

# Memorandum

MIAMI-DADE  
COUNTY

**Date:** May 7, 2020

**To:** Honorable Chairwoman Audrey M. Edmonson  
and Members, Board of County Commissioners

CPC  
Agenda Item No. 3B

**From:** Carlos A. Gimenez  
Mayor

**Subject:** Recommendation for Approval to Award Contract RFP No. 01058, Advanced Traffic Management System, and Authorizing the Use of Charter County Transportation Surtax Funds for Such Purpose

## **Recommendation**

It is recommended that the Board of County Commissioners (Board) approve a competitive contract award, *Contract RFP No. 01058, Advanced Traffic Management System (ATMS), for the Department of Transportation and Public Works*. Specifically, the contract will provide:

- (1) an upgrade of the County's existing 2,900 traffic signal controllers;
- (2) engineering services for the conversion and configuration of signal timing and adaptive traffic signal controls; and
- (3) design and construction services for implementation of traffic detection systems.

Services to be rendered by the awarded vendor will result in a complete, functional and intelligent traffic signal system. The contract includes engineering design, permitting, device installation, system integration, testing, training and operational support. The improvement to the County's traffic signalization system project is listed in the original Exhibit No. 1 of the People's Transportation Plan, as well as on the ballot presented to the electorate in November 2002.

This item is placed for Board review pursuant to Miami-Dade County Code Section 29-124(f). The Board may only consider this item if the Citizens' Independent Transportation Trust (CITT) has forwarded a recommendation to the Board prior to the date scheduled for Board consideration or 45 days have elapsed since the issuance of this recommendation. If CITT has not forwarded a recommendation and 45 days have not elapsed since the issuance of this recommendation, a withdrawal of this item will be requested.

## **Background**

The Department of Transportation and Public Works (DTPW) operates and maintains over 2,900 signalized intersections on state, county, and local roads within the County's geographical boundaries. DTPW monitors and manages the intersections from the Traffic Management Center. Approximately 2,600 intersections are controlled using the McCain D170E controller, which will be upgraded to the 2070LX Controller under this contract. The 2070LX Controller is a rugged, multi-tasking field processor and communications system configurable for a variety of traffic management applications.

In 2005, the Board approved a contract with Kimley Horn and Associates (KHA) to utilize their KITS® system, replacing the obsolete Urban Traffic Control System (UTCS). While the KITS® System remains a powerful and efficient traffic management tool, the continued growth of the County and the evolution of new technology, including adaptive traffic signal controls and others, has necessitated DTPW to explore implementing a more robust system.

Technology is now available that can improve mobility beyond our current ATMS System. The 2070LX Controller will allow the County to upgrade existing intersections to a higher performance platform. Other improvements include additional vehicle (including bicycle) and pedestrian detection at signalized

intersections and vehicle detection zones necessary for supporting Transit Signal Priority and Adaptive Signal Timing operations. Adaptive Signal Timing is a traffic management strategy in which traffic signal timing changes, or adapts, based on actual traffic demand.

The ATMS provides solutions to alleviate congestion by adapting to traffic conditions occurring on urban freeways and surface streets through the deployment of state-of-the-art sensing, communications and data-processing technologies. The ATMS takes advantage of information that can be provided by roadside traffic sensors. These systems use available traffic information to develop optimal traffic control strategies addressing traffic needs.

On October 4, 2018, a Request for Proposals was advertised and four proposals were received. Following the evaluation, the three highest ranked proposers, Siemens Mobility, Inc., Horsepower Electric, Inc., and TransCore ITS, LLC, were advanced to oral presentations and the second phase of evaluations. The technical scores of the three proposals were within three percent of each other. Siemens submitted a price of \$152,221,049, as compared to \$238,609,191 submitted by Horsepower and \$260,419,337 submitted by Transcore. Based on the combined total score, Siemens is the highest ranked proposer and was recommended for negotiations. The consensus of the Competitive Selection Committee was that Siemens' proposal demonstrated its ability to meet all aspects of the project requirements and to provide an ATMS that best supports the County's needs. Siemens has past experience in providing the specified ATMS in metropolitan areas including Washington, Seattle and Delaware.

On October 30, 2019, an award recommendation was approved and filed with the Clerk of the Board (Clerk). A protest was filed with the Clerk on November 4, 2019 by the second ranked proposer. On January 6, 2020, the Hearing Examiner's Recommended Findings of Fact and Incorporated Conclusions of Law was received, which upheld all actions of the County with the exception of a single provision of the final contract that differed from both the RFP and Siemens' proposal (attached). The Hearing Examiner found that the inclusion in the negotiated agreement of a 10 working day time frame for the County to review and return design submittals constituted an improper material advantage to Siemens, which resulted in an improper award recommendation.

It should be noted that while the time frame negotiated with Siemens was less than that included in the RFP, in order to allow for the project to be completed as expeditiously as possible, Siemens' original submittal included the time frame as noted in the RFP. However, the original submittal from Horsepower did not comply with the RFP. This was not part of the findings of the Hearing Officer.

After consultation with the County Attorney's Office, Florida law permits the County to redo the contract negotiation to require Siemens to perform as required by the RFP and its initial proposal. The award recommendation was rescinded on January 22, 2020, and direction was given to the County Negotiation Team to negotiate a revised final agreement consistent with the RFP and the initial proposal. On January 29, 2020, County negotiations resumed with Siemens to discuss the submittal review timeframe, which concluded with the parties reaching an agreement. The negotiated agreement affords the County at least a twenty-one (21) calendar day review period.

### **Scope**

The scope of this item is countywide in nature.

### **Fiscal Impact/Funding Source**

The fiscal impact for the nine-year term is \$160,173,671. This amount includes a contingency fee of \$9,913,992 for unforeseen work and an allowance in the amount of \$4,647,250 for night time work to be performed at a minimum of 1,450 intersections. The nine-year term for this contract is based on a project schedule that considers the real time need to engineer/design the system implementation requirements,

install and test the purchased equipment and the engineering and construction work necessary for including additional vehicle and pedestrian detection systems. A portion of this project is funded by Charter County Transportation Surtax Funds.

Department	Allocation	Funding Source	Project Manager
Transportation and Public Works	\$160,173,671	DTPW Operating/Road Impact Fees/ Charter County Transportation Surtax Funds and Bond Proceeds/State Funding/Federal Funding	Frank Aira, P.E.
<b>Total:</b>	<b>\$160,173,671</b>		

#### **Track Record/Monitor**

Vanessa Stroman of the Internal Services Department is the Procurement Contracting Manager. The County is supervising, monitoring, and inspecting all aspects of the ATMS's implementation, deployment, and administration. Mr. Frank Aira, P.E., Chief, Traffic Signals & Signs Division, DTPW, is responsible for this project.

#### **Delegated Authority**

If this item is approved, the County Mayor or County Mayor's designee will have the authority to exercise all provisions of the contract, including any cancellation or extension provisions, pursuant to Section 2-8.1 of the County Code and Implementing Order 3-38.

#### **Vendor Recommended for Award**

A Request for Proposals was issued under full and open competition. Four proposals were received in response to the solicitation.

Pursuant to Resolution No. R-477-18, the highest-ranked proposer is recommended in accordance with the method of award per the solicitation and is a non-local vendor.

Vendor	Principal Address	Local Address*	Number of Employee Residents	Principal
			1) Miami-Dade 2) Percentage*	
Siemens Mobility, Inc.	498 7 Avenue Floor 11 New York, NY	None	0 0%	Marc Buncher

\*Provided pursuant to Resolution No. R-1011-15. Percentage of employee residents is the percentage of vendor's employees who reside in Miami-Dade County as compared to the vendor's total workforce. Siemens Mobility, Inc. is a wholly owned subsidiary of Siemens AG which employs nearly 300 personnel in Miami-Dade County.

#### **Vendors Not Recommended for Award**

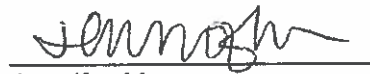
Vendor	Local Address	Reason for Not Recommending
AT&T Corp	Yes	Evaluation Scores/Ranking
Horsepower Electric, Inc.	Yes	
TransCore ITS, LLC	No	

**Due Diligence**

Pursuant to Resolution No. R-187-12, due diligence was conducted in accordance with the Internal Services Department's Procurement Guidelines to determine vendor responsibility, including verifying corporate status and that there are no performance and compliance issues. The lists that were referenced included convicted vendors, debarred vendors, delinquent contractors, suspended vendors, and federal excluded parties. There were no adverse findings relating to vendor responsibility.

**Applicable Ordinances and Contract Measures**

- The two percent User Access Program provision does not apply.
- The Small Business Enterprise Selection Factor did not apply due to the federal funding source.
- The Local Preference does not apply.
- The Living Wage does not apply.



Jennifer Moon  
Deputy Mayor

**Harvey Ruvin**  
CLERK OF THE CIRCUIT AND COUNTY COURTS  
Miami-Dade County, Florida



CLERK OF THE BOARD OF COUNTY COMMISSIONERS  
STEPHEN P. CLARK CENTER  
SUITE 17-202  
111 N.W. 1<sup>st</sup> Street  
Miami, FL 33128-1983  
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January 6, 2020

Mr. Miguel De Grandy  
Holland and Knight LLP  
701 Brickell Avenue, Suite 3300  
Miami, Florida 33131

Re: Bid Protest – Contract No. FB-01058 -Advanced Traffic Management System

Dear Mr. De Grandy:

Forwarded for your information is a copy of the Findings and Recommendation filed by Marc Anthony Douthit, Hearing Examiner, in connection with the above referenced bid protest hearings, held on Friday, November 22, 2019.

Should you have any questions regarding this matter, please do not hesitate to contact Daysha McBride at 305-375-1293.

Sincerely,

HARVEY RUVIN, Clerk  
Circuit and County Courts

By *Linda L. Cave*  
Linda L. Cave, Director  
Clerk of the Board Division

LLC:dmcdb

CC: Honorable Chairwoman Audrey M. Edmonson and Members, Board of County Commissioners (via email)  
Honorable Carlos A. Gimenez, Mayor, Miami-Dade County (via email)  
Edward Marquez, Deputy Mayor, Miami-Dade County (via email)

Mr. Miguel De Grandy  
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Abigail Price-Williams, County Attorney (via email)  
Geri Bonzon-Keenan, First Assistant County Attorney (via email)  
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Adeyinka Majekodunmi, Commission Auditor (via email)  
Tara C. Smith, Director, Internal Services Department (via email)  
Namita Uppal, Chief Procurement Officer, Internal Services Department (via email)  
Rita A. Silva, Procurement Management Chief, Policy and Legislation, Internal Services  
Department (via email)  
Lydia Osborne, Strategic Procurement Division Director, Internal Services Department  
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Jeanise Cummings-Labossiere, Vendor Services Manager, Internal Services Department  
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**MIAMI-DADE COUNTY, FLORIDA**

**In RE Bid Protest of**

**HORSEPOWER ELECTRIC, INC.**

**Re: Request for Proposal No. 01058**

**Advanced Traffic Management  
System**

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**RECOMMENDED FINDINGS OF FACT AND INCORPORATED CONCLUSIONS OF LAW  
REGARDING THE BID PROTEST OF HORSEPOWER SALES**

**INTRODUCTION**

This cause came before me on November 22, 2019, pursuant to a bid protest (the "Bid Protest") filed by Horsepower Electric, Inc. (Horsepower) of the Recommendation for Award issued by the Miami-Dade County Mayor ("Recommendation for Award") that recommends the award of a contract under Miami-Dade County Request for Proposals No. 01058 (the "RFP") to Siemens Mobility, Inc. ("Siemens"). A Bid Protest Hearing on this matter was convened on November 22, 2019 at the Stephen P. Clark Center, 12th Floor, Clerk of Courts Conference Room (the "Hearing"). The Hearing was held pursuant to Miami-Dade County Implementing Order No. 3-21, Section 4.02 of the Miami-Dade County Home Rule Amendment and Charter, and Section 2-8.4 of the Code of Miami-Dade County.

There has been no challenge to the adequacy of the Bid Protest or its satisfaction of the requirements of the Code of Miami-Dade County, and the County has not challenged Horsepower's standing to bring the bid protest. No other party has moved to intervene in these

proceedings and although representatives of Siemens were present at the hearing, they did not participate in the proceedings.

Horsepower was represented by Miguel A. De Grandy and Daniel P. Hanlon of the law firm Holland & Knight LLP. Representing Miami-Dade County was Bruce Libhaber and Annery Pulgar Alfonso of the Miami-Dade County Attorney's Office.

The parties agreed and stipulated to the introduction of the following exhibits into evidence:

EXHIBIT NO.	DESCRIPTION
A	RFP No. 01058 and Attachments/Appendices
B	Horsepower Proposal
C	Siemens Proposal
D	Audio Recordings
E	RFP 01058 ATMS Chairperson's Memo
F	March 12, 2019 County Request for Supplemental Information to Siemens
G	March 15, 2019 Email Exchange Between Siemens and the County re Exceptions in Siemens Proposal
H	Siemens Response to County Request for Supplemental Information
I	Siemens BAFO #1
J	Siemens BAFO #2
K	June 19, 2019 Email by Frank Aira
L	Siemens BAFO #3
M	County Mayor's Recommendation for Approval to Award Contract RFP No. 01058, Advanced Traffic Management System; and Authorizing the Use of Charter County Transportation Surtax Funds for Such Purpose
N	March 26, 2019 Email by Frank Aira



O	Consolidated Research re Best And Final Offers
P	Chart of FDOT Pricing Rates

These documents were compiled in a binder prepared by Horsepower and the binder was reviewed by Miami Dade County and without objection the contents of the binder were accepted as exhibits to the proceeding and are a part of the Record of this matter.

At the hearing, Miami-Dade County (the "County") did not introduce any additional documentation for inclusion in the Record of the proceedings.

Horsepower called one witness during its presentation, Mr. Frank Aira, Chief of the Traffic Signals and Signs Division of the County's Department of Public Works and Waste Management. Without objection, the County utilized its cross examination of Mr. Aira to elicit testimony from Mr. Aira to support its case and defend the County Manager's Recommendation of Award.

#### **PROCEDURAL BACKGROUND**

On October 4, 2018, the County issued a request for proposals seeking proposals for an Advanced Traffic Management System for Miami-Dade County (the "RFP"). The solicited RFP project involved a County-wide upgrade of the County's existing Advanced Traffic Management System for vehicular traffic and its traffic signal controllers, which included full actuation of all signalized intersections and professional engineering services for the implementation of traffic engineering solutions. The RFP's deadline for submission of proposals was November 1, 2018.

In response to the RFP, the County received four (4) proposals from the following entities: (1) Horsepower; (2) Siemens Mobility, Inc. ("Siemens"); (3) Transcore ITS, LLC ("Transcore"); and (4) AT&T Corp. The four proposals were preliminarily scored and ranked and the County's Competitive Selection Committee held oral presentations with the three highest

ranked firms – Siemens, Horsepower and Transcore. Prior to the oral presentations, the County issued requests for technical clarifications to each of the three final proposers. Each proposer submitted a response to these technical questions, notifying the County of any and all assumptions that each proposal was based or conditioned upon.

After conclusion of the oral presentations, the three proposers then received final scores, based on a Technical Score, a Price Score, and a Total Combined Score. The following was the scoring breakdown of the Competitive Selection Committee:

Proposer	Technical Score	Price Score	Total Combined Score	Price/Cost Submitted
Siemens	3545	1000	4545	\$152,221,049.75
Horsepower	3649	638	4287	\$238,609,191.45
Transcore	3539	585	4124	\$260,419,337.50

Based upon these final rankings, the Competitive Selection Committee recommended that the County enter into negotiations with Siemens, as the highest ranked proposer.

In March of 2019, the County commenced negotiations with Siemens. On October 30, 2019 the County issued the formal Recommendation for Award to Siemens. The final cost of the Siemens contract was \$160,173,671. It is from that Recommendation for Award that this Bid Protest is generated.

#### **PROTEST GROUNDS**

Horsepower's protest raises three separate grounds as follows:

(1) Materially modifying the RFP's terms, after the submission of proposals, in a manner that provided an unfair competitive advantage to only one proposer (Siemens). Specifically, Horsepower alleges that the County made two separate modifications to the terms of the RFP:

(a) the County reduced the RFP's initially-specified minimum review and approval period for County review and approval of contractor-submitted plans during the RFP project from 21 days to 10 days, thereby providing only Siemens with significant time and cost savings not available to any other proposer; and (b) the County removed the RFP's initial express requirement that all components proposed for use on the RFP project be "currently" registered on both the State of Florida and County list of approved products, to allow Siemens to propose components that were not on the approved product lists as of the date that the Siemens proposal was submitted to the County.

(2) Arbitrarily and capriciously disregarding and ignoring the material assumptions and conditions that the Siemens proposal was expressly based and conditioned upon, per Siemens' own written confirmation, such that the County has knowingly recommended an award to Siemens based upon an initial Siemens proposal that it knows was illusory; and

(3) Arbitrarily "gifting" Siemens an extra \$4,647,250 over its proposed price for an unspecified amount of night work that Siemens had already expressly assumed, in its initial proposal that it would have to complete.

Notwithstanding the different characterizations, these issues all boil down to a single all encompassing question. Whether the County's actions in its dealings and negotiations with Siemens afforded, Siemens an unfair competitive advantage in the bid solicitation process? Attendant to that question is -- whether the negotiation process with Siemens crossed over the line and effectively allowed Siemens to improperly revise or amend their bid proposal through the negotiation process.

The sub-issues brought out at the Hearing related to the engineering plans, night work; traffic control; and the opportunity to submit a Best and Final Offer (BAFO) are all incorporated

into these three main arguments. I do not find that any of these sub-issues set forth here are independent reasons to find that the County acted arbitrarily or capriciously or in any other way violated the existing law related to procurement.

The determination of responsiveness is a threshold decision made by the County. The County has wide latitude to determine whether a submission by a proposer meets the requirements of the solicitation. My review of this determination is done with great deference to the County's decision. *Culpepper v. Moore*, 40 So. 2d 366, 369-70 (Fla. 1949); *Liberty County v. Baxter's Asphalt & Concrete, Inc.*, 421 So. 2d 505 (Fla. 1982).

A bidder is free to deviate from the requirements of a particular RFP in their submission, but they do so at their own peril. In any individual case, a contracting entity may or may not view these deviations unfavorably and the bidder will be treated accordingly. Here, the County has chosen to excuse any deviations in Siemens' Proposal and recommend the award to Siemens. This deviation is permissible so long as the deviation is or can be applied to all bidders. The general waiver language in the RFP, giving the County the right to waive any irregularities gives the County a wide berth to use its discretion.

This highly deferential standard of review is required even if I disagree with the determination of the County. A procurement decision lacks a rational basis only if *no reasonable person* could agree with it. *Culpepper v. Moore*, 40 So. 2d 366, 369-70 (Fla. 1949) (emphasis added); cf. *Booker v. State*, 514 So. 2d 1079, 1085 (Fla. 1987) ("abuse of discretion implies arbitrary and capricious" and "discretion is abused only where no reasonable man would take the view adopted by the [government]. If reasonable men could differ as to the propriety of the action taken by the [government], then it cannot be said that the [government] abused its

discretion.”); *Sunshine Towing @ Broward, Inc. v. Dep't of Transp.*, DOAH No. 10-0134BID, ¶¶ 43-45, 2010 WL 1417770, at \*10-11 (Fla. Div. Admin. Hrgs. Apr. 6, 2010) (RO) (same).

However, the latitude given to the County is not without its limits and requires that the County treat each bidder equally. Further, the County must follow its own rules and parameters related to the solicitation. *City of Sweetwater v. Solo Const. Corp.*, 823 So. 2d 798, 802 (Fla. 3d DCA 2002). Responsiveness is determined based solely on a proposer's proposal at the time of submission. *Robinson Elec. Co. v. Dade County*, 417 So. 2d 1032 (Fla. 3d DCA 1982) (substantial irregularities in the bidding process may not be waived or altered after the submission of bids); *Harry Pepper & Assocs., Inc. v. City of Cape Coral*, 352 So.2d 1190 (Fla. 4th DCA 1977) (“[A] bidder cannot be permitted to change his bid after the bids have been opened, except to cure minor irregularities.”).

I will address points 2 and 3 of the Horsepower Bid Protest jointly because I do not believe them to be dispositive of the controversy before me. I believe that many of the issues raised by these points are subsumed by a larger more comprehensive question and an independent analysis of the specifics of each is unnecessary.

It is undisputed that the final Price Proposal of Siemens is higher after the negotiation process than it was in its Bid Proposal, I take at face value that this was attendant to requests made by the County for Siemens to perform work not contemplated by the RFP and was indeed the subject of back and forth negotiations. This is not rightfully characterized as “gifting” an extra \$4,647,250. The RFP only provides that the Proposer's Bid is considered a “good faith commitment to negotiate”. In the RFP context, price is but one of the factors to determine the scope of a bid and given the negotiation process contemplated in the RFP, price adjustments are a contemplated outcome that may be reflected in the final contract.

The County requested that each bidder submit a list of assumptions used in submitting their Proposal and how they arrived at the costs and pricing. The responses, which may have been instructive to the County as part of their deliberations, in no way obligated the County to accept those assumptions as true or to act upon them in any way. Regardless of how misguided and inaccurate those assumptions may have been, the responses to that request are not a basis to make any substantive determinations regarding the recommendation of award to Siemens.

Similarly, the exchange between the County and Siemens related to the BAFO's. The County had the right to request a BAFO from any or all of the Proposers. I admit to being puzzled by the by the repeated requests for a BAFO from Siemens, particularly in light of the fact the County was only negotiating with one entity, but my clarity in this regard is unnecessary.

. Horsepower's first protest argument is that the County arbitrarily and capriciously modified two material terms of the RFP after the submission of proposals, and that these modifications gave Siemens an unfair competitive over all other proposers requires a separate analysis. The claimed modifications at issue relate to the minimum period for the County's review and approval of contractor-submitted plans that were specified in the RFP, as well as the RFP's requirement that all products submitted as part of any proposal had to be currently listed on both the State of Florida and County approved products lists.

#### **USE OF PRODUCTS NOT ON APPROVED LISTS**

Horsepower asserts that Siemens response to the RFP listed products not on the list of approved products of the State of Florida and Miami-Dade County. The County argues that the requirement that a product be on the lists was not as of the date of the Proposal submission, but



rather the date of installation. Siemens included two detection products in its proposal that were not listed on either approved products list at the time of its proposal submission.

Section 1.04 of the RFP provides in relevant part:

Scope of Work-

c. FDOT Approved Product List (APL): The Department will limit Contractor's use of products and materials that require use of APL items to those listed on the APL effective at the time of placement.

d. Traffic Signals and Signs (TSS) Division's Qualified Products List (TSSQPL):

1) Only those traffic control equipment and materials listed in the DTPW Traffic Signal and Signs (TSS) Division's Qualified Products List (TSSQPL), or submitted to and approved in writing by the DTPW TSS for addition to the TSSQPL, are allowed to be installed within Miami-Dade County.

Contrast this language to Section 2:01(A)(5) of the RFP which states that all "traffic control signals and devices **must be currently approved** and listed on the FDOT APL and the DTPW TSSQPL." RFP, Exhibit 2 to the Scope of Work, Section 2.01(A)(5). There was no argument as to what impact these two seemingly irreconcilable provisions had on the overall validity of the RFP and there is no indication that any Proposer raised any objection to, or sought clarification of, the specifications prior to the submission of the bids. Therefore there is no basis to disturb the County's actions and determination in this regard.

As part of its submitted proposal, Siemens proposed the use of two detection types -- one for stop bar detection (Iteris VVDS) and one for advanced detection (Wavetronix Advance) with supporting components (e.g. EDGE2-SDLC-IM) and sensor mounts -- that were not currently listed on either the State of Florida FDOT list of approved products or the County list of qualified products.

Section 2.07 of the RFP also advised proposers in its Scope of Work that the selected contractor would have to deliver various types of plans for County review and approval in order to perform the RFP project, including plans for signal design, maintenance of traffic, and a traffic signal timing database. Section 2.07 provides that a Proposer must allow for a minimum of twenty-one (21) calendar days for Miami-Dade County to review and approve any of the submitted plans, and that this 21 day minimum period must be incorporated within the proposed project schedules/timelines included as part of proposals under the RFP.

Horsepower asserts in its Bid Protest that the proposal submitted by Siemens in response to the RFP ("Siemens Proposal") did not include a proposed schedule based upon a minimum 21 day period for review and approval of submitted plans. Instead, the cost and schedule of the Siemens Proposal was expressly and strictly conditioned upon a minimum review and approval period of only 10 days. Siemens reaffirmed this in the post submission responses requested by the County.<sup>i</sup>

#### **SHORTENED REVIEW PERIOD**

I agree with County that the shortening of the time period for review and approval from 21 days to 10 days did not result in a bigger contract price, change the scope of work that the County sought in the RFP or that Siemens offered to provide in its proposal. I do not however agree that it did not provide a competitive advantage. While it is true that any proposer could have provided an enhanced or shortened time schedule for the completion of the work, it would require and in this case, did require that the Proposer assume a fact not set forth in the RFP. The competitive advantage would not manifest itself in an increased price, but rather allowed Siemens to price the costs in its Proposal at a lower number. The proposed price in the Siemens proposal was approximately \$152 million. This was significantly lower than the prices submitted

by the other two final proposers, who proposed prices of \$238,609,191.45 (Horsepower) and \$260,419,337.50 (Transcore). The price proposed by Siemens was also well below the County's internal estimate for the RFP project of \$172,227,264.

Mr. Aira testified that the shortened review and approval period would indeed allow a particular proposer to save the cost and expense of operations and payroll for the time saved by the shortened period. I do not believe that this can be properly be characterized as an enhancement that was proposed by Siemens. An enhancement is something that improves on or augments something. The improvement or augmentation here is contingent upon the County doing something for Siemens that affords Siemens a benefit not available to the other bidders. The County is free to consider enhancements proposed in response to an RFP because one proposer does not gain "a palpable economic advantage over the other offerors, where all the offerors were given the same opportunity to be innovative." *Sys. Dev. Corp. v. Dep't of Health & Rehab. Services*, 423 So. 2d 433, 435 (Fla. 1st DCA 1982) (finding that the Florida Department of Health and Rehabilitative Services did not act arbitrarily or capriciously by considering innovative solutions and enhancements offered by a proposer). There is nothing contained within the language of the RFP which would place any Proposer on notice that modification of the review and approval time period was an option.

The public solicitation requirements may not be materially altered subsequent to the submission of bids. *See Air Support Servs. Int'l, Inc. v. Metro. Dade Cty.*, 614 So. 2d 583, 584 (Fla. 3d DCA 1993); *Robinson Elec. Co. v. Dade County*, 417 So. 2d 1032 (Fla. 3d DCA 1982) (substantial irregularities in the bidding process may not be waived or altered after the submission of bids). Here the language of the RFP itself suggests that some changes to the submitted Bid is contemplated. The reward for being the low bidder under this RFP is the right

to negotiate with the County. Negotiation by its very definition implies that there will be a give and take to arrive at final terms of the contract. Specifically, the RFP provides:

### 1.3 General Proposal Information

The County may, at its sole and absolute discretion, reject any and all or parts of any or all proposals; accept parts of any and all proposals; further negotiate project scope and fees; postpone or cancel at any time this Solicitation process; or waive any irregularities in this Solicitation or in the proposals received as a result of this process. In the event that a Proposer wishes to take an exception to any of the terms of this Solicitation, the Proposer shall clearly indicate the exception in its proposal. In the event that a Proposer wishes to take an exception to any of the terms of this Solicitation, the Proposer shall clearly indicate the exception in its proposal. No exception shall be taken where the Solicitation specifically states that exceptions may not be taken. Further, no exception shall be allowed that, in the County's sole discretion, constitutes a material deviation from the requirements of the Solicitation. Proposals taking such exceptions may, in the County's sole discretion, be deemed nonresponsive. The County reserves the right to request and evaluate additional information from any Proposer regarding Proposer's responsibility after the submission deadline as the County deems necessary. The Proposer's proposal will be considered a good faith commitment by the Proposer to negotiate a contract with the County, in substantially similar terms to the proposal offered and, if successful in the process set forth in this Solicitation and subject to its conditions, to enter into a contract substantially in the terms herein.

The real question becomes at what point does "negotiation" become "revision"? And if a revision is required or allowed, what point does that revision create an unfair advantage to a particular bidder over others.

The test for whether a deviation from the initial requirements of a public solicitation is "material" is whether the variation affects the amount of the bid by giving the bidder an advantage or benefit not enjoyed by the other bidders. See *Harry Pepper & Assocs., Inc. v. City of Cape Coral*, 352 So. 2d 1190, 1193 (Fla. 2d DCA 1977); *Tropabest Foods, Inc. v. State, Dep't of Gen. Servs.*, 493 So. 2d 50, 52 (Fla. 1st DCA 1986) (holding that a deviation is material if it gives one proposer a substantial advantage over the other proposers and thereby restricts or

stifles competition). The County may choose to emphasize or de-emphasize certain aspects of the RFP, without that determination being in violation of existing procurement law. The standard in this regard is the equal treatment of all bidders. *City of Sweetwater v. Solo Const. Corp.*, 823 So. 2d 798, 802 (Fla. 3d DCA 2002) ("While a public authority has wide discretion in award of contracts for public works on competitive bids, such discretion must be exercised based upon clearly defined criteria, and may not be exercised arbitrarily or capriciously"); *see also Liberty County v. Baxter's Asphalt & Concrete, Inc.*, 421 So. 2d 505 (Fla. 1982).

Florida law has also specifically addressed situations where a public entity has attempted to modify the terms or requirements of a solicitation after submissions. *See Harry Pepper & Assocs.*, 352 So. 2d at 1193 (considering whether a city could waive a solicitation requirement that mandated only certain brands of water pumps be proposed, where preferred awardee had proposed a brand of water pump that was not on the solicitation's list of approved brands); *City of Opa-Locka v. Trustees of Plumbing Industry Promotion Fund*, 193 So. 2d 29 (Fla. 3d DCA 1966) (considering whether a city could waive a solicitation requirement that all proposers possess a certificate of competency, where preferred awardee did not possess such a certificate).

In *Harry Pepper & Assocs.*, 352 So. 2d at 1193 (holding that city could not waive pump brand requirement because there was an economic difference between approved and non-approved pumps, and allowing preferred proposer to move forward with non-approved pump was an advantage not enjoyed by other bidders who were required to propose only approved pumps); In *City of Opa-Locka*, the Court held that city could not waive a certification requirement because "[i]f the City may in its discretion waive this section it would be conducive to favoritism by allowing some bidders to qualify after their bids are accepted").

The purpose of competitive bidding is to secure the lowest responsible offer, and this purpose is best served by construing the bid requirements in a way that would give all bidders an opportunity to compete. *See Air Support Servs.*, 614 So. 2d at 584; *Robinson Elec. Co.*, 417 So. 2d at 1034. Implicit in that statement is that the "opportunity" to compete be equal for all bidders. To determine otherwise would make the RFP bidding process a race to the bottom to be the low bidder and then hope to negotiate a better deal. Florida law does not countenance such a result.

The *Gtech* case provides the applicable rationale for why proposers should not be allowed to materially alter their proposals during the course of negotiations, recognizing that "to countenance the [government entity's] entry into a contract that was materially different than [the preferred provider's] proposal would encourage responders to RFPs to submit non-competitive, unrealistic proposals solely for the purpose of receiving the highest ranking for subsequent negotiations. *Gtech Corp.*, 816 So. 2d at 652.

The shorter review and approval period assumed by Siemens, provided Siemens the opportunity to complete the RFP project sooner than if it was constrained to the longer review and approval period. The County modified the minimum period for review and approval of contractor-submitted plans, shortening this period from 21 days to 10 days. The modification of the minimum review and approval period from 21 days to 10 days was done only at the request of Siemens who made this desire known at the time of its Bid submission and made it clear that their pricing was contingent upon this modification. Siemens alone was afforded the opportunity to modify the number of days for review and approval. This was not a negotiated point, it was merely a concession by the County. Siemens had already made its intentions known and even warned of the impact of a change in the review period on its pricing.



If a different timetable was available or the 21 days was flexible, that information should have been made available to all Proposers so that they too could evaluate a completion schedule based upon the shortened review and approval period. The Recommendation for Award, and the recommended value of the contract award to Siemens, is based upon the modified 10 day period for County review and approval of any plans submitted by Siemens during the RFP project.

This change effectively modified the terms of the RFP to accommodate Siemens. No other proposer had the opportunity to price and submit a proposal under the RFP that incorporated the shortened 10 day review and approval period.

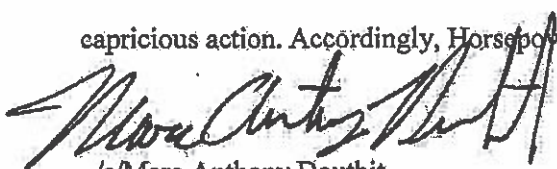
I agree with County that the shortening of the time period for review and approval from 21 days to 10 days did not result in a bigger contract price, change the scope of work that the County sought in the RFP or that Siemens offered to provide in its proposal. I do not however agree that it did not provide a competitive advantage. While it is true that any proposer could have provided an enhanced or shortened time schedule for the completion of the work, it would require and in this case did require that the Proposer assume a fact not set forth in the RFP. The competitive advantage would not manifest itself in an increased price, but rather allowed Siemens to price the costs in its Proposal at a lower number.

The price proposed by Siemens was also well below the County's internal estimate for the RFP project of \$172,227,264. The County found this to be a significant enough difference that they decided to negotiate with Siemens to take advantage of the significant cost savings the Siemens bid afforded. That required that the County make accommodations for the reduced review and approval period for all of the various plans that would need to be submitted during the pendency of the RFP project. Mr. Frank Aira, testified that there is an economic impact in

reducing the review and approval period, while he was unsure of the amount of that impact, but conceded the amount could be "significant".

Modifying the RFP's terms post-submission to accommodate Siemens proposal provided Siemens with an unfair competitive advantage not enjoyed by any other proposer. Further, this modification was a material post-submission modification that created a competitive advantage for Siemens over the other bidders. This deviation was sufficiently material to destroy the competitive character of the RFP's procurement process because the modification to the minimum review period affected the price amount and project schedule of the Siemens proposal, and gave Siemens an advantage in pricing and scheduling its proposal that was not enjoyed by the other proposers, who were all required to price and schedule their proposals based on a longer, 21 day review and approval period. *Tropabest Foods, Inc. v. State, Dep't of Gen. Servs.*, 493 So. 2d 50, 52 (Fla. 1st DCA 1986) (holding that a deviation is material if it gives one proposer a substantial advantage over the other proposers and thereby restricts or stifles competition).

Based on the factual findings and legal conclusions set forth above, the undersigned does not concur with the Miami-Dade County Mayor's Recommendation of Award to Siemens under the RFP, and finds that the Recommendation of Award to Siemens represents arbitrary and capricious action. Accordingly, Horsepower's protest is hereby SUSTAINED.

  
\_\_\_\_\_  
/s/Marc Anthony Douthit  
Marc Anthony Douthit, Esq.  
Hearing Examiner

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<sup>1</sup> In each of Siemen's responses to the County's request for a Best and Final Offer (BAFO), Siemens maintained the 10 day period as part of its implementation and completion schedule.

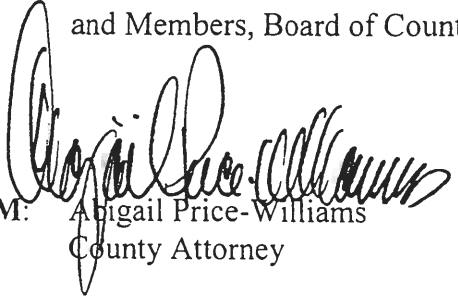


# MEMORANDUM

(Revised)

TO: Honorable Chairwoman Audrey M. Edmonson  
and Members, Board of County Commissioners

DATE: June 2, 2020

FROM:   
Abigail Price-Williams  
County Attorney

SUBJECT: Agenda Item No.

Please note any items checked.

- ☐ "3-Day Rule" for committees applicable if raised
- ☐ 6 weeks required between first reading and public hearing
- ☐ 4 weeks notification to municipal officials required prior to public hearing
- ☐ Decreases revenues or increases expenditures without balancing budget
- ☐ Budget required
- ☐ Statement of fiscal impact required
- ☐ Statement of social equity required
- ☐ Ordinance creating a new board requires detailed County Mayor's report for public hearing
- ☐ No committee review
- ☐ Applicable legislation requires more than a majority vote (i.e., 2/3's present \_\_\_\_, 2/3 membership \_\_\_\_, 3/5's \_\_\_\_, unanimous \_\_\_\_, CDMP 7 vote requirement per 2-116.1(3)(h) or (4)(c) \_\_\_\_, CDMP 2/3 vote requirement per 2-116.1(3)(h) or (4)(c) \_\_\_\_, or CDMP 9 vote requirement per 2-116.1(4)(c)(2) \_\_\_\_ to approve
- ☒ Current information regarding funding source, index code and available balance, and available capacity (if debt is contemplated) required

Approved \_\_\_\_\_ Mayor \_\_\_\_\_ Agenda Item No. \_\_\_\_\_  
Veto \_\_\_\_\_  
Override \_\_\_\_\_

RESOLUTION NO. \_\_\_\_\_

RESOLUTION APPROVING AWARD OF CONTRACT NO. RFP-01058 TO SIEMENS MOBILITY, INC. FOR PURCHASE OF ADVANCED TRAFFIC MANAGEMENT SYSTEM FOR THE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS IN A TOTAL AMOUNT NOT TO EXCEED \$160,173,671.00 FOR THE NINE-YEAR TERM; AND AUTHORIZING THE COUNTY MAYOR OR COUNTY MAYOR'S DESIGNEE TO EXECUTE SAME FOR AND ON BEHALF OF MIAMI-DADE COUNTY AND TO EXERCISE ALL PROVISIONS OF THE CONTRACT, INCLUDING ANY CANCELLATION, RENEWAL AND EXTENSION PROVISIONS PURSUANT TO SECTION 2-8.1 OF THE CODE OF MIAMI-DADE COUNTY, FLORIDA AND IMPLEMENTING ORDER 3-38; AND AUTHORIZING THE USE OF CHARTER COUNTY TRANSPORTATION SURTAX FUNDS CONTAINED IN EXHIBIT 1 OF THE PEOPLE'S TRANSPORTATION PLAN SECTION MAJOR HIGHWAY AND ROAD IMPROVEMENTS

**WHEREAS**, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference,

**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that:**

**Section 1.** This Board approves award of Contract No. RFP-01058 to Siemens Mobility, Inc. for purchase of the Advanced Traffic Management System for the Department of Transportation and Public Works, in substantially the form attached and made a part hereof, in a total amount not to exceed \$160,173,671.00 for the nine-year term.

**Section 2.** This Board authorizes the County Mayor or County Mayor's designee to execute same for and on behalf of Miami-Dade County and to exercise all provisions of the contract, including any cancellation, renewal and extension provisions pursuant to 2-8.1 of the Code of Miami-Dade County and Implementing Order 3-38. A copy of the contract is on file and available upon request from the Internal Services Department, Strategic Procurement Division.

**Section 3.** This Board authorizes the use of Charter County Transportation Surtax Funds for such purpose contained in Exhibit 1 of the People's Transportation Plan Section Major Highway and Road Improvements.

The foregoing resolution was offered by Commissioner  
who moved its adoption. The motion was seconded by Commissioner  
and upon being put to a vote, the vote was as follows:

Audrey M. Edmonson, Chairwoman

Rebeca Sosa, Vice Chairwoman

Esteban L. Bovo, Jr.

Jose "Pepe" Diaz

Eileen Higgins

Joe A. Martinez

Dennis C. Moss

Xavier L. Suarez

Daniella Levine Cava

Sally A. Heyman

Barbara J. Jordan

Jean Monestime

Sen. Javier D. Souto

The Chairperson thereupon declared this resolution duly passed and adopted this 2<sup>nd</sup> day of June, 2020. This resolution shall become effective upon the earlier of (1) 10 days after the date of its adoption unless vetoed by the County Mayor, and if vetoed, shall become effective only upon an override by this Board, or (2) approval by the County Mayor of this resolution and the filing of this approval with the Clerk of the Board.

MIAMI-DADE COUNTY, FLORIDA  
BY ITS BOARD OF  
COUNTY COMMISSIONERS

HARVEY RUVIN, CLERK

By: \_\_\_\_\_  
Deputy Clerk

Approved by County Attorney as  
to form and legal sufficiency.



Bruce Libhaber



ADVANCED TRAFFIC MANAGEMENT SYSTEM  
CONTRACT NO. RFP-01058

THIS AGREEMENT made and entered into as of this \_\_\_\_\_ day of \_\_\_\_\_, 2020 by and between Siemens Mobility Inc, a corporation organized and existing under the laws of the State of Delaware, having its principal office at 9225 Bee Cave Road, Building B, Suite 101, Austin Texas 78733 (hereinafter referred to as the "Contractor"), and Miami-Dade County, a political subdivision of the State of Florida, having its principal office at 111 N.W. 1st Street, Miami, Florida 33128 (hereinafter referred to as "the County"),

WITNESSETH:

WHEREAS, the Contractor has offered to upgrade the County's existing Advanced Traffic Management System (ATMS) and traffic signal controllers, provide fully-actuate all signalized intersections, and provide Miscellaneous Engineering Implementation of traffic engineering solutions. The Contractor's work shall be performed on a non-exclusive basis and shall conform to; Appendix A (Scope of Work rev 1-29-20), Miami-Dade County's Request for Proposals (RFP) No. 01058, and all associated addenda and attachments that are incorporated herein by reference. Furthermore the Contractor shall comply with the requirements of this Agreement; and,

WHEREAS, the Contractor has submitted a written proposal dated November 1, 2018, hereinafter referred to as the "Contractor's Proposal", which is incorporated herein by reference; and,

WHEREAS, the County desires to procure from the Contractor such Advanced Traffic Management System for the County, in accordance with the terms and conditions of this Agreement;

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NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, the parties hereto agree as follows:

#### **ARTICLE 1. DEFINITIONS**

The following words and expressions used in this Agreement shall be construed as follows, except when it is clear from the context that another meaning is intended:

- a) The words "Contract" or "Agreement" to mean collectively these terms and conditions, the Scope of Work (Appendix A), all other appendices and attachments hereto, all amendments issued hereto, RFP No. 01058 and all associated addenda, and the Contractor's Proposal.
- b) The words "Contract Date" to mean the date on which this Agreement is effective.
- c) The words "Contract Manager" to mean Miami-Dade County's Director, Internal Services Department, or the duly authorized representative designated to manage the Contract.
- d) The word "Contract Term" to mean the time between the Award Date and Final Completion.
- e) The word "Contractor" to mean Siemens Mobility Inc, its subcontractors/subconsultants, and its permitted successors.
- f) The word "Days" or "days" to mean Calendar Days.
- g) The word "Deliverables" to mean all documentation and any items of any nature submitted by the Contractor to the County's Project Manager for review and approval pursuant to the terms of this Agreement.
- h) The word "DTPW" to mean Miami-Dade County Department of Transportation and Public Works.
- i) The words "directed", "required", "permitted", "ordered", "designated", "selected", "prescribed" or words of like import to mean respectively, the direction, requirement, permission, order, designation, selection or prescription of the County's Project Manager; and similarly the words "approved", "acceptable", "satisfactory", "equal", "necessary", or words of like import to mean respectively, approved by, or acceptable or satisfactory to, equal or necessary in the opinion of the County's Project Manager.
- j) The words "Extra Work" or "Additional Work" to mean additions or deletions or modifications to the amount, type or value of the Work and Services as required in this Contract, as directed and/or approved by the County.
- k) The words "Project Manager" to mean the County Mayor, the County Project Manager, or the duly authorized representative(s) designated to manage the Project.
- l) The words "Scope of Work", "Work", "Services", or "Program" to mean the document appended hereto as Appendix A, which details the work to be performed by the Contractor.
- m) The word "subcontractor" or "subconsultant" to mean any person, entity, firm or corporation, other than the employees of the Contractor, who furnishes labor and/or materials, in connection with the Work, whether directly or indirectly, on behalf and/or under the direction of the Contractor and whether or not in privity of Contract with the Contractor.

#### **ARTICLE 2. ORDER OF PRECEDENCE**

If there is a conflict between or among the provisions of the Contract, the order of precedence is as follows: 1) the Form of Agreement; 2) agreed upon Scope of Work (as may be negotiated); 3) addenda to the RFP; 4) attachments and exhibits to the Request for Proposal; 4) the Request for Proposal; and 5) the Contractor's Proposal.

**ARTICLE 3. RULES OF INTERPRETATION**

- a) References to a specified Article, section or schedule shall be construed as reference to that specified Article, or section of, or schedule to this Agreement unless otherwise indicated.
- b) Reference to any agreement or other instrument shall be deemed to include such agreement or other instrument as such agreement or other instrument may, from time to time, be modified, amended, supplemented, or restated in accordance with its terms.
- c) The terms "hereof", "herein", "hereinafter", "hereby", "herewith", "hereto", and "hereunder" shall be deemed to refer to this Agreement.
- d) The titles, headings, captions and arrangements used in these Terms and Conditions are for convenience only and shall not be deemed to limit, amplify or modify the terms of this Contract, nor affect the meaning thereof.

**ARTICLE 4. NATURE OF THE AGREEMENT**

- A. This Agreement incorporates and includes all prior negotiations, correspondence, conversations, agreements, and understandings applicable to the matters contained in this Agreement. The parties agree that there are no commitments, agreements, or understandings concerning the subject matter of this Agreement that are not contained in this Agreement, and that this Agreement contains the entire agreement between the parties as to all matters contained herein. Accordingly, it is agreed that no deviation from the terms hereof shall be predicated upon any prior representations or agreements, whether oral or written. It is further agreed that any oral representations or modifications concerning this Agreement shall be of no force or effect, and that this Agreement may be modified, altered or amended only by a written amendment duly executed by both parties hereto or their authorized representatives.
- B. The Contractor shall provide the services set forth in the Scope of Work, and render full and prompt cooperation with the County in all aspects of the Services performed hereunder.
- C. The Contractor acknowledges that this Agreement requires the performance of all things necessary for or incidental to the effective and complete performance of all Work and Services under this Contract. All things not expressly mentioned in this Agreement but necessary to carrying out its intent are required by this Agreement, and the Contractor shall perform the same as though they were specifically mentioned, described and delineated.
- D. The Contractor shall furnish all labor, materials, tools, supplies, and other items required to perform the Work and Services that are necessary for the completion of this Contract. All Work and Services shall be accomplished at the direction of and to the satisfaction of the County's Project Manager.
- E. The Contractor acknowledges that the County shall be responsible for making all policy decisions regarding the Scope of Work. The Contractor agrees to provide input on policy issues in the form of recommendations. The Contractor agrees to implement any and all changes in providing Services hereunder as a result of a policy change implemented by the County, subject to Article 34 "Extra Work". The Contractor agrees to act in an expeditious and fiscally sound manner in providing the County with input regarding the time and cost to implement said changes and in executing the activities required to implement said changes.
- F. The Parties understand and agree that, by entering this Agreement, Contractor assumes all obligations to protect traffic and public safety during the performance of the Work, in accordance with the terms and conditions of the Agreement.



**ARTICLE 5. CONTRACT TERM**

This contract shall commence on the first calendar day of the month succeeding approval of the contract by the Board of County Commissioners, or designee, unless otherwise stipulated in the Blanket Purchase Order issued by the Internal Services Department, Strategic Procurement Division. The contract shall expire on the last day of the ninth (9<sup>th</sup>) year.

Notwithstanding the defined contract term, the period for expressed and/or implied warranty periods shall remain in full force and effect for the term of those agreements. DTPW will issue a Notice to Proceed (NTP) to the Contractor.

**ARTICLE 6. NOTICE REQUIREMENTS**

- A. All notices required or permitted under this Agreement shall be in writing and shall be deemed sufficiently served if delivered by Registered or Certified Mail, with return receipt requested; or delivered personally; or delivered via e-mail (if provided below) and followed with delivery of hard copy; and in any case addressed as follows:

(1) To the County

a) To the Project Manager:

Evelin Legcevic, P.E.  
Traffic Engineering Manager, Traffic Signals and Signs Division  
Miami-Dade County Public Works and Waste Management Department  
7100 NW 36 Street  
Miami, Florida 33166  
E-mail: [Evelin.Legcevic@miamidade.gov](mailto:Evelin.Legcevic@miamidade.gov)

b) To the Contract Manager:

Brian A. Webster  
Procurement Contracting Officer  
Miami-Dade County Internal Services Department  
Strategic Procurement Division  
111 NW 1st Street, 13th Floor  
Miami, FL 33128  
E-mail: [Brian.Webster@miamidade.gov](mailto:Brian.Webster@miamidade.gov)

(2) To the Contractor

Stephen Gitkin  
Project Executive/Principal-in-Charge  
Siemens Mobility, Inc.  
9225 Bee Cave Road  
Austin, Texas 78733  
Phone: 201-851-7441  
E-mail: [steve.gitkin@siemens.com](mailto:steve.gitkin@siemens.com)

- B. Either party may at any time designate a different address and/or contact person by giving notice as provided above to the other party. Such notices shall be deemed given upon receipt by the addressee.

**ARTICLE 7. PAYMENT FOR SERVICES/AMOUNT OBLIGATED**

- A. The Contractor warrants that it has reviewed the County's requirements and has asked such questions and conducted such other inquiries as the Contractor deemed necessary in order to determine the price the Contractor will charge to provide the Work and Services to be performed under this Contract. **The compensation for all Work and Services performed under this Contract, including all costs associated with such Work and Services, shall be in the total amount of one hundred sixty million one hundred seventy-three thousand six hundred seventy-one dollars (\$160,173,671.00).** The County shall have no obligation to pay the Contractor any additional sum in excess of this amount, except for a change and/or modification to the Contract, or an adjustment to quantities associated with unit prices, which is approved and executed in writing by the County and the Contractor.
- B. This firm fixed price contract will be established at amounts represented by Table 8.1 Price Schedule.

**ARTICLE 8. PRICING**

- A. Prices shall remain firm and fixed for the term of the Contract, including any extension periods; however, the Contractor may offer incentive discounts to the County at any time during the Contract term, including any renewal or extension thereof.
- B. Unit Price Basis for Payment
- The unit prices set forth by Table 8.1 Price Schedule shall be the basis for the contract price for all units, except for Item Nos. 1.1, and 1.2. Payment of each unit price will be based on actual measured quantities of the Work, or planned quantities as stipulated in Appendix A (Scope of Work), except where the unit is a lump sum, in which case payment will be based upon the lump sum price as stated upon the completion of the associated work.
- C. Progress Payment Basis for Payment
1. Item Numbers 1.1 and 1.2 of Table 8.1 Price Schedule, will be compensated by the County based on Monthly Progress Payments.
  2. Prior to issuance of the NTP and as a condition thereof, Contractor shall submit to County Project Manager for review and approval, a preliminary Schedule of Values that:
    - a. Logically subdivides the Work covered by the lump sum item into component parts with sufficient detail to serve as the basis for progress payments during performance of the Work and correlates to the Work Progress Schedule.
    - b. Includes quantities and prices of items for all of the Work which when added together equal the Contract Unit Price for the lump sum item.
  3. The Schedule of Values will be acceptable to the County's Project Manager or Authorized Representative as to form and substance if it provides a reasonable allocation of the Lump Sum Item to component parts of the Work under said Item.
  4. The Contractor will be required to submit at least ten (10) days prior to the next application for progress payment, a revised or updated Schedule of Values to address any changes in the Work.
- D. Compensation for MOT – Traffic Control Officers
1. The County will reimburse Contractor for the services of uniformed law enforcement officers authorized to serve as Traffic Control Officers for the purpose of controlling or directing traffic in the work zone as part of the County approved Traffic Control Plan and Maintenance of Traffic (MOT) Plan provided by Contractor.

2. The amount to be paid will be the invoiced amount of the Contractor's Direct Out-of-Pocket expense attributed to the provision of a Traffic Control Officer certified to be on the project site, including any law enforcement vehicles and all other direct costs.
3. Payment will be made at invoice cost from the contract Allowance established by the County.
4. Payment will be made only for those Traffic Control Officers specified in the plans and authorized by the County Project Manager. The necessary invoices and documentation shall be submitted to the County Project Manager along with the payment request.

E. Payment for Night Time Work

1. Both the County and the Contractor acknowledge that a significant portion of the Work for Task Group 1 will be performed during night time, which will incur an additional cost on the part of the Contractor for labor. Upon submission of the initial project schedule, the Contractor may include night time work for Task Group 1 for at least 1,450 intersections, at the sole discretion of the Contractor and is not subject to County approval. For all night time work included in the initial project schedule, the County shall compensate the Contractor for the not-to-exceed amount of \$4,647,250, paid out monthly at a unit price of \$3,205 per intersection. The unit price is inclusive of all labor, which is necessary to complete the Work. The amount for night time work for Task Group 1, based on the Contractor's initial project schedule, is capped at the not-to-exceed amount of \$4,647,250, notwithstanding the planned number intersections in excess of 1,450. The total amount to be paid to the Contractor, as calculated and based on the initial project schedule, shall herein after be referred to as "Night Time Premium Cost" and shall become fixed as calculated by Contractor at the initial project schedule and prior to Notice to Proceed. The Night Time Premium Cost is included in Table 8.1 "Price Schedule, of the Agreement (Item No. 4.2).
2. Any revisions of the initial project schedule resulting in an increase or decrease of the initially identified intersections requiring night time work will not alter, amend or cancel the Night Time Premium Cost. In the event of a decrease of the actual night time work to the initially planned number of intersections at the time of completion of Task Group 1 work, the Contractor shall receive a lump sum payment for the difference between the Night Time Premium Cost and the amount of invoiced night time work, paid as of the date of completion for Task Group 1. The payouts of the Night Time Premium Cost is not subject to revision or requires any additional approval by the County.

## F. Unit Price Schedule

Table 8.1 Price Schedule

Task Group 1: ATMS and Traffic Signal Controller Migration					
Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total
1.1	System Delivery and Integration	LUMP SUM	1	\$22,989,975.00	\$22,989,975.00
1.1a	Advance Development of Custom Features	LUMP SUM	1	\$200,000.00	\$200,000.00
1.1b	Enhanced Training Program	LUMP SUM	1	\$440,000.00	\$440,000.00
1.2	ATMS central software	LUMP SUM	1	\$1,998,000.00	\$1,998,000.00
1.3	Caltrans Model 2070LX controller with local controller software	EA	2900	\$2,010.00	\$5,829,000.00
1.4	Intersection Database Migration	EA	2900	\$2,299.00	\$6,667,100.00
1.5	Controller field installation	EA	2900	\$1,798.00	\$5,214,200.00
1.6	Software Maintenance Support (after Year 6)	YEAR	4	\$398,590.00	\$1,594,360.00
1.7	Operational and System Support (after Year 5) (2 person on-site)	YEAR	5	\$497,990.00	\$2,489,950.00
1.8	Systems Training (after Year 5)	EA	5	\$41,000.00	\$205,000.00
Total Task Group 1:					\$47,627,585.00

Task Group 2: Full Actuation of Signalized Intersections					
Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total
2.1	Major Engineering Design (TASK GROUP 2)	EA	300	\$9,179.00	\$2,753,700.00
2.2	Minor Engineering Design (TASK GROUP 2)	EA	2400	\$2,784.00	\$5,277,600.00
2.3	Inductive Loop Detector, F&I	EA	5000	\$213.00	\$1,065,000.00
2.4	Loop Assembly, F&I, Type B	EA	8000	\$1,185.00	\$9,480,000.00
2.5	Loop Assembly, F&I, Type F	AS	3000	\$1,217.00	\$3,651,000.00
2.6	Loop Assembly, F&I, Type F Modified (Bicycle)	AS	400	\$1,267.00	\$506,800.00
2.7	Vehicle Detection System- Microwave, F&I Cabinet Equipment	EA	1000	\$3,099.00	\$3,099,000.00
2.8	Vehicle Detection System- Microwave, F&I Above Ground Equipment	EA	4000	\$5,614.00	\$22,456,000.00
2.9	Vehicle Detection System- Video, F&I Cabinet Equipment	EA	655	\$7,495.00	\$4,909,225.00
2.10	Vehicle Detection System- Video, F&I Above Ground Equipment	EA	1965	\$2,474.00	\$4,861,410.00
2.11	Conduit, F&I, Open Trench	LF	650000	\$6.70	\$4,355,000.00
2.12	Conduit, F&I, Directional Bore	LF	531000	\$8.70	\$4,619,700.00

2.13	Pull & Splice Box, F&I, 13" X 24" Cover Size	EA	7965	\$605.00	\$4,818,825.00
2.14	Pull & Splice Box, F&I, 24" X 36" Cover Size	EA	30	\$695.00	\$20,850.00
2.15	Pedestrian Signal, F&I, LED-Count Down, 1 direction	EA	4800	\$690.00	\$3,312,000.00
2.16	Pedestrian Signal, F&I, LED-Count Down, 2 direction	EA	300	\$1,184.00	\$355,200.00
2.17	Removal of Existing Pedestrian Signal, Pole/Pedestal to remain	EA	300	\$99.00	\$29,700.00
2.18	Pedestrian Detector, Standard	EA	4800	\$235.00	\$1,128,000.00
2.19	Removal of Existing Pedestrian Detector, Pole/Pedestal to remain	EA	600	\$70.00	\$42,000.00
2.20	Aluminum Signal Pole, F&I, Pedestal	EA	4800	\$1,641.00	\$7,876,800.00
2.21	Aluminum Signal Pole, F&I, Pedestrian Detector Post	EA	1200	\$1,190.00	\$1,428,000.00
2.22	Removal of Existing Pedestrian Signal Pole	EA	600	\$1,099.00	\$659,400.00
2.23	Concrete Sidewalk and Driveways, 6" Thick	SY	41067	\$92.00	\$3,778,133.33
2.24	Detectable Warnings	SF	38400	\$45.00	\$1,728,000.00
<b>Total Task Group 2:</b>					<b>\$92,211,343.33</b>

<b>Task Group 3: Miscellaneous Engineering Implementation</b>					
<b>Item No.</b>	<b>Item Description: Engineering services necessary to develop, provide, and integrate additional traffic signal operational features and functions</b>	<b>Unit</b>	<b>Estimated Quantity</b>	<b>Unit Price</b>	<b>Total</b>
3.1	Update the System Engineering Documents provided as Exhibit 11	HOUR	300	\$250.00	\$75,000.00
3.2	Review and optimize existing traffic signal parameters and timing plans	INTERSECTION	1300	\$3,840.00	\$1,716,000.00
3.3	Design, configure and implement traffic responsive control	INTERSECTION	500	\$5,010.00	\$887,500.00
3.4	Design, configure and implement adaptive control	INTERSECTION	1000	\$6,245.00	\$3,095,000.00
<b>Titles of all key staff of the Contractor who will perform Task 3 work and their hourly rates</b>					
3.5	Senior Project Manager	HOUR		\$295.00	
3.6	Project Manager	HOUR		\$250.00	
3.7	Senior Traffic Engineer	HOUR		\$210.00	
3.8	Traffic Engineer	HOUR		\$180.00	
3.9	Senior Systems Engineer	HOUR		\$250.00	



3.10	Systems Engineer	HOUR		\$180.00	
3.11	Software Engineering Architect	HOUR		\$260.00	
3.12	Software Programmer	HOUR		\$210.00	
3.13	Software Tester	HOUR		\$178.00	
3.14	CAD Designer	HOUR		\$125.00	
3.15	1 Traffic Services Technician w/Service Truck	HOUR		\$99.00	
3.16	Field Supervisor	HOUR		\$120.00	
3.17	2 Technician Crew w/1 Bucket Truck	HOUR		\$280.00	
<b>Total Task Group 3:</b>					<b>\$5,773,500.00</b>

Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total
4.1	Allowance (Contingency):				\$9,913,992.67
4.2	Allowance (Night Time Work):	INTERSECTION	1450	\$3,205.00	\$4,647,250.00
<b>TOTAL CONTRACT PRICE (All Items):</b>					<b>\$160,173,671.00</b>

#### G. Satisfactory Performance

The County's authorization of unit price payments is subject to the Contractor's satisfactory performance. The County may suspend or reduce the amount or quantity of units of work completed after finding the Contractor failed to comply with any material requirement of this contract.

#### H. 15% Improvement Guarantee

The 15% Improvement Guarantee shall not impact any other contractual requirements and payment. See Paragraph 1.04 "15% Travel Time Improvement Guarantee" of the Scope of Work (Appendix A) for additional requirements and details.

### ARTICLE 9. METHOD AND TIMES OF PAYMENT

- A. The Contractor agrees that under the provisions of this Agreement, as reimbursement for those actual, reasonable and necessary costs incurred by the Contractor, which are directly attributable or properly allocable to the Services, the Contractor may bill the County periodically, but not more than once per month, upon invoices certified by the Contractor pursuant to Article 8 "Pricing". All invoices shall be taken from the books of account kept by the Contractor, and shall be supported by copies of receipt bills or other documents reasonably required by the County, upon the request of the County. Invoices shall show the County's contract number, and shall have a unique invoice number assigned by the Contractor. It is the policy of Miami-Dade County that payment for all purchases by County agencies and the Public Health Trust shall be made in a timely manner and that interest payments be made on late payments. All firms, including Small Business Enterprises, providing goods and services to the County, shall receive payment to maintain sufficient cash flow. In accordance with Section 218.74 of the Florida Statutes, and Section 2-8.1.4 of the Code of Miami-Dade County, the time at which payment shall be due from the County or the Public Health Trust shall be forty-five (45) days from receipt of a proper invoice. Billings from prime Contractors under services and goods contracts with the County or Public Health Trust, that are Small Business Enterprise contract set-aside, bid preference or contain a subcontractor goal, shall be promptly reviewed and payment made by the County or Trust on those amounts not under dispute within fourteen (14) calendar days of receipt of such billing by the County or the Trust pursuant to Sections 2-8.1.1.1 and 2-8.1.1.2 of the Code of Miami-Dade. All payments due from the County or the Public Health Trust, and not made within the time specified by this section shall bear interest from thirty (30) days after the due date at the rate of one percent (1%) per month

on the unpaid balance. Further, proceedings to resolve disputes for payment of obligations shall be concluded by final written decision of the County Mayor, or his or her designee(s), not later than sixty (60) days after the date on which the proper invoice was received by the County or the Public Health Trust.

- B. In accordance with Miami-Dade County Implementing Order 3-9, Accounts Receivable Adjustments, if money is owed by the Contractor to the County, whether under this Contract or for any other purpose, the County reserves the right to retain such amount from payment due by County to the Contractor under this Contract. Such retained amount shall be applied to the amount owed by the Contractor to the County. The Contractor shall have no further claim to such retained amounts which shall be deemed full accord and satisfaction of the amount due by the County to the Contractor for the applicable payment due herein.

Invoices and associated back-up documentation shall be submitted in duplicate by the Contractor to the County as instructed by the County Project Manager.

The County may at any time designate a different address and/or contact person by giving written notice to the other party.

#### **ARTICLE 10. INDEMNIFICATION AND INSURANCE**

Contractor shall indemnify and hold harmless the County and its officers, employees, agents and instrumentalities from any and all liability, losses or damages, including reasonable attorneys' fees and costs of defense, which the County or its officers, employees, agents or instrumentalities may incur as a result of claims, demands, suits, causes of actions or proceedings of any kind or nature to the extent arising out of, relating to or resulting from the Contractor's negligent acts, omissions, or willful misconduct in the performance of this Agreement by the Contractor or its employees, agents, servants, partners principals or subcontractors, except to the extent such actions, claims, damages to persons or property, penalties, obligations, or liabilities arise from the negligent acts, omissions, or willful misconduct of the County, its officers, employees and agents. The Contractor shall pay all claims and losses in connection therewith and shall investigate and defend all claims, suits or actions of any kind or nature in the name of the County, where applicable, including appellate proceedings, and shall pay all costs, judgments, and attorney's fees which may issue thereon. Contractor expressly understands and agrees that any insurance protection required by this Agreement or otherwise provided by Contractor shall in no way limit the responsibility to indemnify, keep and save harmless and defend the County or its officers, employees, agents and instrumentalities as herein provided.

The Contractor shall furnish to Internal Services Department, Procurement Management Division, 111 NW 1<sup>st</sup> Street, Miami, FL 33128, Certificate(s) of Insurance which indicate that insurance coverage has been obtained which meets the requirements as outlined below:

- A. Worker's Compensation Insurance for all employees of the Contractor as required by Florida Statute 440, including Employers Liability in an amount not less than \$1,000,000.
- B. Commercial General Liability Insurance on a comprehensive basis in an amount not less than \$5,000,000 per occurrence. **Miami-Dade County must be shown as an additional insured with respect to this coverage.**
- C. Automobile Liability Insurance covering all owned, non-owned and hired vehicles used in connection with the work, in an amount not less than \$1,000,000 combined single limit per occurrence for bodily injury and property damage.
- D. Professional Liability Insurance in an amount not less than \$1,000,000 per claim.

All insurance policies required above shall be issued by companies authorized to do business under the laws of the State of Florida, with the following qualifications:



The company must be rated no less than "A-" as to management, and no less than "Class VII" as to financial strength by Best's Insurance Guide, published by A.M. Best Company, Oldwick, New Jersey, or its equivalent, subject to the approval of the County Risk Management Division.

or

The company must hold a valid Florida Certificate of Authority as shown in the latest "List of All Insurance Companies Authorized or Approved to Do Business in Florida" issued by the State of Florida Department of Financial Services.

**CERTIFICATE HOLDER MUST READ: MIAMI-DADE COUNTY  
111 NW 1<sup>st</sup> STREET  
SUITE 2340  
MIAMI, FL 33128**

Compliance with the foregoing requirements shall not relieve the Contractor of this liability and obligation under this section or under any other section in this Agreement.

Award of this Contract is contingent upon the receipt of the insurance documents, as required, within ten (10) business days. If the insurance certificate is received within the specified timeframe but not in the manner prescribed in this Agreement, the Contractor shall have an additional five (5) business days to submit a corrected certificate to the County. If the Contractor fails to submit the required insurance documents in the manner prescribed in this Agreement within fifteen (15) business days, the Contractor shall be in default of the contractual terms and conditions and award of the Contract may be rescinded, unless such timeframe for submission has been extended by the County.

If the Certificate(s) of Insurance is scheduled to expire during the term of the Contract, the Contractor shall submit new or renewed Certificate(s) of Insurance to the County a minimum of ten (10) calendar days before such expiration. In the event that expired Certificates of Insurance are not replaced or renewed to cover the Contract period, the County may suspend the Contract until the new or renewed certificates are received by the County in the manner prescribed herein. If such suspension exceeds thirty (30) calendar days, the County may, at its sole discretion, terminate the Contract for cause and the Contractor shall be responsible for all direct and indirect costs associated with such termination.

#### **ARTICLE 11. PERFORMANCE AND PAYMENT BOND**

A. Prior to commencing construction, Contractor shall obtain and deliver to the County, at its sole cost and expense, both a payment bond and performance bond, or such other alternate form of security, any or all of which meets the requirements of Section 255.05, Florida Statutes, as set forth below, not less than ten (10) business days prior to the anticipated commencement date of the construction. Said payment and performance bonds shall be in favor of the County, the form of such bonds shall be as provided by Section 255.05, Florida Statutes, and each shall be in the amount of the entire cost of the construction of the Project, or any addition thereto, or in instances of repair, the total cost associated with the repair project regardless of the source of funding. The cost of Construction is equal to the cumulative amounts of Item Nos. 1.5, and 2.3 through 2.25 of Table 8.1 Price Schedule, see Article 8. The Payment and Performance Bonds shall name the County as an obligee on the multiple obligee rider attached to the Payment and Performance Bonds, and shall be issued by a surety insurer authorized to do business in the State of Florida. The bonds shall be subject to review and approval by Miami-Dade County, Internal Services Department, Risk Management Division, as well as the Miami-Dade Department of Transportation and Public Works. The Contractor shall be responsible for recording the bonds in the public records of Miami-Dade County and providing notice to subcontractors and suppliers, as required by Section 255.05 of the Florida Statutes. Said Payment and Performance Bonds shall be maintained in full force and effect for the contract term.

B. No later than sixty (60) day prior to the expiration of the contract term, Contractor shall present to the County, at

the exclusive expense of Contractor, a Warranty Bond for an amount equivalent to 5% of the Contract Price. The Warranty Bond shall be issued by a bond institution, compliant with the requirements of this Article. The Warranty Bond presented by Contractor pursuant to this Article shall be enforceable and remain in effect until the end of the Warranty Period or Extended Warranty Period, if applicable, event in which the County shall notify the bonding institution .

- C. Bonds must be obtained from guarantee or surety companies acceptable to the U.S. Government and authorized to do business in the state where the work is to be performed. U.S. Treasury Circular Number 570, published annually in the Federal Register, lists companies approved to act as sureties on bonds securing Government contracts, the maximum underwriting limits on each contract bonded, and the States in which the company is licensed to do business. Use of a company listed in this circular is mandatory. Free copies of the circular may be obtained by writing directly to: U.S. Department of Treasury, Financial Management Service, Surety Bond Branch, 401 14th Street, SW, 2nd Floor, West Wing, Washington, D.C. 20226.
- D. The current power of attorney for the person who signs for the surety company must be attached to the bond. The effective date of the power of attorney shall not precede the date of the bond. The effective date of the bond(s) shall be prior to the issuance of the Notice to Proceed. The County may negotiate the amount of the bond(s) depending on the stage of the Project.
- E. Failure by the Contractor and its subcontractors to obtain the required Performance and Payment bonds within the time specified, or within such extended period as the County may grant based upon reasons determined adequate by the County, shall be deemed an event of default, and the contract, and any other ancillary agreement and/or documentation related to the contract shall be subject to termination at the sole discretion of the County.

## **ARTICLE 12. MANNER OF PERFORMANCE**

- A. The Contractor shall provide the Services described herein in a competent and professional manner satisfactory to the County in accordance with the terms and conditions of this Agreement. The County shall be entitled to a satisfactory performance of all Services described herein and to full and prompt cooperation by the Contractor in all aspects of the Services. At the request of the County, the Contractor shall promptly remove from the project any Contractor's employee, subcontractor, or any other person performing Services hereunder. The Contractor agrees that such removal of any of its employees does not require the termination or demotion of any employee by the Contractor.
- B. The Contractor agrees to defend, hold harmless and indemnify the County and shall be liable and responsible for any and all claims, suits, actions, damages and costs (including attorney's fees and court costs) made against the County, occurring on account of, arising from or in connection with the removal and replacement of any Contractor's personnel performing services hereunder at the behest of the County. Removal and replacement of any Contractor's personnel as used in this Article shall not require the termination and or demotion of such Contractor's personnel.
- C. The Contractor agrees that at all times it will employ, maintain and assign to the performance of the Services a sufficient number of competent and qualified professionals and other personnel to meet the requirements to which reference is hereinafter made. The Contractor agrees to adjust its personnel staffing levels or to replace any its personnel if so directed upon reasonable request from the County, should the County make a determination, in its sole discretion, which said personnel staffing is inappropriate or that any individual is not performing in a manner consistent with the requirements for such a position.
- D. The Contractor warrants and represents that its personnel have the proper skill, training, background, knowledge, experience, rights, authorizations, integrity, character and licenses as necessary to perform the Services described herein, in a competent and professional manner.
- E. The Contractor shall at all times cooperate with the County and coordinate its respective work efforts to most

effectively and efficiently maintain the progress in performing the Services.

- F. The Contractor shall comply with all provisions of all federal, state and local laws, statutes, ordinances, and regulations that are applicable to the performance of this Agreement.
- G. The Contractor may request assistance from the County regarding its efforts to coordinate the Work with another County contractor, a utility company, or governmental entity. Whenever feasible the County will provide assistance.
- H. The County warrants and represents that it will employ, maintain and assign a sufficient number of competent and qualified professionals and other personnel to meet the requirements referenced in this agreement and further detailed in the Scope of Work and the Project Schedule. The County further warrants and represents to not exceed ten (10) business Days for Task Group 1 documents for the document review process. The County further warrants and represents to not exceed twenty-one (21) calendar days for Task Groups 2 and 3 documents for the document review process.

#### **ARTICLE 13. EMPLOYEES OF THE CONTRACTOR**

All employees of the Contractor shall be considered to be, at all times, employees of the Contractor under its sole direction and not employees or agents of the County. The Contractor shall supply competent employees. The County may require the Contractor to remove an employee it deems careless, incompetent, insubordinate or otherwise objectionable and whose continued employment on County property is not in the best interest of the County. Each employee shall have and wear proper identification.

#### **ARTICLE 14. INDEPENDENT CONTRACTOR RELATIONSHIP**

The Contractor is, and shall be, in the performance of all work services and activities under this Agreement, an independent contractor, and not an employee, agent or servant of the County. All persons engaged in any of the work or services performed pursuant to this Agreement shall at all times, and in all places, be subject to the Contractor's sole direction, supervision and control. The Contractor shall exercise control over the means and manner in which it and its employees perform the work, and in all respects the Contractor's relationship and the relationship of its employees to the County shall be that of an independent contractor and not as employees and agents of the County.

The Contractor does not have the power or authority to bind the County in any promise, agreement or representation other than specifically provided for in this Agreement.

#### **ARTICLE 15. AUTHORITY OF THE COUNTY'S PROJECT MANAGER**

- A. The Contractor hereby acknowledges that the County's Project Manager will determine in the first instance all questions of any nature whatsoever arising out of, under, or in connection with, or in any way related to or on account of, this Agreement including without limitations: questions as to the value, acceptability and fitness of the Services; questions as to either party's fulfillment of its obligations under the Contract; negligence, fraud or misrepresentation before or subsequent to acceptance of the Contractor's Proposal; questions as to the interpretation of the Scope of Work; and claims for damages, compensation and losses. All determinations by the County's Project Manager under this Article shall be reasonable and made in good faith in accordance with the Contract Documents and provided within the earliest practicable time.
- B. The Contractor shall be bound by all determinations or orders and shall promptly comply with every order of the Project Manager, including the withdrawal or modification of any previous order and regardless of whether the Contractor agrees with the Project Manager's determination or order. Where orders are given orally, they will be issued in writing by the Project Manager as soon thereafter as is practicable. The Project Manager shall provide all necessary explanations as to the meaning and intention of the Scope of Work or Contract Drawings within a reasonable time, approximated to equal ten (10) Days, after the Contractor's written inquiry to ensure timely

completion of the Work. In case of an unreasonably delayed response by the County's Project Manager, any resulting delay of Work shall constitute an Excusable Delay in accordance with Article 20, if affected work is on the critical path

- C. The Contractor must, in the final instance, seek to resolve every difference concerning the Agreement with the Project Manager. In the event that the Contractor and the Project Manager are unable to resolve their difference, the Contractor may initiate a dispute in accordance with the procedures set forth in this Article. Exhaustion of these procedures shall be a condition precedent to any lawsuit permitted hereunder.

#### **ARTICLE 16. DISPUTES**

- A. In the event of such dispute, the parties to this Agreement authorize the County Mayor or designee, who may not be the Project Manager or anyone associated with this Project, acting personally, to decide all questions arising out of, under, or in connection with, or in any way related to or on account of the Agreement (including but not limited to claims in the nature of breach of contract, fraud or misrepresentation arising either before or subsequent to execution hereof) and the decision of each with respect to matters within the County Mayor's purview as set forth above shall be conclusive, the final determination of the County. Any such dispute shall be brought, if at all, before the County Mayor within 10 days of the occurrence, event or act out of which the dispute arises.
- B. The County Mayor may base this decision on such assistance as may be desirable, including advice of experts, but in any event shall base the decision on an independent and objective determination of whether Contractor's performance or any Deliverable meets the requirements of this Agreement and any specifications with respect thereto set forth herein. The effect of any decision shall not be impaired or waived by any negotiations or settlements or offers made in connection with the dispute, whether or not the County Mayor participated therein, or by any prior decision of others, which prior decision shall be deemed subject to review, or by any termination or cancellation of the Agreement. All such disputes shall be submitted in writing by the Contractor to the County Mayor for a decision, together with all evidence and other pertinent information in regard to such questions, in order that a fair and impartial decision may be made. Whenever the County Mayor is entitled to exercise discretion or judgement or to make a determination or form an opinion pursuant to the provisions of this Article, such action shall be fair and impartial when exercised or taken. The County Mayor, as appropriate, shall render a decision in writing and deliver a copy of the same to the Contractor.
- C. If the Dispute is not resolved by the foregoing process, within five (5) days of the date of the notice to the Contractor referring to the determination of the County Mayor ("the determination"), the Contractor may, by the giving of written notice, cause the matter to be referred to mediation. Mediation shall be held within thirty (30) days of the date of the determination, or such later date as may be mutually agreed upon. The parties agree to submit the Dispute to settlement proceedings under the International Chamber of Commerce Alternative Dispute Resolution ("ADR") Rules. If the Dispute has not been settled within a period of two (2) months following the filing of a request for ADR pursuant to said Rules, such Dispute, shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with said Rules. The arbitration shall be held in Miami, FL. The arbitral award shall be final and binding upon the Parties. The Parties agree if the Dispute is of a technical nature then to be qualified, the selected mediator and arbitrator, must have, at a minimum, experience in construction, [and/or] information systems, Intelligent traffic systems project disputes involving public infrastructure.

#### **ARTICLE 17. CONTRACTOR'S REPRESENTATIVE**

Contractor shall have a Representative (or Project Manager) with full authority to represent and act for the Contractor. Prior to the County's issuance of a Notice to Proceed (NTP), Contractor shall submit (for the County's review and acceptance) the name, qualifications and experience of its proposed Contractor's Representative.

Contractor's Representative shall act for the Contractor in all matters concerning the Work, and, subject to all



requirements of this Contract, shall have the following authority and obligations:

1. Ability to so organize the Work, and the Work of its Subcontractors, to complete the Work in accordance with the Contract and the Contractor's bar chart, as accepted by DTPW.
2. Ability to delegate defined authority to other Contractor personnel (who thus also become Contractor's Representatives, as provided in this Contract, to the extent specified), subject to written notice to, and approval by, the Project Manager.
3. During performance of the Work, Contractor's Representative shall be present at the Worksite(s), or have its fully-empowered delegate present at the Worksite, at all times that any Work is in progress or at any time any employee or Subcontractor of the Contractor is present at the Worksite.

#### **ARTICLE 18. PROJECT SCHEDULE**

The Contractor shall submit an updated Critical Path Gantt Chart project schedule to DTPW for review and acceptance within fifteen (15) working days after issuance of the NTP. The project schedule shall include all work specified in the Appendix A (Scope of Work) including, but not limited to, mobilization, lead times, fabrication, inspections, installation, testing, system cutover, training, turnover of required documentation to the County by the Contractor and to the Contractor by the County, and all expected activities of subcontractors, vendors, suppliers and all other parties associated with the project. See Paragraph 2.07(F) of Appendix A (Scope of Work) for specific requirements.

#### **ARTICLE 19. LIQUIDATED DAMAGES**

- A. The Work Progress Schedule, submitted pursuant to the requirements of DTPW Division 01 Construction Specifications (Exhibit 1 to Appendix A) and arranged by Task Group, contains the various activities of work, dates, and details to demonstrate a reasonable and workable plan to initiate, construct, and complete all requirements of the Contract Documents. Contractor, or in case of his default the surety, shall pay to the County, not as a penalty but as liquidated damages, the amount stipulated below should Contractor fail to complete all work specified within the time stipulated for Substantial Completion, including extra time granted in writing by the County and Contractor is solely responsible for such delay. Substantial completion must be achieved sixty (60) days prior to the contract Final Completion Date, as the date may be extended via a contract modification.
- B. Applicable liquidated damage for each calendar day after the scheduled Substantial Completion date shall equal \$6,046.
- C. Upon Substantial Completion of the Work as determined by the Engineer, the Contractor shall be issued a Certificate of Substantial Completion and Liquidated Damages shall cease to accrue. After Substantial Completion the Contractor shall be liable for any and all actual damages incurred by the County as a result of the Contractor's failure to complete all Work (including Punchlist Work), by the Contract Final Completion date including any extensions of time.
- D. The County shall have the right to deduct such Liquidated and Actual Damages from any monies due or which may thereafter become due to the Contractor under this Contract. If the amount which may become due hereunder shall be less than the amount of Liquidated Damages due to the County, the Contractor shall pay the difference immediately upon demand by the County.

Actual damages shall include, but shall not be limited to:

- a. Cost increases in the completion and subsequent operation of the County's operations;
  - b. Engineering and consulting fees;
  - c. Unreasonable inconvenience to the public and impacts to private property resulting in claims against the County;
  - d. Increased costs for Contract administration; and
  - e. Delays and increased costs to other Contractors, resulting in claims
- E. County does not waive its right to liquidated damages due under the Contract by allowing Contractor to continue and to finish the work, or any part of it, after the expiration of the Contract/Task Order Time including granted time extensions.

## **ARTICLE 20. EXCUSABLE DELAY**

- A. Upon providing the County notice and reasonably full particulars of an event of force majeure (as described below) in writing, within a reasonable time after the occurrence of such event of force majeure, the Contractor shall not be liable for any delay or failure to perform to the extent caused by fire, flood, severe weather conditions, explosion, labor disputes, strike, shortage of utilities, compliance with any laws, regulations, orders, acts or requirements from the government, civil authorities, government-mandated facility shutdowns or limitations, acts of God or the public enemy, or any other act or event of any nature reasonably beyond the Contractor's control. In such circumstances, the County may, at its option, elect to cancel or reschedule the portion of any order subject to such delay by providing to the Contractor prompt written notice of its election, provided that, such cancellation or rescheduling shall apply only to that portion of the order affected by the foregoing circumstances and the balance of the order shall continue in full force and effect.
- B. The Contractor shall not be liable for any delay or failure to perform the Work in the event that the Contractor is actually and necessarily delayed in the progress of the Work as a result of the act, neglect or failure of the County, another County contractor, a utility, governmental entity, local agency or FDOT (which act, neglect or failure occurs for reasons outside of the Contractor's control), hereinafter referred to as "Excusable Delay". In case of an Excusable Delay, the County will extend the contractual Substantial Completion Date and/or the Final Completion Date of the Work proportionate to the delay (hereinafter "Extension of Time"). The Contractor shall submit a request for such an extension within thirty (30) days after the time when Contractor knows or should reasonably have known the cause for which it may claim an Extension of Time, including the expected duration of the delay and its effect on the completion and milestone dates of the delayed part of the Work. Within thirty (30) days of receipt of such request, the County shall advise the Contractor of the new completion and milestone dates under the Extension of Time. Any revision to the projected completion dates that may result from such an Extension of Time shall become the new Substantial Completion date and/or Final Completion Date.
- C. An Excusable Delay shall be deemed compensable when such delay is caused by any act or omission of another contractor performing work on behalf of the County, including but not limited to the County, or any of their representatives, and as a result of any of the foregoing the Contractor demonstrates that it will be actually and necessarily delayed on the critical path, the Contractor shall be entitled to Extended Overhead, to the extent hereinafter set forth.
- D. Extended Overhead shall include the following, when applicable:
- a) Additional costs for work being performed by trades and other craft labor attributable to delay, including any applicable higher wage amounts.
  - b) Additional direct project and field office expenses of Contractor or its subcontractors, excluding any payments covered by item c) below attributable to the delay.
  - c) Increased costs to administrative personnel and software engineers attributable to the delay.

- d) Increased cost to purchase material and furnish services.
- e) Increased cost to store materials, to the extent that the Contractor can demonstrate that such storage is specific to this Contract.
- f) Extended insurance and bonding.

The amount for Extended Overhead is payable as part of the monthly invoices in the month following an agreement by the parties regarding the amount of such Extended Overhead, which shall be reached within a timely manner.

- E. The Contractor is expected to timely request its permits with the permitting agency within a timeframe that will allow the permitting agency its normal processing time to review a permit request. A schedule delay due to the processing time of a permitting agency would only be deemed excusable if the Contractor demonstrated to the satisfaction of the County, through documented evidence, the permitting agency exceeded its standard time to review such permit.

#### **ARTICLE 21. WORK DAY**

- A. Unless explicitly specified otherwise herein, a **Standard Work Day is defined as Monday through Friday, 7:00 AM to 5:00 PM**, excluding holidays.
- B. Any provisions applicable to a **Standard Work Day**, set forth in the Contract Documents, will apply to this paragraph and is hereby incorporated by reference.

##### County Holidays are:

New Year's Day  
Martin Luther King, Jr. Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Veterans Day  
Thanksgiving  
Day after Thanksgiving  
Christmas Day

#### **ARTICLE 22. SEQUENCE OF OPERATIONS**

The Contractor shall maintain a sequence of operations that best suits the proposed Project plan and Schedule. The proposed sequence of operations can be further enhanced if agreed by both the Contractor's Project Manager and the County's Project Manager.

#### **ARTICLE 23. ERRORS, OMISSIONS, INTERPRETATIONS**

Contractor shall carefully and continuously study and compare all Contract Documents; and verify all stated requirements in the Contract Documents before commencing Work.

Request for Information, Notification, and Contractor Performance:

- A. Should it appear that the Work to be done, or any of the matters relative thereto, is not sufficiently detailed or explained in any the County-furnished Contract Documents, Contractor shall submit a Request for Information



(RFI), in writing to the County's Project Manager, asking for such further written explanations as may be necessary. Contractor shall conform to the explanation provided.

- B. Contractor shall promptly notify the County of all deficiencies (including inaccuracies and inconsistencies) it may discover in the County-furnished Contract Documents, and obtain specific instructions in writing regarding any such Deficiency, before proceeding with the Work affected thereby.
- C. Omission of any technical provisions in the Contract Documents, or the misdescription of details of Work which are necessary to carry out the intent of the County-furnished Contract Documents, or which are customarily performed, shall not relieve Contractor from performing such omitted Work (no matter how extensive) or misdescribed details of the Work. Any such omitted or misdescribed Work shall be performed as if fully and correctly set forth and described in the technical provisions of the Contract Documents, without entitlement to a Contract Modification hereunder.

#### **ARTICLE 24. ALTERNATIVE CODES AND STANDARDS**

Codes and Standards not in accordance with those contained in the Contract shall not be used unless accepted by the County's Project Manager in writing. If the Contractor wishes to utilize codes or standards not specified in the Contract, Contractor shall submit for acceptance, sufficient information for the County's Project Manager to determine Equivalency. Information shall include, but not be limited to, detailed comparison of the substitute standard/code, the rationale for Substitution, and whether it meets or exceeds the existing standard/code specified in the Contract.

#### **ARTICLE 25. CONTRACTOR NOTICES TO THE COUNTY**

All Notices to the County under this Contract shall be in writing to the County's Project Manager for the subject matter of the Notice, with a copy to the Contracting Officer. No notice shall be effective unless it was delivered to the Project Manager and to the Contracting Officer, as provided in this Contract.

#### **ARTICLE 26. OVERVIEW OF CONTRACTOR'S RESPONSIBILITIES**

- A. Contractor shall complete the Project as specified in a timely manner, in accordance with all industry practices generally accepted as standards of the industry in the State of Florida, in a good and workmanlike manner, free from defects, and in accordance with Appendix A (Scope of Work).
- B. Compliance with Requirements – The Contractor shall provide all materials and undertake all efforts necessary or appropriate (excluding only those materials, services and efforts that the Contract Documents specify will be furnished by the County or other persons) to complete the Project in accordance with the requirements of the Contract Documents, the Schedule, all applicable Laws, all Governmental Approvals, the County-Approved Quality Assurance & Quality Control Plans, Contractor's approved Safety Program (if applicable), and all other applicable safety, environmental and other requirements, taking into account Right-of-Way constraints, if applicable, and other physical limits resulting from constraints affecting the Project, so as to achieve Substantial Completion and Final Completion and to perform all required tests by the deadlines specified herein, and otherwise to do everything required by and in accordance with the Contract Documents.
- C. Professional Qualifications – Contractor shall perform the Work under the supervision of persons licensed to practice the applicable function/profession in the State of Florida (if applicable), by personnel who are careful, skilled, experienced and competent in their respective trades or professions, who are professionally qualified to perform the Work in accordance with the Contract, and who shall assume professional responsibility for the accuracy and completeness of the Work prepared or checked by them. Personnel are required to meet, where applicable, the qualification requirements stipulated in the Scope of Work (Appendix A) and its exhibits.

- D. Governing Dimensions – Before commencing any contracted work, Contractor shall verify all governing dimensions at the Worksite, examine all adjoining work and activities that may have an impact on Work, and ensure that the Contract Documents (and any other documents related to the Work) accurately depict all governing and adjoining dimensions.
- E. Means and Methods – Contractor shall be solely responsible for the performance of its Work in accordance with its own means, methods, sequences, and procedures, and for coordination of all portions of its Work in compliance with the Contract.
- F. Performance During Disputes – At all times during the term hereof, including during any Dispute, Contractor shall perform as directed by the County, and shall comply with all provisions of the Contract.
- G. Subcontractors & Suppliers – Contractor shall be responsible for the acts and omissions of its Subcontractors and Suppliers.
- H. Assistance to the County – Contractor shall provide such assistance as is reasonably requested by the County in prosecuting and defending Environmental lawsuits in any and all matters relating to the Work, which is caused by the Contractor's negligent acts/omissions. Such assistance may include providing information and reports regarding the Work, as well as executing declarations and attending meetings and hearings. In no event shall the Contractor be required to provide legal services.
- I. Cooperation – Cooperate with the County and its Authorized Representatives, in their review(s) and/or inspection(s) of any portion or phase of the Work, and other matters relating to the Work.
- J. Mitigation – Mitigate Delay in all circumstances, to the extent reasonably possible, including the re-sequencing, reallocating or redeploying of its forces to other work, as appropriate.

#### **ARTICLE 27. CONTRACTOR'S REPRESENTATIONS, WARRANTIES AND COVENANTS**

Contractor represents, warrants and covenants for the benefit of the County that:

- A. Status – If it is a corporation, limited partnership, general partnership, and/or joint venture, it is duly organized, validly existing and in good standing under the Laws of its jurisdiction of formation, and has full power and authority to own and operate its business and properties and perform the Work within the State of Florida.
- B. Review of Information and Inspection of the Worksite(s) – The Contractor has, in accordance with prudent and generally accepted engineering and industry practices:
  - 1. Reviewed all of the information provided in the Contract (including reports provided by the County);
  - 2. Inspected and evaluated the Worksite(s) and surrounding locations to the extent the Contractor deems necessary or advisable for preparing its initially proposed project plan.
- C. The Contractor shall, post award, in accordance with prudent and generally accepted engineering and industry practices, inspected and evaluated the Worksite(s) and surrounding locations to the extent the Contractor deems necessary or advisable for performing all portions/phases of the Work under the Contract.

These inspections and evaluations include without limitation:

- 1. The character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the Worksite(s), including review of the Contract Documents provided by the County.

2. Conditions bearing upon transportation, disposal, handling, and storage of materials, goods, and equipment;
  3. The availability of labor, water, electric power, and roads;
  4. Uncertainties of weather, or physical conditions at the site;
  5. The conformation and conditions of the ground;
  6. The character of equipment and facilities needed preliminary to and during Work performance; and
  7. Conditions bearing upon security and protection of material, Goods, Equipment, and Work in progress.
- D. Physical Requirements – As a result of its inspection and examination of the Worksite(s), and other related and surrounding sites and conditions, it is familiar with and accepts the physical requirements of the Work.
- E. Feasibility – As a result of its review of all the information and its inspection and examination of the Worksite(s), it has evaluated the feasibility of performing the Contract within the Contract Term and for the Total Contract Price, and has reasonable grounds for believing and does believe that such performance, including achievement of Substantial Completion of the Project within the Contract Term, for the Total Contract Price is feasible and practicable.
- F. Permits and Governmental Approvals – Based upon its review of the Contract Documents, it shall be able to obtain and keep in effect throughout the Contract Term all permits and other Governmental Approvals the Contractor is obligated to obtain in accordance with the Contract.
- G. Difficulty and Cost of Work – It has estimated the difficulty and cost of successfully performing the Work, and based upon that estimate has concluded that it can successfully perform the Work at the Total Contract Price.

#### **ARTICLE 28. STORM OR DISASTER SERVICES**

- A. Contractor agrees that should a storm or other severe and catastrophic natural disaster affect the Miami-Dade County area during the performance of the work, Contractor shall provide services contracted for during the contract period, at the Contract unit prices and at the same or different locations from those covered by this Contract.
- B. For emergency services and conditions not addressed by this Contract, Contractor agrees to negotiate reasonable prices and terms with the County for any disaster-relief work required by the County. In all instances, Contractor agrees to negotiate reasonable time extensions for the performance of disaster-relief work.

#### **ARTICLE 29. EMERGENCIES**

In case of an Emergency or hazard to health or safety requiring immediate curative action, the County will notify Contractor, and Contractor shall immediately take such action(s) as it deems necessary, notifying the Project Manager of the action(s) taken as soon as possible but no later than **one (1) working day** thereafter. If Contractor does not undertake immediate curative action, the County may without prior notice undertake such action as is necessary to correct the hazard or deal with the Emergency, and the cost thereof shall be borne by the Contractor.

#### **ARTICLE 30. COOPERATION AND COORDINATION WITH OTHER CONTRACTORS AND/OR COUNTY OPERATIONS**

The County reserves the right and may undertake or award other contracts for additional Work on or near the Worksite(s). Contractor warrants that it has carefully reviewed the Contract Documents and all other pertinent information made available by the County that relate to the nature and scheduling of other contracts that may be awarded, and to constraints related to the County operations, and in executing this Contract, has taken into account the need to coordinate its Work with that of other Contractors and/or the County Operations.

The following shall apply:

- A. Contractor shall not have exclusive access to or use of Work areas or the Worksite(s). The County may require that Contractor use certain facilities and areas concurrently with others.
- B. The County will endeavor to advise the Contractor of the other known parties, including the County Operations.
- C. Contractor shall cooperate and communicate with any other Contractor performing Work that may connect, complement, and/or interfere with the Contractor's Work, and resolve any disputes or coordination problems with such Contractor.

**ARTICLE 31. COORDINATION MEETINGS**

Contractor's Project Manager or designated representative shall attend such meetings and conferences, including a pre-work meeting, arranged by the County for the purpose of coordinating the Work. Attendance to such meetings and conferences by Contractor's Project Manager or designated representative is considered a basic part of the Work, and thus Contractor shall not be entitled to any additional compensation from the County for such attendance.

**ARTICLE 32. CLEAN UP**

- A. Throughout all phases of contracted work, and until Final Completion of the Work, Contractor shall keep the Worksite, including storage and public areas used by Contractor, clean and free from rubbish and debris.
- B. Before completing the Work, Contractor shall remove from the Worksite any rubbish, tools, and equipment that are not the property of the County.

**ARTICLE 33. DISPOSAL OF WASTE**

Unless otherwise specified in the Contract, Contractor shall make its own arrangements for disposing of waste and excess substances generated from Contractor's performance of the Work at a legal disposal site outside the Worksite(s), and shall pay all associated costs and obtain necessary permits, if any.

**ARTICLE 34. EXTRA WORK**

- A. The County reserves the right to order changes which may result in additions to or reductions from the amount, type or value of the Work shown in the Contract and which are within the general scope of the Contract in accordance with this Article. Any such changes which result in additions to the Work will be known as "Extra Work." The Parties further agree that any changes requested by the County, for the exclusive benefit of the County, to the Qualified Product List ("QPL") shall be also handled in accordance with this Article 34, Extra Work.
- B. No Extra Work shall be performed except pursuant to a written Change Order issued by the County expressly authorizing the performance of such Work and explicitly declaring the intention of the County to treat the Work described therein as Extra Work. In the absence of such a Change Order, if the County Project Manager shall direct, order or require any work, whether orally or in writing, which the Contractor deems to be Extra Work, the Contractor shall nevertheless comply therewith, but shall within five (5) days of the County Project Manager's order or directive give written notice to the County Project Manager stating why the Contractor deems it to be Extra Work. Such notice is required to afford an opportunity to the County to (1) cancel promptly such order, direction or requirement; (2) keep an accurate record of the materials, labor and other items involved; and (3) take such action as may be deemed advisable in light of the Contractor's claim. The failure of the Contractor to give written notice within the time limit stated therefor shall be deemed a conclusive and binding acceptance on the Contractor's part that the direction, order or requirement of the County Project Manager does not involve the performance of Extra Work.



- C. Within thirty (30) days of the Contractor's submission of written notice that an order, direction or requirement of the County Project Manager is deemed by the Contractor to involve Extra Work, the Contractor and each Subcontractor shall submit in a form satisfactory to the County a detailed proposal ("Change Order Proposal") (including the elements of cost identified in Article 35, "CHANGE ORDER BASIS FOR PAYMENT," Paragraphs A., B., C., D, and E.) which shall include adjustments to the Contract price, to the extent permitted under Article 35 to the delivery schedule, or to any other provisions of the Contract necessary to accomplish the Extra Work. Upon written request of the Contractor, within the thirty (30) day period set forth above, for good cause shown, the County Project Manager may grant the Contractor additional time in which to submit a Change Order Proposal. The failure of the Contractor to submit a detailed proposal within the time limit stated therefor, or within such additional time as is granted by the County Project Manager at its sole discretion, shall be deemed a waiver of any claim for compensation that the Contractor may have with respect to the claimed Extra Work.
- D. The provisions of the Contract relating to the Work and its performance shall apply without exception to Extra Work and the performance thereof, except as otherwise provided in a written Change Order between the Contractor and the County.
- E. The Contractor must utilize the most recent updated Critical Path Method Schedule (CPM) or bar chart as required by the Contract to establish the price and schedule modifications. Contractor's Change Order Proposal must include a schedule subnet and an explanation of the cost and schedule impact of the claimed Extra Work on the Contract. The Contractor must demonstrate clearly how it proposes to incorporate the Extra Work into the schedule. If Contractor fails to notify the County Project Manager of the schedule changes associated with a Change Order Proposal by submitting a revised schedule, it will be deemed to be an acknowledgment by Contractor that the proposed Extra Work will not have any scheduling consequences.

#### **ARTICLE 35. CHANGE ORDER BASIS FOR PAYMENT**

If Extra Work requires the provision of items of Work or material of the same type as those for which unit prices are quoted in the Proposal, compensation for such Extra Work shall be computed on the basis of the unit price in the Contractor's Proposal for such items.

If Extra Work requires the provision of items of Work or material for which compensation cannot be computed on the basis of unit prices quoted in the Contractor's Proposal and the scope and extent of the Extra Work can be determined before the Extra Work is performed, the County will perform a cost analysis of the Contractor's proposal and negotiate a lump sum amount with the Contractor as compensation for such Work. The County Project Manager may in such case direct the Contractor to proceed with the Extra Work pending performance of the cost analysis and negotiation of the amount of compensation for such Extra Work.

If it is not possible beforehand to estimate the extent and duration of the Extra Work or to estimate costs with any degree of certainty, such Extra Work shall be compensated on a time and material basis, limited to the following amounts only:

- A. The sum of plant, field and engineering labor hours performed by the Contractor's or Subcontractor's own employees, and deemed by the County Project Manager to be reasonably required for such Extra Work, plus 21% for overhead, administrative expenses, and profit, plus actual increase in insurance premiums, not included above, for insurances required by the Contract. Where Extra Work is performed on overtime or premium basis the 21% additive shall not apply to the premium portion of such costs.
- B. The actual reasonable cost of materials, together with the actual reasonable cost of the rental of equipment or use of Contractor or Subcontractor owned equipment, required by the Contractor or Subcontractor for performance of such Extra Work, plus material handling costs (inclusive of general and administrative expenses) of 10% of the cost of the material actually incorporated into the Extra Work.

- C. The actual reasonable cost of permitted Subcontract Work, as enumerated above, incorporated in such Extra Work, plus an amount for the Contractor's own administration, overhead and supervision, of 10% of the cost of such permitted Subcontract Work. A single allowance of 5% will be allowed notwithstanding that more than one tier of Subcontractors is employed with respect to such subcontract Work.
- D. For any machinery or special equipment (other than small tools), including fuel and lubricant, the Contractor will receive 100% of the "Rental Rate Blue Book" for the actual time that such equipment is in operation on the work, and 50% of the "Rental Rate Blue Book" for the time the equipment is directed to standby and remain on the project site, to be calculated as indicated below. The equipment rates will be based on the latest edition (as of the date the work to be performed begins) of the "Rental Rate Blue Book for Construction Equipment" or the "Rental Rate Blue Book for Older Construction Equipment," whichever is applicable, as published by Machinery Information Division of PRIMEDIA Information, Inc. (version current at the time of bid), using all instructions and adjustments contained therein and as modified below. On all projects, the Engineer will adjust the rates using regional adjustments and Rate Adjustment Tables according to the instructions in the Blue Book.

Allowable Equipment Rates will be established as set out below:

- a. Allowable Hourly Equipment Rate = Monthly Rate/176 x Adjustment Factors x 100%.
- b. Allowable Hourly Operating Cost = Hourly Operating Cost x 100%.
- c. Allowable Rate Per Hour = Allowable Hourly Equipment Rate + Allowable Hourly Operating Cost.
- d. Standby Rate = Allowable Hourly Equipment Rate x 50%.

The Monthly Rate is The Basic Machine Rate Plus Any Attachments. Standby rates will apply when equipment is not in operation and is directed by the Engineer to standby at the project site when needed again to complete work and the cost of moving the equipment will exceed the accumulated standby cost. Standby rates will not apply on any day the equipment operates for eight or more hours. Standby payment will be limited to only that number of hours which, when added to the operating time for that day equals eight hours. Standby payment will not be made on days that are not normally considered work days on the project.

- E. Fees or other costs for required Bonds, and increases thereto, are deemed to be included in the overhead rates enumerated above, and in no event shall additional sums be allowed for such costs in connection with Extra Work under this Contract.

The County will allow for the cost of transporting the equipment to and from the location at which it will be used. If the equipment requires assembly or disassembly for transport, the Department will pay for the time to perform this work at the rate for standby equipment. Equipment may include vehicles utilized only by Labor, as defined above.

For all Work or materials required to be done or furnished under the provisions of this Article, the Contractor shall furnish to the County upon request such documentation as the County may require for substantiating all costs of the Extra Work.

#### **ARTICLE 36. NOTICE OF DISCOVERY OF DIFFERING SITE CONDITIONS**

Contractor shall, before any of the existing conditions are disturbed, provide immediate oral and/or electronic mail notice of the discovery of such conditions to the County's Authorized Representative, followed by written notice to the County's Project Manager of the discovery within forty-eight (48) hours thereafter, of any of the following subsurface conditions:

- A. Type 1 Condition: Subsurface or latent physical conditions at the Worksite differing materially from those indicated in the Contract;

- B. Type 2 Condition: Unknown physical conditions at the Worksite of any unusual nature that differ materially from those ordinarily encountered in and generally recognized as inherent in Work of the character provided for in the Contract.
- C. Type 3 Condition: Substances that Contractor believes may be Hazardous Substances that are required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of Law.

If Contractor encounters substances or conditions during performance of the Work that it reasonably believes to be a Type 1 Condition or Type 2 Condition, Contractor shall not disturb the condition or interfere with the County's right or ability to investigate, but may continue Work in the area. The Contractor shall document and submit such conditions in a written field report (including photographs) within five (5) Days of the initial notice to the County, and include a recommendation how to safely proceed with Work at the area.

If Contractor encounters substances during performance of the Work that it reasonably believes to be a Hazardous Substance, a Type 3 Condition, Contractor shall not disturb the condition and shall suspend Work in the immediate area of the suspected Hazardous Substances until the County authorizes it to resume. The Contractor shall document and submit such conditions in a written field report (including photographs) within five (5) Days of the initial notice to the County, and include a recommendation how to safely proceed Work at the area.

The County will promptly investigate the conditions, and if it finds the conditions do materially differ, or do involve previously unknown Hazardous Substances. The County may make an adjustment in Contract Term and/or Total Contract Price as agreed upon, in accordance with Article 34 "Extra Work" and Article 35 "Change Order Basis for Payment".

#### **ARTICLE 37. CLAIMS REGARDING DIFFERING SITE CONDITIONS**

Contractor shall not be entitled to any remedy for an asserted Differing Site Condition if it does not give the County both:

1. Timely notice of the asserted Differing Site Condition, as required in this paragraph;
2. Submit a written field report, including photographs, within five (5) Days of the initial notice to the County as required in Article 36 "Notice of Discovery of Differing Site Conditions" of this document; and
3. An opportunity to investigate prior to the asserted Differing Site Condition being disturbed.

#### **ARTICLE 38. PROCEED WITH WORK**

If a Dispute arises related to a claim of a Differing Site Condition, Contractor shall proceed with all Work to be performed under the Contract and shall not be excused from any provision of the Contract, including without limitation, the scheduled completion date of the disputed activity of the Work.

#### **ARTICLE 39. ACCESS TO THE WORKSITE**

- A. The County will, at all times during the term of the contract, have access to the Work at all Worksites, and all documents on which the Work is based.
- B. At any time during the Contract Term, upon reasonable notice, the County may review the documents on which the Work is based, inspect the Worksite, and review, inspect and test all Work, equipment, software, and all other materials wherever located (collectively "Inspect" or "Inspection").



**ARTICLE 40. WORK PERFORMED WITHOUT INSPECTION**

- A. At all times before Final Acceptance at each intersection, Contractor shall remove or uncover such portions of the finished contracted Work as directed by the County. After examination by the County, Contractor shall restore the Work to the standard required by the Contract Documents. If the Work exposed or examined is not in conformance with the requirements of the Contract Documents, then uncovering, removing and restoring the Work, and recovery of any delay to any Critical Path occasioned thereby, shall be at Contractor's cost, and Contractor shall not be entitled to any time extension.
- B. Any Work done or materials used without adequate notice to and opportunity for prior inspection by the County, may be ordered uncovered, removed or restored at Contractor's cost and without a time extension, even if the Work proves acceptable after uncovering.
- C. If Work exposed or examined under this paragraph is in conformance with the requirements of the Contract Documents, then any delay in any Critical Path from uncovering, removing and restoring Work shall be considered a delay caused by the County, and Contractor shall be entitled to a Change Order for the cost of such efforts and recovery of any delay to the schedule occasioned thereby.

**ARTICLE 41. SUBSTANTIAL COMPLETION**

- A. The Work shall be deemed Substantially Complete when, in the opinion of the County Project Manager, there are no material and substantial variations from the Contract and the Work is fit for its intended purpose. Upon Substantial Completion the County Project Manager shall issue a Letter/Certificate of Substantial Completion. The issuance of this Letter/Certificate shall not relieve the Contractor from its obligation hereunder to complete the Work. Substantial Completion must be achieved sixty (60) days prior to Final Completion.
- B. When the Contractor is of the opinion that the Work is Substantially Complete, Contractor may submit to the County Project Manager a written request that the County Project Manager inspect the Work so as to determine whether Substantial Completion has been achieved. Upon such request, the County must respond within twenty-five (25) days of its receipt with either (i) a Letter/Certificate of Substantial Completion or (ii) an explanation of the reasons why the Work is not Substantially Complete, including a list of open items necessary to achieve Substantial Completion. Nothing in this paragraph precludes the County Project Manager from making a determination of Substantial Completion in the absence of a request therefor by the Contractor.
- C. The Work remaining after Substantial Completion shall be known as "Punchlist Work." The Punchlist Work shall be limited to minor omissions and defects except the County Project Manager may in his sole discretion, include an activity(ies) of the Contractor's Work which cannot be completed until the County or third persons perform other work which is not the Contractor's responsibility under the Contract. The County Project Manager shall issue a Punchlist with the Letter/Certificate of Substantial Completion.
- D. Upon Substantial Completion, the Contractor shall remove its tools, materials and equipment from the Work Site, except for the tools, materials and equipment needed to complete the Punchlist Work, or unless otherwise authorized in writing by the County Project Manager.

**ARTICLE 42. FINAL COMPLETION**

- A. Within ten (10) Days after the Contractor determines that all Work as required in the Contract, System Acceptance of all systems required by the contract, is fully completed, and all required submissions and deliveries to the County specified in the Contract have been made, written notice is required.

Contractor shall give the County Project Manager a written Request for Final Completion specifying that the Work is completed, the date on which it was completed and stating:

1. All of the Contractor's and Subcontractors' personnel, supplies, equipment, waste materials, rubbish and temporary facilities have been removed from the Worksite;
2. Contractor has complied with all requirements associated with closeout of the Contract; and
3. Contractor has delivered to the County Project Manager a Notice of Completion for the Work in recordable form.

Note: System acceptance is defined by Appendix A (Scope of Work), Paragraph 2.05(6).

- B. The County Project Manager shall advise the Contractor of the time reasonably required to complete all the Punchlist Work. The time set by the County Project Manager to complete Punchlist Work shall be no more than sixty (60) days from the issuance of the Letter/Certificate of Substantial Completion. When in the opinion of the County Project Manager the Punchlist Work is properly completed, the County Project Manager shall issue a Letter/Certificate of Final Completion.
- C. In the event of an emergency or if the Contractor fails to diligently perform the Punchlist Work, the County may complete the Punchlist Work, either by its own forces or by other Contractors. The County's costs thereof will be deducted from the payment due to the Contractor, except that if the County completes the Punchlist Work because of an emergency, then the amount deducted from the payment shall be based on the Contractor's costs for completing the Punchlist Work. If such costs exceed the amount due the Contractor, the Contractor shall immediately upon demand pay such excess to the County.
- D. Acceptance of all Work by the County shall occur when in the opinion of the County Project Manager, the Work is complete in all respects including any outstanding items contained in the Punchlist provided with the Letter/Certificate of Substantial Completion. Upon acceptance the Contractor shall be given a Letter/Certificate of Final Completion.

#### **ARTICLE 43. RESPONSIBILITY FOR MAINTENANCE, LOSS AND DAMAGE**

- A. Upon the County's Partial Controller Acceptance of an individual intersection consisting of the controller, the County will be responsible for the operation and maintenance of the intersection and the controllers. Upon the County's Partial Acceptance of Detection system of an individual intersection, the County will be responsible for the operation and maintenance of the intersection and the installed vehicle detection systems. It is the Contractor's responsibility to maintain the equipment prior to its Partial Acceptance. The County is responsible for the operation and maintenance of intersections after Partial Acceptance.
- B. Upon the County Project Manager's issuance of a Letter of Acceptance, the County, shall be responsible for the maintenance, loss, or damage to the Work or any element thereof, except as follows:
  1. The County Project Manager's issuance of a Letter of Acceptance will not relieve the Contractor of its obligations to complete the Work or any element thereof, the non-completion of which was not disclosed to the County (regardless of whether such nondisclosures were fraudulent, negligent, or otherwise); or
  2. The Contractor's action, negligence or breach of this Contract or the warranty causes loss or damage to the Work or any element thereof.

**ARTICLE 44. RESPONSIBILITY TO COMPLETE THE WORK**

Notwithstanding any other provision of this Contract that could be interpreted to the contrary (including in Contract Documents of higher precedence), it shall be the Contractor's continuing responsibility to complete and deliver every element, and the integrated whole, of the Work in accordance with all of the requirements of the Contract. The issuance of a Letter/Certificate of Substantial Completion by the County Project Manager for any element, or for the whole of the Work, shall not be construed to relieve the Contractor of this responsibility, or any part thereof. If, after the issuance of a Letter/Certificate of Substantial Completion, the County discovers any deficiency, or item not completed or otherwise requiring correction or remedial action, whether or not the item appears on any Punch List or other list of clean up items, the Contractor shall correct the deficiency, complete the item or otherwise remedy the condition to bring it in to full compliance with the Contract.

**ARTICLE 45. WARRANTY**

- A. Contractor warrants that the Work shall be free of defects in design, material, and workmanship, and shall be fit for use for the intended function, remain in good working order, and shall meet all of the requirements of the Contract.
- B. Without in any way limiting Contractor's Warranties with respect to the Work, Contractor shall obtain from all Subcontractors, manufacturers and Suppliers, and assign and deliver to the County all Warranties, including extended Warranties, if applicable, provided by such Subcontractors, manufacturers and Suppliers and from all other persons extending Warranties.
- C. All such Warranties shall: a) Survive Partial Acceptance, Substantial Completion, and all the County and Contractor inspections, tests and acceptances, and; b) Shall run directly to and be enforceable by the Contractor and the County.
- D. Upon receipt from the County of notice of a failure of any of the Work to satisfy any Subcontractor or Supplier Warranty or other obligation, Contractor shall enforce or perform any such Warranty or other obligation as a part of Contractor's other Warranty obligations hereunder. The County's rights under this paragraph shall continue until the expiration of the later of the Contractor's Warranty (including extensions for rework) or Subcontractor's or Supplier's Warranty or extended warranty. Until such expiration, the cost of any Work (including re-engineering, if applicable) or Equipment (including taxes and shipping) shall be at the sole cost and expense of the Contractor.
- E. See Paragraph 2.7(O) of Appendix A (Scope of Work) for additional requirements.

**ARTICLE 46. WARRANTY COMMENCEMENT AND DURATION**

In accordance with Paragraph 2.07(O) of Appendix A "Scope of Work, warranties shall commence upon the County Project Manager's issuance of a Letter of Acceptance, hereby defined as the Warranty Commencement Date, and shall remain in effect until one (1) year after the Warranty Commencement Date or such longer period as may be specified in the Contract ("Warranty Period"). Subcontractor's, manufacturer's or Supplier's Warranty Periods shall be for the longer of the above stated Warranty Period or the Warranty Period specified in the particular Warranty.

**ARTICLE 47. WARRANTY CLAIMS**

If the County determines that any of the Work contains a defect any time within the Warranty Period, the County will claim and Contractor shall correct, repair or replace such Work at its sole expense. Contractor shall respond to the County's Warranty claim within one (1) working day, and shall repair the Deficiency within five (5) Days thereafter. If the Deficiency cannot be repaired within said five (5) Days, Contractor, within that five (5) Days, shall submit a schedule for completion of repairs, subject to the acceptance of the County Project Manager, and shall diligently proceed to

complete the repairs within the approved schedule. If any defect affects operation of the Work, or any essential element thereof, the County may, in its sole discretion, require Contractor to complete repairs in less than five (5) Days.

**ARTICLE 48. WARRANTY ON CORRECTED DEFICIENCIES**

Contractor's Warranty shall continue, as to each corrected Deficiency, until the later of:

1. The remainder of the Warranty Period; or
2. One (1) year after Acceptance by the County of any corrected Work.

**ARTICLE 49. THE COUNTY RIGHT TO CORRECT DEFICIENCIES**

If Contractor fails to remedy Deficiencies or otherwise comply with this Warranty or any other Warranty in this Contract, or fails to propose a timely and adequate remedy, the County, after notice to Contractor, may perform or have performed by Third Parties the necessary remedy, and the costs thereof shall be borne by Contractor.

**ARTICLE 50. ACCEPTANCE OF NON-CONFORMING WORK**

If the County Project Manager accepts any nonconforming Work without requiring it to be fully corrected, Contractor shall reimburse the County a portion of the Total Contract Price in an amount equal to the greater of:

- A. The difference in the value of the Work, plus the present value of additional operating costs, if any, caused by such nonconforming Work; or
- B. Contractor's cost savings in not correcting the Work. In either case above, Contractor shall, in addition, reimburse the County's costs to make the determination, including but not limited to staff costs, experts, tests and other actions necessary to make a determination. Such reimbursements shall be payable to the County within ten (10) Days after the Contractor's receipt of the County's demand for payment.

**ARTICLE 51. OTHER REMEDIES**

The Warranties herein are in addition to all rights and remedies available under the Contract or applicable Law, and shall not limit Contractor's liability or responsibility imposed by the Contract or applicable Law with respect to the Work, including liability for design defects, latent defects, strict liability, negligence or fraud. To the extent that any Warranty from any person other than the Contractor would be voided in whole or part by reason of any act or omission of the Contractor, Contractor shall be fully liable to the extent of said Warranty.

**ARTICLE 52. SPARE PARTS**

The County's spare parts, if ordered, shall not be used to repair warrantable failures and defects. The security, control, shipping, and disposition of Contractor owned parts shall be the responsibility of Contractor. Damage to the County's property caused by the Contractor shall be the sole responsibility of the Contractor and shall be corrected at Contractor's expense.

**ARTICLE 53. REPAIR AND REPLACEMENT**

Unless otherwise provided, Contractor shall repair or replace all existing Improvements damaged or removed by Contractor. Repairs and replacements shall be at least equal to Existing Improvements and shall match them in finish and dimension.

**ARTICLE 54. MUTUAL OBLIGATIONS**

- A. In accordance with Article 2 "Order of Precedence", this Agreement, including attachments, exhibits, appendices to the Agreement, and the Contractor's proposal shall constitute the entire Agreement between the parties with respect hereto and supersedes all previous communications and representations or agreements, whether written or oral, with respect to the subject matter hereto unless acknowledged in writing by the duly authorized representatives of both parties.
- B. Nothing in this Agreement shall be construed for the benefit, intended or otherwise, of any third party that is not a parent or subsidiary of a party or otherwise related (by virtue of ownership control or statutory control) to a party.
- C. In those situations where this Agreement imposes an indemnity obligation on the Contractor, the County may, at its expense, elect to participate in the defense if the County should so choose. Furthermore, the County may at its own expense defend or settle any such claims if the Contractor fails to diligently defend such claims, and thereafter seek indemnity for costs from the Contractor.

**ARTICLE 55. QUALITY ASSURANCE/QUALITY ASSURANCE RECORD KEEPING**

The Contractor shall maintain, and shall require that its subcontractors and suppliers maintain, complete and accurate records to substantiate compliance with the requirements set forth in the Scope of Work (Appendix A). The Contractor and its subcontractors and suppliers, shall retain such records, and all other documents relevant to the Services furnished under this Agreement for a period of three (3) years from the expiration date of this Agreement and any extension thereof.

**ARTICLE 56. AUDITS**

- A. The County, or its duly authorized representatives and governmental agencies, shall until the expiration of three (3) years after the expiration of this Agreement and any extension thereof, have access to and the right to examine and reproduce any of the Contractor's books, documents, papers and records and of its subcontractors and suppliers which apply to all matters of the County. Such records shall subsequently conform to Generally Accepted Accounting Principles requirements, as applicable, and shall only address those transactions related to this Agreement.
- B. Pursuant to Section 2-481 of the Code of Miami-Dade County, the Contractor will grant access to the Commission Auditor to all financial and performance related records, property, and equipment purchased in whole or in part with government funds. The Contractor agrees to maintain an accounting system that provides accounting records that are supported with adequate documentation, and adequate procedures for determining the allowability and allocability of costs.

**ARTICLE 57. SUBSTITUTION OF PERSONNEL**

In the event the Contractor wishes to substitute personnel for the key personnel identified by the Contractor's Proposal, the Contractor shall notify the County in writing and request written approval for the substitution at least ten (10) business days prior to effecting such substitution.

**ARTICLE 58. CONSENT OF THE COUNTY REQUIRED FOR ASSIGNMENT**

The Contractor shall not assign, transfer, convey or otherwise dispose of this Agreement, including its rights, title or interest in or to the same or any part thereof without the prior written consent of the County.

**ARTICLE 59. SUBCONTRACTUAL RELATIONS**

- A. If the Contractor will cause any part of this Agreement to be performed by a Subcontractor, the provisions of this Contract will apply to such Subcontractor and its officers, agents and employees in all respects as if it and they



were employees of the Contractor; and the Contractor will not be in any manner thereby discharged from its obligations and liabilities hereunder, but will be liable hereunder for all acts and negligence of the Subcontractor, its officers, agents, and employees, as if they were employees of the Contractor. The services performed by the Subcontractor will be subject to the provisions hereof as if performed directly by the Contractor.

- B. The Contractor, before making any subcontract for any portion of the services, will state in writing to the County the name of the proposed Subcontractor, the portion of the Services which the Subcontractor is to do, the place of business of such Subcontractor, and such other information as the County may require. The County will have the right to require the Contractor not to award any subcontract to a person, firm or corporation disapproved by the County.
- C. Before entering into any subcontract hereunder, the Contractor will inform the Subcontractor fully and completely of all provisions and requirements of this Agreement relating either directly or indirectly to the Services to be performed. Such Services performed by such Subcontractor will strictly comply with the requirements of this Contract.
- D. In order to qualify as a Subcontractor satisfactory to the County, in addition to the other requirements herein provided, the Subcontractor must be prepared to prove to the satisfaction of the County that it has the necessary facilities, skill and experience, and ample financial resources to perform the Services in a satisfactory manner. To be considered skilled and experienced, the Subcontractor must show to the satisfaction of the County that it has satisfactorily performed services of the same general type which is required to be performed under this Agreement.
- E. The County shall have the right to withdraw its consent to a subcontract if it appears to the County that the subcontract will delay, prevent, or otherwise impair the performance of the Contractor's obligations under this Agreement. All Subcontractors are required to protect the confidentiality of the County's and County's proprietary and confidential information. Contractor shall furnish to the County copies of all subcontracts between Contractor and Subcontractors and suppliers hereunder. Within each such subcontract, there shall be a clause for the benefit of the County in the event the County finds the Contractor in breach of this Contract, permitting the County to request completion by the Subcontractor of its performance obligations under the subcontract. The clause shall include an option for the County to pay the Subcontractor directly for the performance by such Subcontractor. Notwithstanding, the foregoing shall neither convey nor imply any obligation or liability on the part of the County to any subcontractor hereunder as more fully described herein.

#### **ARTICLE 60. ASSUMPTION, PARAMETERS, PROJECTIONS, ESTIMATES AND EXPLANATIONS**

The Contractor understands and agrees that any assumptions, parameters, projections, estimates and explanations presented by the County were provided to the Contractor for evaluation purposes only. However, since these assumptions, parameters, projections, estimates and explanations represent predictions of future events the County makes no representations or guarantees; and the County shall not be responsible for the accuracy of the assumptions presented; and the County shall not be responsible for conclusions to be drawn therefrom; and any assumptions, parameters, projections, estimates and explanations shall not form the basis of any claim by the Contractor. The Contractor accepts all risk associated with using this information.

#### **ARTICLE 61. SEVERABILITY**

If this Agreement contains any provision found to be unlawful, the same shall be deemed to be of no effect and shall be deemed stricken from this Agreement without affecting the binding force of this Agreement as it shall remain after omitting such provision.

#### **ARTICLE 62. TERMINATION AND SUSPENSION OF WORK**

- a) The County may terminate this Agreement if the Contractor attempts to meet its contractual obligation with the County through fraud, misrepresentation or material misstatement.

- b) The County may, as a further sanction, terminate or cancel any other contract(s) that the Contractor has with the County and that the Contractor shall be responsible for all direct and indirect costs associated with such termination or cancellation, including attorney's fees.
- c) The foregoing notwithstanding, in the event the Contractor attempts to meet its contractual obligations with the County through fraud, misrepresentation or material misstatement may be debarred from County contracting for up to five (5) years in accordance with the County debarment procedures. The Contractor may be subject to debarment for failure to perform and all other reasons set forth in Section 10-38 of the Code of Miami-Dade County.
- d) In addition to cancellation or termination as otherwise provided in this Agreement, the County may at any time, in its sole discretion, with or without cause, terminate this Agreement by written notice to the Contractor.
- e) In the event that the County exercises its right to terminate this Agreement, the Contractor shall, upon receipt of such notice, unless otherwise directed by the County:
  - i. stop work on the date specified in the notice ("the Effective Termination Date");
  - ii. take such action as may be necessary for the protection and preservation of the County's materials and property;
  - iii. cancel orders;
  - iv. assign to the County and deliver to any location designated by the County any non-cancelable orders for Deliverables that are not capable of use except in the performance of this Agreement and has been specifically developed for the sole purpose of this Agreement and not incorporated in the Services;
  - v. take no action which will increase the amounts payable by the County under this Agreement; and
- f) In the event that the County exercises its right to terminate this Agreement, the Contractor will be compensated as stated in the payment Articles herein for the:
  - i. portion of the Services completed in accordance with the Agreement up to the Effective Termination Date; and
  - ii. non-cancelable Deliverables that are not capable of use except in the performance of this Agreement and has been specifically developed for the sole purpose of this Agreement, but not incorporated in the Services.
- g) All compensation pursuant to this Article are subject to audit.

#### **ARTICLE 63. EVENT OF DEFAULT**

- A. An Event of Default shall mean a breach of this Agreement by the Contractor. Without limiting the generality of the foregoing, and in addition to those instances referred to herein as a breach, an Event of Default shall include the following:
- i. the Contractor has unnecessarily or unreasonably delayed the performance of the Contract;
  - ii. the Contractor has refused or failed to supply enough properly skilled staff personnel;
  - iii. the Contractor has failed to make prompt payment to subcontractors or suppliers for any Services;



- iv. the Contractor has become insolvent (other than as interdicted by the bankruptcy laws), or has assigned the proceeds received for the benefit of the Contractor's creditors, or the Contractor has taken advantage of any insolvency statute or debtor/creditor law or if the Contractor's affairs have been put in the hands of a receiver;
  - v. the Contractor has failed to obtain the approval of the County where required by this Agreement;
  - vi. the Contractor has failed to provide "adequate assurances" as required under subsection b below;
  - vii. the Contractor has failed in the representation of any warranties stated herein.
- B. When, in the opinion of the County, reasonable grounds for uncertainty exist with respect to the Contractor's ability to perform the Services or any portion thereof, the County may request that the Contractor, within the timeframe set forth in the County's request, provide adequate assurances to the County, in writing, of the Contractor's ability to perform in accordance with the terms of this Agreement. Until the County receives such assurances, the County may request an adjustment to the compensation received by the Contractor for portions of the Services which the Contractor has not performed. In the event that the Contractor fails to provide to the County the requested assurances within the prescribed timeframe, the County may:
- i. treat such failure as a repudiation of this Agreement; and
  - ii. resort to any remedy for breach provided herein or at law, including but not limited to, taking over the performance of the Services or any part thereof either by itself or through others.
- C. In the event the County shall terminate this Agreement for default, the County or its designated representatives may immediately take possession of all applicable equipment, materials, products, documentation, reports and data.

#### **ARTICLE 64. NOTICE OF DEFAULT - OPPORTUNITY TO CURE**

If an Event of Default occurs in the determination of the County, the County shall so notify the Contractor ("Default Notice"), specifying the basis for such default, and advising the Contractor that such default must be cured within reasonable time or this Agreement with the County may be terminated. Notwithstanding, the County may, in its sole discretion, allow the Contractor to rectify the default to the County's reasonable satisfaction within a thirty (30) day period. The County may grant an additional period of such duration as the County shall deem appropriate without waiver of any of the County's rights hereunder, so long as the Contractor has commenced curing such default and is effectuating a cure with diligence and continuity during such thirty (30) day period or any other period which the County prescribes. The Default Notice shall specify the date the Contractor shall discontinue the Services upon the Effective Termination Date.

#### **ARTICLE 65. REMEDIES IN THE EVENT OF DEFAULT**

If an Event of Default occurs, the Contractor shall be liable for all damages resulting from the default, including but not limited to:

- 1. lost revenues;
- 2. the difference between the cost associated with procuring Services hereunder and the amount actually expended by the County for re-procurement of Services, including procurement and administrative costs; and
- 3. such other direct damages.

The Contractor shall also remain liable for any liabilities and claims related to the Contractor's default. The County may also bring any suit or proceeding for specific performance or for an injunction.

**ARTICLE 66. PATENT AND COPYRIGHT INDEMNIFICATION**

- A. The Contractor shall not infringe on any copyrights, trademarks, service marks, trade secrets, patent rights, other intellectual property rights or any other third party proprietary rights in the performance of the Work.
- B. The Contractor warrants that all Deliverables furnished hereunder, including but not limited to: equipment, programs, documentation, software, analyses, applications, methods, ways, processes, and the like, do not infringe upon or violate any U.S. copyrights, trademarks, service marks, trade secrets, patent rights, other intellectual property rights or any other third party proprietary rights.
- C. The Contractor shall be liable and responsible for any and all claims made against the County by a third-party for infringement of any U.S. patents, copyrights, service marks, trade secrets or any other third party proprietary rights, by the use or supplying of any programs, documentation, software, analyses, applications, methods, ways, processes, and the like caused by the Work, or the County's continued use of the Deliverables furnished hereunder. Accordingly, the Contractor at its own expense, including the payment of reasonable attorney's fees, shall indemnify, and hold harmless the County and defend any action brought by a third-party against the County with respect to any claim, demand, cause of action, debt, or liability resulting from, or in connection with third-party claims of intellectual property infringement arising out of, resulting from, or in connection with any act or omission of the Contractor affecting the proprietary rights of third parties, including liability arising out of the publication, translation, reproduction, delivery, use, or disposition of any work furnished under this Agreement.
- D. The indemnification obligation is conditioned upon the following: (i) the County gives prompt written notice to Contractor of the claim, (ii) the County promptly and in writing grants to the Contractor sole control over defenses and settlement, (iii) the County provides all reasonable assistance in defense of the claims, and (iv) the County does not acknowledge the claims. The Contractor shall not be liable with respect to any claim arising out of or relating to either (i) use or incorporation in any product not supplied by the Contractor under this Contract, (ii) of any design, technique, modification or specification not originating with or furnished by Contractor; (iii) the combination with or incorporation into the Work and/or Deliverables supplied by the Contractor with any other product not supplied by the Contractor if such infringement would not have occurred without such combination; (iv) the modification of the Work and/or Deliverables supplied by the Contractor under this Agreement by the County or any person or entity other than the Contractor; (v) the use of the Work and/or Deliverables supplied by the Contractor under this Agreement other than as permitted under this Agreement; or (vi) use or distribution of other than the most current update, upgrade or version of the Work and/or Deliverable supplied by the Contractor under this Agreement (if such infringement or claim would have been prevented by the use of such update, upgrade or version).
- E. In the event any Deliverable or anything provided to the County hereunder, or portion thereof as a result of any suit or proceeding so defended is held to constitute an infringement and its use is or may be enjoined, the Contractor shall have the obligation to, at the Contractor's option to either (i) modify, or require that the applicable subcontractor or supplier modify, the alleged infringing item(s) at its own expense, without impairing in any respect the functionality or performance of the item(s) so its use is non-infringing, (ii) procure for the County, at the Contractor's expense, the rights provided under this Agreement to use the item(s); or (iii) replace it with substantially equivalent non-infringing item(s).
- F. The Contractor shall be solely responsible for determining and informing the County whether a prospective supplier or subcontractor is a party to any litigation involving patent or copyright infringement, service mark, trademark, violation, or proprietary rights claims or is subject to any injunction which may prohibit it from providing any Deliverable hereunder. The Contractor shall enter into agreements with all suppliers and subcontractors at the Contractor's own risk. The County may reject any Deliverable that it reasonably believes to be the subject of any such litigation or injunction, or if, in the County's reasonable judgment, use thereof would delay the Work or be unlawful.

**ARTICLE 67. CONFIDENTIALITY**

- A. All Developed Works and other materials, data, transactions of all forms, financial information, documentation, inventions, designs and methods obtained from the County in connection with the Services performed under this Agreement, made or developed by the Contractor or its subcontractors in the course of the performance of such Services, or the results of such Services, or which the County holds the proprietary rights, constitute Confidential Information and may not, without the prior written consent of the County, be used by the Contractor or its employees, agents, subcontractors or suppliers for any purpose other than for the benefit of the County, unless required by law. In addition to the foregoing, all County employee information and County financial information shall be considered Confidential Information and shall be subject to all the requirements stated herein. Neither the Contractor nor its employees, agents, subcontractors or suppliers may sell, transfer, publish, disclose, display, license or otherwise make available to others any part of such Confidential Information without the prior written consent of the County. Additionally, the Contractor expressly agrees to be bound by and to defend, indemnify and hold harmless the County, and their officers and employees from the breach of any federal, state or local law in regard to the privacy of individuals.
- B. The Contractor shall advise each of its employees, agents, subcontractors and suppliers who may be exposed to such Confidential Information of their obligation to keep such information confidential and shall promptly advise the County in writing if it learns of any unauthorized use or disclosure of the Confidential Information by any of its employees or agents, or subcontractor's or supplier's employees, present or former. In addition, the Contractor agrees to cooperate fully and provide any assistance necessary to ensure the confidentiality of the Confidential Information.
- C. It is understood and agreed that in the event of a breach of this Article damages may not be an adequate remedy and the County shall be entitled to injunctive relief to restrain any such breach or threatened breach. Unless otherwise requested by the County, upon the completion of the Services performed hereunder, the Contractor shall immediately turn over to the County all such Confidential Information existing in tangible form, and no copies thereof shall be retained by the Contractor or its employees, agents, subcontractors or suppliers without the prior written consent of the County. A certificate evidencing compliance with this provision and signed by an officer of the Contractor shall accompany such materials.

**ARTICLE 68. PROPRIETARY INFORMATION**

- A. As a political subdivision of the State of Florida, Miami-Dade County is subject to the stipulations of Florida's Public Records Law.
- B. The Contractor acknowledges that all computer software in the County's possession may constitute or contain information or materials which the County has agreed to protect as proprietary information from disclosure or unauthorized use and may also constitute or contain information or materials which the County has developed at its own expense, the disclosure of which could harm the County's proprietary interest therein.
- C. During the term of the contract, the Contractor will not use directly or indirectly for itself or for others, or publish or disclose to any third party, or remove from the County's property, any computer programs, data compilations, or other software which the County has developed, has used or is using, is holding for use, or which are otherwise in the possession of the County (hereinafter "Computer Software"). All third-party license agreements must also be honored by the contractors and their employees, except as authorized by the County and, if the Computer Software has been leased or purchased by the County, all hired party license agreements must also be honored by the contractors' employees with the approval of the lessor or Contractors thereof. This includes mainframe, minis, telecommunications, personal computers and any and all information technology software.

- D. The Contractor will report to the County any information discovered or which is disclosed to the Contractor which may relate to the improper use, publication, disclosure or removal from the County's property of any information technology software and hardware and will take such steps as are within the Contractor's authority to prevent improper use, disclosure or removal.

#### **ARTICLE 69. PROPRIETARY RIGHTS**

- A. The Contractor hereby acknowledges and agrees that the County retains all rights, title and interests in and to all materials, data, documentation and copies thereof furnished by the County to the Contractor hereunder (collectively "County Work Products"). Contractor conveys and assigns to County all rights, title and interest in and to all materials, data and copies specifically created by the Contractor for delivery to the County, even if unfinished or in process, as a result of the Work and Services the Contractor performs in connection with this Agreement (collectively "County Developed Work Products"). The Contractor may retain copies of the County Developed Work Products for its archives. The Contractor shall not, without the prior written consent of the County, use such documentation on any other project in which the Contractor or its employees, agents, subcontractors or suppliers are or may become engaged, which consent shall not be unreasonably withheld. Submission or distribution by the Contractor to meet official regulatory requirements or for other purposes in connection with the performance of Services under this Agreement shall not be construed as publication in derogation of the County's copyrights or other proprietary rights.
- B. All rights, title and interest in and to certain inventions, ideas, designs and methods, specifications and other documentation related thereto developed by the Contractor and its subcontractors specifically for the County, hereinafter referred to as "County Developed Work Products" shall become the property of the County.
- C. Accordingly, neither the Contractor nor its employees, agents, subcontractors or suppliers shall have any proprietary interest in such County Developed Work Products. The County Developed Work Products may not be utilized, reproduced or distributed by or on behalf of the Contractor, or any employee, agent, subcontractor or supplier thereof, without the prior written consent of the County, except as required for the Contractor's performance hereunder.
- D. For the avoidance of doubt, it is understood that Contractor may use its own previously developed data, documentation, software, ideas, concepts, materials, or information, in whatever form, in performing its obligations under the Contract (collectively "Preexisting Works"). All Contractor's Preexisting Works shall remain the sole, exclusive and unrestricted property of Contractor. It is understood that in performing its obligations, Contractor may develop new and unique work products for use in conjunction with this Agreement. For the purpose of this Agreement, "Contractors Work Product" shall mean all data, documentation, software, ideas, concepts, materials, and information, in whatever form, produced or created by Contractor which may or may not relate solely and exclusively to the performance of work or the rendition of obligations under this Agreement (hereinafter "Contractors Work Product"). All Contractors Work Product shall remain the sole, exclusive and unrestricted property of Contractor.
- E. The Contractor shall provide, at no additional costs to the County, a non-exclusive, non-transferable limited license(s) necessary for the County to use the Software of the ATMS System (hereinafter referred to as "Software") in machine readable, object code form, but only in connection for the operation of the ATMS System pursuant to the terms of this Contract, without the right to sub-license the Software. Title to the Software, tools or other packages utilized within the ATMS System shall remain fully vested in the Contractor and the County shall have no right to adapt such software or programs.
- F. The County agrees that neither it nor any third party shall modify, reverse engineer, decompile or reproduce the Software, without Contractor's prior written consent, except for making copies for backup or archival purposes in accordance with this Contract and with the related Contractor operating documentation, and provided that Contractor's confidential and proprietary legend is included. All copies of the Software are the property of



Contractor, and all copies for which the license is terminated shall be returned to Contractor promptly after termination.

- G. Except to the extent that the Parties otherwise agree in writing, the County's license to use the copy of the Software shall terminate upon breach of this license or the Contract by the County, including, without limitation, breach of payment or confidentiality obligations.
- H. The County shall have the right to distribute any documentation to any authorized user. The authorized users shall be identified in writing by the County Project Manager.
- I. The County shall have the right to distribute any interface documentation to any other person working with a system on behalf of the County that will interface with the ATMS System subject to the terms and conditions of this Contract, including but not limited to the terms dealing with confidentiality.

#### **ARTICLE 70. VENDOR REGISTRATION/CONFLICT OF INTEREST**

##### **A. Vendor Registration**

The Contractor shall be a registered vendor with the County – Internal Services Department, Procurement Management Division, for the duration of this Agreement. In becoming a registered vendor with Miami-Dade County, the Contractor confirms its knowledge of and commitment to comply with the following:

- |   |   |
|---|---|
| <p>1. <b>Miami-Dade County Ownership Disclosure Affidavit</b><br/>(Section 2-8.1 of the Code of Miami-Dade County)</p>                    | <p>(Sections 2-8.1(i), 2-11.1(b)(1) through (6) and (9), and 2-11.1(c) of the Code of Miami-Dade County)</p>  |
| <p>2. <b>Miami-Dade County Employment Disclosure Affidavit</b> (Section 2.8.1(d)(2) of the Code of Miami-Dade County)</p>                 | <p>8. <b>Miami-Dade County Family Leave Affidavit</b><br/>(Article V of Chapter 11 of the Code of Miami-Dade County)</p>                            |
| <p>3. <b>Miami-Dade County Employment Drug-free Workplace Certification</b><br/>(Section 2-8.1.2(b) of the Code of Miami-Dade County)</p> | <p>9. <b>Miami-Dade County Living Wage Affidavit</b><br/>(Section 2-8.9 of the Code of Miami-Dade County)</p>                                       |
| <p>4. <b>Miami-Dade County Disability and Nondiscrimination Affidavit</b><br/>(Section 2-8.1.5 of the Code of Miami-Dade County)</p>      | <p>10. <b>Miami-Dade County Domestic Leave and Reporting Affidavit</b> (Article VIII, Section 11A-60 - 11A-67 of the Code of Miami-Dade County)</p> |
| <p>5. <b>Miami-Dade County Debarment Disclosure Affidavit</b><br/>(Section 10.38 of the Code of Miami-Dade County)</p>                    | <p>11. <b>Miami-Dade County E-Verify Affidavit</b><br/>(Executive Order 11-116)</p>   |
| <p>6. <b>Miami-Dade County Vendor Obligation to County Affidavit</b><br/>(Section 2-8.1 of the Code of Miami-Dade County)</p>             | <p>12. <b>Miami-Dade County Pay Parity Affidavit</b><br/>(Resolution R-1072-17)</p>   |
| <p>7. <b>Miami-Dade County Code of Business Ethics Affidavit</b></p>  | <p>13. <b>Subcontracting Practices</b><br/>(Section 2-8.8 of the Code of Miami-Dade County)</p>   |
|   | <p>14. <b>Subcontractor/Supplier Listing</b><br/>(Section 2-8.1 of the Code of Miami-Dade County)</p>   |
|   | <p>15. <b>Form W-9 and 147c Letter</b><br/>(as required by the Internal Revenue Service)</p>  |

**16. FEIN Number or Social Security Number**

*In order to establish a file, the Contractor's Federal Employer Identification Number (FEIN) must be provided. If no FEIN exists, the Social Security Number of the owner or individual must be provided. This number becomes Contractor's "County Vendor Number". To comply with Section 119.071(5) of the Florida Statutes relating to the collection of an individual's Social Security Number, be aware that the County requests the Social Security Number for the following purposes:*

- *Identification of individual account records*
- *To make payments to individual/Contractor for goods and services provided to Miami-Dade County*
- *Tax reporting purposes*
- *To provide a unique identifier in the vendor database that may be used for searching and sorting departmental records*

**17. Office of the Inspector General**

*(Section 2-1076 of the Code of Miami-Dade County)*

**18. Small Business Enterprises**

*The County endeavors to obtain the participation of all small business enterprises pursuant to Sections 2-8.1.1.1.1, 2-8.1.1.1.2 and 2-8.2.2 of the Code of Miami-Dade County and Title 49 of the Code of Federal Regulations.*

**19. Antitrust Laws**

*By acceptance of any contract, the Contractor agrees to comply with all antitrust laws of the United States and the State of Florida.*

**B. Conflict of Interest and Code of Ethics**

Section 2-11.1(d) of the Code of Miami-Dade County requires that any County employee or any member of the employee's immediate family who has a controlling financial interest, direct or indirect, with Miami-Dade County or any person or agency acting for Miami-Dade County, competing or applying for a contract, must first request a conflict of interest opinion from the County's Ethics Commission prior to their or their immediate family member's entering into any contract or transacting any business through a firm, corporation, partnership or business entity in which the employee or any member of the employee's immediate family has a controlling financial interest, direct or indirect, with Miami-Dade County or any person or agency acting for Miami-Dade County. Any such contract or business engagement entered in violation of this subsection, as amended, shall be rendered voidable. All autonomous personnel, quasi-judicial personnel, advisory personnel, and employees wishing to do business with the County are hereby advised they must comply with the applicable provisions of Section 2-11.1 of the Code of Miami-Dade County relating to Conflict of Interest and Code of Ethics. In accordance with Section 2-11.1 (y), the Miami-Dade County Commission on Ethics and Public Trust (Ethics Commission) shall be empowered to review, interpret, render advisory opinions and letters of instruction and enforce the Conflict of Interest and Code of Ethics Ordinance.

**ARTICLE 71. INSPECTOR GENERAL REVIEWS****A. Independent Private Sector Inspector General Reviews**

Pursuant to Miami-Dade County Administrative Order 3-20, the County has the right to retain the services of an Independent Private Sector Inspector General (hereinafter "IPSIG"), whenever the County deems it appropriate to do so. Upon written notice from the County, the Contractor shall make available to the IPSIG retained by the County, all requested records and documentation pertaining to this Agreement for inspection and reproduction. The County shall be responsible for the payment of these IPSIG services, and under no circumstance shall the Contractor's prices and any changes thereto approved by the County, be inclusive of any charges relating to these IPSIG services. The terms of this provision apply to the Contractor, its officers, agents, employees, subcontractors and assignees. Nothing contained in this provision shall impair any independent right of the County to conduct an audit or investigate the operations, activities and performance of the Contractor in connection with this Agreement.



The terms of this Article shall not impose any liability on the County by the Contractor or any third party.

**B. Miami-Dade County Inspector General Review**

According to Section 2-1076 of the Code of Miami-Dade County, Miami-Dade County has established the Office of the Inspector General which may, on a random basis, perform audits on all County contracts, throughout the duration of said contracts.

Nothing contained above shall in any way limit the powers of the Inspector General to perform audits on all County contracts including, but not limited to, those contracts specifically exempted above. The Miami-Dade County Inspector General is authorized and empowered to review past, present and proposed County and Public Health Trust contracts, transactions, accounts, records and programs. In addition, the Inspector General has the power to subpoena witnesses, administer oaths, require the production of records and monitor existing projects and programs. Monitoring of an existing project or program may include a report concerning whether the project is on time, within budget and in conformance with plans, specifications and applicable law. The Inspector General is empowered to analyze the necessity of and reasonableness of proposed change orders to the Contract. The Inspector General shall have the power to audit, investigate, monitor, oversee, inspect and review operations, activities, performance and procurement process, including but not limited to project design, specifications, proposal submittals, activities of the Contractor, its officers, agents and employees, lobbyists, County staff and elected officials to ensure compliance with contract specifications and to detect fraud and corruption.

Upon written notice to the Contractor from the Inspector General or IPSIG retained by the Inspector General, the Contractor shall make all requested records and documents available to the Inspector General or IPSIG for inspection and copying. The Inspector General and IPSIG shall have the right to inspect and copy all documents and records in the Contractor's possession, custody or control which, in the Inspector General's or IPSIG's sole judgment, pertain to performance of the contract, including, but not limited to original estimate files, change order estimate files, worksheets, proposals and agreements form and which successful and unsuccessful subcontractors and suppliers, all project-related correspondence, memoranda, instructions, financial documents, construction documents, proposal and contract documents, back-charge documents, all documents and records which involve cash, trade or volume discounts, insurance proceeds, rebates, or dividends received, payroll and personnel records, and supporting documentation for the aforesaid documents and records.

**ARTICLE 72. LOCAL, STATE, AND FEDERAL COMPLIANCE REQUIREMENTS**

Contractor agrees to comply, subject to applicable professional standards, with the provisions of any and all applicable Federal, State and the County orders, statutes, ordinances, rules and regulations which may pertain to the Services required under this Agreement, including, but not limited to:

- a) Equal Employment Opportunity (EEO), in compliance with Executive Order 11246 as amended and applicable to this Contract.
- b) Miami-Dade County Small Business Enterprises Development Participation Provisions, as applicable to this Contract.
- c) Environmental Protection Agency (EPA), as applicable to this Contract.
- d) Section 2-11.1 of the Code of Miami-Dade County, "Conflict of Interest and Code of Ethics."
- e) Section 10-38 of the Code of Miami-Dade County, "Debarment of Contractors from County Work."
- f) Section 11A-60 - 11A-67 of the Code of Miami-Dade County, "Domestic Leave."
- g) Section 21-255 of the Code of Miami-Dade County, prohibiting the presentation, maintenance, or prosecution

of false or fraudulent claims against Miami-Dade County.

- h) The Equal Pay Act of 1963, as amended (29 U.S.C. 206(d)).
- i) Section 448.07 of the Florida Statutes "Wage Rate Discrimination Based on Sex Prohibited."
- j) Chapter 11A of the Code of Miami-Dade County (§ 11A-1 et seq.) "Discrimination."
- k) Chapter 22 of the Code of Miami-Dade County (§ 22-1 et seq.) "Wage Theft."
- l) Chapter 8A, Article XIX, of the Code of Miami-Dade County (§ 8A-400 et seq.) "Business Regulations."
- m) Any other laws prohibiting wage rate discrimination based on sex.

Pursuant to Resolution R-1072-17, by entering into this Contract, the Contractor is certifying that the Contractor is in compliance with, and will continue to comply with, the provisions of items "h" through "m" above.

The Contractor shall hold all licenses and/or certifications, obtain and pay for all permits and/or inspections, and comply with all laws, ordinances, regulations and building code requirements applicable to the work required herein. Damages, penalties, and/or fines imposed on the County or Contractor for failure to obtain and maintain required licenses, certifications, permits and/or inspections shall be borne by the Contractor. The Project Manager shall verify the certification(s), license(s), permit(s), etc. for the Contractor prior to authorizing work and as needed.

Notwithstanding any other provision of this Agreement, Contractor shall not be required pursuant to this Agreement to take any action or abstain from taking any action if such action or abstention would, in the good faith determination of the Contractor, constitute a violation of any law or regulation to which Contractor is subject, including but not limited to laws and regulations requiring that Contractor conduct its operations in a safe and sound manner.

#### **ARTICLE 73. NONDISCRIMINATION**

- A. During the performance of this Contract, Contractor agrees to not discriminate against any employee or applicant for employment because of race, color, religion, ancestry, national origin, sex, pregnancy, age, disability, marital status, familial status, sexual orientation, gender identity or gender expression, status as victim of domestic violence, dating violence or stalking, or veteran status, and on housing related contracts the source of income, and will take affirmative action to ensure that employees and applicants are afforded equal employment opportunities without discrimination. Such action shall be taken with reference to, but not limited to: recruitment, employment, termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on the job training.
- B. By entering into this Contract, the Contractor attests that it is not in violation of the Americans with Disabilities Act of 1990 (and related Acts) or Miami-Dade County Resolution No. R-385-95. If the Contractor or any owner, subsidiary or other firm affiliated with or related to the Contractor is found by the responsible enforcement agency or the County to be in violation of the Act or the Resolution, such violation shall render this Contract void. This Contract shall be void if the Contractor submits a false affidavit pursuant to this Resolution or the Contractor violates the Act or the Resolution during the term of this Contract, even if the Contractor was not in violation at the time it submitted its affidavit.

#### **ARTICLE 74. CONFLICT OF INTEREST**

The Contractor represents that:

- A. No officer, director, employee, agent, or other consultant of the County or a member of the immediate family or household of the aforesaid has directly or indirectly received or been promised any form of benefit, payment or compensation, whether tangible or intangible, in connection with the award of this Agreement.

- B. There are no undisclosed persons or entities interested with the Contractor in this Agreement. This Agreement is entered into by the Contractor without any connection with any other entity or person making a proposal for the same purpose, and without collusion, fraud or conflict of interest. No elected or appointed officer or official, director, employee, agent or other consultant of the County, or of the State of Florida (including elected and appointed members of the legislative and executive branches of government), or a member of the immediate family or household of any of the aforesaid:
1. is interested on behalf of or through the Contractor directly or indirectly in any manner whatsoever in the execution or the performance of this Agreement, or in the services, supplies or work, to which this Agreement relates or in any portion of the revenues; or
  2. is an employee, agent, advisor, or consultant to the Contractor or to the best of the Contractor's knowledge any subcontractor or supplier to the Contractor.
- C. Neither the Contractor nor any officer, director, employee, agency, parent, subsidiary, or affiliate of the Contractor shall have an interest which is in conflict with the Contractor's faithful performance of its obligation under this Agreement; provided that the County, in its sole discretion, may consent in writing to such a relationship, provided the Contractor provides the County with a written notice, in advance, which identifies all the individuals and entities involved and sets forth in detail the nature of the relationship and why it is in the County's best interest to consent to such relationship.
- D. The provisions of this Article are supplemental to, not in lieu of, all applicable laws with respect to conflict of interest. In the event there is a difference between the standards applicable under this Agreement and those provided by statute, the stricter standard shall apply.
- E. In the event Contractor has no prior knowledge of a conflict of interest as set forth above and acquires information which may indicate that there may be an actual or apparent violation of any of the above, Contractor shall promptly bring such information to the attention of the County's Project Manager. Contractor shall thereafter cooperate with the County's review and investigation of such information, and comply with the instructions Contractor receives from the Project Manager in regard to remedying the situation.

#### **ARTICLE 75. PRESS RELEASE OR OTHER PUBLIC COMMUNICATION**

Under no circumstances shall the Contractor without the express written consent of the County:

1. Issue or permit to be issued any press release, advertisement or literature of any kind which refers to the County, or the Work being performed hereunder, unless the Contractor first obtains the written approval of the County. Such approval may be withheld if for any reason the County believes that the publication of such information would be harmful to the public interest or is in any way undesirable; and
2. Communicate in any way with any contractor, department, board, agency, commission or other organization or any person whether governmental or private in connection with the Services to be performed hereunder except upon prior written approval and instruction of the County; and
3. Except as may be required by law, the Contractor and its employees, agents, subcontractors and suppliers will not represent, directly or indirectly, that any product or service provided by the Contractor or such parties has been approved or endorsed by the County.

#### **ARTICLE 76. BANKRUPTCY**

The County reserves the right to terminate this contract, if, during the term of any contract the Contractor has with the County, the Contractor becomes involved as a debtor in a bankruptcy proceeding, or becomes involved in a reorganization, dissolution, or liquidation proceeding, or if a trustee or receiver is appointed over all or a substantial

portion of the property of the Contractor under federal bankruptcy law or any state insolvency law.

**ARTICLE 77. GOVERNING LAW**

This Contract, including appendices, and all matters relating to this Contract (whether in contract, statute, tort (such as negligence), or otherwise) shall be governed by, and construed in accordance with, the laws of the State of Florida. Venue shall be Miami-Dade County.

**ARTICLE 78. PUBLIC RECORDS AND CONTRACTS FOR SERVICES PERFORMED ON BEHALF OF MIAMI-DADE COUNTY**

The Contractor shall comply with the Public Records Laws of the State of Florida, including by not limited to, (1) keeping and maintaining all public records that ordinarily and necessarily would be required by the County in order to perform the service; (2) providing the public with access to public records on the same terms and conditions that the County would provide the records and at a cost that does not exceed the cost provided in Chapter 119, F.S., or as otherwise provided by law; (3) ensuring that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law; and (4) meeting all requirements for retaining public records and transferring, at no cost, to the County all public records in possession of the Contractor upon termination of the contract and destroying any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements upon such transfer. In addition, all records stored electronically must be provided to the County in a format that is compatible with the information technology systems of the County. Failure to meet any of these provisions or to comply with Florida's Public Records Laws as applicable shall be a material breach of this Agreement and shall be enforced in accordance with the terms and conditions of the Agreement.

**IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT (305) 375-5773, [ISD-VSS@MIAMIDADE.GOV](mailto:ISD-VSS@MIAMIDADE.GOV), 111 NW 1<sup>st</sup> STREET, SUITE 1300, MIAMI, FLORIDA 33128**

**ARTICLE 79. SURVIVAL**

The parties acknowledge that any of the obligations in this Agreement will survive the term, termination and cancellation hereof. Accordingly, the respective obligations of the Contractor and the County under this Agreement, which by nature would continue beyond the termination, cancellation or expiration thereof, shall survive termination, cancellation or expiration hereof.

IN WITNESS WHEREOF, the parties have executed this Agreement effective as of the contract date herein above set forth.

Siemens Mobility Inc

Miami-Dade County

By: *[Signature]*

By: \_\_\_\_\_

Name: Marcus Welz David BuchfuehrerName: Carlos A. GimenezTitle: CEO Intelligent Traffic Systems  
CFO Intelligent Traffic SystemsTitle: MayorDate: January 30, 2020

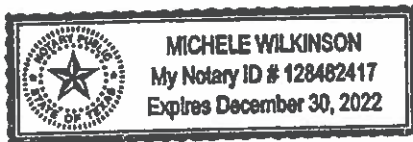
Date: \_\_\_\_\_

Attest: *[Signature]*  
Corporate Secretary/Notary Public

Attest: \_\_\_\_\_

Clerk of the Board

Corporate Seal/Notary Seal

Approved as to form  
and legal sufficiency\_\_\_\_\_  
Assistant County Attorney

## ATTACHMENTS

## Appendix A Scope of Work rev 1-29-20

- Exhibit 1 DTPW Division 01 Construction Specifications (General Requirements)
- Exhibit 2 Traffic Control Equipment Standards and Specifications Section 600 (General Provisions for Traffic Control Devices)
- Exhibit 3 Traffic Control Equipment Standards and Specifications Section 630 (Conduit)
- Exhibit 4 Traffic Control Equipment Standards and Specifications Section 635 (Pull, Splice, and Junction Boxes)
- Exhibit 5 Traffic Control Equipment Standards and Specifications Section 660 (Vehicle Detection System)
- Exhibit 6 Traffic Control Equipment Standards and Specifications Section 671 (Traffic Signal Controllers)
- Exhibit 7 Traffic Signal Controller Local Software Functional and Performance Specification
- Exhibit 8 Central Traffic Management System Software Functional and Performance Specification
- Exhibit 9 System Requirements Matrix
- Exhibit 10 Requirements Traceability Matrix
- Exhibit 11 System Engineering Documents for Task Group I
- Exhibit 12 FDOT District Six - Adaptive Signal Control Technologies (ASCT)
- Exhibit 13 Miami-Dade County DTPW Specification Section 527 (Detectable Warnings on Walking Surfaces)
- Exhibit 14 Miami-Dade County DTPW Specification Section 110 (Clearing and Grubbing)
- Exhibit 15 Signal Intersection Operation Modes (Free - Flash Only)



## SCOPE OF WORK

## ADVANCED TRAFFIC MANAGEMENT SYSTEM

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**EXHIBITS**

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**SCOPE OF WORK**

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**1. INTRODUCTION**

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**1.01 PROJECT OBJECTIVE AND OVERVIEW**

- A. The Traffic Signals and Signs (TSS) Division of the Miami-Dade County Department of Transportation and Public Works (DTPW), hereinafter referred to as the County, seeks a Countywide upgrade of its existing Advanced Traffic Management System (ATMS) and traffic signal controllers; the ability to fully-actuate all signalized intersections; and Miscellaneous Engineering Implementation of traffic engineering solutions.
- B. The work to be conducted affects operationally active signalized intersections. Design and construction services rendered by the Contractor are intended to result in a complete, functional and operable state of a modernized traffic signal system. Work includes the associated engineering design, technical specifications, permitting, device installation, infrastructure construction, system integration, operational support, training and acceptance testing.

**C. Task Grouping****1. Task Group 1: ATMS and Traffic Signal Controller Migration**

- a. This Task Group includes complete migration and integration of all signalized intersections in the County to the proposed ATMS, local controller software, and Caltrans Model 2070LX controllers must be completed within four years from the Notice to Proceed. A minimum of 500 intersections per year must be retrofitted with the new Caltrans Model 2070LX controllers and integrated into the new Countywide NTCIP-compliant ATMS.
- b. The proposed system (hereinafter referred to as the "System") must include County-approved Caltrans Model 2070LX controllers, local controller software, and a Countywide NTCIP-compliant ATMS software package that can communicate using the County's existing communications networks; all meeting the requirements of Article 2.02 of these Technical Requirements.

**2. Task Group 2: Full Actuation of Signalized Intersections**

This Task Group includes the engineering and construction work necessary for adding additional vehicle (including bicycle) and pedestrian detection at signalized intersections to provide for Stop Bar vehicle detection to each travel lanes and pedestrian actuation in order to support fully-actuated signal operations. In addition, this Task Group includes the engineering and construction support for adding other types of vehicle detection zones necessary for supporting Transit Signal Priority and Adaptive Signal Timing operations. All activities for this Task Group must be completed within seven years from the Notice to Proceed.

**3. Task Group 3: Miscellaneous Engineering Implementation**

This Task Group includes engineering services necessary to develop, provide and integrate additional traffic signal operational features and functions that are not specified or proposed as an integral part of the Task Group 1 requirements. This Task Group includes the following specific subtasks: Implementing adaptive signal control technology, implementing traffic responsive control, updating System Engineering Documents, optimizing existing traffic signal parameters and timing plans to enable implementation of system solutions, and design and development of other miscellaneous operational functions. All activities for this Task Group must be completed within five years from the Notice to Proceed (NTP).

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- D. Each of the above Task Groupings must: follow parallel and independent schedules; be managed by its task specific task manager with sufficient staff allocated; and cannot interfere with the progress and completion of work pertaining to another grouping.

#### 1.02 INNOVATION TO GOVERNMENT

The County seeks to identify a cost-effective upgrade path for its existing system that accommodates current needs, extends the lifespan of the system, and provides additional capabilities, such as adaptive signal control and collection of signal performance metrics.

#### 1.03 EXISTING SYSTEM

- A. The DTPW TSS Division operates and maintains over 2,900 signalized intersections on state, county, and local roads within the County's geographical boundaries. The DTPW TSS Division staff monitor and manage the intersections from their Traffic Management Center (TMC) in Miami, Florida. Approximately 2,600 intersections are controlled using the McCain D170E controller. The remaining intersections are controlled by the Econolite Safetran Model 2070C controller (a Caltrans Model 2070LX controller). The intersections with D170E controllers are managed using the Kimley-Horn and Associates (KHA) KITS software; the remaining are managed by the Econolite Contracs ATMS. The current KITS ATMS owned by the County does not include support for the Caltrans Model 2070LX controller.
- B. There are approximately 500 signal timing coordination groupings throughout the County. Signals are grouped according to proximity and travel patterns along key arterial corridors. Deployment of the central traffic signal control software, controller hardware and software shall target signalized intersections within signal coordination groups. The remaining traffic signals do not belong to any coordination group but have cellular communication with the central traffic signal control system. These traffic signals operate in actuated and/or semi-actuated, non-coordinated timing patterns 24 hours per day, 7 days per week, and 365 days per year.
- C. The County uses specialty controller cabinets designated as Types MD-552A, MD-552X, MD-660A and MD-660X with wiring and functional architecture similar to that of a Caltrans 332 traffic controller cabinet but with minor variations in the I/O mapping.
- D. All signalized intersections maintained by the County provide for per lane vehicle detection on the minor movements (i.e. semi-actuated) with the exception of approximately 10% of the signalized intersections providing per lane vehicle detection for all approaches (i.e. allowing for fully actuated operations).
- E. NETWORK, SERVER, AND COMMUNICATIONS
  - 1. In order to enhance the integration capabilities, leverage system data for other applications, and facilitate various integration with other systems, the County uses Application Programming Interface (API) technologies.
  - 2. The County's network infrastructure is standardized on Windows Server 2016. A Standard "Class 4" Virtual Machine will consist of a Single CPU, 4GB RAM and 80GB C Drive. These resources can be scaled up if needed up to a 4CPU, 32GB RAM and 400GB total Disk Space Virtual Machine.
  - 3. The County operates an Active Directory infrastructure and all users requiring network resources are assigned a user account. The County requires all application logons and access levels to be integrated with the user's Active Directory account and/or user's group membership. The servers are joined to the Miami-Dade Domain thus permissions will be managed by Lightweight Directory Access Protocol (LDAP) Integration with Active Directory (AD) with the County's Federation Services. This allows for ease of

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management where the County does not have to manage and maintain two separate systems for application access.

4. MDC currently utilizes DIGI WR21 and WR44 LTE cellular modems connected via a private AVPN.

F. Transit signal priority (TSP)

1. The County uses Clever Devices' solution on the entire Metrobus fleet for Computer Aided Dispatch / Automated Vehicle Locating (CAD/AVL). Clever Devices' TSP solution is a center-to-center application which currently implements communication between its CAD/AVL system and a single Advanced Traffic Management System (ATMS) to exchange messages relevant to TSP for buses. When a vehicle equipped with a Clever Devices Intelligent Vehicle Network (IVN) reaches a pre-established distance from a TSP-capable intersection on a designated route, provided a set of configurable conditions (such as lateness and direction) are met, the on-board IVN generates a TSP request message (check-in) which travels over the available communication infrastructure to the Clever Devices' CAD/AVL system (CleverCad). CleverCad communicates the TSP request to the ATMS center over an XML web service interface. The ATMS center is responsible for communication with the intersection controller to serve the TSP request based on other external conditions (such as serving pedestrian crossing or a preemption requests). A similar process is followed when the vehicle has cleared the TSP-capable intersection, where the on-board IVN transmits a TSP cancellation message (check-out) to the ATMS center.
2. The TSP business rules for TSP request/cancel messages are defined in the on-board system so that when the conditions are met, the IVN initiates the transmission of the corresponding check-in/check-out messages. Some of the parameters used on these business rules include vehicle location relative to the TSP-capable intersection, schedule deviation, passenger load, door status, vehicle heading and vehicle route. The on-board system requires the vehicle to be in Linear Positioning System (LPS) mode – similar to dead reckoning, to enable the TSP algorithm. To accomplish this, the vehicle Global Positioning System (GPS) needs to be engaged and the doors need to be cycled at the starting point of the TSP-enabled route variation, from this point onwards the system will calculate the distance to the TSP intersections along the route based on the GPS-reported location and the odometer pulses.
3. As referenced above, upon receipt of the TSP check-in/check-out from the vehicle(s), CleverCad builds the appropriate XML message(s) and sends it to the ATMS center via a XML message. The XML message includes information such as: intersection asset ID, vehicle ID, vehicle location (lat, long), event time (date/time stamp), event type (request or cancel), route number and trip direction among others. CleverCad captures any event received from the vehicle and any responses from the ATMS center (indicating whether the xml message was received correctly or not) into the CleverCad database for reporting purposes.

G. Reversible Lane Control System (RLCS)

1. The County uses a Reversible Lane Control System (RLCS) along NW 199 Street to manage lane usage from NW 27 Avenue to NW 2 Avenue during events at Hard Rock Stadium. The RLCS has 22 lane control gantries and uses high speed Ethernet connection for command and status data between the local master controller and central ATMS. The local master controller communicates to each of the gantry controllers. The existing RLCS program (No. 247DA) was developed by McCain, Inc. Program 247DA was designed to take advantage of the HC11 9.8MHz CPU Module as specified by the County during the time of development. The RLCS is currently integrated into the KITS ATMS menu and normally operates on "No Display" mode until another plan is activated.

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2. The program shows the current display status and requested mode and has the capability of scheduling events. The Plan Numbers are listed below:
  - 1) Non-Display (Dark)
  - 2) Light Inbound
  - 3) Medium Inbound
  - 4) Average
  - 5) Light Outbound
  - 6) Medium Outbound
  - 7) Heavy Outbound
3. There are several reports to view the individual communications for each gantry and the status of the system.

#### 1.04 15% PERFORMANCE GUARANTEE

##### A. Performance Guarantee

Contractor guarantees that on one key corridor chosen for initial implementation consisting out of one set of fifteen (15) intersections ("Corridor") selected by Contractor in collaboration with the County, Contractor's solution will achieve a reduction of fifteen percent (15.00%) in end-to-end travel time measured in accordance with the criteria set forth below. In case Contractor's solution does not achieve a 15% improvement in end-to-end travel time for that Corridor, Contractor shall provide a one-time credit of \$500,000 to be applied towards the adaptive implementation to the County. Notwithstanding the foregoing, in no event shall this improvement guarantee constitute an acceptance criteria or delay any acceptance by the County under the contract. In case Contractor's solution does not achieve a fifteen percent (15%) decrease in the end-to-end travel time on that Corridor, the credit of \$500k shall be the County's sole and exclusive remedy and Contractor sole and exclusive liability for Contractor's failure to meet the performance guarantee. In no event shall Contractor be liable for any damages or for any other consequential and indirect damages in case of non-achievement of the fifteen percent (15%) decrease in the end-to-end travel time, nor shall the failure to meet this performance guarantee constitute a breach of the Agreement.

##### B. Corridor Selection Criteria:

Contractor's selection criteria for the corridor will be both technical and anecdotal. On the technical side, Contractor will identify corridors that have an Annual Average Daily Traffic of approximately 35,000 to 50,000, carry traffic due to commuting but also traffic due to nearby traffic generators such as regional malls, tourist areas, sporting or arts venues, and recreational traffic that varies due to seasons or weather changes. The corridor cannot be so overly congested that the only solution is to increase physical capacity.

Should Contractor fail to identify and select a corridor pursuant to the above-referenced criteria; Contractor shall use one of the corridors from the list on Page 5 of Section A of the submitted proposal to measure the 15% improvement

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SCOPE OF WORK

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## C. Measurement Methodology:

Contractor will collect before and after travel time data based on two different methodologies: (1) Contractor will install Contractor's Roadside Units (RSUs)<sup>1</sup> running Contractor's Travel Sense CV application along the selected corridor, in order to collect Bluetooth/Wi-Fi based end-to-end corridor travel times from discoverable mobile devices. This will provide the end-to-end corridor travel times and; (2) Contractor will partner with StreetLight Data to acquire significant mobile data for the measured Corridor.

In the Corridor chosen by Contractor in collaboration with the County, Contractor will measure end-to-end travel time for the weekday AM or PM peak periods, (to be defined by Contractor but for example) 6:00 AM to 9:00 AM or 3:00 PM to 7:00 PM. A corridor more influenced by events or venues may have peaks that correspond to before and after the event. Upon the installation of the Contractor RSU's including the TravelSense application, the corridor end-to-end travel time will be measured over an approximately one-month period of "normal" traffic patterns. After the adaptive system has been installed and fine-tuned, the measurement will be repeated under adaptive operation. Available data from StreetLight Data may be used during comparable periods. The performance guarantee shall be deemed achieved when based on the before and after data comparison the average travel time over the chosen peak period in that Corridor shows a reduction by 15% on a comparable basis. All data and results are subject to review and validation by the County.

The County may, at its' expense, measure and validate travel time improvement using other County approved data sources. Material deviations between County measurements and Contractor's final, certified measurements will be handled as follows:

- If the County's improvement result is within 1.5% of Contractor's result (i.e. one result 15% and one result 13.5%) the travel time improvement will be deemed successful.
- In the event the variation in the improvement results exceed 1.5% and a fulfillment of the improvement guarantee could not be validated, Contractor and the County will mutually and in good faith analyze both data sets to determine data and measurement integrity. In case Contractor and the County cannot agree on data accuracy, a mutually selected independent third party will be consulted to perform before and after measurements, which will determine if the guarantee is successful.

In the event the independent third party verifies an error on the part of Contractor that resulted in its improvement percentage, Contractor shall bear the cost of the independent third party verification. These costs shall be deducted from the \$500k credit.

In the event, the County finds significant deviation or discrepancies in Contractor's results, Contractor shall be given a reasonable period to clarify, correct, and/or reconfigure prior to a final determination as to the achievement of the goal.

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<sup>1</sup> Contractor's Roadside Units (RSUs) must comply with the requirements of Chapter 316.0745 of the Florida Statutes. The RSUs must be listed on the Florida Department of Transportation (FDOT) Approved Products List (APL) or have written authorization from the FDOT for the use of the RSUs within this specific project, via an Innovative Product List permit. Contractor is bound to the approval of the FDOT including any limitations or conditions of use.



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**SCOPE OF WORK**

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**2. SCOPE OF WORK**

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**2.01 GENERAL**

- A. Contractor shall deliver a complete System that will provide the County with the required functionality and workflow process capabilities as detailed in the Scope of Work; fully-actuate all signalized intersections; and provide miscellaneous engineering implementation of traffic engineering solutions. The County requires that the Contractor follow a phased approach to the design, development, and implementation of the ATMS to ensure that a comprehensive and expandable System is implemented during the term of the resulting contract and beyond.
- B. When under contract, the Contractor will be responsible for delivering an accepted System to the County which meet the objectives and requirements as stated herein. All systems and services provided under the contract must be in compliance with County, state and federal laws and regulations.
- C. Work includes providing the System as specified by the County and all of the professional and construction services needed to meet the requirements of the Contract including project management, engineering design, project initiation and planning, systems integration, system (hardware and software) delivery and implementation, database conversion and migration, field installation/construction, training, and support.
- D. The work plan must address the effective integration and re-use of existing and compatible traffic signal system components including the manner in which existing Model 2070LX controllers, currently deployed at Miami-Dade County Intersections, will be integrated into the proposed ATMS system.
- E. Within the Scope of Work pertaining to the specific Task Group, the Contractor responsibilities include the preparation of complete, signed and sealed construction documents, which shall comply with all regulatory requirements of the County, State and Federal authorities. Construction documents include detailed signal plan; signal timing plan; preparation of plans and specifications package for all items and areas of work, permitting, standard operation procedures (SOP) of signal, and incidentals to construct the project.
- F. Engineering and design development includes verification of existing conditions, vehicle detection system design, traffic signal control data conversion, permitting and miscellaneous engineering services. The Contractor is responsible for obtaining all applicable permits and approvals required for construction. Regarding County blanket permit(s); prior to the issuance of any permit, all engineering documents must be provided, reviewed, and approved. Prior to closure or acceptance of any assets under a permit, the permit must be closed. In order to close a permit, all inspections under the permit must be completed. Therefore, the grouping of signals into a signal County permit must take this into account. Further, the County has no authority over the FDOT or Municipalities with regards to their permitting requirements.
- G. The Contractor shall be responsible for preparation of shop drawings and other construction submittals. The selected Contractor's Consultant is also responsible for the review and approval of the shop drawings and preparation of signed and sealed as-built plans.
- H. Except where explicitly stated in the Contract Documents, the project construction activities include furnishing all labor, equipment, materials, integration, testing, construction quality control, with final acceptance by the TSS Division of the project components.
- I. Inclusive of all other planning, design, coordination, construction activities and services as required to provide a complete County wide modernized traffic signal control system.

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- J. Construction activities must be performed in accordance with the requirements of the Contract Documents and include:
    - 1. Scheduling
    - 2. Quality Assurance and Quality Control
    - 3. Bench testing
    - 4. Maintenance of Traffic (MOT)
    - 5. Acceptance testing
    - 6. Engineer of Record certifications of Completion
  - K. The requirements in this Section are in addition to the requirements stipulated in the Contract Documents including DTPW Division 01 Construction Specification (Exhibit 1), Traffic Control Equipment Standards and Specifications Section 600 (Exhibit 2), and all other applicable standards and specifications pursuant to the Contract Documents.
  - L. The Contractor (under the authorization of the County Project Manager) will be responsible for the coordination with multiple agencies including, but not limited to, Miami-Dade County TSS, Miami-Dade IT Department (ITD), Florida Department of Transportation (FDOT), City of Miami, City of Miami Beach, City of North Miami, City of Hialeah, other local municipalities and agencies, AT&T, and Florida Power and Light (FPL).
- 2.02 TASK GROUP 1: ATMS AND TRAFFIC SIGNAL CONTROLLER MIGRATION
- A. This Task Group includes System delivery and complete migration and integration of all signalized intersections in the County to the proposed ATMS, local controller software, and Caltrans Model 2070LX controllers. Task Group 1 shall be completed within four (4) years after the Notice to Proceed.
  - B. Preliminary efforts required in support of system delivery and migration include developing and providing the County with an updated Traffic Signal Sections Listing ("Sections Listing"). This requires evaluating existing traffic signal section groupings, adding and deleting sections, redistributing intersections, and rearranging the listing as necessary to enhance timing optimization and coordination. The Sections Listing must support the subtask activities required of Task Group 3. A draft report including the description of grouping criteria and the updated Sections listing must be provided to the County within 90 days after the Notice to Proceed.
  - C. Requirements for ATMS, Local Software, and Controller Hardware:
    - 1. Only products that meet the following requirements will be considered:
      - a. Traffic signal controller hardware.
        - 1) Each traffic signal controller must be a Caltrans Model 2070LX controller unit that meets the requirements of Section 671 (Traffic Signal Controllers) of the Miami-Dade County Traffic Control Equipment Standards and Specifications provided as Exhibit 6 to these Technical Requirements.

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- b. Local signal controller software.
  - 1) Meet the requirements of the Miami-Dade Traffic Signal Controller Local Software Functional and Performance Specification provided as Exhibit 7 and Exhibit 9 System Requirements Matrix to these Technical Requirements.
- c. ATMS central software.
  - 1) Meet the requirements of the Miami-Dade Central Traffic Management System Software Functional and Performance Specification provided as Exhibit 8 and Exhibit 9 System Requirements Matrix to these Technical Requirements.
  - 2) Features, identified at 2.4.3.2.1 and 4.2.2 from the proposed Systems Requirements Matrix (Exhibit 9), are required at the time of acceptance of the Commercial Off The Shelf software.
  - 3) All other custom functions identified as "CST" within the Exhibit Systems Requirements Matrix are scheduled to be delivered within two (2) years after NTP and are not required for controller installation or Partial Controller Acceptance of an individual intersection. Custom functions shall become incrementally available throughout the two (2) year period.
- D. Controller Installation
  - 1. This work shall begin after delivery and County acceptance of the ATMS central software, as stated above.
  - 2. This work shall include the installation of new traffic signal controllers in an existing controller cabinet and reuse of existing Model 2070LX controllers, currently deployed at Miami-Dade County intersections. Database conversions and controller configuration are included in other tasks and it is assumed that the controller has been made ready and is released for installation prior to this work.
  - 3. This work will not require permitting with local agencies, FDOT or Miami-Dade County.
  - 4. Prior to the installation work at each intersection,
    - a. The Contractor must develop pre-deployment and deployment checklists and procedures to be submitted to the County for approval.
    - b. The Contractor's team will have performed a thorough field investigation service at that location to verify intersection operation and identify any deficiencies or issues. Any deficiencies will be noted and addressed prior to installation of the new equipment.
    - c. The Contractor must submit controller timing sheets and SOP for approval to the County.
    - d. Prior to the controller installation work at each intersection, the Contractor's team must perform pre-deployment test procedures and pre-deployment checklist.
  - 5. During controller installation, the Contractor's team must perform the field deployment procedure and must complete the field deployment checklist.
  - 6. Controller installation, per intersection, shall be considered complete and ready for Partial Acceptance when:
    - a. the controller is installed and has successfully cycled through seven (7) Days of Time of Day Plans, these seven (7) Days are considered part of the Burn-in period,

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- b. all outstanding issues identified during the seven (7) Days Time of Day Plans are resolved and the controller is fully operational,
- c. testing and pre-deployment documentation are submitted and approved by the County,
- d. all signed and sealed documents are submitted and approved by the County and the proposed solutions are implemented and field validated.

Upon County release for controller installation and prior to County Partial Acceptance of the intersection, the Contractor shall be responsible for maintenance of the intersection and must respond to all controller related trouble calls and provide a report documenting findings and corrective actions.

The County will issue a Letter of Acceptance for Partial Acceptance. The date of the Letter of Acceptance is the effective date of the Contractor's initial warranty and maintenance periods, in accordance with Paragraph 2.07(O). The County Project Manager's acceptance of any portion of the Work under the provisions stipulated above are subject to all applicable requirements of Article 1.03(K) of Division 01 (Exhibit 1) and Articles 1.06 and 1.07 of Section 600 (Exhibit 2).

Upon the County's issuance of a Letter of Acceptance for Partial Acceptance, the County shall be responsible for the maintenance and operation of the intersection.

Controller installation shall not be considered ready for Partial Acceptance of the intersection until all pertinent County staff; i.e. technicians, engineers, operators, etc. are trained. The County will provide a list of pertinent County staff prior to the issuance of NTP.

- E. This Task Group includes updating the Systems Engineering Documents provided as Exhibit 11 (System Engineering Documents for Task Group I).
- F. Operations and System Support.
  - 1. This Task Group includes providing on-site operational and system support. The Contractor will maintain a total of two full-time support staff, one for operations support and one for system support, in the TMC during the term of the contract commencing with the start of the project. The staff will assist the County in transitioning the central signal control software, controllers, detection and communications from the existing system to the new one.
    - a. The operation support staff must have the following qualifications:
      - 1) Bachelor's in Civil or Electrical Engineering
      - 2) At least three (3) years of experience in traffic signal operations working with an ATMS system
    - b. The operation support staff duties and responsibilities will include:
      - 1) Support and oversee the integration and operation of traffic signals to the proposed ATMS system
      - 2) Develop traffic signal timing plans for coordinated and isolated intersections
      - 3) Programming of traffic signal controllers to download/upload and modify signal timing plans
      - 4) Monitor and troubleshoot traffic signal operations and adjust signal timing remotely
      - 5) Perform independent investigations of written concerns raised from internal and external sources, regarding traffic signal operations, and respond within correspondence guidelines

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- 6) Perform corridor analysis, program and manage adaptive system corridors
  - 7) Provide and conduct training / transfer of knowledge to the Miami-Dade County TSS Staff
  - 8) Demonstrate ability to communicate complex issues in plain language verbally and in writing in the English language.
  - 9) Shall participate in developing policy and strategic plans
- c. The systems support staff must have the following qualifications:
- 1) Bachelor's Degree in Computer Science or related discipline and applicable certifications.
  - 2) Minimum of three (3) years of experience working with an ATMS system
- d. The systems support staff duties and responsibilities will include:
- 1) ATMS database management
  - 2) Vendor support
  - 3) Support of all computer systems within the Miami-Dade County TSS TMC including the maintenance of computer hardware, video walls, and software and network systems.
  - 4) Oversee the integration and operation of the proposed ATMS system.
  - 5) Support traffic signal controller integration, infrastructure upgrade, testing, and deployment
  - 6) Assist in developing, reviewing, and testing new and/or modified traffic signal timing database, as well as evaluation of special operations
  - 7) Ensure system security and availability to authorized users
  - 8) Provide and conduct training for County personnel regarding IT protocol of appropriate self-troubleshooting of ATMS
  - 9) Demonstrate ability to communicate complex issues in plain language verbally and in writing in the English language.
2. The operation and system support staff will be assigned to the County to perform the following day-to-day duties:
- a. Document potential issues and identify root cause
  - b. Resolve issues and track to completion
  - c. Customize and configure System and other technologies to meet the County's operational objectives
  - d. Provide formal and ad-hoc training for all project technologies
  - e. Manage ATMS database
  - f. Provide local testing of new databases and validate operations in the field
  - g. Perform testing and configuration services for all deployed technologies
  - h. Provide timing expertise and optimize adaptive settings
3. The operation and system support staff will have a broad background in all of the technologies deployed in this project and be capable of immediately resolving most issues. The operation and system support

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staff will work closely with the Contractor's quality assurance and testing teams as necessary and participate in the project as a technical expert.

4. The operation and system support staff will be for the contract term with an expected outcome that the knowledge and expertise of the operation and system support staff will be transferred to staff designated by the County. To measure the success of this knowledge transfer, the operation and system support staff will develop testing exercises. The designated County staff will be asked to take and pass these exercises to provide assurance to the County that their staff has been competently and effectively trained.

G. Software Maintenance Support

1. This Task Group includes providing software maintenance support during the term of the contract commencing with the start of the project. Software maintenance support includes, but is not limited to, remote technical support and assistance resolving any defects or bugs in the central software system and entitles the County to software upgrades. For issues requiring a deeper level of technical support, expert personnel are expected to assist with diagnostics and troubleshooting for the resolution of any system software issues.

H. Existing Site Conditions (Task Group 1)

1. The Parties agree that a baseline assumption is established that presumes all existing equipment is in a state of good repair and is fully functioning in its intended capacity. Furthermore, all work required for the installation and integration of the Contractor's new equipment, shall be provided at no additional charge to the County. The County will correct all deficiencies found at intersection site surveys and inspections. The deficiency must be identified and determined to be the responsibility of the County.
2. Extra Work shall be approved in writing, in the event existing equipment is deemed to require work to restore such equipment to a state of good repair.

2.03 TASK GROUP 2: FULL ACTUATION OF SIGNALIZED INTERSECTIONS

- A. The County seeks, through this Task Group, the engineering and construction services necessary to fully actuate signalized intersections based on the following requirements:
  1. Field surveys for each project intersection must be conducted to assess the condition of existing detection equipment and determine additional detection (vehicle, pedestrian and bicycle) needs for the implementation of Task Group 3 solutions. A Detection Placement Assessment Report documenting the findings of the field survey and proposed detection requirements must be submitted to the County for approval 90 days prior to initial plans submittal.
  2. Each intersection requires site-specific design and engineering plans submitted for County approval. Preparation of site-specific intersection design must consider existing detection and infrastructure, and provide the most cost effective solution that can provide for fully actuated intersection signal operations.
- B. Certain intersections may require vehicle detection zones in addition to Stop Bar Detection to support traffic signal operations such as Transit Signal Priority or Adaptive Signal Timing (e.g. queue detection, long-loop-occupancy detection, and multiple-point detection). This Task Group includes the engineering and construction services necessary to provide miscellaneous detection zone types needed to support County operations.
- C. This work shall include the installation of the selected vehicle detection assembly and associated supporting equipment on or within existing traffic signal infrastructures will be shown on the signal plans. It is assumed



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that the detection assembly has been made ready and is released for construction prior to this work which includes the following tasks:

1. It is assumed that existing conduit paths, if required, will be used and no new conduit installed. Existing conduit paths will be investigated to determine proper route from traffic signal cabinet to the new detection sensor locations. However, if the conduits are plugged, full or damaged, additional conduit may be required and the released signal plan shall include the new conduit.
  2. Detection cable will be installed from the traffic signal cabinet to the detection sensor location. Cables will be installed utilizing lubricant to prevent damage to existing wiring.
  3. Detection sensors will be installed at the locations determined on the plans developed.
  4. If traffic control is required to install the detection sensors, a MOT plan will be developed according to the latest MUTCD standards utilizing cones, warning signs and arrow boards.
  5. The detection cabinet equipment will be installed in an approved location within the cabinet. Wire will be routed neatly through the cabinet and terminated on the detection panel.
  6. Technology types used for stop bar vehicle detection must be capable of detecting bicycles.
  7. Use inductive loops on minor residential collectors. Use microwave detection on intersections that would require more than two cameras per approach to meet current Section 660 Specifications.
  8. The detection zones shall be configured according to approved plans.
  9. Detection system operation will be observed to ensure proper operation.
- D. This work shall include the installation of pedestrian detection and associated supporting equipment on or within existing traffic signal infrastructures will be shown on the signal plans. It is assumed that the detection assembly has been made ready and is released for construction prior to this work which includes the following tasks:
1. Providing ADA compliant signal push buttons and countdown pedestrian signal heads at all signalized intersections with pedestrian crossings if applicable to the scope of the project. The location of pedestrian signal push buttons shall meet MUTCD criteria.
  2. Only the proposed elements identified under the Scope of Work are required to meet current design/ADA criteria. However, for example, if a pedestrian push button detector is added that causes a curb ramp modification, the altered portion of the curb ramp must include new ADA compliant features.
  3. The existing features within the limits of the project that do not meet design/ADA criteria do not require upgrades.
- E. All activities within this Task Group must be completed within seven (7) years from Notice to Proceed.
- F. This Task Group requires permitting with local agencies, FDOT and Miami-Dade County.
- G. Upon start of construction and prior to County acceptance of the intersection, the Contractor shall be responsible for maintenance of the intersection and must respond to all trouble calls and provide a report documenting findings and corrective actions.

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- H. Work under this Task Group shall be considered complete "(Partial Acceptance) when the Miami Dade County TSS Construction Inspector inspects and approves the work at each intersection and an acceptance letter is provided for the completed work.

I. Existing Site Conditions (Task Group 2)

1. The Parties agree that a baseline assumption is established that presumes all existing equipment is in a state of good repair and is fully functioning in its intended capacity. Furthermore, all work required for the installation and integration of the Contractor's new equipment, shall be provided at no additional charge to the County. The County will correct all deficiencies found at intersection site surveys and inspections. The deficiency must be identified and determined to be the responsibility of the County.
2. Extra Work shall be approved in writing, in the event existing equipment is deemed to require work to restore such equipment to a state of good repair.

2.04 TASK GROUP 3: MISCELLANEOUS ENGINEERING IMPLEMENTATION

- A. Provide engineering services necessary to develop, provide and integrate additional traffic signal operational features and functions that are not specified or proposed as an integral part of the Task Group 1 requirements. The Contractor's Consultant shall provide signal timing expertise and optimize system operational settings (adaptive signal, traffic responsive, Time-of-Day plan, etc.).
- B. The subtasks under this Task Group include, but not limited to:
1. Implementing adaptive signal control technology.
  2. Implementing traffic responsive control.
  3. Updating the preliminary Systems Engineering Documents provided, as a reference in Exhibit 12 FDOT District Six - Adaptive Signal Control Technologies (ASCT).
  4. Develop, review and optimize existing traffic signal parameters and timing plans to enable implementation of system solutions to achieve established operational objectives.
- C. Preliminary activities that must be performed to support the aforementioned subtasks include:
1. Perform corridor analysis and identify Sections for adaptive signal control, traffic responsive solutions, and/or time-of-day mode using the updated listing of traffic signal Sections provided in Task Group 1.
  2. A draft report including the description of the selection criteria and listing of recommended Sections must be provided to the County for approval at least 90 days prior to the implementation of proposed solutions.
  3. Coordinating with vehicle detection design efforts developed in Task Group 2, perform assessment of detection locations (stop bar or advanced) for adaptive control or traffic responsive control.
  4. Configure links, detectors, threshold values and tuning parameters for adaptive control and/or traffic responsive control.
  5. Prepare and submit signed and sealed report for County approval documenting adaptive control and traffic responsive settings, parameters, established links and proposed database changes.
- D. Field verify proper functionality of implemented solutions and perform on-going evaluations based on feedback from the public and County staff. "Fine-tune" and calibrate system operational settings as necessary as determined by the Contractor's Engineer of Record.
- E. All activities pertaining to the subtasks listed above must be completed within five (5) years from NTP.

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- F. Work under this Task Group shall be considered partially accepted for a Section or other defined sub task when all signed and sealed documents are submitted and approved by the County and the proposed solutions are implemented and field validated. The County shall provide a notification of Partial Acceptance.
- G. Upon County release for adaptive equipment installation and prior to County Partial Acceptance of the intersection, the Contractor shall be responsible for related maintenance, operation of the section, and must respond to all adaptive equipment related trouble calls and provide a report documenting findings and corrective actions.

## 2.05 CONTRACTOR TEAM RESPONSIBILITIES

- A. Adaptive equipment shall not be considered ready for Partial Acceptance of the intersection until all pertinent County staff; i.e. technicians, engineers, operators, etc. are trained. The County will provide a list of pertinent County staff prior to issuance of NTP.
- B. To ensure production viability and a smooth transition of the ATMS to the production environment and use by DTPW staff (and authorized representatives), the Contractor will commit fully qualified professional resources to all the project phases specific to the aforementioned Task Groups. The County Project Manager reserves the right to approve or reject the replacement of key personnel (project leadership) who may have responsibility with the Project.
- C. Each Task Group must be managed by qualified personnel commensurate to the technical requirements pertaining to the Task Group. In addition, the Contractor is required to assign a single project manager to the Project who will act as the single point of contact with the County and will have full authority over all Contractor resources assigned to each Task Group. The Contractor's Project Manager will be required to maintain a regular or as-needed physical presence on the TSS Division's TMC premises as agreed upon, at the project kick-off.
- D. The Contractor will provide the requested professional consultant services and produce all of the deliverables as specified in the Scope of Work and as agreed-upon in the Contract. The Contractor must perform all of the activities and tasks required to achieve all of the contract requirements, functions, outputs, and performance criteria stated therein, in a manner that meets all of the contract objectives. All services must be compliant with County, state and federal laws and regulations. All services provided by the Contractor must be appropriate and acceptable to the County Project Manager.
- E. The Contractor's Project Manager will provide weekly project progress reports and conduct weekly meetings with the County Project Manager and provide a detail project plan and schedule for the upcoming (four) 4 week period. The Contractor's Project Manager shall provide an agenda at least 24 hours prior to the meeting.
- F. The Contractor must submit for review and approval, copies of all documents, data, assembly and installation drawings required to convey concept, design, dimensions, maintenance, operation, and overall assembly aspects and interfaces required as a part of these design reviews. Drawings will be accompanied by material specifications, process specifications, and test data required for review and approval of the drawings, including detailed parts drawings. Drawings can include network infrastructure, network topology, and data flow for major use cases.
- G. During the life of the Project, the County Project Manager will review deliverables and evaluate them for completeness, clarity, adherence to generally recognized standards, and compliance with the County's intent as conveyed in the Scope of Work, and contained in the resulting contract. A deliverable, phase, or milestone will not be considered complete until formal, written approval has been given by the County's Project Manager.

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- H. The County reserves the right to request additional documents, or data, or any combination of documents, or data to support the review process. This additional information requested by the County must be delivered within five (5) calendar days of request. All design review meetings will be held at County offices.
- I. The exact approach and methodologies of the Contractor to fulfill the deliverables and requirements of all phases as described below must be provided in the Technical Approach portion of a firm's Part I Technical and Management Proposal. The Contractor must address and discuss in detail all the required deliverables for the proposed phases in their Project Plan and organize and plan for the accomplishment of the work based on their experience with projects of similar scale and scope without hindering or impacting current traffic signal operations. The work plan must address the effective integration and re-use of existing and compatible traffic signal system components including the manner in which existing Model 2070LX controllers, currently deployed at Miami-Dade County Intersections, will be integrated into the proposed ATMS system.
  - 1. Project Initiation and Planning (must address all Task Groups)
    - a. After the Award Date but prior to Notice to Proceed (NTP), the Project Initiation activity builds upon the Contractor's proposed project plan. The Initial Project Plan and Project Management Plans are further developed, enhanced, and refined until they form a more definitive plan for completion of the Project.
    - b. Contractor deliverable requirements for the project Initiation and planning phase activities are described in Table 1 and must separately address each of the aforementioned Task Groups.
    - c. The proposed project schedule must reflect document submittal dates and mutually agreed upon review and comment resolution periods.

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Table 1, Project Initiation and Planning Phase Requirements

ID	Requirement	Deliverable
C-1	<p>The Contractor must refine and deliver its proposed project plans consistent with agreements made during contract negotiation. The plan must address all requirements necessary to complete the work required by each Task Group and include:</p> <ul style="list-style-type: none"> <li>• Work Breakdown Structure</li> <li>• Countywide Implementation and Transition, including controller database migration, controller deployment, and integration upon acceptance of the new ATMS (for Task Group 1)</li> <li>• Project Schedule</li> <li>• Deployment Sequence Plan (to include approach to the integration and re-use of the existing 2070 LX controllers)</li> <li>• Phasing of Task Groups</li> <li>• Quality Assurance/Quality Control</li> <li>• Risk Management</li> <li>• Change Management</li> <li>• Acceptance Management</li> <li>• Issue Management and Escalation</li> <li>• Communication</li> <li>• Training</li> <li>• Efficient scheduling of critical path activities for all Task Groups to support the expedient completion of the Task Group 3 subtasks.</li> </ul> <p>The Contractor must thereafter maintain and manage the project plan.</p>	Project Plan
C-2	<p>The Contractor must provide and maintain a project staffing plan that identifies individual project team members assigned to each of the project Task Groups.</p> <p>The Contractor must thereafter maintain and manage the Project staffing plan, including efforts to meet any applicable contract goals.</p>	Staffing Plan

## 2. System Configuration (Task Group 1)

- a. The purpose of System Configuration is to create a technical solution that satisfies the functional requirements for the System. This activity begins with a detailed review and analysis of the functional requirements to confirm a common understanding of how to evolve the requirements into the system design. Technical specifications are created for the application developers, enabling them to build and test the system. In addition to designing the technical solution, system design is the time to initiate focused planning efforts for both the testing and data preparation activities. Test descriptions are to be developed, traced to requirements, and include the expected test results.
- b. Contractor deliverable requirements for the system design activities are described in Table 2.



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Table 2, System Configuration Phase Requirements

ID	Requirement	Deliverable
C-3	The Contractor must develop and deliver a system architecture design document that describes the overall system architecture in terms of network, redundancy, system performance, security, system, hardware, software, tools, peripherals, software licenses, and the logical distribution of system components and processes across the architecture.	System Architecture Design
C-4	During System Configuration, the Contractor must deliver system security design documentation describing the logical security architecture design, the physical security architecture design, and the design of all controls to be used to mitigate threats to the confidentiality, integrity and availability of the system and system data.	System Security Design
C-5	The Contractor must identify and document the database schemas, file formats, data views, an entity relationship diagram, and data dictionary for the system.	Database Documentation
C-6	The Contractor must provide a programmer's manual for any language-independent application programming interface (API).	Programmer's Manual for API
C-7	The technical documentation must include: <ul style="list-style-type: none"> <li>detailed specifications for hardware and software components</li> <li>system performance expectations</li> <li>data conversion approach</li> </ul>	Technical Documentation
C-8	The Contractor must document test plans defining: <ul style="list-style-type: none"> <li>the overall strategy for validating the functionality of the system</li> <li>the approach to ensure test coverage of each requirement</li> <li>the individual test cases that will be performed to execute the testing strategy</li> <li>the environments in which the tests will be conducted</li> </ul> <p>The test plans must include:</p> <ul style="list-style-type: none"> <li>testing objectives</li> <li>scope of testing (both what is in and what is out of scope)</li> <li>responsibilities (who will be performing the test)</li> <li>testing approach</li> <li>testing sequence</li> <li>defect reporting and criteria</li> </ul>	Test Plans
C-9	The test case descriptions must be traced to requirements and include: <ul style="list-style-type: none"> <li>test data needed to execute the tests</li> <li>preconditions required prior to the start of test</li> <li>criteria for suspending and resuming testing</li> <li>expected test results</li> </ul>	Test Case Descriptions

## 3. Network, Server, and Communications (Task Group 1)

- a. The Contractor must submit as part of the design review an Infrastructure design document. The infrastructure design provided by the Contractor must be approved by MDC and must be a solution

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that provides 24/7 high availability, fault-tolerance, security and ease of management. No single point of failures can exist. The failure of any single component, whether hardware or software, will not impact the system as a whole. The Contractor must facilitate separate Production, Development and Disaster Recovery environments for this solution. Reporting should also be designed in such a manner where a user running reports should not affect Mission-Critical functions.

- b. The County operates a private-cloud infrastructure where Server resources are provisioned as required. Outside a cloud facilitated environment Contractor's design must use the County-facilitated infrastructure at the Regional Data Processing & Communications Center (RDPC)
- c. With any design a clear division of Application, Database and Reporting functions must be present so that each component can fit into each individual environment. The Contractor must manage permissions by Lightweight Directory Access Protocol (LDAP) Integration with Active Directory (AD) with the County's Federation Services.
- d. Solution must separate Production, Development and Disaster Recovery environments. Reporting should also be designed in such a manner where a user running reports should not affect Mission-Critical functions.
- e. The Contractor must clearly supply a list of all Servers required, along with detailed specifications on the resources needed to accommodate the entire scope of the project (with the final expected capacity of users and nodes). Miami-Dade County recommends that application design be scaled horizontally, allowing for additional application components to be provided on additional servers as opposed to just adding more power (CPU, RAM) to a single machine. Please note, once maximum Virtual Machine specifications for a single Virtual Machine are reached (see previous paragraph) they cannot be further increased.
- f. Access to the application should be designed in such a manner where an upgrade or change to the application does not require staff to go computer to computer to manually update software. If an application installation is needed on an individual workstation, that software should be self-managed and be able to be updated on-demand without interaction from MDC IT staff. MDC also operates an extensive Citrix XenDesktop and Xenapp environment (version 7.15 LTSR) which can be leveraged to provide a consistent client environment to users. In addition, if web servers are used, they must be able to support the most current versions of Internet Explorer and/or Google Chrome as they are upgraded.
- g. All Servers and installed software must comply with MDC Security Standards. MDC accepts, processes, stores and transmits Credit Card data for numerous applications thus must comply with the criteria within the Payment Card Industry Data Security Standard. The PCI-DSS provides for an open security testing and scanning baseline with tools available from numerous vendors. All ATMS related systems and applications must be secure at all times. Servers must be joined to our domain and have our Enterprise Anti-Virus client installed. Monthly Microsoft Patching will be applied within same month of release. All installed software (including the application, third-party software and development environments e.g. .NET and/or JAVA) must be patched and up to date. We will also subject all ATMS related systems to regular Security scanning with our Qualys security system which scans against known Common Vulnerability and Exposures (CVEs). At no point should any sensitive data, including logon credentials, be stored or transmitted unencrypted.
- h. All work that may affect telecommunications must be coordinated and prior approval received for such work from Miami-Dade County IT Department (ITD).
- i. The Contractor shall escalate any communication/hardware issues outside its control immediately to the County. Contractor shall not be held responsible for system downtime caused by such communication and hardware issues.

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## 4. Data Conversion and Migration (Task Group 1)

- a. Prior to the installation of the new traffic signal controllers, the Contractor must convert existing signal timing databases to the format specific for the new local controller software. The conversion must ensure proper clearance intervals that complies with MUTCD and FDOT Traffic Engineering Manual (TEM) requirements and safe signal operations, and maintain the same signal operational functions as the existing signal controllers. The database conversion must be performed by qualified professionals, and new timing documents submitted must be signed and sealed by a Professional Engineer licensed and registered in the State of Florida.
- b. The data necessary to populate the ATMS must be entered into the system, e.g. field equipment characteristics, sign and camera locations, etc.
- c. The deliverable requirements for the data migration activities are described in Table 3.

Table 3, Data Conversion and Migration Requirements

ID	Requirement	Deliverable
C-10	The Contractor's Consultant must convert existing signal timing databases to the format specific for the new local controller software. The converted databases must ensure proper clearance intervals and safe signal operations. Substandard clearance intervals must be recalculated and adjusted by the Contractor's Consultant. Any other signal timing parameters impacted by clearance interval modifications must be evaluated and adjusted by the Contractor's Consultant. Additionally, the databases must maintain the same signal operational functions as the existing signal controllers.	Signal timing database
C-11	The Contractor's Consultant must provide updated intersection signal timing documentation for each intersection which must be signed and sealed by a Florida registered professional engineer.	Updated Signal Timing Documentation
C-12	The Contractor's Consultant must provide data entry of all data necessary to populate the ATMS on the Pre-Production and Production Environments.	Approved entry of system data

## 5. System Construction (Task Group 1)

- a. The System Construction phase consists of all activities required to build, test, and validate the new System to the point at which it can be turned over for System Acceptance. This includes construction of all components of the system, including utilities required to adequately prepare and load the data. In addition, System Construction consists of a series of tests of the system components, with each set of tests are to be performed against a progressively larger grouping of components until the operation of the system, in its entirety, has been verified. All actual test results must be documented, and necessary corrective actions must be implemented in the system and system documentation. Status reports of testing progress must be provided on a regular basis and must include the status of corrective actions.

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- b. The County typically deploys applications into a pre-production environment initially to ensure the applications are completely functional and defect-free before transitioning the deployment to the production environment, which is reflected in the requirements below.
- c. Since the ultimate goal of this activity is to produce a System that is ready for acceptance testing, an aspect of this phase must be the creation of the various training materials and system documentation that support the new system, including preparation of technical support materials. These materials need to address both the use and maintenance of the system and must play an integral part in the System Acceptance and System Implementation phases of the lifecycle.
- d. Deliverable requirements for the System Construction activities are described in Table 4.

Table 4, System Construction Phase Requirements

ID	Requirement	Deliverable
C-13	During System Construction, the Contractor must deliver test results including detailed outcomes for the following: <ul style="list-style-type: none"> <li>• data migration tests</li> <li>• system tests (including performance tests)</li> <li>• security tests</li> </ul>	Test Results
C-14	During System Construction, the Contractor must deliver test results that identify the version of each software component tested.	Test Results
C-15	During System Construction, the Contractor must deliver test progress reports that include: <ul style="list-style-type: none"> <li>• number of defects identified in testing</li> <li>• types of defects found</li> <li>• status of corrective actions</li> </ul>	Test Progress Reports
C-16	During System Construction, the Contractor must deliver a validated system in the Pre-Production environment, to include the installation and integration of all ATMS components.	Validated Pre-Production System
C-17	During System Construction, the Contractor must update and deliver technical documentation to include corrective actions implemented as a result of testing activities.	Updated Technical Documentation
C-18	During System Construction, the Contractor must develop and deliver the following user documentation: <ul style="list-style-type: none"> <li>• User Manual</li> <li>• Database Administrator Manual, including installation and upgrade guides</li> <li>• System Administrator Manual</li> <li>• FAQs and scripts for technical support staff</li> <li>• Documentation on how to incorporate customizations during system upgrades</li> </ul>	User Documentation
C-19	During System Construction, the user manuals must include a collection of printable on-line documentation designed to instruct users in the operation of the System.	User Documentation

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## 6. System Acceptance (Task Group 1)

- a. System Acceptance will occur in phases, the first phase for all requirements except the remaining CST requirements (prior to controller installation). The following phases will occur as the remaining CST requirements are delivered.
- b. System Acceptance is the point in the lifecycle at which every aspect of the application along with any supporting data conversion routines and system utilities, are thoroughly validated by the County (or its representatives) prior to proceeding with System Implementation. This entire phase is centered on gaining sufficient evidence of the system's accuracy and functionality to be able to proceed to System Implementation, in accordance with the Acceptance Test Procedure Document (hereinafter referred to as "ATP"). In addition to confirming the operation of the system, in accordance with the Contract Documents, System Acceptance is also the point in the lifecycle during which all supporting documentation and reference materials are refined and updated to guarantee their consistency with the final delivered system.
- c. The County will review the ATP to ensure appropriate procedures have been designed to rigorously test the system software, hardware and integration. To assist the County in this review, the acceptance test plan must include a compliance matrix that confirms the tests evaluate all functional requirements. Upon written approval from the County, the Contractor can begin acceptance testing.
- d. Contractor deliverable requirements for the System Acceptance activities are described in Table 5.

Table 5, System Acceptance Phase Requirements

ID	Requirement	Deliverable
C-20	The Contractor must prepare a comprehensive acceptance test plan for review and approval by the County. The plan must serve as a guide to operationally test system hardware, software and integration. The plan must include a detailed description of the tests to be conducted and the purpose of each test. Each test should be mapped to at least one of the functional requirements. Test procedures, including specific steps and the sequence of steps to be followed, must be specified.	Test plan
C-21	The acceptance test plan must include evaluation criteria for each test based on the functional requirements matrix. The criteria set forth by the plan will be used as the standard by which the County will judge the success or failure of each test.	Test plan
C-22	A testing schedule must be included in the acceptance test plan. This schedule must demonstrate the order in which tests are to be performed as well as the expected duration of each test. Allocate reasonable durations for the County validation of test results.	Test schedule
C-23	During System Acceptance, the Contractor must deliver final test results for the following: <ul style="list-style-type: none"> <li>• data validation results</li> <li>• data migration</li> <li>• acceptance test results (including performance tests)</li> <li>• security and vulnerability test results</li> </ul>	Test Results



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C-24	During System Acceptance, the Contractor must deliver an accepted operational System.	Accepted System
C-25	During System Acceptance, the Contractor must deliver accepted migrated data in the system.	Migrated Data

## 7. System Implementation (Task Group 1)

The purpose of System Implementation can be summarized as the deployment and the transition of system support responsibilities. At a finer level of detail, deploying the system consists of executing all steps necessary to educate the system users on the use of the new system, placing the newly developed system into production, confirming that all data required at the start of operations is available and accurate, and validating that business functions that interact with the system are functioning properly. Transitioning the system support responsibilities involves changing from a "system development" to a "system support and maintenance" mode of operation, with ownership of the new system moving from the Contractor to the County. Deliverable requirements for the Implementation Activities are described in Table 6.

Table 6, System Implementation Phase Requirements

ID	Requirement	Deliverable
C-26	The Contractor must deliver an operational, accurate and formally accepted System to the County.	Operational System
C-27	The Contractor must deliver approved installation and data migration scripts to the County to promote the system to the Pre-Production and Production Environments.	Installation & Migration Scripts
C-28	The Contractor must install and deploy the system in the production environment in accordance with the approved Project Implementation and Transition Plan.	Operational System
C-29	The Contractor must conduct knowledge transfer in accordance with the approved project knowledge transfer approach.	Knowledge Transfer

## 8. Training Requirements

- a. The ATMS will be a mission critical complex system that will be used daily by many County staff and its authorized representatives. The County considers the training of these users to be critical for acceptance of this system as well as the daily use of this system. The County will review and approve all Contractor's training staff and user training materials, including training plans and role-based training materials. The County will identify all County and authorized representative staff to be trained annually by role.
- b. The Contractor is encouraged to recommend the environment to be used for training, pre-production or production, as they provide their detailed description of training in their Technical Approach. The instructor or instructors provided by the Contractor must be proficient in the use of the ATMS software, hardware and controller software, and must have previous formal classroom instructor

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- training. Instructors must demonstrate a thorough knowledge of the material covered in the training and familiarity with the training manuals.
- c. Training must also include features provided in Task Groups 2 and 3.
  - d. The County requires four (4) formal classroom training sessions to be conducted at a County facility. Contractor shall adequately plan for the attendance of fifteen (15) County personnel at each session, with the required training material.
  - e. Controllers planned for use during training sessions will be purchased by the County and delivered to the County.
  - f. If prerecorded lectures or other video presentations are part of the training, the instructor or a qualified substitute must also supplement recorded material in person. The County reserves the right to review and approve all instructors. Should an instructor prove unsatisfactory to the County, the Contractor must provide an acceptable replacement within three (3) days.
  - g. The County reserves the right to copy all training manuals and aids for use in future's training sessions.
  - h. Additional Contractor training requirements are described in Table 7.

Table 7, Training Requirements

ID	Requirement	Deliverable
C-30	The Contractor must prepare a training plan for the central traffic signal control software, controller hardware and software and the network.	Training Plan
C-31	Training must be conducted at the County's TMC, traffic signal shop, and field locations as appropriate.	Training Plan
C-32	The Contractor must provide qualified instructors for the training.	Training Program
C-33	Upon completion of the training, all training materials will become the property of the County. The Contractor must provide the County with all changes and revisions to the training manuals and other training documentation.	Training Materials
C-34	The Contractor must provide assistance to the County to implement an ATMS training environment in the Pre-Production Environment.	Training Environment
C-35	The Contractor must provide the capability to refresh the ATMS training environment for each training session.	Training Environment
C-36	The Contractor must deliver sufficient multiple sessions to accommodate the number of users identified by the County and to allow for the fact that TMC coverage needs to be maintained during the trainings.	Training Program
C-37	The Contractor must refine and deliver a Training Plan identifying the: <ul style="list-style-type: none"> <li>• Schedule for all role-based training sessions</li> <li>• Contractor-provided resources to deliver training</li> <li>• Training evaluation collection, analysis, and improvement process</li> <li>• Success metrics identification, collection, and evaluation process</li> <li>• Expected training results</li> <li>• Post Training Support</li> </ul>	Training Plan

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C-38	<p>The Contractor must develop customized Systems role-based training and materials for each role. Role based training materials may include:</p> <ul style="list-style-type: none"> <li>• Participant Guidebooks (Printed and Electronic) including exercises</li> <li>• Instructor Guidebooks (Printed and Electronic) including exercises and answers</li> <li>• CD's containing the Participant Guidebooks in MS Word and PDF format</li> <li>• CD's containing the Instructor Guidebooks in MS Word and PDF format</li> <li>• PowerPoint Presentations</li> <li>• User Manuals</li> <li>• On-Line Help</li> </ul>	Training Materials
C-39	The Contractor must update impacted training material whenever software changes, including customizations, affect the operation of the software.	Training Material Updates

## 9. Operational and System Support Requirements (Task Group 1)

- a. The Contractor will provide two full-time operation and system support staff in the County's TMC during the term of the contract, commencing with the start of the project, to support the County in transitioning the ATMS, controllers, detections and communications from the existing system to the new one. The proposed operation and system support staff qualifications are stated in Section 2.02 E.1 of this document.
- b. The provision of on-going support will require attendance at periodic status meetings where the scope of the support will be determined. The on-going support will include but not be limited to:
  - Review commercial software package bug reports, enhancements, and upgrades.
  - Review custom software bug reports and enhancement requests.
  - Document potential issues and identify root causes.
  - Resolve issues and track to completion.
  - Customize and configure the central ATMS software to meet the County's operational objectives.
  - Provide signal timing expertise and optimize system operational settings (adaptive, traffic responsive, etc.)
  - The Operational Support Requirements are described in Table 8.

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Table 8, Operational Support Requirements

ID	Requirement	Deliverable
C-40	The Contractor must follow the Contract Agreement that will cover the System from the final acceptance of the System in the production environment. The operational support covers the following: <ul style="list-style-type: none"> <li>• Remote diagnostics</li> <li>• Technical support from the Contractor</li> <li>• On-site issue resolution if necessary</li> <li>• Fixes to the software (updates, upgrades, security patches, etc.)</li> <li>• Updates to user, technical, and training documentation to support software changes resulting from fixes</li> </ul>	Maintenance Agreement
C-41	The Contractor must provide technical and application support for end-users 24 x 7 x 365.	Technical Support
C-42	The Contractor must comply with the Service Level Objectives provided in Table 9 below.	Technical Support
C-43	The Contractor must: <ul style="list-style-type: none"> <li>• Propose a backup and recovery process which meets County's requirements</li> <li>• Recommend disaster recovery processes</li> <li>• Provide instructions for business continuity</li> </ul>	Backup & BC/DR Processes
C-44	The Contractor must provide County personnel with access to an enhancement-tracking system.	Enhancement Tracking System Access
C-45	The Contractor must provide County personnel with access to a System bug-reporting and defect-resolution system.	Defect Tracking System Access
C-46	The Contractor must attend on-going support status meetings with County personnel, as needed.	Technical Support
C-47	The Contractor must periodically (at least once per year) provide the County with the software release schedule for any System off-the-shelf software components.	Software Release Schedule

## c. Support Service Level Objectives:

Table 9, Defect Service Levels Objectives

Defect Priority	Response Time	Resolution Time	Hours and Days of Coverage
Priority 1	1 hour	4 hours	24 hours per day; 7 days per week
Priority 2	4 hours	1 business day	8:00 a.m. to 8:00 p.m. ET weekdays
Priority 3	1 business day	2 business days	8:00 a.m. to 6:00 p.m. ET weekdays

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- 1) Response Time is defined as the time between the receipt of the call and the time that a Support Team member begins working on the problem.
- 2) Resolution Time is defined as the time between when the Support Team member begins working on the problem and the time the problem was resolved.
- 3) A Priority 1 Defect is a problem whose nature and/or severity prevent the County from continuing its business. A Priority 1 Defect may have one or more of the following characteristics: (a) a critical function of the Application/Device is not available; (b) the Application/Device hangs indefinitely and/or causes other County applications to hang; (c) the Application/Device crashes and/or causes other County applications to crash; and/or (d) a security incident has occurred or is suspected to have occurred.
- 4) A Priority 2 Defect may have one or more of the following characteristics: (a) the performance, functionality or usability of one or more of the Application/Device's parts is severely degraded; (b) multiple users are impacted; and/or (c) one or more business functions are unavailable or unusable by the end users.
- 5) A Priority 3 Defect is a failure of a system or part thereof which has a minor impact on a County business process and can be handled on a non-immediate basis. Examples may include user requests (e.g., a report is not formatted correctly) and peripheral problems (e.g., output fails to print properly).
- 6) Contractor must not close a Defect unless a Fix has been demonstrated to either: (a) repair the functionality, performance and usability of the Application/Device to its pre-Defect level or (b) improve the functionality, performance and usability of the Application/Device from its pre-Defect capability.
- 7) Unless, for a particular defect, the County has provided prior written approval for different response times, the Contractor must, for each calendar month and for each Defect Priority level, respond to one hundred percent (100%) of reported Defects within the Maximum Response Time during Hours and Days of Coverage.
- 8) The Contractor must submit in writing to the County Project Manager a description of the failure and resolution within two (2) days of resolution.

## 10. Engineering Documentation

- a. The Contractor's Consultant shall provide the County with complete installation documentation of the traffic signal control system to including:
  - 1) As-built signal plans at each intersection for vehicle detection installation if applicable, as well as the additional conduit and pull boxes if necessary. These as-built signal plans must be signed and sealed by a Florida registered professional engineer prior to delivering to the County.
  - 2) Updated traffic signal Standard Operation Procedures (SOP) document for each intersection. These SOP documents must be signed and sealed by a Florida registered professional engineer prior to delivering to the County.
  - 3) System analysis documents of each corridor to assess the appropriate deployment of adaptive signal technology.
  - 4) Proposed detection placement assessment documents for adaptive signal deployment.



## SCOPE OF WORK

Table 10, Engineering Documentation Requirements

ID	Requirement	Deliverable
C-48	The Contractor's Consultant must submit the signed and sealed as-built signal plans by a Florida PE including detection installation, conduit and pull boxes if applicable.	Signed and sealed as-built signal plans
C-49	The Contractor's Consultant must provide updated signal SOP document and timing sheets for each intersection if there are any traffic signal operational changes. These documents must be signed and sealed by a Florida PE.	Signed and sealed SOP documents
C-50	The Contractor must submit pre-deployment test procedures, pre-deployment checklist and field deployment checklist for each intersection.	Controller Deployment documents
C-51	The Contractor's Consultant must provide technical documents of detection placement, as defined in Task Group 2, for implementation Task Group 3 solutions. These documents must be signed and sealed by a Florida PE.	Detection placement assessment document
C-52	The Contractor's Consultant must provide an updated listing of traffic signal Sections as described in Task Group 1 (Section 2.02 B). A draft report including the description of grouping criteria and the updated Section listing must be provided to the County within 90 days after Notice to Proceed. These documents must be signed and sealed by a Florida PE.	Signed and sealed Report
C-53	The Contractor's Consultant must provide a report as described in Task Group 3 (Section 2.04 C1) to the County for approval at least 90 days prior to the implementation of proposed solutions. These documents must be signed and sealed by a Florida PE.	Signed and sealed report
C-54	Prepare and submit signed and sealed report for County approval documenting adaptive control and traffic responsive settings, parameters, established links and proposed database changes.	Signed and sealed report

## 11. Contractor Performance Requirements

- a. The County will assign a County Project Manager or Authorized Representative to lead and coordinate the effort for the County. All deliverables, status reports, meetings, and project-related communications will go through the County's Project Manager for proper coordination and distribution unless otherwise directed by the County's Project Manager.
- b. Table 11 provides a description of Contractor performance requirements for interaction with the County's project team.

Table 11, Contractor Performance Requirements

ID	Requirement
C-55	The Contractor must request for and obtain approval from the County prior to appointing or replacing key personnel.

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ID	Requirement
C-56	Should it become necessary to replace key personnel, the Contractor must provide replacement staff members for key personnel with equal or superior skills and qualifications, with full authority to act in that position for full performance under the Contract, and with rates not to exceed those of the originally supplied staff member.
C-57	The Contractor's project manager must serve as focal point of contact for the County regarding project status, meetings & reporting requirements.
C-58	The Contractor's project manager is responsible for managing scope changes, and financial, administrative, and technical issues or concerns raised by the County.
C-59	The Contractor must work in cooperation with the County and its designated authorized representatives to ensure proper coordination of the Project with other County initiatives.

## 2.06 TEAM EXPERIENCE AND QUALIFICATIONS

## A. Contractor Experience and Qualifications (must address each Task Group)

1. The County considers Contractor's qualifications and experience to be of paramount importance. Contractor must document their experience as described in Response Requirements and Proposal Format.
2. The Contractor's team experience must be relevant and must be for services comparable, in scale and scope, to the County's Traffic Signal System's operation.
3. The Experience and Qualification requirements are described in in Table 12.

Table 12, Contractor Experience and Qualification Requirements

ID	Requirement
C-60	The Contractor's Consultant must have a minimum of five years of traffic signal engineering experience providing ATMS, Systems Integration, and Implementation services using the proposed solution. The demonstrated experience must be commensurate to the scale and scope of the Project.
C-61	The Contractor's Consultant's experience must be readily verifiable.

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ID	Requirement
C-62	<p>The Contractor's Consultant must be qualified by the Florida Department of Transportation in the following Rule 14-75, Florida Administrative Code Consultant Work Type Categories:</p> <ul style="list-style-type: none"> <li>6.1 Traffic Engineering Studies</li> <li>6.2 Traffic Signal Timing</li> <li>6.3.1 Intelligent Transportation Systems Analysis and Design</li> <li>6.3.2 Intelligent Transportation Systems Implementation</li> <li>6.3.3 Intelligent Transportation Systems Communications</li> <li>6.3.4 Intelligent Transportation Systems Software Development</li> <li>7.3 Signalization</li> </ul>
C-63	<p>The Contractor's Consultant must be technically certified in the following main work class category and work class designations:</p> <ul style="list-style-type: none"> <li>3.04 Traffic Engineering Studies</li> <li>3.07 Traffic Signal Timing</li> <li>3.08 Intelligent Transportation Systems Analysis, Design, and Implementation</li> <li>3.11 Signalization</li> <li>16.00 General Civil Engineering</li> <li>17.00 Engineering Construction Management</li> </ul> <p>The Contractor's Consultant (or qualified subconsultants) must be technically certified in the following main work class category and work class designations:</p> <ul style="list-style-type: none"> <li>11.00 General Structural Engineering</li> <li>13.00 General Electrical Engineering</li> <li>15.01 Land Surveying</li> <li>19.03 Highway Systems</li> </ul>
C-64	<p>The Contractor's traffic signal contractor must meet the licensing and qualification requirements stipulated in Article 1.05 of Section 600 of the Miami-Dade County Traffic Control Equipment Standards and Specifications (General Provisions for Traffic Control Devices).</p>

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ID	Requirement
C-85	<p>In the event of a substitution, the Contractor's traffic signal contractor must demonstrate that it has full-time personnel with the necessary experience to perform the Project's Scope of Work. This experience shall include work in successfully completed projects performed by the identified personnel whose bulk of work performed in the Public Right-of-Way is similar in detail of the construction work described in the Scope of Work.</p> <p>Pursuant to Section 255.20, F.S., the County may consider a proposed signal contractor in good standing, meeting the license requirements above, that has been prequalified and considered eligible by the Florida Department of Transportation (FDOT) under Section 337.14, F.S. and Chapter 14-22, Florida Administrative Code, to perform the traffic signal installation work described. Contractors seeking consideration of their traffic signal contractor under this subparagraph shall submit along with the Proposal Documents for review and consideration, current copy(s) of the proposed traffic signal contractor's FDOT Certificate(s) of Qualification in the Traffic Signal and Electrical Work Classes, Certification of Work Underway, and Status of Contract(s) On Hand.</p>

## B. Contractor Key Personnel

1. The Contractor must provide and maintain for the contract term, necessary staff to conduct the Project defined in the Scope of Work, to perform all of the required tasks, and produce all required deliverables.
2. The County requires that the Contractor maintain at all times, the following key staff roles (positions) and any other roles that it considers instrumental to the Project:
  - a. Project Manager – Responsible for execution and coordination of all aspects of the Contractor's Project Plan and schedule; provides the primary point of contact for the County, also has authority to act on behalf of the Contractor.
  - b. Task Group Manager - Responsible for execution and coordination of all aspects of the Contractor's project plan and schedule pertaining to the work under a specific Task Group.
  - c. Technical Architect – Responsible for the design and implementation of the proposed technical solution.
  - d. Software Engineer -- Responsible for leading the software development activities for the implementation of the proposed system including: creation of application specifications, design and development for any custom software, configuration and implementation of any COTS software, and system testing activities.
3. Substitutions for such key personnel cannot be made without County approval. Should it become necessary to replace the key personnel, the Contractor must provide replacement staff with equal or superior skills and qualifications.
4. During the course of the Contract, the County reserves the right to approve all replacement prime consultant personnel; the County also reserves the right to approve any replacement subconsultant personnel after proposal submission and after contract execution.
5. Table 13 specifies the requirements for key personnel, post contract award.

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Table 13, Contractor Key Personnel Requirements

ID	Requirement
C-66	The Contractor must retain key personnel to be responsible for coordinating with the County and managing project activities. Key personnel include: <ul style="list-style-type: none"> <li>• Project Manager</li> <li>• Task Group Manager</li> <li>• Technical Architect</li> <li>• Software Engineer</li> </ul>
C-67	In the event of a substitution, the Project Manager must have a minimum of 10 years of verifiable experience overseeing ATMS projects and be a professional engineer licensed in the State of Florida and be readily available at the Traffic Signals and Signs Facility.
C-68	In the event of a substitution, the Task Group manager must have a minimum of 7 years of verifiable experience designing and implementing solutions required under the assigned Task Group and be a professional engineer licensed in the State of Florida.
C-69	In the event of a substitution, the Technical Architect must have a minimum of 5 years of experience designing and implementing ATMS solutions.
C-70	In the event of a substitution, the Lead System/Software Engineer must have a minimum of 5 years of verifiable experience leading system/software activities for the implementation of ATMS systems and be a Professional Engineer licensed in the State of Florida.

## 2.07 ENGINEERING DESIGN AND CONSTRUCTION REQUIREMENTS

- A. The following requirements are in addition to the requirements stipulated in the Contract Documents including DTPW Division 01 Construction Specification (Exhibit 1), Traffic Control Equipment Standards and Specifications Section 600 (Exhibit 2), and the Traffic Control Equipment Standards and Specifications.
- B. Design Criteria
1. The design shall be prepared in accordance with all applicable codes, manuals and guidelines, and as per the construction milestones provided in the Agreement and this document. Plan shall be accurate, legible, and complete in design, and furnished in reproduction form, size, and material acceptable to the County.
  2. The Contractor's Consultant shall have Florida Licensed Professional Engineers sign and seal all plans, specifications, calculations and reports, and shall perform all professional requirements of the engineer of record (EOR).
  3. Before construction activities can begin for a specific component, signed and sealed design documents and calculations supporting the design for that component must be submitted to Miami-Dade County TSS Division for review and approval. Upon review by Miami-Dade County TSS Division, the design documents will be stamped "Release for Construction" and returned to the Contractor. The release for construction does NOT relieve the Contractor of any liability or responsibility for errors or omissions in the design documents.

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4. The Contractor's Consultant must prepare the final As-Built plans/record document. The Contractor's Consultant must have a Florida Licensed Professional Engineer (EOR) sign and seal the Final As-Built plans.
  5. All design and construction documents must be prepared using the U.S. customary system of units (feet, pounds).
- C. Engineering and Design
1. All plans shall be 100% electronically generated using AutoCAD software Windows version 2018 or later. Existing signal plans provided by Miami-Dade County TSS Division may be utilized as the base file for vehicle detection design in signal plans. Signal plans provided by TSS must be verified in the field as plans may be outdated.
  2. The Contractor must prepare the new traffic signal control database for each 2070LX controller to replicate the existing traffic signal operations provided by the model 170 controller at the same intersection. The Contractor shall load the new database into the new 2070LX controllers and perform bench testing prior to field installation.
  3. The Contractor must not construct or install any work without the review and release notice from Miami-Dade County TSS Division and approval from permitting agencies including Miami-Dade County.
  4. Any changes that may result from the Contractor constructing, installing or submitting of design to permitting agencies without a release notice from Miami-Dade County TSS Division must be performed at the Contractor own risk and at no additional cost to Miami-Dade County TSS Division and must not delay the Work. Miami-Dade County TSS Division reserves the right at its sole discretion to stop the work.
- D. Engineering and Design for Vehicle Detection
1. The Contractor's Consultant must prepare a complete design of the vehicle detection system at each semi-actuated signalized intersection to provide fully actuated traffic signal operation, and must obtain written approval by Miami-Dade County TSS Division before the installation of vehicle detection is started. The Contractor shall be responsible for coordinating the design package with all permitting agencies, as applicable.
  2. To support the overall goals and objectives of the project, the Contractor's Consultant will provide the following engineering & design services:
    - a. Prepare design documentation sufficient to allow for the efficient installation of the vehicle detection devices. The work will include development of base plans as possible, field surveys, and design drawings.
    - b. The vehicle detection system shall collect and process volume and occupancy data on a lane-by-lane basis. The vehicle detection subsystem shall allow for connectivity to the TMC.
    - c. Vehicle detectors must meet the Project requirements under all environmental and traffic conditions. The detection system shall produce accurate volume, speed and occupancy data for all corridor traffic operation conditions. The Contractor design must limit the likelihood of occlusions, other blocking of vehicles and adjacent lanes detection that degrade the detection system performance below specified accuracy. Design the system so that signs, walls, guardrails, and other physical elements do not degrade detection performance.



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- d. The system shall allow remote configuration, calibration, monitoring, and diagnostic of real-time traffic activities from a remote location, such as the TMC, using the software provided by the detection system vendor.
  - e. The Contractor's Consultant shall determine the exact location of the field devices to meet the desired coverage and functional requirements of vehicle detectors. The Contractor team shall coordinate and perform a detailed site survey with a factory trained and certified representative of the detection system manufacturer being proposed in their design. The site survey must confirm that the design does not exceed the operational capabilities of the proposed detection technology or device.
3. Provide network support services to ensure the deployed technology and network function seamlessly.
  4. Perform an analysis of each corridor to assess the appropriate deployment of adaptive technology.
  5. Perform detection survey for adaptive deployment
  6. Provide planning services to assess 'future-proof' opportunities that may guide the design services such that advances in near term technological enhancements in transportation are appropriately addressed.

## E. Submittals

1. The Contractor shall submit a Submittal Schedule within fifteen (15) calendar days after the award of the Contract showing dates for submission, review, approval and required late finish date for approval of all documents required to be submitted by the Contract. This schedule will be reviewed by Miami-Dade County TSS and any and all changes required by Miami-Dade County TSS shall be made by the Contractor. The final schedule shall be approved Miami-Dade County TSS. The schedule shall take into account the sequence of Work and the time required to prepare and approve the various submissions. The allotments shall be reasonable within the time set for completion of the Contract.
2. The Contractor and the County Project Manager must mutually define and agree on submittals review and comment resolution periods. County's delay in processing submittals may be considered a compensable delay as per Form of the Agreement.
3. Each submittal must be accompanied by design calculations, Specifications, supporting documents and sufficient information for area of work to allow for proper evaluation of the component submitted for review.
4. At the discretion of the County Project Manager, each submittal may require hardcopies and 2 DVDs or USB flash drives of all documents, unless noted otherwise.
5. Signal design plans, traffic signal timing database, SOP and MOT plans shall be delivered to Miami-Dade County TSS Division for distribution to Miami-Dade County reviewers. The Contractor's Consultant shall allow for minimum twenty-one (21) calendar day Miami-Dade County TSS review time for the design submittals of each anticipated work package or corridor. Notwithstanding, Miami-Dade County TSS review time will not exceed twenty-one (21) calendar days for submittals totaling no more than twenty-five (25) intersections. Review by or on behalf of Miami-Dade County TSS Division must be for the benefit of the County and shall NOT relieve the Contractor's Consultant of the sole responsibility for all aspects of the design and construction. All comments must be addressed to the satisfaction of Miami-Dade County TSS prior to submission to any permitting agency. Failure to do so may result in rework by the Contractor's Consultant at no additional cost to the County.

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6. Final signed and sealed plans will be delivered to Miami-Dade County TSS a minimum of fifteen (15) calendar days prior to construction/installation of the component. Miami-Dade County TSS will review the final plans and stamp "Release for Construction" after that. Only stamped, signed and sealed plans are valid for construction and all work that the Contractor's Consultant performs prior to the release of Plans by Miami-Dade will be at the Contractor's Consultant's risk.
7. Contractor's Consultant shall be responsible for preparation and submittal of all shop drawings during the construction stage. The selected Contractor Consultant is also responsible for the review and approval of the shop drawings and preparation of signed and sealed as-built plans. Approved shop drawings prepared by the Contractor's Contractor shall be submitted to Miami-Dade County TSS and shall bear the approval stamp and signature of the Contractor's Consultant, the approved stamp and signature of the EOR. Miami-Dade County TSS shall review the shop drawings to evaluate the compliance with the project requirements.
8. The Contractor's team will compile and provide shop drawings / submittals, including but not limited to, the following items prior to installation:
  - a. 2070LX controller hardware and software
  - b. Vehicle detection system
  - c. Central traffic control software:
    - 1) Basic traffic signal system control functions
    - 2) Traffic analysis tools including but not limited to: Synchro interface, time-space diagram, high-resolution data (FDOT SR-671-2), etc.
    - 3) Adaptive traffic control solution
    - 4) NTCIP Center-to-Center communication solution
    - 5) Transit signal priority solution
    - 6) Emergency Route Preemption:
    - 7) Reversible Lane Control System (RLCS)
9. Upon review of the shop drawings, Miami-Dade County TSS Division will stamp "Release for Construction" or "Release for Construction as Noted" and initiated and dated by the reviewer. The release for Construction does not relieve the Contractor's Consultant of any liability or responsibility for errors or omissions in the shop drawings.
10. Within ninety (90) days of acceptance, the Contractor's Consultant shall provide Miami-Dade County TSS with two (2) signed and sealed sets of complete project as-built certified by a Florida Licensed Professional Engineer. As-built Plans must show all changes and deviations from the permitted plans and drawings. The Contractor's Consultant shall submit Final Record Documents/As-built plans to Miami-Dade County TSS which include, but not limited to the following document:
  - a. Signalization plans
  - b. Signal timing plans
  - c. Signal SOP
  - d. Permits
  - e. Other supporting documents

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## F. Project Work Progress Schedule

1. Consistent with the requirements of Division 01 (General Requirements), Contractor must maintain and update monthly, a detailed Critical Path Gantt Chart project schedule. The project schedule shall be prepared using the latest version of Microsoft Project Management Software. The Contractor shall submit the schedule in hard copy and electronic format. The schedule shall be updated monthly and provide with each payment application.
2. The minimum number of activities shall be those listed in the schedule of values, plus those items listed below:
  - a. Notice to Proceed
  - b. Design submittals (for each anticipated work package)
  - c. Design review and comment resolution by Miami-Dade TSS (for each anticipated work package)
  - d. Design review/Acceptance milestone (for each anticipated work package)
  - e. Mandatory milestones for completion (in accordance with Article 19 of the Agreement)
  - f. Permitting (for each anticipated work package or corridor)
  - g. Procurement of long-lead time items as determined by the Contractor
  - h. Construction Mobilization
  - i. Deployment phasing
  - j. Mandatory milestones for completion
  - k. Additional construction milestone as determined by the Contractor
  - l. System integration
  - m. System acceptance testing
  - n. Training
  - o. Substantial Completion date for all work
  - p. Final Completion date for all work

## G. Meeting and Progress Reporting

1. The Contractor's project manager will host weekly formal project meetings to keep the County informed of project progress and upcoming activities. Progress meetings will be scheduled once a week and must be attended by the Contractor's project manager and the County Project Manager, along with additional staff as needed. These meetings will be used to review progress reports, open action items, upcoming activities and written correspondence exchanged since the last meeting. During these progress meetings, the Contractor is expected to discuss technical aspects of the project and to review comments on documents submitted for approval. These meetings are intended to last approximately sixty (60) minutes. The agenda for these meetings will form two purposes: to guide the discussion and function as a Progress Report. These meetings will include the following discussion points:
  - a. Work performed in the prior week
  - b. Work anticipated in the ensuing week
  - c. Provide a detail project plan and schedule for the upcoming (four) 4 week period
  - d. Outstanding issues in scope
  - e. Comments on submittals
  - f. Other issues such as coordination with FDOT/local agencies, permitting, etc.

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2. The Contractor must prepare and submit all meeting minutes within 48 hours of the meeting for approval to Miami-Dade County TSS. The Contractor shall, on a monthly base, provide written progress reports that describe the items of concern and the work performed on each task.
- H. Bus Route Signal Priority/Remote Route Preemption
1. Typically, both transit and emergency vehicles receive preferential treatment by enabling localized (intersection-by-intersection) detection. This type of control has historically been accomplished by placing infrastructure in the vehicle (a transmitter) and at the intersection (a receiver) on each approach. Upon receipt of the detection notice, a traffic signal controller will either provide the vehicle priority, as is the case for transit vehicles, or preemption, as is the case for emergency vehicles. Miami-Dade County has not deployed any local intersection infrastructure (transmitters or receivers), but have implemented a small scale and limited version of the center to-center technology discussed herein in the old legacy system.
  2. The goal of both priority and preemption is to give preferential treatment for requesting vehicle on the appropriate intersection movement. However, the methods to accomplish that preference are quite different as described below.
    - a. Bus Route Signal Priority: The proposed ATMS central software must be able to receive and validate a bus priority call request via the County CAD/AVL Solution Back Office System. The CAD/AVL Solution Back Office System will determine when a bus is within a pre-defined proximity of County signalized intersections properly equipped to support transit signal priority (TSP) operation and send this information in real-time to the proposed ATMS central software for TSP request validation and routing to the local controller based on County established rules of engagement. The proposed ATMS central software must use the existing County CAD/AVL interface. Configuration of the CAD/AVL shall be configurable by route for schedule adherence and headway management. Any changes necessary to the proposed ATMS central software and/or the CAD/AVL System must be coordinated with the County, Miami-Dade Transit and Clever Devices, Inc. at no additional charge to the County. The Contractor shall be responsible for only those third-party costs that required to test and integrate TSP functions. Any third-party agreements resulting from TSP functions must be pre-approved by the County.
    - b. Remote Route Preemption: The proposed central software must include a feature to replicate and enhance the ability in existing central traffic control systems for remote users (i.e. dispatchers) to initiate remote preemption of traffic signals on a specific set of intersections (i.e. a "route"). This route preemption capability is provided by a server at the TMC that actually sends the preemption commands to the traffic signals in the field. An Ethernet connection exists between the TMC and the Fire Departments for City of Miami and City of Miami Beach.
    - c. Emergency Route Preemption: In addition to the Remote Route Preemption within section b above, the proposed ATMS must be capable of providing emergency vehicle preemption based on CAD/AVL (center-to-center) integration or vehicle-to-infrastructure equipment. All proposed ATMS solutions must be integratable with available industry-wide preemption technology. Any proposed Emergency Route Preemption system must be coordinated with the County Project Manager and local municipalities' fire departments. The Contractor shall be responsible for only those third-party costs required to test and integrate the remote preemption functions. Any third-party agreements resulting from remote preemption functions must be pre-approved by the County.
  3. In both cases, the optimized traffic patterns and traffic flow are negatively impacted when either vehicle priority or preemption request is served, resulting in additional total vehicle delay and increased stops as

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well as fuel consumption. To mitigate these negative impacts as well as expand the total foot print to all traffic signals under central signal control, this Task is structured to satisfy the following objectives:

- a. Expand the preemption/priority coverage using centralized strategies without the addition of expensive local intersection hardware.
- b. Minimize the impact of preemption and priority through the following strategies:
  - 1) Priority will be granted to only those transit vehicles that are running behind schedule as reported by the transit system minimizing the overall impact from the occurrences of unnecessary priority calls.
  - 2) Vehicle priority will be granted for emergency vehicles on a route basis through center-to-center communications, not intersection-by-intersection. The sooner the controller can be informed of a potential priority request; the more time is available to shorten or lengthen phases to serve the vehicle using priority versus preemption.

I. Smart Mobility Requirements

1. The Contractor is to create an open data platform using Application Programming Interface (API) technologies that enable bi-directional data sharing.
2. This functionality enhances the integration capabilities to leverage system data for other applications and facilitate various integration with other systems.
3. The Contractor is required to integrate to MDCs Smart Mobility Platform and is responsible for any third-party cost to integrate.
4. All data including System Signal Status Summary Display and Signal Performance Measures shall be made accessible via the open API
5. The Contractor shall facilitate business intelligence, analysis and trending.

J. Reversible Lane Control System (RLCS)

Reversible Lane Control System (RLCS) – Where required, provide reversible lane control using the new 2070LX controllers. The proposed ATMS central software must replicate, and wherever possible, enhance reversible lane control functions currently provided by the existing traffic control systems in the vicinity of Hard Rock Stadium.

K. Design Quality Management Plan (DQMP)

1. The Contractor shall be responsible for the professional quality, technical accuracy and coordination of all field work, design, drawings, specifications, construction, integration and other services under this contract, notwithstanding any reviews or inspections by or on behalf of Miami-Dade County TSS.
2. The Contractor shall provide a DQMP which describes the Quality Control (QC) procedures to be utilized to verify, independently check and review all design drawings, signal timing database conversion, signal SOP, and other documentation prepared as a part of this contract. In addition, the DQMP shall establish a Quality Assurance (QA) program to confirm that the quality control procedures are followed. The Contractor shall submit a DQMP within thirty (30) calendar days of the written Notice to Proceed (NTP).

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3. The Contractor shall, without any additional compensation, correct all errors in the designs, drawings, signal timing database, specifications and other services in a timely manner so as not to impact the project schedule.
4. No installation, integration or construction shall occur until all related design reviews and shop drawing review comments are resolved. Any construction work performed prior to approval of required documents will be at the Contractor's risk.
5. The Contractor shall submit a signed Statement with each submittal that the documents have undergone a QC review. At the request of the County, the Contractor shall provide documentation supporting the review.

## L. Construction Criteria

1. The Contractor shall establish a local office in Miami-Dade County. The local office will provide work space for project staff as well as warehouse space to receive inventory shipments and perform local testing as required.
2. The Contractor shall construct the work in a logical manner and in close coordination with the goals and objectives of the County. The Contractor shall take into account the work restrictions included in this document and adjacent projects which may impact the schedule of this project,
3. The Contractor shall be responsible for identifying and coordinating design and construction activities with other on-going projects that impact this project, in accordance with the Contract. This includes the projects under Miami-Dade jurisdiction, FDOT or other local agencies.
4. The Contractor shall coordinate its construction operations with other contractors within the surrounding construction area for an efficient and orderly installation of each project component.
5. The Contractor shall implement approved MOT plans showing each phase of traffic control in the case of lane closure. Failure to do so may result in fines to the Contractor at no cost to the County.
6. Miami-Dade County TSS Division will provide Construction Engineering and Inspection (CEI) and Quality Assurance Engineering (QAE) for its own purpose without relieving the Contractor of its responsibility of testing and inspection.
7. The Contractor must bench test traffic signal control equipment used in this project prior to field installation, including but not limited to:
  - a. 2070LX controller with converted timing database
8. Miami-Dade County TSS Division or its representative may perform independent verification testing services for its own purpose. Miami-Dade County TSS Division or its representative may perform sampling controller database testing on site as well as in the lab. The Contractor shall make all testing documentation available/accessible for the County's representative's review at any time.



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## M. Final Acceptance Test (General)

1. Final Acceptance testing in order to achieve Substantial Completion, in accordance with the Contract, must confirm that system hardware, software and integration have been implemented successfully; are in compliance with the functional requirements; and demonstrate stable and reliable performance. The test period for Final Acceptance testing will be 30 actual test days, not including days spent correcting errors or verifying that the errors have been corrected without introducing new errors. If significant errors are discovered, the County may choose to restart Final Acceptance testing with no additional cost to the County. The Contractor shall provide on-site technical support, as needed, for all components of the central hardware and software during Final Acceptance testing.
2. The County typically deploys applications into a pre-production environment initially to ensure the applications are completely functional and defect-free before transitioning the deployment to the production environment.
3. Prior to any testing, the Contractor shall prepare a comprehensive acceptance test plan for review and approval by the County. The plan must serve as a guide to operationally test system hardware, software and integration. The plan must include a detailed description of the tests to be conducted and the purpose of each test. Each test should be mapped to at least one of the functional requirements. Test procedures, including specific steps and the sequence of steps to be followed, must be specified.
4. The Final Acceptance Test Plan shall include evaluation criteria for each test based on the functional requirements matrix. The criteria set forth by the plan will be used as the standard by which the County will judge the success or failure of each test.
5. Sample test report forms shall also be provided in the acceptance test plan. Report forms must be designed for successful tests as well as anomalies and during testing. A form to report corrective actions, including changes to the software, or hardware, must also be designed and included in the plan.
6. The Contractor shall prepare and submit the Final Acceptance Test Plan to Miami-Dade County TSS a minimum of 14 calendar days prior to the Final Acceptance test. Miami-Dade County TSS will review the acceptance test plan to ensure appropriate procedures have been designed to rigorously test the system software, hardware and integration. To assist the County in this review, the Final Acceptance Test Plan must include a compliance matrix that confirms the tests evaluate all functional requirements. Upon written approval from the County, the Contractor can begin acceptance testing.

## N. Final Acceptance Testing (Central Software)

1. Final Acceptance testing, in order to achieve Substantial Completion in accordance with the Contract, shall be in accordance with the procedures specified in the approved acceptance test plan and shall include tests for the COTS central traffic signal control software, additional software modules implemented, interfaces to new/existing hardware and software and communications between the field devices and the TMC components.
2. The Contractor must conduct all phases of the acceptance testing. Final Acceptance testing should include appropriate Contractor and the County staff and should occur at a time agreeable to both parties. Final Acceptance testing must be conducted on an operator workstation in the TMC and using the operational server infrastructure. Historical and operational data, system parameters and live data must be used for testing.

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3. Final Acceptance testing must verify the following:
  - a. Central traffic signal control software is properly installed and configured;
  - b. All functional requirements are met;
  - c. Integration of the central traffic signal control software with existing TMC
  - d. equipment, components and the communications network is complete and successful;
  - e. Interfaces between the central traffic signal control system and additional subsystem modules, as applicable, function properly;
  - f. Controller database conversion by the Contractor is complete and valid;
  - g. Alarms and reports are generated as designed;
  - h. Bug fixes are successful;
  - i. Quick and full recovery.
4. The Contractor must record all test results. Each report should follow the steps enumerated in the test procedures. The following items must be included in the test reports:
  - a. Reference to the appropriate test and test procedures;
  - b. Date of test;
  - c. Test results for each test segment, including a pass/fail indication and any modifications made to the procedures during the test;
  - d. Identification of the Contractor's tester and of the County's representative witnessing the test;
  - e. Provision for comments by the County's representative;
  - f. Copies of any variance reports generated;
  - g. System logs or printouts saved as part of the test;
5. The Contractor's project manager must prepare a variance report each time a deviation from any part of the functional requirements is detected. Variance reports must include a complete description of the variance including the following items:
  - a. A sequential ID number assigned to the variance;
  - b. The date and time the variance was first discovered;
  - c. Variance classification (see Class descriptions below);
  - d. Variance status (open, closed or pending);
  - e. Appropriate references to the functional requirements or test procedures;
  - f. A description of the test conditions at the time the variance was detected and the two steps performed prior to the failure;
  - g. Identification of the Contractor and/or the County's representative submitting the report.
6. Variances should be classified by the County's project manager and reviewed by both project managers, with the County project manager having the final right of approval. Each variance must be assigned to

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one of the following three classes, depending on its severity and impact to the central traffic signal control software:

- a. Class A: A severe variance (dead crash or multiple function failure) that prevents, invalidates or significantly impairs system operations. Testing must stop for immediate evaluation and correction by the Contractor. The County reserves the option to repeat all or portions of the acceptance test plan.
  - b. Class B: A significant variance (essential function failure, which means the basic and fundamental functions to support the operation of the signal system including but not limited to upload/download, compare, database saving, etc.). The County may stop testing or allow testing to continue. If testing is allowed to continue, the variance must be corrected at the end of the current session or day of test.
  - c. Class C: A minor or isolated variance including annoying features (functions that do not exactly satisfy the requirements of the scope, but do not impact the operation of the signal system including but not limited to report parameters, scheduler commands, etc.). Testing will continue and the variance will be corrected and tested at a mutually agreed upon time (e.g. at the end of the test or later in the test period).
7. The Contractor shall document actions taken to correct variances. Sufficient information should be provided to enable a Miami-Dade County TSS representative to determine the need for retesting the function, for testing interaction with any previously tested function and for updating appropriate documentation as a result of the corrective action. The County must approve variance corrections that would result in a change to an approved document prior to their implementation by the Contractor.
  8. The variance report should be completed when the Contractor and the County representatives acknowledge, by signatures, correction of the variance. Variance reports must be made available to the County. The Contractor must maintain and periodically distribute (frequency of distribution based on testing activity) a variance summary that lists for each variance, the variance number, functional identification, variance class and current status.
- O. Warranty Period
1. Upon Partial Acceptance, the Burn-In period will commence, if applicable. During the Burn-in period, the system shall provide ninety (90) calendar days of continuous, successful and error-free operation of the traffic signal control system in the County's operating environment.
  2. During the Burn-in period, if applicable, if any portion of the system or services is deemed unacceptable to the County, the County will notify the Contractor within five (5) calendar days following such operation period. The Contractor shall repair or replace unacceptable traffic signal control system hardware, software, customizations or services within a mutually agreed upon time period at no additional charge to the County. Another ten (10) days of successful operation must follow any corrections or replacements.
  3. If the Contractor does not correct or replace the unacceptable system component or services within the specified time period, or such system component or services are deemed unacceptable by the County, it may, at its option, return the unacceptable component to the Contractor with an explanation of why it is unacceptable. The Contractor must refund to the County any amounts paid for said component prior to Final Acceptance. Failure to replace or correct unacceptable components or services may be grounds for default.

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4. The County will issue a Letter of Acceptance after the 90 days of operations are complete and all variances are resolved for each Implementation phase. The established acceptance date will mark the beginning of the Contractor's initial warranty and maintenance periods and approval for the County to make the final milestone payment.

P. Close Out Submittals

1. Before requesting final completion, the Contractor shall prepare and submit digital files and hard copies of the complete closeout package. At a minimum, the following items are to be included in the closeout packages:
  - a. Project record documents: AutoCAD and Revit drawings, submit hard copies and electronic format
  - b. Project record documents: Signal timing plans, submit hard copies and electronic format (PDF)
  - c. Project record documents: Signal SOP plans, submit hard copies and electronic format (PDF)
  - d. Operating and Maintenance user manuals and instructions for all equipment and system
  - e. Warranties
  - f. Data keys as per 2070LX controller requirements
  - g. Spare parts and maintenance materials
  - h. Evidence of payment
  - i. Certification of central traffic signal control software test, 2070LX controller with the local software test, vehicle detection system test

2.08 MEASUREMENT AND PAYMENT

A. Compensation

1. Compensation provided by the Contract, shall be in accordance with Article 8 "Pricing" of the Agreement, which sets forth the amounts and methods for County payments to the Contractor.
2. The aforementioned compensation includes full payment for furnishing any material, supply, equipment, tool, labor, supervision, or meeting any requirement that is reasonably inferred or incidental to the Work whether or not specifically called for by the Contract Documents but is essentially required for the Contractor to provide a complete system as specified by the Contract..

B. Schedule of Values

1. A Schedule of Values is required for any lump sum items and unit prices.
2. Upon notification of Intent to Award and prior to the Notice to Proceed, Contractor must submit to County Project Manager for review and approval, a preliminary Schedule of Values that:
  - a. Logically subdivides the Work covered by the lump sum item into component parts with sufficient detail to serve as the basis for progress payments during performance of the Work and correlates to the Work Progress Schedule.
  - b. Includes quantities and prices of items for all of the Work which when added together equal the Contract Unit Price for the lump sum item.

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- e. Controller Field Installation:
    - 1) Includes all costs necessary for pre-inspection of intersection equipment, replacement of Model D170E controller with Caltrans Model 2070LX Controller, onsite verification of Intersection operation, documentation, returning Model D170E controller to the TSS Division, any troubleshooting calls prior to substantial completion.
    - 2) Final total quantities of Controller Field Installation may vary from at least a minus (-) 20 percent of the estimated quantity of intersections.
  - f. Annual Software Maintenance Support (after Year 6):
    - 1) The Contract unit price is the full annual cost to provide the required Software Maintenance Support following first six full Calendar years after ATMS acceptance by the County. The cost of Annual Software Maintenance Support before Year 6 is to be included in the lump sum price for System Delivery and Integration.
  - g. Annual Systems Training (after Year 5):
    - 1) The Contract unit price is the full annual cost to provide the required Systems Training following first five full Calendar years after ATMS acceptance by the County.
  - h. Onsite Operational and System Support:
    - 1) Negotiated professional services salary, per employee, for two full-time employees throughout the 10-year contract term
2. Task Group 2: Full Actuation of Signalized Intersections:
- a. Engineering Design: Includes all documentation and work necessary for phased plan submittals of traffic engineering intersection design plans for the addition of vehicle detection.
    - 1) Major engineering design: requires structural calculations
    - 2) Minor engineering design: does not require structural calculations.
  - b. Construction (Furnish and Install):
    - 1) Inductive Loops
      - a) Must meet all requirements of Section 660 (Vehicle Detection System) of the Miami-Dade County Traffic Control Equipment Standards and Specification for acceptance.
      - b) The Contract unit price for each Inductive Loop Detector furnished and installed at the traffic signal cabinet includes all labor, equipment, testing and configuration necessary for a complete and accepted installation.
      - c) The Contract unit price for each Loop Assembly, furnished and installed, will include all equipment, labor, equipment, and materials necessary for a complete and accepted installation of the entire loop assembly as specified in the Contract Documents including the shielded lead-in cable into the traffic signal cabinet, proper termination, and testing.
    - 2) Microwave Vehicle Detection System
      - a) Must meet all requirements of Section 660 (Vehicle Detection System) of the Miami-Dade County Traffic Control Equipment Standards and Specification for acceptance.
      - b) The Contract unit price for Microwave Vehicle Detection System (MVDS), Cabinet Equipment, furnished and installed, includes all materials, tools, labor, equipment, approved mounts and hardware, operational software packages and firmware, supplies, support,

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testing, calibration, personnel training, shop drawings, warranty documentation, and incidentals necessary to complete the MVDS installation at each traffic signal cabinet location.

- c) The Contract unit price for Microwave Vehicle Detection System (MVDS), Above Ground Equipment, furnished and installed, includes all materials, tools, labor, equipment, approved mounts and hardware, routing of cables and wiring properly terminating inside the traffic signal cabinet, operational software packages and firmware, supplies, support, testing, calibration, personnel training, shop drawings, warranty documentation, and incidentals necessary to complete the above ground MVDS work for each intersection approach.

3) Video Vehicle Detection System

- a) Must meet all requirements of Section 660 (Vehicle Detection System) of the Miami-Dade County Traffic Control Equipment Standards and Specification for acceptance.
- b) The Contract unit price for Video Vehicle Detection System (VVDS), Cabinet Equipment, furnished and installed, includes all materials, tools, labor, equipment, approved mounts and hardware, operational software packages and firmware, supplies, support, testing, calibration, personnel training, shop drawings, warranty documentation, and incidentals necessary to complete the VVDS installation at each traffic signal cabinet location.
- c) The Contract unit price for Video Vehicle Detection System (VVDS), Above Ground Equipment, furnished and installed, includes all materials, tools, labor, equipment, approved mounts and hardware, routing of cables and wiring properly terminating inside the traffic signal cabinet, operational software packages and firmware, supplies, support, testing, calibration, personnel training, shop drawings, warranty documentation, and incidentals necessary to complete the above ground VVDS work for each camera.

4) Conduit

- a) Must meet all requirements of Section 630 (Conduit) of the Miami-Dade County Traffic Control Equipment Standards and Specification for acceptance.
- b) The Contract unit price per foot of conduit, furnished and installed, will include furnishing all hardware and materials and all testing as specified in this Section and the Contract Documents, and all labor, casings, removal of excavated materials and spoils, removal and disposal of drilling fluids, locate wire, trenching, boring, backfilling, flowable fill and restoration materials necessary for a complete and accepted installation.
- c) Payment for conduit placed underground will be based on the horizontal length of the trench or bore measured in a straight line between the centers of pull boxes, cabinets, poles, etc., in linear feet, regardless of the length or number of conduits installed. No allowance will be made for sweeps or vertical distances below the ground.
- d) Payment for conduit placed aboveground or bridge mounted will be based on the actual length of conduit installed.
- e) Price and payment will be full compensation for all work specified in this Section.
- f) Payment for conduit placed under existing turf will be made as open trench.
- g) Payment for conduit placed under existing pavement (roadway, driveways, or sidewalk) will be made as directional bore. If conduit is being placed under both existing turf and existing pavement between two pull boxes, payment for the total pull box-to-pull box length will be made as directional bore. Payment for conduit placed by jack & bore will be made as jack & bore, for the total pull box to pull box length.



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- h) No additional payment will be made for multiple conduits in the same trench.
  - i) No payment adjustment will be made if Contractor chooses to use an alternative method approved by County Project Manager.
  - j) No payment will be made for failed bore paths, injection of excavatable flowable fill, products taken out of service, or incomplete installations.
- 5) Pull Box
- a) Must meet all requirements of Section 635 (Pull, Splice, and Junction Boxes) of the Miami-Dade County Traffic Control Equipment Standards and Specification for acceptance.
  - b) The Contract unit price each for pull, splice, and junction box, furnished and installed, will consist of the pull, splice, and junction box including all required hardware for the type of box and location as specified in the Contract Documents, and all labor and materials necessary for a complete and accepted installation.
  - c) No separate payment will be made for the removal of pull, splice, and junction boxes.
- 6) Pedestrian Signal Assemblies
- a) Must meet all requirement of Section 653 (Pedestrian Signal Assemblies) of the FDOT Standard Specifications for Road and Bridge Construction except that pedestrian signal assemblies used must also be on the Miami-Dade County TSSQPL.
  - b) The Contract unit price per assembly for pedestrian signal assembly, furnished and installed, (including mounting hardware but not including poles or pedestals) will include all materials and equipment as specified in the Contract Documents, and all labor and materials necessary for a complete and accepted installation.
  - c) Payment for removal of pedestrian signal assemblies will be made only when the pole/pedestal is to remain. Otherwise, the removal of pedestrian signal assemblies are included in the removal of the pole or pedestal.
- 7) Aluminum Poles, Pedestals, and Posts
- a) Must meet all requirement of Section 646 (Aluminum Poles, Pedestals, and Posts) of the FDOT Standard Specifications for Road and Bridge Construction except that pedestrian signal assemblies used must also be on the Miami-Dade County TSSQPL.
  - b) The Contract unit price per each for aluminum pedestals and posts, furnished and installed, will include all materials and equipment as specified in the Contract Documents, and all labor and materials necessary for a complete and accepted installation.
  - c) Payment for removal of aluminum poles will include the complete removal of the pole and foundation, pedestrian detector and pedestrian signal. Separate payment for the removal of the pedestrian detector and pedestrian signal will be made only when the pole/pedestal is to remain.
  - d) Payment for grounding will be incidental to the pedestal or post.

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3. The Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Lump Sum Item to component parts of the Work under said Item.
4. The Contractor will be required to submit at least 10 days prior to the next application for progress payment, a revised or updated Schedule of Values to address any changes in the Work.

## C. Method of Measurement

## 1. Task Group 1: ATMS and Traffic Signal Controller Migration:

## a. System Delivery and Integration:

- 1) The Contract unit price includes all costs, fees, materials and labor for work required for Project initiation and planning, system configuration, system construction, system acceptance, testing, system implementation, training and software maintenance support (includes first four full Calendar years after ATMS acceptance by the County).

## b. ATMS central software:

- 1) The Contract unit price includes all software and hardware costs necessary for providing the ATMS central software system specified in the Contract Documents including County acceptance, and any additional training and software maintenance support (includes first four full Calendar years after ATMS acceptance by the County) required by the Contract Documents not already provided elsewhere in the Contract prices.
- 2) Includes all required software licenses.

## c. Caltrans Model 2070LX controller with local controller software:

- 1) The Contract unit price is for each Miami-Dade County approved Caltrans Model 2070LX Controller including local controller software furnished, delivered, and received by the TSS Division Warehouse at 7100 NW 36 Street, Miami, FL 33166.
- 2) Traffic Signal Controller must meet the requirements of Miami-Dade County Traffic Control Equipment Standards and Specifications Section 671 (Traffic Signal Controllers) and include County approved local controller software license.
- 3) Controllers must be delivered in batches not to exceed 25 controllers with a total "on-hand" inventory at the TSS Division Warehouse not to exceed 100 controllers at any time.
- 4) Final total quantities of controllers may vary from at least a minus (-) 20 percent to a plus (+) 10 percent of the estimated quantity of controllers.

## d. Intersection Database Migration:

- 1) Includes all database conversion and migration, programming, testing, validation, documentation necessary for the release by the County of a controller for field installation. Price to be paid is each per intersection. Final total quantities of intersections may vary to a minus (-) 20 percent to a plus (+) 10 percent of the estimated quantity of intersections.

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- 8) Pedestrian Detection System
- a) Must meet all requirement of Section 665 (Pedestrian Detection System) of the FDOT Standard Specifications for Road and Bridge Construction except that pedestrian signal assemblies used must also be on the Miami-Dade County TSSQPL.
  - b) The Contract unit price for pedestrian detectors, will be paid per each, and will include the pedestrian actuation sign, all mounting hardware, wiring, materials and equipment, and all labor and miscellaneous materials necessary for a complete and accepted installation.
  - c) Payment for poles, pedestals, and posts will be made under their respective pay item numbers.
- 9) Detectable Warnings on Walking Surfaces
- a) Must meet all requirement of Miami-Dade DTPW Specification Section 527 (Detectable Warnings on Walking Surfaces) Exhibit 13 to the Scope of Work (Attachment B).
  - b) The quantity to be paid for will be the area, in square feet, of Detectable Warnings furnished and installed pursuant to the aforementioned specification, measured in place and accepted by the Engineer.
- 10) Concrete Sidewalk
- a) Must meet all requirement of Section 522 (Concrete Sidewalk And Driveways) of the FDOT Standard Specifications for Road and Bridge Construction except:
    - a. Class I Concrete must have a minimum compressive strength of 3,000 psi. at 28 days.
    - b. The quantity to be paid for will be the area in square yards of concrete sidewalk and pedestrian ramps, measured in place, complete and accepted. Measurement shall be the final dimensions measured along the surface of the completed work within the neat lines shown on the Plans or designated by the Engineer. No deduction will be made for the area occupied by trees left within the area of sidewalks or for any area occupied by manholes, inlets or other drainage or public utility appurtenances within the sidewalk area.
    - c. The quantity, determined as provided above, will be paid for at the Contract unit price for the quantities completed and accepted by Engineer. Such price and payment shall be full compensation for all work specified under this Section.
    - d. When curb and gutter is required for the construction of pedestrian ramps and no specific pay item has been included for the construction of the curb and gutter, such payment shall be included in the pay item for Sidewalk (including pedestrian ramps and sidewalk curbs).
    - e. No separate payment shall be made for the removal of forms or the filling of excavated area left by removal of forms. Contractor is responsible for any vandalized sidewalk until it is finally accepted by the Engineer.
- 11) Clearing and Grubbing
- a) Must meet all requirement of Miami-Dade DTPW Specification Section 110 (Clearing and Grubbing) Exhibit 14 to the Scope of Work (Attachment B).
  - b) No Direct Payment Provided: The cost of any work of clearing and grubbing necessary for the proper construction of the Project is included in the Contract price for the structure or other item of work for which such clearing and grubbing is required; therefore no separate payment will be made for clearing and grubbing.

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## 12) Mobilization

- a) Must meet all requirement of Section 101 (Mobilization) of the FDOT Standard Specifications for Road and Bridge Construction.
- b) No Direct Payment Provided: All work and costs specified as being covered under the aforementioned specification is included for payment under the several scheduled items of the overall Contract; therefore no separate payment will be made for Mobilization.

## 13) Maintenance of Traffic

- a) Must meet all requirement of Section 102 (Maintenance of Traffic) of the FDOT Standard Specifications for Road and Bridge Construction
- b) The County will reimburse Contractor from the contract allowance, for the Direct Out-of-Pocket cost(s) associated with the utilization of Police Officers as a requirement of MOT.

## 3. Task Group 3: Miscellaneous Engineering Implementation:

Engineering services and software development necessary for implementing features and functionality will be based on specific engineering tasking assignments to be paid at negotiated units for hourly rates or on a per intersection bases for professional services, in accordance with the Proposal Price Schedule.

## D. Basis of Payment

## 1. Task Group 1: ATMS and Traffic Signal Controller Migration:

Item #	Description	Unit
	System Delivery and Integration	LS
	ATMS central software	LS
	Caltrans Model 2070LX controller with local controller software	EA
	Intersection Database Migration	EA
	Controller field installation	EA
	Software Maintenance Support (after Year 6)	Year
	Operational and System Support (after Year 5) (2 persons on-site support)	Year
	Systems Training (after Year 5)	EA

## 2. Task Group 2: Full Actuation of Signalized Intersections

Item #	Description	Unit
	Major Engineering Design (Task Group 2)	EA
	Minor Engineering Design (Task Group 2)	EA
660-1-109C	Inductive Loop Detector, F&I	EA
660-2-102	Loop Assembly, F&I, Type B	EA
660-2-106	Loop Assembly, F&I, Type F	AS

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660-2-106M	Loop Assembly, F&I, Type F Modified (Bicycle)	AS
660-3-11	Vehicle Detection System- Microwave, F&I Cabinet Equipment	EA
660-3-12	Vehicle Detection System- Microwave, F&I Above Ground Equipment	EA
660-4-11	Vehicle Detection System- Video, F&I Cabinet Equipment	EA
660-4-12	Vehicle Detection System- Video, F&I Above Ground Equipment	EA
630-2-11	Conduit, F&I, Open Trench	LF
630-2-12	Conduit, F&I, Directional Bore	LF
635-2-11	Pull & Splice Box, F&I, 13" X 24" Cover Size	EA
635-2-12	Pull & Splice Box, F&I, 24" X 36" Cover Size	EA
653-1-11	Pedestrian Signal, F&I, LED-Count Down, 1 direction	EA
653-1-12	Pedestrian Signal, F&I, LED-Count Down, 2 direction	EA
653-1-60	Removal of Existing Pedestrian Signal, Pole/Pedestal to remain	EA
665-1-11	Pedestrian Detector, Standard	EA
665-1-60	Removal of Existing Pedestrian Detector, Pole/Pedestal to remain	EA
646-1-11	Aluminum Signal Pole, F&I, Pedestal	EA
646-1-12	Aluminum Signal Pole, F&I, Pedestrian Detector Post	EA
646-1-60	Removal of Existing Pedestrian Signal Pole	EA
522-2	Concrete Sidewalk and Driveways, 6" Thick	SY
527-2	Detectable Warnings	SF

## 3. Task Group 3: Miscellaneous Engineering Implementation:

Engineering services and software development necessary for implementing features and functionality which are not specified in the work pertaining to Task Group 1 may be requested by the County. Engineering services and software development efforts will be measured per hour or on a per intersection basis, and paid for at the unit price upon validation and acceptance, in accordance with the Proposal Price Schedule.

## 4. The County does not guarantee any maximum or minimum quantity, any range of quantities, or the exact quantities shown for each Pay item.

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