualize the RSU travel time data within the PDA Suite in RITIS. There are also other analytics capabilities (including dashboard functionality) that THEA envisions needing to help with operations and planning—including doing more with other RSU data beyond speeds and travel times.

Project Goals and Objectives

The objectives of this project are to provide additional insights into people movement like changes to the pattern of life of travelers using THEA roadways, and to provide additional insights into performance of THEA operated roadways through data analysis and customization of the RITIS platform. This will be accomplished through the following:

1. Acquiring INRIX Trips data covering 2024 (loaded monthly or weekly)
2. Processing and loading INRIX Trips data into the RITIS Trip Analytics tool
3. Providing access to Trip Analytics to THEA and THEA partners for one year
4. Integrating RSU data into the PDA Suite

If additional funding becomes available, THEA may elect at a future date to fund the customization of various RITIS tools and/or purchase additional years of Trips data and/or Trip Analytics access.

Project Tasks

The following work will be performed to achieve the objectives listed above.

Task 1: Acquire CY 2024 Trips Data from INRIX & Load into RITIS Trip Analytics

The CATT Lab will work with INRIX to acquire Trips Data covering calendar year 2024 for all of Hillsborough County. The data set will include trips that began or ended outside of the county so long as a portion of the trip touched Hillsborough County. Data is typically delivered from INRIX to the CATT Lab monthly or weekly.

Task 2: Process and load INRIX Trips data into the RITIS Trip Analytics tool

The CATT Lab will take the raw Trips data from INRIX and clean and process it before inserting it into the Trip Analytics tool. This loading process can take several days to load a month's worth of data.

Task 3: Provide access to Trip Analytics to THEA and THEA partners for one year.

The CATT Lab will provide access to the Trip Analytics to THEA and THEA partners for a full year. This includes O&M, technical support, training, and access to new features and functionality that are developed and deployed during the period of performance. *Trip Analytics (TA)* leverages databases with anonymous samplings of hundreds of thousands — even millions — of real-world trips taken by travelling vehicles. TA provides insights about the trips that people take: where they begin, where they end, and how these patterns change over time. TA provides dynamic in-app spatial filtering and temporal filtering tools that allow you to customize queries to show you the trips you care about. TA lets you visualize drivers' routes, plus a range of travel time metrics, and an understanding of how these patterns change over time or in response to events.

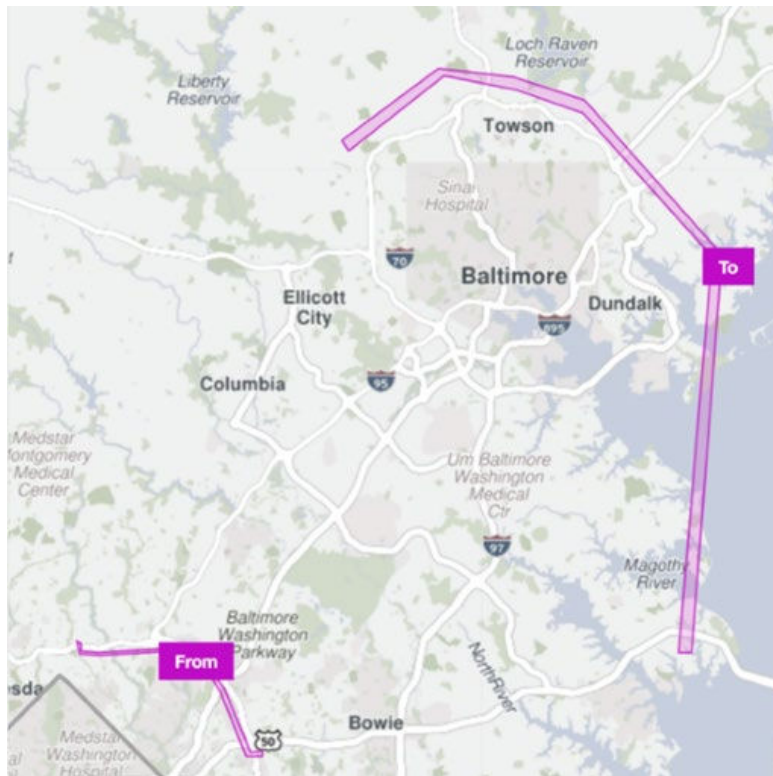


Figure 1: A user draws a "From" and "To" filter to see how drivers traveled between DC and Baltimore.

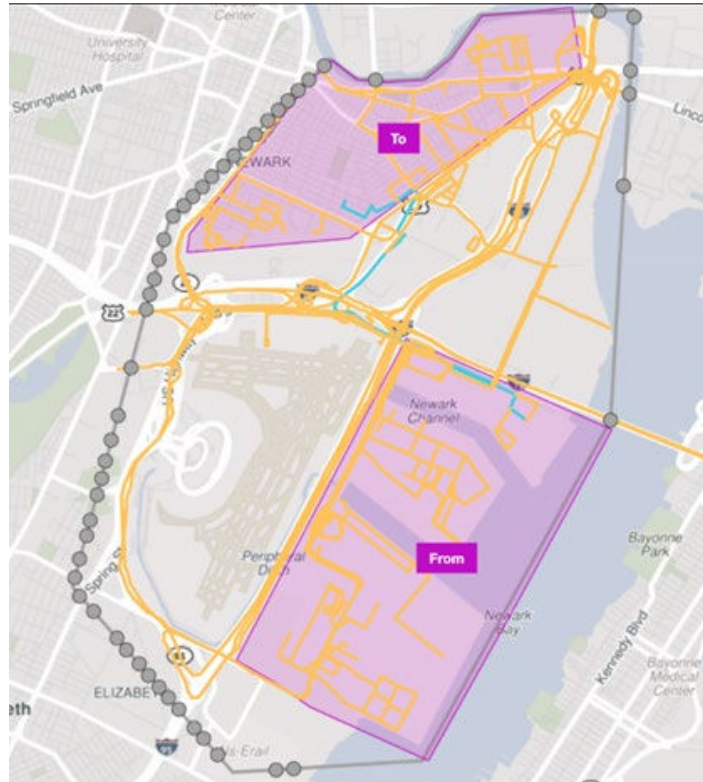


Figure 2: A user is specifying a study area (gray outlined region) and "to" and "from" spatial filters to see which routes individuals took to get between these two locations.

A screenshot of a user interface for setting filters. The interface is divided into several sections: 1. 'Set Spatial Filter(s)' with a green checkmark and a description: 'Use a custom area as a Spatial Filter: Woodstock GA CBD.geojson. Include trips that: Started Outside and Ended Inside'. 2. 'Set Temporal Filter(s)' with a blue arrow pointing to the 'Choose a time range to analyze data in.' section. This section includes a checkbox for 'Use precise temporal filtering.' and radio buttons for 'Times', 'Dates', 'Months' (selected), and 'Year'. 3. 'Start Month' and 'End Month' dropdown menus showing 'February 2022' and 'April 2022' respectively. 4. A '3 months' duration selector. 5. 'Time of Day' section with two time pickers: '07:00 AM' and '09:00 AM'. 6. 'Days of Week' section with buttons for Sun, Mon, Tue, Wed, Thu, Fri, and Sat. Tue, Wed, and Thu are marked with green checkmarks. 7. A green 'DONE' button at the bottom right.

Figure 3: users can specify date ranges, time ranges, day-of-week filters, and even vehicle type (heavy, medium, and light) within TA.

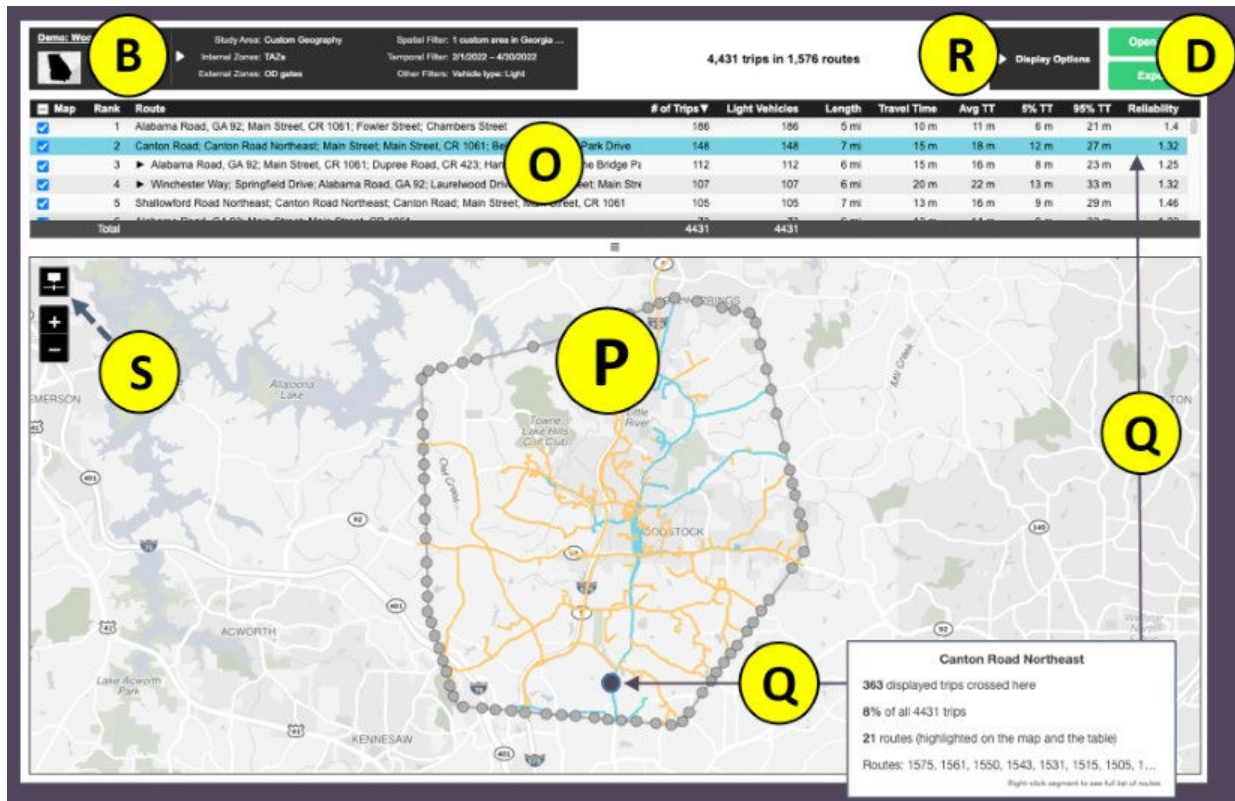


Figure 4: The results of a query can be in the form of an OD matrix (not shown), and OD map (not shown), or a route-map (shown above). The table above the map (letter 'O') depicts unique routes, travel times, reliability of the route, etc.

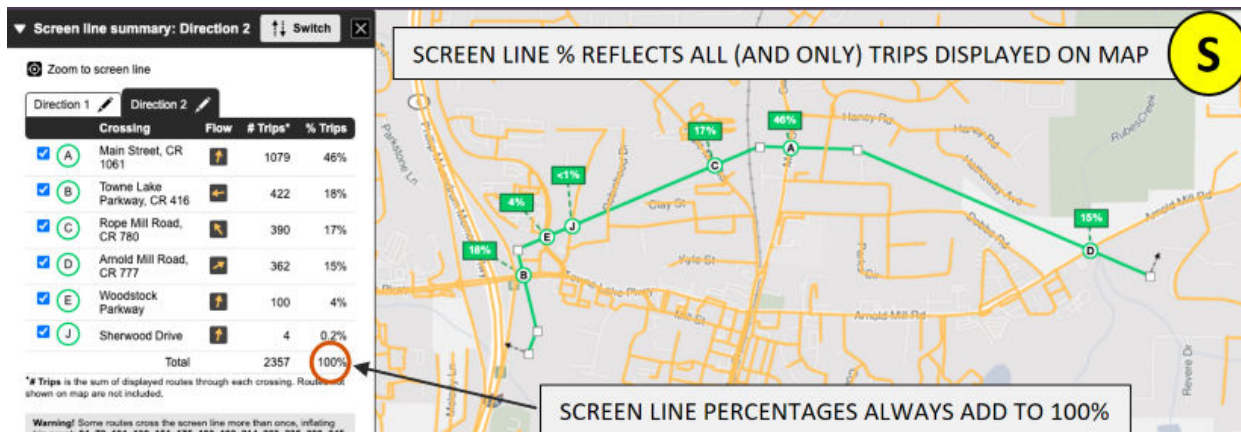


Figure 5: Screen Lines (shown in green on the map) can be drawn and analyzed to see what percent of traffic take one route vs. another.

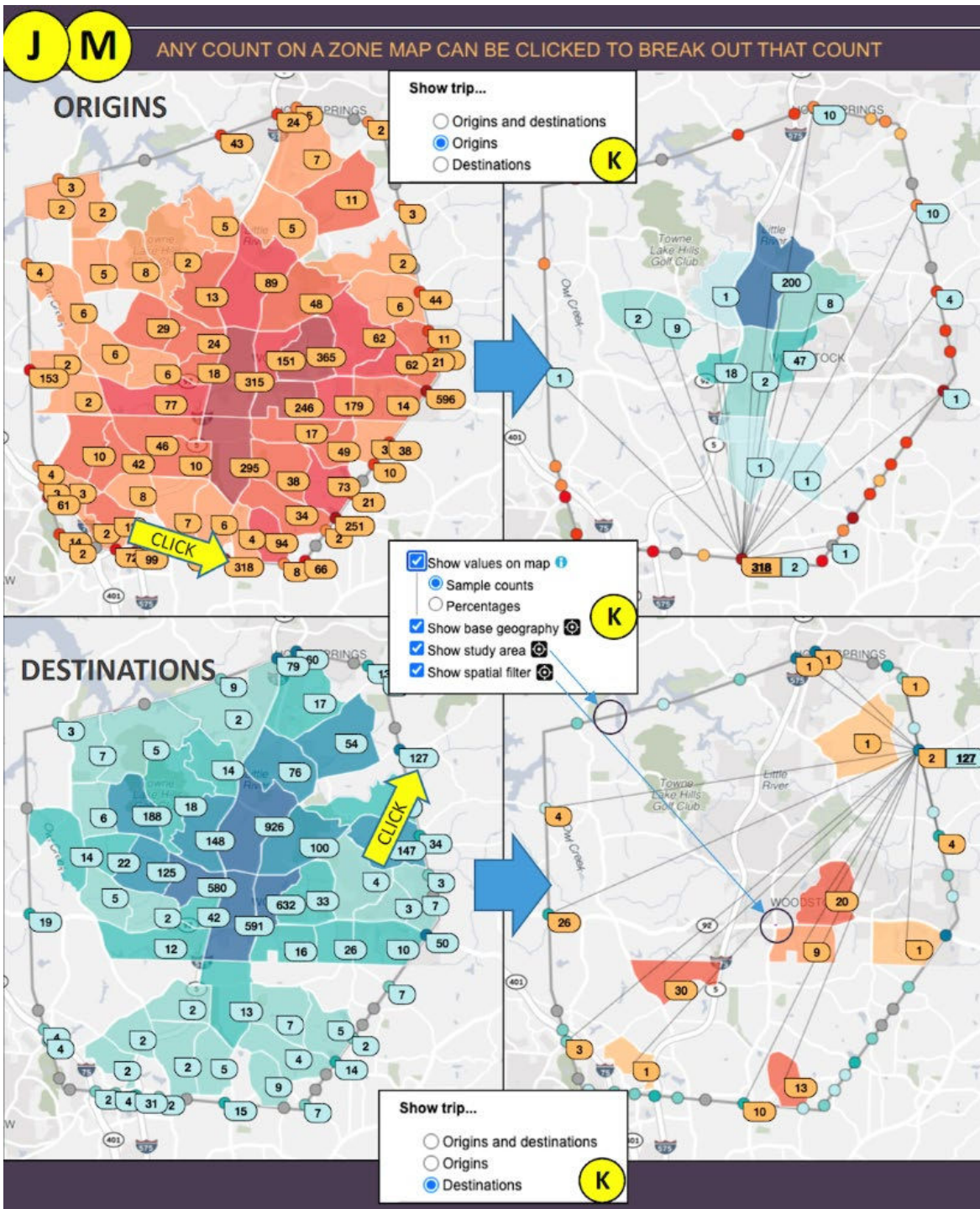


Figure 6: Interactive O-D maps show both origins and destinations of trips within a given study area, date range, and time range. Zone structures can be customized.

The University shall include THEA staff and consultants in all RITIS, Trip Analytics, and Probe Data Analytics User Group meetings which occur on a quarterly basis. The focus of these webinars and/or in-person meetings is to allow for Users to share their experiences (both positive and negative) with their use of the tools, and to provide guidance to developers on needed functionality and/or the prioritization of the building out of new functionality dependent on availability of funds.

Task 4: Integration of RSU speed and travel time data into the RITIS platform's including the Probe Data Analytics Suite add-on, Data Archival, and Planning for Operations Support

THEA has already deployed a number of RSUs and is investing in additional roadside units that collect various data from connected vehicles—including speeds and travel times between RSUs. There is a desire to build capabilities to archive and visualize the RSU travel time data within the PDA Suite in RITIS. While the final amount of RSUs, the data to be collected, and other details are yet to be determined, this task will focus on the collection of RSU speed and travel time data between RSU pairs and integrating these speed data into the Probe Data Analytics suite where it makes sense.

The RITIS platform's Probe Data Analytics Suite add-on, allows agencies to support real-time operations, undertake planning activities, perform analysis and research activities, develop performance measurement reports, and respond to Federal PM3 reporting requirements. In Florida, the Probe Data Analytics Suite leverages 3rd party probe data from HERE Technologies fused with other agency event, incident, and weather data in a true "big data" analytics platform. RITIS consists of a collection of data visualization and retrieval tools. These web-based tools allow users to maintain situational awareness, coordinate with operations and planning partners, download reports, visualize data on maps or in other interactive graphics, and download raw data for off-line analysis.

Intended uses of the RITIS with the probe data analytics suite include:

- Responding to MAP-21 reporting requirements
- Developing system performance reports
- Identifying problems
- Prioritizing projects
- Performing After Action Incident Review
- Conducting Before & After Studies
- Making informed, real-time operations decisions
- Travel time and reliability analysis
- Work zone monitoring
- Developing and publishing press releases for public and media consumption
- Measuring the economic and environmental impacts of passenger and commercial vehicle user delay
- Maintaining situational awareness
- Coordinating operations among agencies
- Sharing information across borders

Because of the existing funding relationship with FDOT, the CATT Lab will continue to provide access to (and agency data integration and archival support for) the RITIS Platform which is the backbone of the Probe Data Analytics Suite, Work Zone Performance Monitoring, and other advanced analytics and collaboration tools. RITIS will archive agency incident/event data from SunGuide feeds, integrate agency sensor and ITS device data, and provide access to relevant coordination, situational awareness tools, after-action review tools, interactive maps, incident timelines, ATMS query tools, CCTV viewers, the TrafficView website and API, RITIS meeting, RITIS Chat, and other relevant RITIS tools (assuming the required data is provided by FDOT or THEA). Access shall be given to THEA and any additional users that THEA deems a partner in operations, planning, and/or other DOT functions. Examples could include MPOs, contractors, and/or Universities so long as they abide by the terms of the 3rd party data providers acceptable use policies.

The CATT Lab will continue to archive real-time TMC-based vehicle probe data purchased by FDOT from HERE Technologies and provide access to this archive through the Probe Data Analytics Suite (sometimes referred to as the PDA Suite,).

Tools made available through the Probe Data Analytics Modules include:

- a. The Region Explorer
- b. Massive Data Downloader
- c. Congestion Scan
- d. Corridor Speed Bins
- e. Corridor Time Comparison
- f. Causes of Congestion Graphs (if THEA and FDOT provides TMC-based volume profiles for all TMC segments)
- g. Animated Trend Map
- h. Performance Charts (which includes these performance measures):
 - i. Speed
 - ii. Historic Average Speed
 - iii. Comparative Speed
 - iv. Congestion %
 - v. Historic Average Congestion %
 - vi. Buffer Time (minutes)
 - vii. Buffer Index
 - viii. Planning Time (minutes)
 - ix. Planning Time Index
 - x. Travel Time (minutes)
 - xi. Travel Time Index
- i. Performance Summaries
- j. Bottleneck Ranking for TMC segments
- k. User Delay Cost Analysis (if THEA or FDOT provides volume profiles for each TMC segment)
- l. Temporal Comparison Map
- m. Two arterial performance measures modules (if XD data is integrated):
 1. Travel Time Comparisons Module (CDF Plots)
 2. Travel Time Delta Ranking: (normalization and comparison of multiple arterials and how performance is changing over time)
- n. Dashboards that cover the following:
 - i. Real-time dashboards display:
 - A. Current top X bottleneck locations
 - B. Current speeds & travel times (compared to historic) for user-defined corridors
 - ii. Historic performance dashboards that show comparative information on:
 - A. User Delay – based on posted speed instead of free-flow speed
 - B. Reliability – based on posted speed instead of free-flow speed
 - C. MAP-21 PM3 metrics
 - D. Top X bottlenecks
- o. NPMRDS MAP-21 Federal Reporting Modules
- p. Historic Probe Data API:
(ability to programmatically run TMC-based historic queries related to the above-mentioned functionality. This allows agencies to build their own internal applications based off of historical data and performance measures).
- q. My History
(shows individual user's past queries, and makes it easier to re-run/access past queries)

The CATT Lab will also archive other RSU data beyond speeds and travel times, for future integration into other tools or dashboards that have yet to be envisioned.

Project Contacts

UMD RITIS Contact
Michael Pack, Director, CATT Laboratory
240.676.4060, PackML@umd.edu

UMD Business Contact
Lisa Baldwin, Business Manager, CATT Laboratory
207.416.3670, LBaldwil@umd.edu

Schedule and Budget

This project is expected to last 13 months (one month for startup) with an estimated cost of \$326k. The budget includes:

Item	Cost
RSU integration into PDA Suite (one time cost)	\$ 50,000
2024 Trip Data + Trips Analytics Access & O&M	\$276,000
Total =	\$326,000

Additional years of data beyond 2024 would continue to cost \$276k (for both data and the cost of access to the Trip Analytics tool). Tool customization or other enhancements would be an additional cost. Backfill data from prior years may also be purchased and loaded into the system at an additional cost.

IV.B.1. East Selmon ITS Improvements Assistance

HNT-00810-XXX

East Selmon ITS Progressive Design-Build Project Engineering Assistance (11/1/23- 6/30/24)

Scope Of Services

Purpose & Need

With their small in-house staff, THEA requires support to provide engineering and management support to meet the requirements of THEA to provide engineering, RFP, advertisement, procurement, overall project management support, coordination with other project stakeholders, meeting attendanc, supervision and QA/QC support for the East Selmon ITS Progressive Design-Build project. The project will provide camera coverage, a fiber backbone of 2-72 strand on each side other ITS devices covering all THEA facilities from the 21st/22nd St. Interchange east to Lumsden Ave. in Brandon.

Scope

Services to be performed include:

1. Provide Engineering Assistance (Roadway, Structures, Drainage, Traffic, Permitting, Environmental, Geotech, Traffic, ITS and other) to the THEA staff as required for the East Selmon ITS Progressive Design Build Project.
2. Provide RFP Assistance to the THEA staff as required for the East Selmon ITS Progressive Design Build Project, including Industry Forum review.
3. Provide Advertisement Assistance to the THEA staff as required for the East Selmon ITS Progressive Design Build Project, including Industry Forum.
4. Provide Procurement Assistance to the THEA staff as required for the East Selmon ITS Progressive Design Build Project.
5. Assist THEA staff in coordination with FDOT, COT, utilities, CSX and others for the East Selmon ITS Progressive Design Build Project.
6. Provide PM and Design Review Assistance to the THEA staff as required for the East Selmon ITS Progressive Design Build Project.
7. Provide Construction Support to the THEA staff as required for the East Selmon ITS Progressive Design Build Project.
8. Assist THEA attending and holding meetings for the South Selmon Capacity Project.
9. Providing Supervision and QA/QC services for the South Selmon Capacity Project.

Subconsultants- Tierra (SBE), Geotechnical Support (\$15,000)
Element (SBE), Utilities & Survey Support (15,000)

SBE Participation- 7.80%

Services from 11/1/2023 - 6/30/2024.

SUMMARY FEE SHEET

ATTACHMENT "A"

PROJECT DESCRIPTION: Tampa-Hillsborough Expressway Authority
 GEC CONTRACT NO. O-00121
 HI-0112 C-XX
 PRIME CONSULTANT: HNTB Corporation

HNTB PR 2024XXXX
 East Selmon ITS Progressive Design-Build Project Engineering Assistance (11/1/23- 6/30/24)

ACTIVITY	Senior Technical Advisor		Project Manager		Chief Eng./Planner Sr. Proj. Eng.		Sr. Eng./Planner/ Specialist		Proj. Engineer/ Planner		Engineer/Planner		Sr. Technician		Clerical		TOTAL		Avg. Hourly Rate	
	Man Hours	Hourly Rate \$ 168.32	Man Hours	Hourly Rate \$ 144.54	Man Hours	Hourly Rate \$ 102.19	Man Hours	Hourly Rate \$ 79.95	Man Hours	Hourly Rate \$ 61.62	Man Hours	Hourly Rate \$ 48.21	Man Hours	Hourly Rate \$ 38.96	Man Hours	Hourly Rate \$ 22.66	Manhours By Activity	Salary Cost By Activity		
Engineering Assistance	8	\$1,346.56	16	\$2,312.64	16	\$1,635.04	40	\$3,198.00	40	\$2,464.80	40	\$1,928.40	24	\$935.04	8	\$181.28	192	\$14,001.76	\$72.93	
Scope Preparation	8	\$1,346.56	24	\$3,468.96	24	\$2,452.56	24	\$1,918.80	24	\$1,478.88	24	\$0.00	24	\$0.00	8	\$181.28	112	\$10,847.04	\$96.85	
Advertisement Assistance	4	\$673.28	8	\$1,156.32	8	\$817.52	8	\$639.60	8	\$492.96	24	\$1,157.04	24	\$935.04	4	\$90.64	88	\$5,962.40	\$67.75	
Procurement Assistance	4	\$673.28	16	\$2,312.64	16	\$1,635.04	16	\$1,279.20	8	\$492.96	8	\$385.68	8	\$0.00	4	\$90.64	72	\$6,869.44	\$95.41	
Coordination w/FDOT/COT/Utilities/CSX/others	16	\$2,693.12	40	\$5,781.60	40	\$4,087.60	40	\$3,198.00	24	\$1,478.88	24	\$1,157.04	24	\$935.04	8	\$181.28	216	\$19,512.56	\$90.34	
PM & Design Reviews	16	\$2,693.12	72	\$10,406.88	80	\$8,175.20	80	\$6,396.00	64	\$3,943.68	40	\$1,928.40	40	\$1,558.40	8	\$181.28	400	\$35,282.96	\$88.21	
Construction Support	8	\$1,346.56	40	\$5,781.60	48	\$4,905.12	48	\$3,837.60	48	\$2,957.76	48	\$0.00	8	\$0.00	8	\$181.28	200	\$19,009.92	\$95.05	
Meetings	16	\$2,693.12	32	\$4,625.28	32	\$3,270.08	24	\$1,918.80	24	\$1,478.88	24	\$1,157.04	24	\$0.00	8	\$181.28	160	\$15,324.48	\$95.78	
Supervision & QA/QC	8	\$1,346.56	24	\$3,468.96	24	\$2,452.56	32	\$2,558.40	24	\$1,478.88		\$0.00		\$0.00	8	\$181.28	120	\$11,486.64	\$95.72	
Total Man Hours	88	\$14,812.16	272	\$39,314.88	288	\$29,430.72	312	\$24,944.40	264	\$16,267.68	160	\$7,713.60	112	\$4,363.52	64	\$1,450.24	1,560	\$138,297.20	\$88.65	
																			Total	
																			Basic Activities Maximum Limiting Fees (Salary Costs)	\$138,297.20
																			Cost Elements & Additives	
																			(a) 2.78 Multiplier	\$384,466.22
																			SUBTOTAL (Cost Elements applied to Basic Activities Fee):	\$384,466.22
																			(d) Direct Reimbursables	\$6,043.59
																			Subconsultants- Tierra (SBE) Geotechnical Analysis	\$15,000.00
																			Subconsultants- Element (SBE) Survey & Utilities	\$15,000.00
																			Total Project Cost:	\$420,509.80
																			Maximum Limiting Amount:	\$420,509.80

IV.B.2. Design Consultant for Headquarters Security Upgrades

Tampa Hillsborough County Expressway Authority
Security Upgrades Building and Exterior Site Improvements
Design and Post Design Support Services
Scope

I. Report Review and Project Recommendations

Review the Threat Assessment provided by Critical Intervention Services and provide recommendations for implementation and design recommendations.

Prepare an initial baseline Schedule and Construction Cost Estimate based on recommendations in the Threat Assessment (TA) prepared by Critical Intervention Services, dated April 4, 2023

II. Plans Development

PROJECT MANAGEMENT

JACOBS will provide Project management for the project. Project Manager will be responsible for coordination with THEA, management of Jacobs staff and Team.

- i. Initial Kickoff Meeting
- ii. Attend Monthly Project Update Meetings (24 Meetings)
- iii. Provide Monthly Invoicing on Project
- iv. Provide Monthly Progress Reports
- v. Attend Board Meetings as necessary for project updates to support client.

PROJECT SCHEDULE AND CONSTRUCTION COST ESTIMATE

JACOBS will provide updated project schedule and construction cost estimates during the preparation of the construction plans and bidding documents, to assist THEA Staff with scheduling and budgeting for the project.

Schedule Updates and Construction Costs Estimates will be completed at the following stage:

- i. Initial Baseline at NTP of Project
- ii. 30% Phase Plans
- iii. 60% Phase Plans
- iv. 90% Phase Plans
- v. 100% Signed and Sealed Plans and Construction Documents

Architectural Site improvements will be based on the following from the Threat Assessment Report:

- Trespass Signage on property, including warehouse under facility.
- Fence and Gate Improvements
- Conference Room Door Improvements and Remounting
- New magnetic-locks and improvements to Conference Room Doors
- Improved wiring to address limitations to existing low voltage wiring for locks and security system.
- Verify Mag-Lock Operations at doors identified in report.
- Improved exit signage in TMC Control Room

- Replacement of Glass conference rooms doors on Third Floor, with solid wood doors, and new mag locks
- Installation of speakers through out facility tied to all-call on VOIP System
- Mass Notification Systems Recommendations
- Panic Alarms tied to system at 3rd Floor Admin Assistant Area
- Assess, recommend, design improved CCTV system to improve coverage.
- Add AED and Medical Kits locations to building.
- Assess, Recommend, and Design if approved – safety improvements to protect front atrium on first floor from possible vehicle impact to area.

EXTERIOR PARKING LIGHTING PLANS

Prepare Lighting Plans and Construction Documents for Lighting Improvements to Existing Parking Lot.

- b. Complete Exterior Site Assessment
- c. Prepare Photometric Calculations
- d. Prepare Voltage Drop Calculations (Estimated 4 Circuits)
- e. Prepare Panelboard Loading Calculations (Estimate 2 Load Centers)
- f. Lighting plans Will Include:
 - i. Legend and General Notes Sheets
 - ii. Site plan
 - iii. Exterior Building Plans
 - iv. Light Fixture Schedule
 - v. Panelboard Schedule
 - vi. Elevation Details
 - vii. Lighting Control Details or Matrix
 - viii. Specification
- g. Submittals will include 30%, 60%, 90% and 100% Signed and Sealed Contract Documents for Bidding
- h. Post Design Support Services
 - i. Not included in current Scope

OFFICE FACILITY AND SITE IMPROVEMENTS PLANS

Jacobs will complete detailed walk through and site assessment of Facility with THEA Staff to discuss all recommendations for project improvements, based on review and recommendations of the Threat Assessment.

Project will include the following project meetings:

1. One Kick Off Meeting
 2. Monthly Project Meetings (Est. 12 Meetings) to review status and project updates.
 3. Three Permit Application Meetings with agencies – if needed.
- a. 30% Plans Development
 - i. Site plan improvements
 1. Exterior Fence and Gate Improvements

- ii. Architectural Building Improvements
 - 1. Plans will include items identified in the Threat Assessment Document, excluding the Exterior Board Room Door Recommendation.
 - 2. Plans will be prepared a in method to allow for Phased Implementation.
 - iii. Preliminary Permit applications
 - b. 60% Plans Development
 - i. Site plan improvements
 - ii. Architectural Building Improvements
 - iii. Update Construction Cost Estimates and Schedule
 - iv. Initial Permit applications
 - c. 90% Plans Development
 - i. Site plan improvements
 - ii. Architectural Building Improvements
 - iii. Update Construction Cost Estimates and Schedule
 - iv. Final Permit applications
 - d. 100% Plans Final Signed and Sealed Construction Documents
 - i. Site plan improvements
 - ii. Architectural Building Improvements
 - iii. Update Construction Cost Estimates and Schedule
 - iv. Approved Permit for Bidding of Contract
 - e. Bidding Support
 - i. Pre-Bid Meeting
 - ii. Bid Review Support
 - f. Post Design Support Services
 - i. Not Included in this Scope

III. Client Provided Information

THEA will provide any existing as-builts for the building and parking lot.

THEA will cover costs for Permit Applications

Tampa Hillsborough Expressway Authority
 TWO 002 - Security Upgrade Building Improvements - Plans Development - Post Design
 JACOBS Engineering Group, Inc.
 Anticipated 24 Month Schedule for Design and Construction

Task Description	Estimates
Project Management (Estimated 24 Months)	\$41,896.33
Threats Assessment Review and Recommendations	\$8,200.00
Construction Cost Estimate (Through Award)	\$18,232.00
Design and Construction Project Schedules (Monthly Updates) (Through Award)	\$19,952.00
Exterior Site Lighting Plans Contract Documents	\$68,637.50
Building Improvement Plans & Contract Documents, and Permitting	\$171,915.00
Total	\$ 328,832.83

ESTIMATE OF WORK EFFORT AND COST - PRIME CONSULTANT

Name of Project: Building and Exterior Lighting Improvements
 County: Hillsborough
 THEA Contract Number: O-00121-C
 TWO No: 002

Consultant Name: Jacobs Engineering Group
 Consultant No.:
 Date: 9/21/2023
 Estimator: **Nathan West**

Staff Classification	Total Staff Hours From "SH Summary -	Chief Engineer - NLW	Sr. Estimator	Sr. Security Engineer	Arch Project Manager	Sr. Architect	Architect	Electrical Engineer	Engineer	Secretarial/Clerical	Staff Classification 10	Staff Classification 11	Staff Classification 12	SH By Activity	Salary Cost By Activity	Average Rate Per Task
Project Management	133	133	0	0	0	0	0	0	0	0	0	0	0	133	\$41,896	\$315.01
Construction Cost Estimates	106	0	106	0	0	0	0	0	0	0	0	0	0	106	\$18,232	\$172.00
Design and Project Schedule Updates	116	0	116	0	0	0	0	0	0	0	0	0	0	116	\$19,952	\$172.00
Security Upgrade Review Recommendation	40	0	0	40	0	0	0	0	0	0	0	0	0	40	\$8,200	\$205.00
31. Architecture Development	937	0	0	0	94	187	187	281	141	47	0	0	0	937	\$171,915	\$183.47
Total Staff Hours	1,332	133	222	40	94	187	187	281	141	47	0	0	0	1,332		
Total Staff Cost		\$41,896.33	\$38,184.00	\$8,200.00	\$21,150.00	\$38,335.00	\$34,595.00	\$51,985.00	\$22,560.00	\$3,290.00	\$0.00	\$0.00	\$0.00		\$260,195.33	\$195.34

Check = \$260,195.33

4 - Person Crew: _____

Notes:

- This sheet to be used by Prime Consultant to calculate the Grand Total fee.
- Manually enter fee from each subconsultant. Unused subconsultant rows may be hidden.

SALARY RELATED COSTS:					\$260,195.33
OVERHEAD:		0%			\$0.00
OPERATING MARGIN:		0%			\$0.00
FCCM (Facilities Capital Cost Money):		0.00%			\$0.00
EXPENSES:		0.00%			\$0.00
Survey (Field - if by Prime)	0	4-person crew days @	\$ - / day		\$0.00
SUBTOTAL ESTIMATED FEE:					\$260,195.33
Lighting Estimate					\$68,637.50
Subconsultant: Sub 2					\$0.00
Subconsultant: Sub 3					\$0.00
Subconsultant: Sub 4					\$0.00
Subconsultant: Sub 5					\$0.00
Subconsultant: Sub 6					\$0.00
Subconsultant: Sub 7					\$0.00
Subconsultant: Sub 8					\$0.00
Subconsultant: Sub 9					\$0.00
Subconsultant: Sub 10					\$0.00
Subconsultant: Sub 11					\$0.00
Subconsultant: Sub 12					\$0.00
SUBTOTAL ESTIMATED FEE:					\$328,832.83
Optional Services					\$0.00
GRAND TOTAL ESTIMATED FEE:					\$328,832.83

Project Activity 3: General Tasks

Estimator: Nathan West					Building and Exterior Lighting Improvements TWO 001 (Contract No.O-00121-C)	
Representing		Print Name			Signature / Date	
Tampa - Hillsborough County Expressway Authority						
Jacobs Engineering Group, Inc.		Nathan L. West				
<i>NOTE: Signature Block is optional, per District preference</i>						
Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
3.1	Project Management	LS	24	4	96	General Project Management (4 Hours Per Month * 24 Months)
3.1.1	Construction Cost Estimates	LS	1	106	106	40 Hours Intial Estimate + (16 Hours per submittal * 4 Submittals) = 106 Hours
3.1.2	Design and Project Schedule Updates	LS	1	116	116	60 Hours Set Baseline Schedule (Design & Construction) + (2 hours each month update * 12) + 32 Hours Final Construction Schedule Post Award = 186 Hours
3.1.3	Threat Assessment Review Recommendation	LS	1	40	40	60 Hours Review of Threat Assessment and Preparation of Recommendation Memo
3.1 Public Involvement Subtotal					262	
3.6	Prime Consultant Meetings	LS	1	37	37	See listing below

Project Activity 3: General Tasks

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
3. Project Common and Project General Tasks Total					299	
3.6 - List of Meetings						
		Units	No of Units	Hours/ Unit	Total Hours	Comments
	Monthly Meetings	EA	24	1	24	24 Months * 1 Meeting per Month * 0.5 Hours per meeting
	Kick Off Meeting	EA	1	4	4	1 Kick Off Meeting * 4 Hours
	Attend Permitting Meetings	EA	1	3	3	3 Potential Permitting Meetings * 1 Hour
	Attend Board Meetings (as Needed)	EA	6	1	6	6 Board Meetings * 1 Hour
	Total Project Manager Meetings		32		37	Total Meeting Hours carries to Task 3.6 above

31. Architecture Development

Estimator: Nathan West

Building and Exterior Lighting Improvements
TWO 002 (Contract No.O-00121-C)

Representing	Print Name	Signature / Date
THEA		
Jacobs Engineering Group Inc.	Nathan West	

NOTE: Signature Block is optional, per District preference

Task No.	Task	Scale	Units	No of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
Architectural Plans								
31.1	Architectural Program Review/Verification		Text Pages	1	30	1	30	
31.2	Key Sheet and Index of Sheets		Sheet	1	15	1	15	
31.3	General Notes, Abbreviations, Symbols, and Legend		Sheet	2	30	2	60	
31.4	Life Safety Plans		Sheet	1	30	1	30	
31.5	Site Plans		Sheet	1	0	1	0	
31.6	Floor Plans (Small Scale)		Sheet	0	0	0	0	
31.7	Floor Plans (Large Scale)		Sheet	0	0	0	0	
31.8	Exterior Elevations		Sheet	0	0	0	0	
31.9	Roof Plans		Sheet	0	0	0	0	
31.10	Roof Details		Sheet	0	0	0	0	
31.11	Interior Elevations		Sheet	0	15	0	0	
31.12	Rest Room Plans (Enlarged)		Sheet	0	0	0	0	
31.13	Rest Room Elevations		Sheet	0	0	0	0	
31.14	Building Sections		Sheet	0	0	0	0	
31.15	Stair Section, Enlarged Stair Plan and Details		Sheet	0	0	0	0	
31.16	Reflective Ceiling Plans		Sheet	0	0	0	0	
31.17	Room Finish Schedule or Finish Plan		Sheet	0	0	0	0	
31.18	Door and Window Schedule		Sheet	1	30	1	30	
31.19	Door Jamb Details and Window Details		Sheet	1	30	1	30	
31.20	Exterior Wall Sections		Sheet	0	0	0	0	
31.21	Interior Wall Sections		Sheet	0	0	0	0	
31.22	Overhead Door Details		Sheet	0	0	0	0	
31.23	Curtain Wall Details		Sheet	0	0	0	0	

31. Architecture Development

Task No.	Task	Scale	Units	No of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
31.24	Fascia, Soffit and Parapet Details		Sheet	0	0	0	0	
31.25	Signage Details		Sheet	0	0	0	0	
31.26	Miscellaneous Details		Sheet	3	30	3	90	
31.27	Repetitive Sheets		Sheet	0	0	0	0	
31.28	Design Narrative Reports		LS	0	0		0	
31.29	Permitting		LS	1	64		64	
31.30	Other Pertinent Project Documentation		LS	1	30		30	
31.31	Cost Estimate		LS	0	0		0	
31.32	Technical Special Provisions and Modified Special Provisions Packages		LS	1	30		30	
Architectural Plans Technical Subtotal						11	409	
31.33	Field Reviews		LS	1	24		24	Approximately 6 Field Reviews during Design * 4 Hours) = 24 Hour
31.34	Technical Meetings							See listing below
31.34.1	FDOT		EA	0	0		0	
31.34.2	Local Governments (cities)		EA	2	6		12	2 Meetings with Local City Permitting including prep Time * 6 Hours = 12 Hours
31.34.3	Local Governments (counties)		EA	2	6		12	2 Meetings with Local County Permitting including prep Time * 6 Hours = 12 Hours
31.34.4	Other Meetings		EA	0	0		0	
31.34.5	Progress Meetings		EA	24	1		24	24 Month Schedule * 1 Hour for meeting each month = 24 Hours
31.34.6	Phase Review Meetings		EA	4	2		8	Meetings with THEA and County Reviews 4 Meetings * 2 Hours = 16 Hours
31.34.7	Subtotal Technical Meetings						56	
31.35	Quality Assurance/Quality Control		LS	%	10%		41	
31.36	Independent Peer Review		LS	%	5%		20	
31.37	Supervision		LS	%	5%		20	
Architectural Plans Total						11	570	
Electrical Plans								
31.115	General Notes, Abbreviations, Symbols, Legend, and Code Issues		Sheet	1	10	1	10	
31.116	Electrical Site Plan		Sheet	1	10	1	10	
31.117	Lighting Plans		Sheet	0	0	0	0	
31.118	Lighting Fixtures Schedules		Sheet	0	0	0	0	
31.119	Lighting Fixtures Details		Sheet	0	0	0	0	
31.120	Lightning Protection Plans		Sheet	0	0	0	0	

31. Architecture Development

Task No.	Task	Scale	Units	No of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
31.121	Lightning Protection Details		Sheet	0	0	0	0	
31.122	Power Plans		Sheet	0	0	0	0	
31.123	Power Distribution Riser Diagrams		Sheet	1	16	1	16	
31.124	Panel Board Schedules		Sheet	1	16	1	16	
31.125	Data Plans		Sheet	0	0	0	0	
31.126	Data Details		Sheet	0	0	0	0	
31.127	Communication Plans		Sheet	1	30	1	30	
31.128	Communication Details		Sheet	1	30	1	30	
31.129	Security Alarm System Plans		Sheet	1	30	1	30	
31.130	Miscellaneous Details		Sheet	1	30	1	30	
31.131	Repetitive Sheets		LS	1	0		0	
31.132	Energy Analysis		LS	1	0		0	
31.133	Other Pertinent Project Documentation		LS	1	30		30	
31.134	Cost Estimate		LS	1	0		0	
31.135	Technical Special Provisions and Modified Special Provisions Packages		LS	1	30		30	
Electrical Plans Technical Subtotal						8	232	
31.136	Field Reviews		LS	1	16		16	Approximately 4 Field Reviews during Design * 4 Hours) = 16 Hour
31.137	Technical Meetings							See listing below
31.137.1	FDOT		EA	0	0		0	
31.137.2	Local Governments (cities)		EA	2	8		16	2 Meetings with Local City Permitting including prep Time * 8 Hours = 16 Hours
31.137.3	Local Governments (counties)		EA	2	8		16	2 Meetings with Local County Permitting including prep Time * 8 Hours = 16 Hours
31.137.4	Other Meetings		EA	0	0		0	
31.137.5	Progress Meetings		EA	24	1		24	24 Month Schedule * 1 Hour for meeting each month = 24 Hours
31.137.6	Phase Review Meetings		EA	4	4		16	Meetings with THEA and County Reviews 4 Meetings * 4 Hours = 16 Hours
31.137.7	Subtotal Technical Meetings						72	
31.138	Quality Assurance/Quality Control		LS	%	10%		23	
31.139	Independent Peer Review		LS	%	5%		12	
31.140	Supervision		LS	%	5%		12	
Electrical Plans Total						8	367	
Architecture Development Subtotal						19	937	

31. Architecture Development

Task No.	Task	Scale	Units	No of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
31.141	Post Design Support		LS	1	0		0	General Coordination and Post Design Project Managemen = 12 Months * 8 Hours = 96 Hours
31.141.1	RFI Support		LS	1	0		0	25 RFI Request Reviews & 3 Hours = 75 Hours
31.141.2	Shop Drawing Support		LS	1	0		0	25 Shop Drawing Reviews & 3 Hours = 75 Hours
31.141.3	Site Visits with Contractor		LS	1	0		0	One Visit per month (12 Months * 6 hours) = 72 Hours
31.142	Project Closeout/As Builts		LS	1	0		0	Complete Walkthrough and Final Closeout with Contractor - Prepare Final As-Builts
31.143	Building Information Modeling (BIM)		Project	--	--	--	--	Using AutoCad Revit or a similar program for the production of construction documents does not cost the Client/Owner any additional design fee. However, the proportion of the fee is more front loaded because of the design process. The creation of the 3D model is part of the design and must be converted into 2D to print the construction documents. The additional use of the Virtual 3D model can provide additional advantages and services, but at an additional cost. Another very useful feature is the user's ability to visualize the spaces in 3D early on as part of the approval process.
31. Architecture Development Total						19	937	

Total Technical Meetings (sum of meetings above)									Comments	PM Attendance at Meeting Required?	Number	
Meeting	Hours						Total Meetings	Total Hours				
	Architectural Plans	Structural Plans	Mechanical Plans	Plumbing Plans	Fire Protection Plans	Electrical Plans						
FDOT	0	0	0	0	0	0	0	0			0	
Local Governments (cities)	12	0	0	0	0	16	4	28			0	
Local Governments (counties)	12	0	0	0	0	16	4	28			0	
Other Meetings	0	0	0	0	0	0	0	0			0	
Subtotal Technical Meetings							8	56			Subtotal Project Manager Meetings	0
Progress Meetings (if required by FDOT)	24	0	0	0	0	24	48	48		**	--	
Phase Review Meetings	8	0	0	0	0	16	8	24		**	--	
Total All Meetings							64	128			Total PM Meetings (carries to Tab 3)	0

** Project Manager attendance at progress, phase and field review meetings are manually entered on General Task 3

Carries to Tab 3

IV.B.3. GEC Assistance in Evaluating Retaining Wall Capacity

TASK TITLE: South Selmon Wall Inspection Project

Scope Of Services

Purpose & Need

The existing wall along the South Selmon adjacent to the roadway requires an inspection in order to evaluate the usefulness and possibility to reuse the wall as part of the South Selmon Capacity Project.

Scope

B&N will utilize visual and non-destructive means to inspect and delineate defects along the wall through beginning at West Platt St. and terminating at South Himes Ave. There is approximately 3.1 miles of wall total on both the East and West side of the existing Selmon Expressway.

The inspection will take place from the ground utilizing ladders and or man lifts to access areas for inspection. The deliverable will include a memorandum report documenting the general conditions and include a table with approximate distances from cross street will be provided. Photographs of typical deterioration will be provided, and defects that are considered to be severe (CS4) will be documented and immediately notify THEA.

Should survey or an increase level of documentation be required, THEA will need to provide physical markings along the wall face in order to be included in the documents.

South Selmon Expressway
Scope
for Existing Retaining Wall Investigation

Purpose & Need

With their small in-house staff, THEA requires support to provide engineering and management support to meet the requirements of THEA to provide engineering investigation and analysis of the existing retaining walls structural adequacy for potential improvements for the South Selmon Capacity Project. The project will provide additional capacity and upgrades to the existing facility.

Scope/Report

Wall Inspection

- Burgess & Niple has provided an independent inspection scope and estimate.
- See Burgess & Niple attachment.

Geotechnical Investigation/Report

- Tierra has provided an independent geotechnical scope and estimate.
- See Tierra attachment.

Structural Analysis and Report

- Review original Contract Plans
- Perform 9 structural analyses of existing cantilevered wall for 3 representative wall heights in excess of 12 feet for each of the 3 Concepts
- Three concepts to be analyzed:
 - Concept 1: Widen to inside with no need for new outside retaining wall. See following preliminary Figure 1.

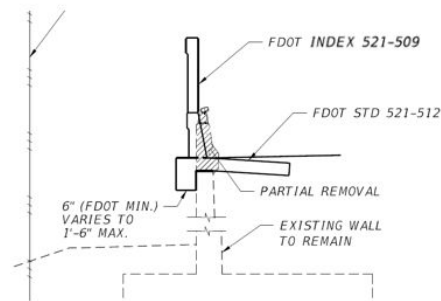


Figure 1 – Concept 1

- Concept 2: Widen to outside with MSE Wall having compacted select fill and connected to the existing cantilevered wall. See following preliminary Figure 2.

South Selmon Expressway
Scope
for Existing Retaining Wall Investigation

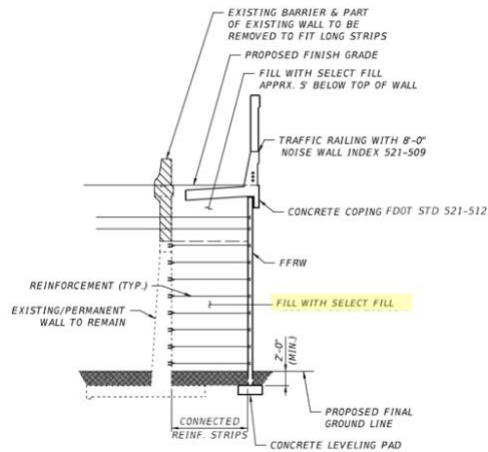


Figure 2 – Concept 2

- Concept 3: Widen to outside with MSE Wall having low-density cellular concrete or flowable fill and connected to the existing cantilevered wall. See following preliminary Figure 3.

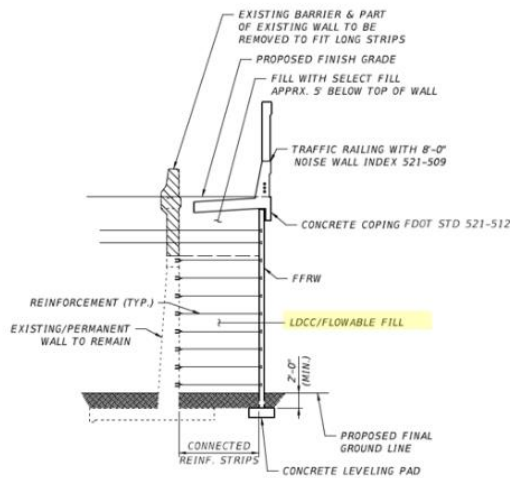


Figure 3 – Concept 3

- Use of FDOT Standard Plans, Index FDOT Index 521-512 (Concrete Barrier/Noise Wall Junction Slab) and Index 521-510 (Concrete Barrier/Noise Wall (8'-0")).
 - Include discussion in report on validity of calculations for case without noise wall.
- Provide draft Structural Analysis Report
- Address comments and provide final Structural Analysis Report

Project Givens:

- Existing original Contract Plans (no As-Builts available)
 - Designed using allowable stress design
 - Concrete material specified in Plans (anticipated strength increase over time):
 - Class II Concrete

South Selmon Expressway
Scope
for Existing Retaining Wall Investigation

- 28-Day Concrete Compressive Strength = 3,400 psi
- Allowable Stress = 1,360 psi
- Reinforcing steel material:
 - ASTM A615-Grade 40 (40 ksi Yield Strength)
 - Allowable Stress = 20 ksi
- Original Project Design Specifications: 1973 Edition of American Association of State Highway Officials (AASHO) Standard Specifications for Highway Bridges
- Project Construction Specifications: 1973 FDOT Standard Specifications for Roads and Bridges
- Three concepts provided by Design-Build firm:
 - Concept 1: Widen to inside with no need for new outside retaining wall. See following preliminary Figure 1.

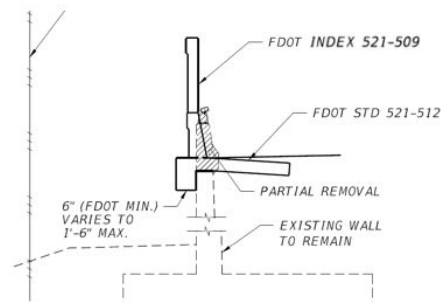


Figure 4 – Concept 1

- Concept 2: Widen to outside with MSE Wall having compacted select fill and connected to the existing cantilevered wall. See following preliminary Figure 2.

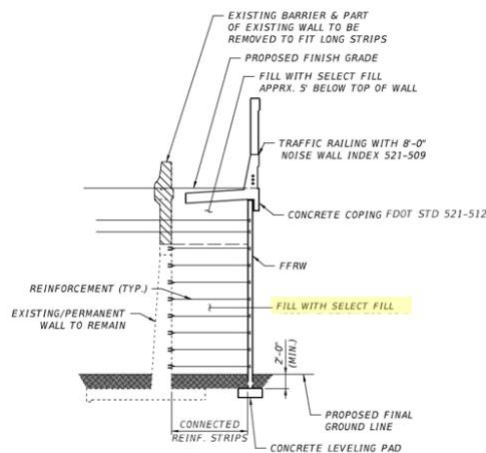


Figure 5 – Concept 2

- Concept 3: Widen to outside with MSE Wall having low-density cellular concrete or flowable fill and connected to the existing cantilevered wall. See following preliminary Figure 3.

South Selmon Expressway
Scope
for Existing Retaining Wall Investigation

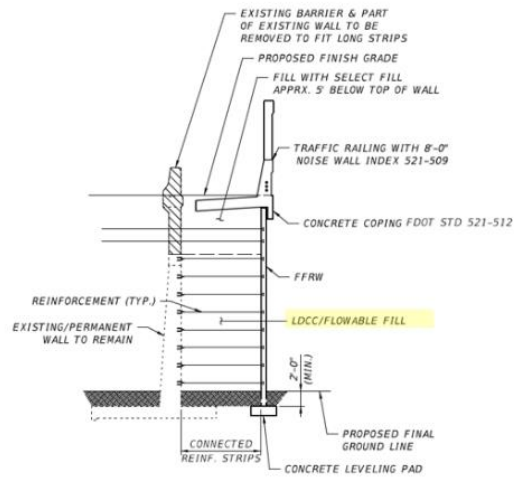


Figure 6 – Concept 3

- Use of FDOT Standard Plans, Index FDOT Index 521-512 (Concrete Barrier/Noise Wall Junction Slab) and Index 521-510 (Concrete Barrier/Noise Wall (8'-0")).
 - Include discussion in report on validity of calculations for case without noise wall.

Additional Items:

- Determining the ultimate retaining wall service life will not be possible.
- This effort will not alleviate the Design-Build firm's full responsibility for final design.
- For Concepts 2 and 3, the existing wall will not be visible for inspection/monitoring.

Subconsultants- Tierra (SBE), Geotechnical Support (\$107,485.76)

Burgess & Niple, Structural Inspection Support (\$35,000.00)

SBE Participation- X.XX%

Services from 11/1/2023 - 6/30/2024.

SUMMARY FEE SHEET

ATTACHMENT "A"

PROJECT DESCRIPTION: Tampa-Hillsborough Expressway Authority

GEC CONTRACT NO. O-00121

HI-0112 C-XX

PRIME CONSULTANT: HNTB Corporation

HNTB PR 2024XXXX

South Selmon Capacity Project Existing Retainig Wall Investigation (11/1/23- 6/30/24)

ACTIVITY	Senior Technical Advisor		Project Manager		Chief Eng./Planner Sr. Proj. Eng.		Sr. Eng./Planner/ Specialist		Proj. Engineer/ Planner		Engineer/Planner		Sr. Technician		Clerical		TOTAL		Avg. Hourly Rate
	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Man Hours	Hourly Rate \$	Manhours By Activity	Salary Cost By Activity	
		168.32		144.54		102.19		79.95		61.62		48.21		38.96		22.66			
Original Documents Review	8	\$1,346.56	12	\$1,734.48	12	\$1,226.28	12	\$959.40	8	\$492.96	8	\$385.68	8	\$311.68	4	\$90.64	72	\$6,547.68	\$90.94
Structural Analysis	8	\$1,346.56	48	\$6,937.92	40	\$4,087.60	40	\$3,198.00	40	\$2,464.80	16	\$771.36	16	\$623.36		\$0.00	208	\$19,429.60	\$93.41
Structural Analysis Report	8	\$1,346.56	20	\$2,890.80	16	\$1,635.04	16	\$1,279.20	8	\$492.96		\$0.00		\$0.00	8	\$181.28	76	\$7,825.84	\$102.97
Meetings	8	\$1,346.56	8	\$1,156.32	8	\$817.52	8	\$639.60	4	\$246.48		\$0.00		\$0.00	8	\$181.28	44	\$4,387.76	\$99.72
Supervision & QA/QC	8	\$1,346.56	12	\$1,734.48	12	\$1,226.28	12	\$959.40	8	\$492.96		\$0.00		\$0.00		\$0.00	52	\$5,759.68	\$110.76
Total Man Hours	40	\$6,732.80	100	\$14,454.00	88	\$8,992.72	88	\$7,035.60	68	\$4,190.16	24	\$1,157.04	24	\$935.04	20	\$453.20	452	\$43,950.56	\$97.24
																			Total
																			Basic Activities Maximum Limiting Fees (Salary Costs)
																			\$43,950.56
Direct Expenses		4.37%		4.37%		\$1,920.64													Cost Elements & Additives
																			(a) 2.78 Multiplier
																			\$122,182.56
																			SUBTOTAL (Cost Elements applied to Basic Activities Fee):
																			\$122,182.56
																			(d) Direct Reimbursables
																			\$1,920.64
																			Subconsultants- Tierra (SBE) Geotechnical Analysis
																			\$107,485.76
																			Subconsultants- Burgess & Niple BMI
																			\$39,443.87
																			Total Project Cost:
																			\$271,032.83
																			Maximum Limiting Amount:
																			\$271,032.83

TIERRA

October 4, 2023

HNTB Corporation
One Tampa City Center
201 North Franklin Street, Suite 1200
Tampa, Florida 33602

Attn: Mr. James E. Drapp, P.E.

**RE: Geotechnical Services Proposal
Tampa Hillsborough Expressway Authority
South Selmon Expressway Improvements
Retaining Wall Evaluation
Hillsborough County, Florida
Tierra Project No. 6511-21-169**

Mr. Drapp:

Tierra, Inc. (Tierra) appreciates the opportunity to submit the attached proposal to provide geotechnical services for the subject project.

This project, as we understand it, consists of performing services that will support an RFP to provide widening along the Selmon Expressway from Himes Avenue to Whiting Street. This proposal has been prepared to provide geotechnical engineering services to evaluate selected retaining walls sections with respect to the proposed widening.

As discussed with the HNTB team on September 28, 2023, our services will consist of reviewing existing data including the original plans for the Selmon Expressway and collecting data at selected wall locations including concrete cores of the wall face for compressive strength testing and soil boring data adjacent to or behind the walls. Tierra will utilize this information to evaluate the existing walls with respect to the following configurations:

1. Global and external stability for the existing walls based on current LRFD design requirements.
2. Global and external stability for existing wall with junction slab, barrier wall and 8-ft noise wall on top.
3. Global and external stability for the proposed widening using MSE walls for the widened section with soil backfill and connecting reinforcements to the existing walls.
4. Global and external stability for the proposed widening using MSE walls for the widened section "with low density cellular concrete (LDCC) or flowable fill" backfill and connecting reinforcements to the existing walls.

5. Estimated total and differential settlement based on the proposed widening using soil backfill or LDCC or flowable fill backfill materials.

As-Built plans information for the original construction of the Selmon Expressway is not available, and therefore the above-mentioned analyses will be performed using the design information / dimensions shown in the original plans.

Geotechnical Scope of Services

This proposal includes the following services:

1. Conduct a visual site reconnaissance of the project site and locate and coordinate utility clearances and maintenance of traffic.
2. As needed, perform up to three (3) test borings in the vicinity of selected retaining wall areas along the Selmon Expressway. We plan to select wall areas representative of (1) a relatively short wall with less than 12 feet exposed above the ground surface, (2) a relatively tall wall with more than 20 feet exposed above the ground surface and (3) a wall section with between 12 and 20 feet exposed above the ground surface.

The borings will be performed to depths ranging from 25 to 50 feet below existing grades. The borings will be sampled continuously in the top 10 feet and on 5-foot centers thereafter.

3. Perform one concrete core within the face of each wall at the locations stated above. The cores will be performed 2 to 4 feet above the ground surface. The cores will not be penetrated completely through the wall face. Prior to coring, Tierra will scan the wall with a 1.6 GHz handy scan to aid in identifying reinforcement steel locations. Perform compressive strength testing of the concrete cores.
4. Maintenance of Traffic (MOT) will be provided in general accordance with Florida Department of Transportation guidelines
5. Visually classify and stratify recovered soil samples in the laboratory using the Unified Soil Classification System (USCS). Perform limited laboratory tests on selected representative samples.
6. Measure observed groundwater levels at each boring location.
7. Perform engineering analyses to evaluate the existing walls with respect to the following:

- Global and external stability for the existing walls based on current LRFD design requirements.
 - Global and external stability for existing wall with junction slab, barrier wall and 8-ft noise wall on top.
 - Global and external stability for the proposed widening using MSE walls for the widened section with soil backfill and connecting reinforcements to the existing walls.
 - Global and external stability for the proposed widening using MSE walls for the widened section “with low density cellular concrete (LDCC) or flowable fill” backfill and connecting reinforcements to the existing walls.
 - Estimated total and differential settlement based on the proposed widening using soil backfill or LDCC or flowable fill backfill materials.
8. Prepare a formal geotechnical report, which summarizes the course of study pursued, the field and laboratory data generated, and the subsurface conditions encountered along with our conclusions and recommendations/considerations with respect to the above wall configuration / use.

Exclusions:

- Because the existing walls have been in service for on the order of 50 years, conclusions from the geotechnical evaluation on the wall stability will not be able to used to determine the design life of the walls.
- Analysis will be based on dimensions provided in the available plans for the project. As we understand it, as-built conditions are not available and therefore the analyses and conclusions would not necessarily be accurate if as-built conditions are different than the project plans.
- Final design of the wall systems will need to be completed by the Design Build firms with calculations / details of their design. These designs will need to be signed / sealed based on the Design Build team design efforts. Final design will need to provide measures to accommodate drainage of the wall systems.
- The above scope includes the evaluation of the walls at three separate wall locations. The evaluation proposed above is not intended to provide an indication of wall global and external stability under the proposed configurations for the entire project limits. Differing wall dimensions,

subsurface conditions or material properties may be present along the project that would yield different conclusions.

- The above scope does not include an inspection of the walls. Tierra recommends that a wall inspection be completed prior to final evaluation of the walls.

Service Fee

Tierra's estimated budget for the geotechnical services is \$107,485.76 as detailed on the attached Unit Fee Schedule.

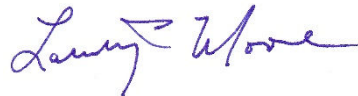
Tierra, Inc. appreciates the opportunity to provide our services to HNTB and the Tampa Hillsborough Expressway Authority on this project. Please do not hesitate to contact our office should you have any questions or desire additional information.

Sincerely,

TIERRA, INC.



Kevin H. Scott, P.E.
Senior Geotechnical Engineer



Larry P. Moore, P.E.
Principal Geotechnical Engineer



Kevin W. Lo, P.E.
Chief Geotechnical Engineer

Attachment A – Geotechnical Budget

Item Description	Unit	Unit Price	Quantity	Total
101-Aggregate Carbonates & Organic Matter FM 5-514	Test	\$ 100.00		\$ -
102-Aggregate Org. Impurities S& for Concrete AASHTO T21	Test	\$ 45.00		\$ -
103-Aggregate Shell Content of Coarse Aggregate FM 5-555	Test	\$ 85.00		\$ -
104-Aggregate Sieve Anlsys of Fine & Coarse AASHTO T27	Test	\$ 60.00		\$ -
105-Aggregate Soundness AASHTO T104	Test	\$ 300.00		\$ -
106-Aggregate Specific Gravity/Absorption Coarse AASHTO T85	Test	\$ 88.00		\$ -
107-Aggregate Total Moisture Content by Drying AASHTO T255	Test	\$ 35.00		\$ -
108-Aggregate Unit Mass & Voids AASHTO T19	Test	\$ 55.00		\$ -
109-Aggregate Specific Gravity/Absorption Fine AASHTO T84	Test	\$ 95.00		\$ -
200-Asphalt Bulk Specific Gravity FM 1-T166	Test	\$ 50.00		\$ -
201-Asphalt Content FM 5-563	Test	\$ 145.00		\$ -
204-Asphalt Gradation FM 1-T030	Test	\$ 75.00		\$ -
206-Asphalt Los Angeles (LA) Abrasion Coarse Agg FM 3-C535	Test	\$ 325.00		\$ -
207-Asphalt Los Angeles (LA) Abrasion Small Agg FM 1-T096	Test	\$ 297.00		\$ -
209-Asphalt Pavement Coring – 4" dia with Base Depth Check	Each	\$ 250.00		\$ -
210-Asphalt Pavement Coring – 4" dia without Base Depth Check	Each	\$ 200.00		\$ -
211-Asphalt Pavement Coring – 6" dia with Base Depth Check	Each	\$ 275.00		\$ -
212-Asphalt Pavement Coring – 6" dia without Base Depth Check	Each	\$ 225.00		\$ -
300-Concrete Beam Flexural Testing ASTM C78	Test	\$ 55.00		\$ -
301-Concrete Compressive Strength of Grout\Mortar ASTM C109	Test	\$ 28.00		\$ -
302-Concrete Cylinder Curing, Capping & Breaking ASTM C39	Test	\$ 35.00		\$ -
303-Concrete Drilled Cores & Sawed Beams ASTM C42	Test	\$ 50.00	3	\$ 150.00
305-Concrete Pavement Coring - 4" Dia	Each	\$ 200.00	3	\$ 600.00
306-Concrete Pavement Coring - 6" Dia	Each	\$ 225.00		\$ -
401-Geo Auger Borings- Hand & Truck/Mud Bug	LF	\$ 10.80		\$ -
402-Geo Auger Borings- Track	LF	\$ 13.75		\$ -
403-Geo Backhoe (Owned)	Day	\$ 600.00		\$ -
405-Geo Barge (Owned)	Day	\$ 2,650.00		\$ -
407-Geo Chainsaw (Owned)	Day	\$ 55.00		\$ -
415-Geo Double Ring Infiltration ASTM D3385	Each	\$ 525.00		\$ -
416-Geo Dozer (Owned)	Day	\$ 800.00		\$ -
418-Geo Drill Crew Support Vehicle	Day	\$ 200.00	4	\$ 800.00
422-Geo Extra SPT Samples-Barge/Track/Amphibious 000-050 Ft	Each	\$ 71.00		\$ -
423-Geo Extra SPT Samples-Barge/Track/Amphibious 050-100 Ft	Each	\$ 71.00		\$ -
424-Geo Extra SPT Samples-Barge/Track/Amphibious 100-150 Ft	Each	\$ 85.00		\$ -
425-Geo Extra SPT Samples-Barge/Track/Amphibious 150-200 Ft	Each	\$ 92.00		\$ -
427-Geo Extra SPT Samples-Truck/Mud Bug 000-050 Ft	Each	\$ 71.00		\$ -
428-Geo Extra SPT Samples-Truck/Mud Bug 050-100 Ft	Each	\$ 71.00		\$ -
429-Geo Extra SPT Samples-Truck/Mud Bug 100-150 Ft	Each	\$ 85.00		\$ -
430-Geo Extra SPT Samples-Truck/Mud Bug 150-200 Ft	Each	\$ 85.00		\$ -
432-Geo Field Permeability 0-10 Ft (Open - End Borehole Method)	Each	\$ 314.00		\$ -
434-Geo Ground Penetrating Radar (GPR)	Hour	\$ 285.00	6	\$ 1,710.00
435-Geo Grout Boreholes- Barge/Track/Amphibious 000-050 Ft	LF	\$ 8.50		\$ -

Item Description	Unit	Unit Price	Quantity	Total
436-Geo Grout Boreholes- Barge/Track/Amphibious 050-100 Ft	LF	\$ 11.25		\$ -
437-Geo Grout Boreholes- Barge/Track/Amphibious 100-150 Ft	LF	\$ 17.25		\$ -
438-Geo Grout Boreholes- Barge/Track/Amphibious 150-200 Ft	LF	\$ 25.00		\$ -
440-Geo Grout Boreholes- Truck/Mud Bug 000-050 Ft	LF	\$ 6.25	120	\$ 750.00
441-Geo Grout Boreholes- Truck/Mud Bug 050-100 Ft	LF	\$ 8.00		\$ -
442-Geo Grout Boreholes- Truck/Mud Bug 100-150 Ft	LF	\$ 13.10		\$ -
443-Geo Grout Boreholes- Truck/Mud Bug 150-200 Ft	LF	\$ 18.00		\$ -
445-Geo Grouted Monitor Well 2" 000-050 Ft	LF	\$ 32.00		\$ -
450-Geo Piezometer 2" 000-050 Ft	LF	\$ 44.00		\$ -
453-Geo Rock Coring Barge/Track/Amphibious 000-050 Ft less than 4" I	LF	\$ 52.00		\$ -
455-Geo Rock Coring Barge/Track/Amphibious 050-100 Ft less than 4" I	LF	\$ 68.00		\$ -
457-Geo Rock Coring Barge/Track/Amphibious 100-150 Ft less than 4" I	LF	\$ 85.00		\$ -
459-Geo Rock Coring Barge/Track/Amphibious 150-200 Ft less than 4" I	LF	\$ 94.00		\$ -
463-Geo Rock Coring Truck/Mud Bug 000-050 Ft less than 4" ID	LF	\$ 45.00		\$ -
465-Geo Rock Coring Truck/Mud Bug 050-100 Ft less than 4" ID	LF	\$ 52.00		\$ -
467-Geo Rock Coring Truck/Mud Bug 100-150 Ft less than 4" ID	LF	\$ 60.00		\$ -
473-Geo SPT Barge/Track/Amphibious 000-050 Ft	LF	\$ 21.50		\$ -
474-Geo SPT Barge/Track/Amphibious 050-100 Ft	LF	\$ 28.90		\$ -
475-Geo SPT Barge/Track/Amphibious 100-150 Ft	LF	\$ 53.00		\$ -
476-Geo SPT Barge/Track/Amphibious 150-200 Ft	LF	\$ 70.00		\$ -
478-Geo SPT Truck-Mud Bug 0-50 Ft	LF	\$ 15.20	120	\$ 1,824.00
479-Geo SPT Truck-Mud Bug 50-100 Ft	LF	\$ 18.10		\$ -
480-Geo SPT Truck-Mud Bug 100-150 Ft	LF	\$ 32.00		\$ -
481-Geo SPT Truck-Mud Bug 150-200 Ft	LF	\$ 42.00		\$ -
483-Geo Temp Casing 3" Barge/Track/Amphibious 0-050 Ft	LF	\$ 14.50		\$ -
484-Geo Temp Casing 3" Barge/Track/Amphibious 50-100 Ft	LF	\$ 17.50		\$ -
485-Geo Temp Casing 3" Barge/Track/Amphibious 100-150 Ft	LF	\$ 20.00		\$ -
486-Geo Temp Casing 3" Barge/Track/Amphibious 150-200 Ft	LF	\$ 25.00		\$ -
488-Geo Temp Casing 3" Truck/Mud Bug 000-050 Ft	LF	\$ 10.30	60	\$ 618.00
489-Geo Temp Casing 3" Truck/Mud Bug 050-100 Ft	LF	\$ 14.00		\$ -
490-Geo Temp Casing 3" Truck/Mud Bug 100-150 Ft	LF	\$ 17.50		\$ -
491-Geo Temp Casing 3" Truck/Mud Bug 150-200 Ft	LF	\$ 22.00		\$ -
515-Geo Undisturbed Samples Barge/Track/Amphibious 000-050 Ft	Each	\$ 200.00		\$ -
516-Geo Undisturbed Samples Barge/Track/Amphibious 050-100 Ft	Each	\$ 215.00		\$ -
517-Geo Undisturbed Samples Barge/Track/Amphibious 100-150 Ft	Each	\$ 240.00		\$ -
518-Geo Undisturbed Samples Barge/Track/Amphibious 150-200 Ft	Each	\$ 255.00		\$ -
519-Geo Undisturbed Samples Truck/Mud Bug 000-050 Ft	Each	\$ 200.00		\$ -
520-Geo Undisturbed Samples Truck/Mud Bug 050-100 Ft	Each	\$ 200.00		\$ -
521-Geo Undisturbed Samples Truck/Mud Bug 100-150 Ft	Each	\$ 200.00		\$ -
522-Geo Undisturbed Samples Truck/Mud Bug 150-200 Ft	Each	\$ 220.00		\$ -
525-Geo Well Development	Hour	\$ 175.00		\$ -
531-Geo Truck/Mudbug Drill Rig and Crew (2-person)	Hour	\$ 190.00		\$ -

Item Description	Unit	Unit Price	Quantity	Total
532-Geo Truck/Mudbug Drill Rig and Crew (3-person)	Hour	\$ 260.00		\$ -
533-Geo Track/Barge Drill Rig and Crew (2-person)	Hour	\$ 190.00		\$ -
534-Geo Track/Barge Drill Rig and Crew (3-person)	Hour	\$ 260.00		\$ -
535-Geo Clearing Equip- Tractor, Bush Hog Attachment	Day	\$ 1,400.00		\$ -
536-Geo Clearing Equip-Skid Steer/ASV, ForestMulching Attach	Day	\$ 1,600.00		\$ -
537-Geo Clearing Equip-Skid Steer/ASV, Brush Cutter Attach	Day	\$ 1,600.00		\$ -
538-Geo Clearing Equipment	Day	\$ 2,000.00		\$ -
539-Geo Wash Boring for Rock Cores 0-50 Ft	LF	\$ 9.00		\$ -
540-Geo Wash Boring for Rock Cores 50-100 Ft	LF	\$ 12.00		\$ -
541-Geo Wash Boring for Rock Cores 100-150 Ft	LF	\$ 22.00		\$ -
603-Mobilization Asphalt Coring equipment	Each	\$ 300.00		\$ -
606-Mobilization Concrete Coring	Each	\$ 300.00	2	\$ 600.00
609-Geo Mobilization Drill Rig Barge Mount	Each	\$ 8,600.00		\$ -
610-Geo Mobilization Drill Rig Track Mount	Each	\$ 3,250.00		\$ -
612-Geo Mobilization Drill Rig Truck Mount	Each	\$ 410.00	3	\$ 1,230.00
614-Geo Mobilization Mudbug/All Terrain Vehicle	Each	\$ 700.00		\$ -
618-Geo Mobilization Support Boat	Each	\$ 500.00		\$ -
619-Geo Mobilization Tri-Pod	Each	\$ 1,250.00		\$ -
701-MOT Attenuator Truck	Hour	\$ 200.00	8	\$ 1,600.00
702-MOT Channelizing Devices - Type I, II, VP, Drum (each)	Each	\$ 5.00		\$ -
706-MOT Portable Sign	Each	\$ 43.00		\$ -
708-MOT Provide Channelizing Devices - Cone	Each	\$ 5.00		\$ -
710-MOT Shadow Vhcle w/ Adv. Warning Arrow & Attenuator	Hour	\$ 280.00	8	\$ 2,240.00
712-MOT Support Vehicle	Hour	\$ 155.00	8	\$ 1,240.00
800-Soils Chloride Soil or Water (FM 5-552)	Test	\$ 110.00		\$ -
803-Soils Consolidation - Constant Strain (ASTM D4186)	Test	\$ 580.00		\$ -
804-Soils Consolidation - Extended Load Increments (AASHTO T216)	Day	\$ 150.00		\$ -
805-Soils Corrosion Series (FM 5-550 through 5-553)	Test	\$ 305.00		\$ -
806-Soils Direct Shear Consolidated Drained/ Point AASHTO T 236	Test	\$ 350.00		\$ -
810-Soils Limerock Bearing Ratio (LBR)(FM 5-515)	Test	\$ 350.00		\$ -
811-Soils Liquid Limit (AASHTO T 89)	Test	\$ 60.00	6	\$ 360.00
812-Soils Materials Finer than 200 Sieve (FM 1-T011)	Test	\$ 45.00	12	\$ 540.00
817-Soils Moisture Content Laboratory (AASHTO T 265)	Test	\$ 14.00	6	\$ 84.00
819-Soils Organic Content Ignition (FM 1 T-267)	Test	\$ 42.00		\$ -
821-Soils Particle Size Analysis (AASHTO T 88) (Including Hydrometer)	Test	\$ 200.00		\$ -
822-Soils Particle Size Analysis (AASHTO T 88) (No Hydrometer)	Test	\$ 67.00		\$ -
823-Soils Permeability Constant Head (AASHTO T 215)	Test	\$ 280.00		\$ -
824-Soils Permeability Falling Head (FM 5-513)	Test	\$ 260.00		\$ -
825-Soils pH Soil or Water (FM 5-550)	Test	\$ 39.00		\$ -
826-Soils Plastic Limit & Plasticity Index (AASHTO T 90)	Test	\$ 70.00	6	\$ 420.00
827-Soils Proctor Modified (FM 1-T 180)	Test	\$ 120.00		\$ -

Item Description	Unit	Unit Price	Quantity	Total
828-Soils Proctor Standard (AASHTO T 99)	Test	\$ 115.00		\$ -
829-Soils Resistivity Soil or Water (FM 5-551)	Test	\$ 54.00		\$ -
832-Soils Splitting Tensile Strength of Rock Cores (ASTM D3967)	Test	\$ 138.00		\$ -
833-Soils Sulfate Soil or Water (FM 5-553)	Test	\$ 68.00		\$ -
838-Soils Unconfined Compression - Rock (ASTM D7012, Method C)	Test	\$ 138.00	3	\$ 414.00
Tierra Non Drop Menu Standard Test Items				
Arsenic (Method 6010/7471)	Each	\$ 9.00		\$ -
Asbestos Samples	Each	\$ 15.00		\$ -
BTEX and MTBE (Method 8260)	Each	\$ 65.00		\$ -
Chlorinated Herbicides (Method 8151)	Each	\$ 100.00		\$ -
Drilling Permit Costs IE DEP	Each	\$ 250.00		\$ -
EDR Report	Each	\$ 500.00		\$ -
Field Sampling Kit (soil)	Each	\$ 75.00		\$ -
Field Sampling Survey Kit (water)	Each	\$ 75.00		\$ -
Mercury Individual (Method 6010/7471)	Each	\$ 25.00		\$ -
Organic Vapor Analyzer (OVA)	Day	\$ 150.00		\$ -
Organochlorine Pesticides (Method 8081)	Each	\$ 100.00		\$ -
Organophosphorous Pesticides (Method 8141)	Each	\$ 125.00		\$ -
Polyaromatic Hydrocarbons (Method 8270)	Each	\$ 100.00		\$ -
Polychlorinated Biphenals (8082)	Each	\$ 75.00		\$ -
Power Auger Boring (includes decontamination to a depth of 25 feet)	Foot	\$ 11.90		\$ -
RCRA 8 Metals (Method 6010/7471)	Each	\$ 65.00		\$ -
RCRA Metals Individual (Method 6010/7471)	Each	\$ 9.00		\$ -
Semi-Volatiles (Method 8270)	Each	\$ 200.00		\$ -
Site Clearing to Access Boring or Test Locations	Hour	\$ 210.00		\$ -
SPLP/TCLP Metals	Each	\$ 198.00		\$ -
TPH Method FL-Pro	Each	\$ 65.00		\$ -
Ultr Low Trace Mercury GW Individual (Method 1631)	Each	\$ 75.00		\$ -
Volatile Organics (Method 8260)	Each	\$ 95.00		\$ -
Volatile Organics BTEX/MTBE(Method 8260)	Each	\$ 60.00		\$ -
Professional Services				
Chief Scientist	Hour	\$ 166.72		\$ -
Chief Engineer	Hour	\$ 217.35	100	\$ 21,735.00
Engineer	Hour	\$ 143.05	160	\$ 22,888.00
Engineering Intern	Hour	\$ 99.85	24	\$ 2,396.40
Engineering Technician	Hour	\$ 81.86	16	\$ 1,309.76
Principal Engineer	Hour	\$ 226.74	100	\$ 22,674.00
Secretary/Clerical	Hour	\$ 84.00		\$ -
Senior Engineer	Hour	\$ 187.21	100	\$ 18,721.00
Senior Engineering Technician	Hour	\$ 102.28	16	\$ 1,636.48
Senior Designer	Hour	\$ 118.14	8	\$ 945.12
Senior Scientist	Hour	\$ 141.12		\$ -
Total Estimated Fee				\$ 107,485.76

IV.B.4. Fiber to DMS Project



Tampa Hillsborough Expressway Authority (THEA)

THEA Professional Engineering Services Contract

Contract No.: O-00121-KCI

Scope of Services for

Task 1: DMS Fiber Communications Revisions

Prepared for



October 19, 2023

Ver 2.0

TASK DESCRIPTION

THEA is requesting **KCI TECHNOLOGIES** (KCI) to prepare and provide design revisions to the existing ITS Plans and procurement documentation for this project to reflect as-built data recently completed under a separate THEA contract and to re-structure the contract from a Lump Sum to an Unit Price (Pay Item driven) based contract to mitigate risks to a design-bid-build contractor.

PROJECT DESCRIPTION

Currently the THEA CMSs/VMSs communicate with each legacy ACN PLC through copper cabling that has limited functionality and reliability issues. THEA wants to replace the copper cabling and provide fiber optic Ethernet communications to each of the CMSs/VMSs to provide full functionality, increased reliability, and support future expansion. In conjunction with this project, THEA, under a separate contract, will also be migrating their existing PLC platform (Modicon Quantum) in each legacy ACN cabinet to an Ethernet programmable automation controller platform.

KCI SCOPE OF SERVICES

KCI TECHNOLOGIES will provide system design services to THEA for scope items in this section including the design revisions of existing Plans and details, specifications, and the ITB and MTR documentation.

1. Task Management / Attend Meetings / Coordination / QMS Services:

- i. Task Management: KCI will perform all scope of services contained herein including task management and administrative services. Perform QA/QC on all task deliverables.
- ii. Attend Meetings: Assume 7 status / design meetings @ 1 hr. each (Joe, Michael, Aaron/Marco) – assume Teams call.
- iii. Coordination with THEA (HNTB), THEA's Network Integrator, Schneider Electric (PLC) and ControlbyWeb (Web Relays) to obtain the necessary information to perform this task.
- iv. Coordinate with THEA (HNTB) – Determine if THEA has any available survey files/TOPO files and right-of-way (ROW) information in DGN format. If DGN files are available revise Plans to reflect.
- v. QA/QC Revised Plans

2. Design Services and Prepare Revised Plans Package:

- i. Review, update and revise the list of Pay Items and descriptions – including conduit proofing, etc.
- ii. Update all quantities based on revisions.
- iii. If TOPO files (in DGN format) are available as provided by THEA revise Plans to reflect.

- iv. Redline current Plans to reflect design revisions per THEA discussions, review of the ArcGIS as-built database, field reviews, and constructability review. Clearly show the locations of all active toll gantries and roadway toll equipment and provide necessary protective notes.
- v. Incorporate all Redlines and comments on Plans and ITB documentation.
- vi. Update and develop new details as needed, sketches, provide appropriate callouts and instructions on Plans to contractor.
- vii. Develop revised CADD files / plans -- to be combined with another THEA project for advertisement. Use the project number: HI-0149.

3. Prepare Revised ITB and MTR Documents:

- i. Review, update and revise all contract documentation to reflect a Unit Price (Pay Item driven) based contract – not a Lump Sum contract.
- ii. Update and revise pay item descriptions, requirements and bid sheet (example is Addendum 1 – Exhibit B) showing all pay items.
- iii. Update and revise Construction sequencing requirements based on final design approach to mitigate system downtime, risks, etc. during construction.
 - a. STEP 1: Contractor to submit a Plan for conduit proofing, repairs as needed, removing existing copper cabling, and installing new fiber cabling.
 - b. STEP 2: upon THEA approval, Contractor to remove existing copper cables as shown on Plans.
 - c. STEP 3: Contractor to perform Conduit proofing and review of existing Pull boxes.
 - d. STEP 4: For damaged sections, Contractor to submit a Plan to provide any resulting repairs to conduit and/or pull boxes.
 - e. STEP 5: upon THEA approval -- repair conduit and/or pull boxes and install, terminate, and test new fiber.
- iv. Coordinate with THEA / Schneider Electric in regards, to schedule for configuration and testing of the PLC system. Note: Schneider Electric to remove and replace existing PLC with the new configured PLC and test the integrated PLC system. Testing for this upgrade project to coordinate test schedules.
- v. Update and revise Network requirements:
 - Contractor to furnish only the Layer 3 switches.
 - THEA to supply the Layer 2 switches.
 - Infotech to configure the Layer 2 and Layer 3 switches.
 - Contractor to install the Layer 2 and Layer 3 configured switches and coordinate with THEA's Network Integrator to test the network connections.

- vi. Update and revise Web Relay and Integration requirements:
 - Contractor to furnish (only) the web relays. Web relay configuration and integration requirements is presumed will be provided under the Schneider Electric's THEA contract.
 - Coordinate with Daktronics for interfacing with their DMS controller and DCIO/relays using a Web relay system. Develop details of web relay system wiring and integration.
 - Use Track Mode to update and revise Web relay and integration requirements in the ITB and MTR documents.
 - Update and/or add Plan details.
- vii. Update and revise overall revised MTR document – to reflect the following:
 - Remove fiber optic cable, conduit and other standard infrastructure pay items from the current MTR as the assumption is that project will use FDOT Standard Specs / APL to extent possible.
 - Revise MTR to include the following:
 1. DMS Testing – DMS control, message updates, and monitoring status.
 2. System control testing – PLC (auto and manual) integrated w/ Web Relays – test of control of barrier gates, DMS signs, etc.
 3. Provide conduit verification / field investigation requirements and instructions – with pay items.
 4. Provide conduit proofing requirements and instructions – with pay items.
- viii. Update and revise Testing requirements in the MTR document – to reflect the following:
 - DMS Testing – DMS control, message updates, and monitoring status over fiber-based Ethernet from the THEA TMC.
 - System control testing – PLC (auto and manual) w/ Web Relays -- control of gates, DMS signs, etc. Note that the testing presumes that FLIR will be operational by the time of the integration of this upgrade project. If FLIR is not ready -- testing will assume sub-system testing from the TMC.

4. Maintenance of Traffic (MOT) Plans and Notes:

- i. Prepare MOT Plans – use FDOT Standard, Index 600 series and Section 102 lane closure details where needed. KCI does not intend on creating any specialty MOT plans.
- ii. Itemize MOT pay items.

ASSUMPTIONS AND EXCLUSIONS

The estimate of labor hours and time scheduled to perform the work by KCI TECHNOLOGIES is, informed and limited by the following assumptions or noted elsewhere in this scope document.

- **General Assumptions:**

- a. Task Duration: This task is expected to, be completed within 60 days from NTP. Final revised plans package to be submitted to THEA by December 15th, 2023.
- **Design Assumptions:**
 - a. No field survey data work is assumed. KCI will coordinate with THEA to obtain any available survey files and/or right-of-way (ROW) information in DGN format. If survey / TOPO files (in DGN format) are available as provided by THEA KCI will revise Plans to reflect. If not, it is intended that current ITS plans will be utilized and revised/updated based on ArcGIS as-built data.
 - b. Revised plans, ITB documentation, and pay items will be combined with another THEA project for advertisement. Use the revised project number: HI-0149.
 - c. Use of Existing Conduit: The default position is that existing conduit and/or pull boxes to be used are available and in working condition. It is presumed that existing conduit condition is re-useable allowing for new fiber cable to be pulled through. Repairs to conduit sections and/or pull boxes as needed based on conduit proofing and field review and approval from THEA.
 - d. Web relay system configuration and integration will be removed from the revised plans which is presumed will be included in Schneider Electric's THEA contract to replace and integrate the PLC system in the legacy cabinets.
 - e. This upgrade project will include removal and replacement of existing copper cabling, as needed, with fiber optic cabling from each of the five (5) legacy ACN cabinets to the VMSs/CMSs and between VMSs/CMSs. Coordination with Schneider Electric will be required for PLC system and web relay system upgrades that will be happening in conjunction with this upgrade project.
 - f. Only new network L2 connections will be the device rings for the upgraded fiber-based CMS/VMS system. All existing legacy ITS subnet rings will remain as is.
 - g. FDOT Standard Specs are assumed for fiber optic cable, conduit and other standard infrastructure. New specs will be provided as Plan notes and/or in the MTR for Web relays and cellular modems that are not already covered by FDOT Standard Specs or as directed by THEA.
 - h. FDOT Standard Specs are assumed for new fiber optic cable, conduit and other standard infrastructure as required or needed. New specs will be provided as Plan sheet notes and/or provided in the MTR for components such as Web relays and cellular modems that are not already covered by FDOT Standard Specs or as directed by THEA.
 - i. KCI does not intend on access existing pull boxes or cabinets to verify existing slack loops and cables.
 - j. KCI does not intend on verifying or proofing existing conduit path between existing pull boxes and cabinets.
 - k. All field review associated with this project is expected to be completed during normal business hours of Monday – Friday, and 7:00 AM thru 5:00 PM.

- l. Survey data and creation of Right-of-Way use permits drawings, and submittal of City, County, FDOT, or other entity permits are not included in KCI's scope of work.
 - m. In the event Maintenance of Traffic (MOT) is required to complete fielding activities, THEA will provide contractor support services to complete this task.
 - n. Maintenance of Traffic (MOT) will use FDOT Standard, Index 600 series and Section 102 lane closure details where needed and that no specialty MOT plans are required or needed.
- **THEA Responsibilities:**
 - a. If available, provide survey files and/or right-of-way (ROW) information in DGN format for the project corridor.
 - b. Facilitate meetings with applicable THEA staff and their representatives.
 - c. Will provide the terms and conditions, required exhibits and forms, and other THEA boilerplate type documentation, general information and conditions, and contractual language as required for the associated advertisement.
 - **Meetings:**
 - a. Seven (7) Progress / Design Meetings (@ 1 hr. each x 4 staff) – assume virtual meetings.

DELIVERABLES

The following deliverables will be, provided over a 60-day project timeframe.

It assumed that THEA would provide a 5 working day turnaround for providing review comments for each deliverable.

1. Draft ITS Plans with ITB and MTR Documentation Package.
2. Final (100%) ITS Plans with ITB and MTR Documentation Package.

FEE ESTIMATE

The estimated upset-limit / not to exceed maximum budget amount of \$ 37,000.

TASK 7: Field Engineering & Constructability Assessment Services	
THEA Professional Engineering Services Contract (Contract No.: O-00121-KCI)	Date: 10/19/23

KCI - Estimate for Consulting Services		Personnel Classification													
Task ID	Task Description (see Scope)	Chief Designer	Chief Engineer 2	Senior Engineer 1	Engineering Intern	Senior Engineering Technician	Senior Engineer 1	Senior Designer	Chief Designer	Senior Designer	Senior Designer	Designer	Staff Hours by Activity	Salary Cost by Activity	by
1	Task Management / Coordination								4	4	6		14	\$1,197.24	
2	Review ArcGIS As-Built Database and Redline Current Plans	20			4	4							28	\$5,505.16	
3	Conduct Field Engineering and Constructability Review	16					8	8		48	27	42	149	\$13,996.78	
		36	0	0	4	4	8	8	4	52	33	42	191		
		\$ 238.68	\$ 260.05	\$ 169.38	\$ 91.46	\$ 91.43	\$ 234.11	\$ 121.44	\$ 215.61	\$ 83.70	\$ 110.27	\$ 78.95			
		\$ 8,592.48	\$ -	\$ -	\$ 365.84	\$ 365.72	\$ 1,872.88	\$ 971.52	\$ 862.44	\$ 4,352.40	\$ 3,638.91	\$ 3,315.90		\$ 24,338.09	
													Total Labor	\$ 24,338.09	



Tampa Hillsborough Expressway Authority (THEA)

THEA Professional Engineering Services Contract

Contract No.: O-00121-KCI

Scope of Services for

*Task 7: Field Engineering & Constructability Assessment Services for
the DMS Fiber Communications Project*

Prepared for



October 19, 2023

TASK DESCRIPTION

THEA is requesting **KCI TECHNOLOGIES** (KCI) to provide review of as-built data, field engineering services and to conduct a constructability assessment in support of, and to mitigate construction risks associated with, the Fiber to DMS Upgrades project.

PROJECT DESCRIPTION

Currently the THEA CMSs/VMSs communicate with each legacy ACN PLC through copper cabling that has limited functionality and reliability issues. THEA wants to replace the copper cabling and provide fiber optic Ethernet communications to each of the CMSs/VMSs to provide full functionality, increased reliability, and support future expansion. In conjunction with this project, THEA, under a separate contract, will also be migrating their existing PLC platform (Modicon Quantum) in each legacy ACN cabinet to an Ethernet programmable automation controller platform.

KCI SCOPE OF SERVICES

KCI TECHNOLOGIES will provide systems and field engineering and constructability services to THEA for scope items in this section.

1. Task Management / Coordination:

- i. Coordination with THEA to obtain access to field infrastructure (pull boxes, enclosures, cabinets, etc.) along the project corridor and obtain necessary information to provide a constructability assessment.

2. Review ArcGIS As-Built Database and Redline Current Plans:

- i. Redline current Plans to reflect design revisions discussions with THEA and ArcGIS as-built database including conduit path and info, cabling, cabinets, existing aboveground, bridge mounts, and inside barrier wall conduits.

3. Conduct Field Engineering and Constructability Review:

- i. Perform field review (checks) of existing infrastructure using the redlined set of plans and address the items below. Mark-up the plans to provide construction requirements and instructions to the contractor.

Conduit

- ii. Prepare Conduit proofing requirements (ways and means, materials) for assessing the re-using of existing conduit. Prepare language / requirements for repairing or replacing damaged or non-useable conduit.
- iii. Develop plan for removal of existing Copper Cables:

- a. What is best approach for the removal and replacement of the existing copper wiring inside conduit associated with the DMS signs with fiber optic cabling to mitigate risks and to prevent damage to remaining cables.
 - b. From review of the THEA ArcGIS as-built database, verify whether copper cables designated to be removed are associated with DMS signs and not with other devices or I/O equipment including toll equipment.
 - c. Address various construction options and questions including 1) can conduit proofing occur prior to pulling existing copper cable/s out first, 2) can existing copper cables to be removed be used as pull string, 3) can new fiber be pulled through certain sections of existing conduit without removing existing copper cable/s (abandon the copper cables in place), and others.
- iv. Verify conduit fill ratio in existing Conduits (vacant or occupied).
- a. Verify conduit/s extending to the ACN and DMS cabinets when visible. If not visible attempt to verify through footage markers on the cable (when present and not distorted) on both ends, wheeling the presumed footage off, then surmising the cable footage is the same between two locations where the cable is visible. Verify what existing cabling is inside (conduit fill) and if any empty conduit exists.
 - b. Verify if existing conduit may be able to accommodate the proposed placement of one (1) new fiber drop (12/24 str) cable to be pulled through and terminated in a new fiber patch panel inside existing cabinet.
 - c. Verify if existing conduit may be able to accommodate the proposed placement of one (1) new fiber trunk (72 str) cable and that electrical (high voltage – 120/240) and fiber cables are not currently placed within the same conduits when possible.
 - d. Verify and detail / sketch (vacant/occupied and quantity) conduit transition points from underground to bridge mount sections as shown on the Plan red-lines – markup the Plans as needed to reflect field review notes and conditions.

Splice Vaults and Pull Boxes

- v. Verify splice vault / pull box locations as shown on the Plans and whether they need to be replaced to accommodate existing cabling and proposed cables and splice enclosures prior to equipment cutover.
 - a. Address the contractor's risk in replacing active fiber pull boxes and consider using adjacent new splice vaults and split wye conduits where topography and space permit.
 - b. Determine if there is adequate space for construction and maintenance activities for replacing with new splice vaults / pull boxes at these locations.
 - c. For Splice locations as shown on the Plan redlines – if a new splice enclosure will be installed, is there adequate space inside the pull box to install while maintaining minimum bend radius for 100 ft. fiber cable slack coil.

- For fiber pull box locations as shown on the Plan redlines – is there adequate space to install a minimum 50 ft. fiber slack coil while maintaining minimum bend radius?
- Prepare splice vault / pull box replacement details as needed.

Construction Sequencing

- vi. Determine and revise Construction sequencing requirements based on field review and verification of design approach to mitigate system downtime, risks, etc. during construction.
 - a. STEP 1: Contractor to submit a Plan for conduit proofing, repairs as needed, removing existing copper cabling, and installing new fiber cabling.
 - b. STEP 2: upon THEA approval, Contractor to remove existing copper cables as shown on Plans.
 - c. STEP 3: Contractor to perform Conduit proofing and review of existing Pull boxes.
 - d. STEP 4: For damaged sections, Contractor to submit a Plan to provide any resulting repairs to conduit and/or pull boxes.
 - e. STEP 5: upon THEA approval -- repair conduit and/or pull boxes and install, terminate, and test new fiber.

Cabinet Upgrades

- ix. Verify Cabinets:
 - Confirm available space and placement in legacy DMS and ACN cabinets for fiber patch panels, web relays, network switches, power supplies and PLC.
 - Determine installation and interface details for the new Web Relays with the existing cabinet 24VDC relays and wiring.

ASSUMPTIONS AND EXCLUSIONS

The estimate of labor hours and time scheduled to perform the work by KCI TECHNOLOGIES is, informed and limited by the following assumptions or noted elsewhere in this scope document.

- **General Assumptions:**
 - a. Task Duration: This task is expected to, be completed within 60 days from NTP. Final revised plans package to be submitted to THEA by December 15th, 2023.
 - b. Task management and meetings are assumed, will be covered under Task 1 revisions.
- **Design Assumptions:**
 - a. Use of Existing Conduit: The default position is that existing conduit and/or pull boxes to be used are available and in working condition. It is presumed that existing conduit condition is re-useable allowing for new fiber cable to be pulled through. Repairs to conduit sections

- and/or pull boxes as needed based on conduit proofing and field review and approval from THEA.
- b. FDOT Standard Specs are assumed for new fiber optic cable, conduit and other standard infrastructure as required or needed. New specs will be provided as Plan sheet notes and/or provided in the MTR for components such as Web relays and cellular modems that are not already covered by FDOT Standard Specs or as directed by THEA.
 - c. KCI does not intend on access existing pull boxes or cabinets to verify existing slack loops and cables.
 - d. KCI does not intend on verifying or proofing existing conduit path between existing pull boxes and cabinets.
 - e. All field review associated with this project is expected to be completed during normal business hours of Monday – Friday, and 7:00 AM thru 5:00 PM.
 - f. Survey data, utilities, and creation of Right-of-Way use permits drawings, and submittal of City, County, FDOT, or other entity permits are not included in KCI’s scope of work.
 - g. In the event Maintenance of Traffic (MOT) is required to complete fielding activities, THEA will provide contractor support services to complete this task.
 - h. Maintenance of Traffic (MOT) will use FDOT Standard, Index 600 series and Section 102 lane closure details where needed and that no specialty MOT plans are required or needed.
- **THEA Responsibilities:**
 - a. Facilitate meetings with applicable THEA staff and their representatives.
 - b. Provide a THEA point of contact (POC) for KCI field reviews to provide KCI access to THEA facilities (pull boxes, DMS and ACN cabinets, etc.) to verify existing conditions and locating proposed infrastructure and/or equipment and to answer field related questions.

DELIVERABLES

The following deliverables will be, provided over the 60-day project timeframe.

1. Redline the ITS plans being revised under Task 1 revision. CAD work to be performed under Task 1 revisions.
2. Provide updated, revised and/or new requirements in the ITB and MTR documents being revised under Task 1 in regards, to conduit proofing, construction sequencing, replacement of pull boxes, etc. to mitigate construction risks.

FEE ESTIMATE

The estimated upset-limit / not to exceed maximum budget amount of \$ 25,000.

VI.A.2. Contract Renewals and Expirations

Project Manager	Firm	Description of Services	Contract Effective Date	Contract Expiration Date	Term of Contract (Years)	Bid / Renew / End
Brian	Hall Engineering	Misc. Electrical Design & Developmental Services	4/22/2019	4/21/2024	3-yr, 2 Optional 1-yr Renewals	Expires ~ (4/21/24)
Bob	Stantec	Traffic & Revenue Services	4/14/2021	4/14/2024	3-yr, 2 Optional 1-yr Renewals	Renew (1st one-year renewal ~ 4/14/24 - 4/14/25)