Wave Streetcar Addendum No. 1 Memorandum, Issued 3/28/17

DATE: March 28, 2017

TO: District Contracts/ Final Plans

FROM: Robert Bostian, Project Manager Robert E Bost

COPIES: File

SUBJECT: **Addendum Number** 1 - Letting (mo./yr.) 08/2017

Financial Project ID 421390-7-52-01 (Lead number only)

Proposal/ Contract ID E4R84

Federal Funds: ☐No ☒Yes Federal Aid No. D417-019-B

County Broward State Road No.

Concurred by: _____ Date: 3-29-17
Signature of Alternate Contracting Coordinator (John Olson (primary)/ Robert Bostian (alternate)) or Designee.

Legal Approval Date: DK 3/28/2017
~~(Stephen King)~~ Dawn Raduzno

Central Office Approval Date: 3/28/2017
(State Construction Office – ~~Alan Autry~~) Suzannah Ray

CONTRACT TIME REVISED: ☒No ☐Yes (If yes, _____ Calendar Days)

RFP, pg. iv and v

Attachments revised as follows:

O. Design-Build Firm Supplemental Submittal Requirements
   1. Design Phase Submittals
   2. ~~CDRL~~Contract Data Requirements List (CDRL) Submittals (DRAFT)

FF. Construction Segments Map

RFP, pg. vi, vii, viii

Reference Documents revised as follows:

1. General

1.1. 2015-11-16 Preliminary Hazard Analysis Rev 1.pdf
1.2. 2015-11-16 Threat and Vulnerability Analysis Rev 2.pdf (TO BE PROVIDED AFTER AWARD)(SSI Document)
~~1.3. 2016-01-09 Construction Segments Map.pdf~~
~~1.4.~~1.3. 2016-12-26 Utility Conflict Matrix.pdf
~~1.5.~~1.4. 2017-01-05 Utility Work Schedules.pdf
~~1.6.~~1.5. LEED ~~and Envision~~ Certification and Envision Verification Checklists.pdf (DRAFT)
~~1.7.~~1.6. 2016-03 City of Fort Lauderdale Sewer Map.pdf
1.7. Traffic Signal Warrant Analysis.pdf (NOT INCLUDED)

1.8. TIGER Grant Award.pdf
1.9. 2015-10-07 Hydrant Flow Test 1801 SW 1st Ave.pdf
~~1.8.~~1.10. 2016-04-25 ADA Sidewalks Evaluation Memo and Exhibits.pdf

2. Conceptual Design

2.1. Concept Design Drawings.pdf (~~27~~31 files)

8. Structural

8.1. 2013-12-19 SE 3rd Ave Bridge Scoping Report.pdf
8.2. SE 3rd Avenue Bridge Inspection Reports
8.2.1. 1994-11-21 FDOT Bridge ID 864071 Scour Evaluation Report Phase 1.pdf
8.2.2. 2012-07-11 FDOT Bridge ID 864071 Hydraulic Analysis Report.pdf
8.2.3. 2014-04-07 FDOT Bridge ID 864071 Stage 5 Bridge Priority and Phase 4 Countermeasures.pdf
8.2.4. 2009-06-29 FDOT Bridge ID 864071 3rd Ave Bridge Inspection Report.pdf
8.2.5. 2012-06-26 FDOT Bridge ID 864071 3rd Ave Bridge Inspection Report.pdf
~~8.2.1.~~8.2.6. 2013-06-25 FDOT Bridge ID 864071 3rd Ave Bridge Inspection Report.pdf
8.2.7. 2014-06-26 FDOT Bridge ID 864071 3rd Ave Bridge Inspection Report.pdf

9. Record Drawings

9.1. SE 3rd Avenue Bridge No.864071
9.1.1. Rolling Lift Bascule Span 1958.pdf
9.1.2. 1996-07-09 Rehabilitation of Control Systems.pdf
9.1.3. 2000-05-19 Drive Machinery Alignment Procedure.pdf
9.1.4. 2001-08-30 Bull Gear Contact Test.pdf
9.1.5. 2001-08-30 Strain Gauge & Balancing Report.pdf
9.1.6. 2001-07-12 Grating Support Repair.pdf
9.1.7. SE 3rd Ave Bridge over New River Full Set.pdf
9.1.8. 1957-12 SE 3rd Avenue Bridge over New River Part 1 of 3.pdf
9.1.9. 1957-12 SE 3rd Avenue Bridge over New River Part 2 of 3.pdf
9.1.10. 1958-10 SE 3rd Avenue Bridge over New River Part 3 of 3.pdf
9.1.11. 1990-12-29 New River Seawall Reinforcement on North Bank.pdf
9.1.12. 1995-02-27 Bulkhead Rehabilitation Riverwalk Area 5.pdf

10. Utilities Record Drawings

10.6.18. FPL As-Builts with notes 2013-06-13.pdf

RFP, Section I Description of Work

Revised as follows:

The Project will pursue at a minimum Envision Silver verification and LEED Silver certifications The Department has prepared a preliminary assessment for the project for LEED certification and Envision verifications and the checklists are provided as ~~defined in~~ Reference ~~and includes the following elements of the Wave Streetcar system:~~ Document.

7. Vehicle Maintenance and Storage Facility

The Design-Build Firm shall design and construct a Vehicle Maintenance and Storage Facility (VMSF) on the property owned by the Department adjacent to the Florida East Coast railroad corridor. The VMSF shall be designed to LEED criteria, with a ~~goal~~minimum requirement of achieving the Silver certification level.

8. TIGER Milestones

The TIGER Work consists of designing and constructing a minimum of $8,000,000 of embedded track, public utility relocation, communications infrastructure, VMSF infrastructure, and SE 3rd Avenue Bridge components, maintenance of traffic, and mobilization within the TIGER limits. The TIGER Work shall be defined in the Schedule of Values submitted by the Design-Build Firm and approved by the Department.

RFP, Section I.A. Design-Build Responsibility

Revised as follows:

The Design-Build Firm shall be responsible for compliance with Design and Construction Criteria (Section VI and all RFP Attachments) which sets forth requirements regarding survey, design, sustainable design requirements including LEED certification and Envision ~~certifications~~verifications, construction, and maintenance of traffic during construction, requirements relative to Project management, scheduling, and coordination with other agencies and entities such as state and local government, utilities and the public.

RFP, Section II Schedule of Events

Revised as follows:

Table II-1: Schedule of Events

Date	Event
03/~~20~~28/2017	Addendum issued for approved Design Exceptions.
~~03/21~~04/04/2017	Deadline for Design-Build Firm to request participation in One-on-One Alternative Technical Concept Discussion Meeting No. 4 by 5:00 pm local time.
~~03/21~~04/04/2017	Deadline for Design-Build Firm to submit preliminary list of One-on-One Alternative Technical Concepts prior to Alternative Technical Concept Discussion Meeting No. 4 by 5:00 pm local time.
~~03/24~~04/10/2017	One-on-One Alternative Technical Concept Discussion Meeting No. 4. 90 Minutes will be allotted for this Meeting. This ATC meeting is for continuing discussion on ATCs submitted prior to ***03/02/~~28~~/2017*** for which the Department requested additional information and were not approved or for new ATCs that are a direct response to an Addendum issued on or after ***03/~~20~~28/2017***. No other new ATC submittals will be accepted after ***03/~~20~~02/2017*** deadline.
~~03/27~~04/10/2017	Deadline for submittal of questions, for which a response is assured, prior to the submission of the Technical Proposal. All questions shall be submitted to the Pre-Bid Q&A website by 5:00 pm local time.
~~03/31~~04/17/2017	Deadline for submittal of Alternative Technical Concept Proposals for which the Department requested additional information and were not approved or for new ATCs that are a direct response to an Addendum

Table II-1: Schedule of Events

Date	Event
	issued on or after ***03/~~20~~28/2017***. Deadline is 5:00 pm local time.
04/~~04~~18/2017	Deadline for the Department to post responses to the Pre-Bid Q&A website for questions submitted by the Design-Build Firms prior to the submittal of the Technical Proposal by 5:00 pm local time.
~~04/17~~05/01/2017	Technical Proposals due in District Four Office by 12:00 p.m. local time.
~~04/17~~05/01/2017	Deadline for Design-Build Firm to "opt out" of Technical Proposal Page Turn meeting.
05/~~02~~08/2017	Technical Proposal Page Turn Meeting. Times will be assigned during the Pre-Proposal Meeting. 45 Minutes will be allotted for this Meeting.

RFP, Section V.D. Department Commitments

Revised as follows:

Table V.D-1 Project Commitments

Commitment (#) and Description	Responsibility			Status
	Department	D-B Firm	Shared	
Envision verification and LEED certification implementation plans and completion dates.		X		

RFP, Section V.I.1. Component Submittals

Revised as follows:

In addition to the requirements listed herein, the Design-Build Firm shall comply with RFP Attachment O, Design-Build Firm Supplemental Submittal Requirements. The Design-Build Firm shall refer to RFP Attachment F and RFP Attachment H for additional submittal requirements.

RFP, Section V.K. Project Schedule

Revised as follows:

- Sustainability Certification and Verification Milestones (Envision and LEED)

RFP, Section V.N. Meetings and Progress Reporting

Revised as follows:

- Envision and LEED Kick-off and coordination meetings

RFP, Section VI.E.2.a. Roadway Design

Revised as follows:

All existing stamped asphalt intersections and crosswalks shall be restored to its ~~original condition.~~pre-construction pattern and colors. All existing painted intersections on Las Olas Blvd and from SE 1st Ave to SE 3rd Ave shall be replaced with stamped full depth asphaltic concrete. The stamped asphalt intersections shall not extend to include pedestrian crosswalks.

RFP, Section VI.E.2.c. Pavement Design Package

Revised as follows:

The milling and resurfacing limits shall cover the entire alignment for the entire width of the roadways and intersections within the right-of-way and shall be in accordance with the approved Typical Sections Package, RFP Attachment D and Pavement Design Package, RFP Attachment R. The milling and resurfacing limits for NE 6th Street shall include the eastbound and westbound roadways. The Milling and Resurfacing shall extend to the radius return along all the side streets at a minimum to incorporate the area for the pedestrian crosswalks.

RFP, Section VI.E.2.d. Drainage Analysis

Revised as follows:

The objective is to obtain an approved drainage design. This service shall include, but is not limited to the following. It is not the intent of this Project to replace or upgrade entire storm sewer trunk lines to meet the criteria contained herein, only new or upgraded cross drains, curb inlets and other drainage structures. The Florida Department of Transportation Drainage Manual requirement, which does not permit storm drain pipe exiting a drainage structure to be constructed with a flow line higher than any storm drain pipe entering the same structure, is waived for this project. The Design-Build Firm shall utilize elliptical pipe for cross drain pipe replacement. Elliptical pipe for cross drains are intended to minimize the locations and elevation differences between storm drain pipes exiting the same drainage structure as the cross drain pipes.

- The replacement shall be a minimum diameter of ~~18~~15 inches or equivalent and the material shall be concrete Class V, unless otherwise approved by the Department. Pipe replacement may result in associated manholes and/or catch basins also being replaced or modified.

RFP, Section VI.M.3.a. Traffic Control Requirements

Revised as follows:

1) General Requirements

(m) ~~During the events~~ City Events along the Wave Streetcar alignment will be temporarily relocated during the construction of each individual segment, except as noted in ~~Table VI.M.3.-3, City Event Restrictions, no lane closures will be allowed within the limits of the event area.~~items (n) and (o). The Design-Build Firm shall coordinate the approved project schedule with the City of Fort Lauderdale Parks and Recreation Department for event scheduling. The noted events are City of Fort Lauderdale approved events that happen annually. The Design-Build Firm shall refer to the City

of Fort Lauderdale website ~~and shall adhere to~~ for the Greater Fort Lauderdale Event Calendar;

~~(m)~~(n) During the city events that lie completely within Segment 3, identified in Table VI.M.3.-3, City Events, no lane closures will be permitted during and within the limits of the event, except as noted in item (o). The same lane closure ~~limitations listed thereinrestrictions~~ and special accomodations that apply to Segment 3 shall also apply to the Winterfest Boat Parade, Corporate Run, the Fort Lauderdale Half Marathon, and the Fort Lauderdale Full Marathon;

(o) The City of Fort Lauderdale is temporarily relocating City Events completely within Segment 3, as identified in Table VI.M.3.-3, between June 1 and August 30, 2018 and between December 1, 2018 and January 31, 2019. This temporary relocation of City Events within Segment 3 will only occur in calendar year 2018 and a portion of calendar year 2019;

~~(n)~~(p) The Design-Build Firm shall provide ~~for~~ pedestrian access in the locations of ~~the special~~these city events as needed.;

3) Partial Long Term Lane Closures (PLTLC)

(a) Partial Long Term Lane Closures are defined as lane closures that reduce the number of through traffic lanes, exceed a 24-hour period but continue to provide continuous through traffic within the closure limits in all directions;

6) Intersections

~~( ) Intersections permitted for LTLC will be allowed PLTLC with adjacent Segments for utility work; and~~

(b) LTLC's for intersection work shall be completed in one continuous operation between 10:00 PM, Friday and 4:00 AM Monday (54 hour maximum); and

(c) In the event that the Design-Build Firm does not complete the required work in a 54 hour period for major intersections; the Design-Build Firm shall restore the intersection and open for through traffic by 6:00 AM Monday morning.

Table VI.M.3.-2 Intersection Requirements for Segment Construction

		Existing Conditions				Requirements for Construction			
Constr. Segments	**Street Intersections**	**No. of Exclusive Left Turn Lanes Along Alignment**			**No. of Exclusive Right Turn Lanes Along Alignment**	**No. of Exclusive Left Turn Lanes**			**Traffic Control Restrictions for Intersection Construction**
	N Andrews Ave & N 4th St	1 SB	1 EB	1 WB	1 EB	1 SB	~~1 EB~~	1 WB	LTLC

*Constructed as a part of a Partial Long term lane closure.

Note: Intersection turn lane closure allowances identified in Table VI.M.3.-1, only apply during the LTLC or PLTLC of that Segment.

Table VI.M.3.-3: City ~~Event Restrictions~~Events

Event Name	Address/ Location	Event Limits	Construction Segment
January			
Ice Skating Rink	Huizenga Plaza		3
October			
Block Party for Higher Education	College Plaza to the Museum of Art	On Las Olas Blvd between ~~Andres~~Andrews Ave to NE 2nd Ave	3
Chill Lounge Night			
November			
Run2			
Ice Skating Rink	Huizenga Plaza		3
Winerfest Family Fun Day			
December			
Ice Skating Rink	Huizenga Plaza		3

RFP, Section VII.B. Submittal Requirements

Revised as follows:

2. Section 2: Plans and Technical Special Provisions

   a) All other information not included on the roll plots, such as typical sections, special emphasis details, structure plans, cross sections, Vehicle Maintenance and Storage Facility (finish schedules, plan view, yard layout, floor plan), Traffic Analysis, etc., shall be provided on 11"x17" sheets. The maximum roll plot scale shall be 1" = 80'.
   b) Right-of-Way Maps and Legal Descriptions (including area in square feet) of any proposed additional Right-of-Way parcels if applicable and approved through the ATC process. Provide Technical Proposal Plans in accordance with the requirements of the Plans Preparation Manual, except as modified herein.
   c) The Plans shall complement the Project Approach.

      1) The Proposal plans shall clearly reflect the Design-Build Firm's design approach for each component.
      2) The Plans shall include at a minimum Track, Station Platforms, Train Control, OCS, Communications, Site Civil, Architecture, structure, Fire Protection, Plumbing, HVAC, Electrical, Systems (Low-Voltage special systems), Traction Power Distribution Systems, and Traction Power Substation.

RFP, Section VII.C. Evaluation Criteria

Revised as follows:

1. Design (30 points)

- Sustainability
  - LEED certification
  - Envision ~~certification~~verification

2. Construction (35 points)

- Vehicle Maintenance and Storage Facility
  - Building
  - Yard
- ~~Operational Efficiency Improvements~~
  - ~~Improve run times of street car~~
  - ~~Improve automobile operations~~

RFP Attachment B, Division I Specifications for Design-Build Contracts

Revised as follows:

Updated Division I incorporated.

RFP Attachment C, Division II and III Special Provisions identified by the Department to be used on the Project

Revised as follows:

Updated Division II and III special provisions incorporated.

1.	Mobilization	(SP1010000DB)
2.	Contractor Quality Control General Requirements	(SP1050813DB)
3.	Structures Foundations	(SP4550000DB)
4.	Landscaping	(SP5800000FA)

RFP Attachment E, SE 3rd Avenue Bridge Rehabilitation Criteria, Section 4, Bullet 8

Revised as follows:

Include a subsection on the control desk for train interface and monitoring. See train control system requiements for details. See RFP Attachment G, Transit Criteria, Section 7.12, SE 3rd Avenue Bridge Control, for further details.

RFP Attachment G, Transit Criteria, Section 1.3. Sustainability

Revised as follows:

The Wave Streetcar VMSF shall be designed and constructed as a sustainable site ~~with the goal of achievingto meet~~ a LEED silver certification. A draft of the LEED checklist ~~with a goal of achieving a silver certification~~ is included in the RFP Reference Documents. The Design-Build Firm shall be responsible for reviewing~~, and~~ updating~~, and submitting~~ the ~~updated~~ LEED checklist and all supporting documentation, calculations, or other applicable materials to the ~~U.~~Department for submittal to the U. S. Green Building Council (USGBC) for certification.

~~The corridor, inclusive of the stations, shall be Envision Silver Award.~~The Wave Streetcar alignment, inclusive of the stations, shall be designed and constructed to obtain Envision Silver Award. A draft of the Envision Credit assessment is included in the RFP Reference Documents. The Design-Build Firm shall be responsible for reviewing, and updating the Envision checklist and all supporting documentation, calculations, or other applicable materials to the Department for submittal to the Institute for Sustainable Structure for Award application.

All fees and costs associated with these verifications, certifications, and awards shall be the responsibility of the Design-Build Firm. The registration fees for LEED v2009 and Envision have been paid for by the Department.

RFP Attachment G, Transit Criteria, Section 4.3.2. Codes and Standards

Revised as follows:

The following areas shall be designated at a minimum: Offices/ Administration spaces, OCC room, ~~TCC~~Train Control and Communications (TCC) room, and TPSS room.

RFP Attachment G, Transit Criteria, Section 4.3.17.2.1. Service Provider Connectivity

Revised as follows:

4.3.17.2.1 ~~Service Provider Connectivity~~ Not Used

~~Design-Build Firm shall provide telephone and data service for new facility by extending two sets (2) of 4" conduits from the Main Point of Entry (MPOE) to the coordinated service provider location. Design shall include fiber based connectivity to the service provider as well as copper based. Conduits shall contain three (3) - 1 ¼" inch HDPE innerducts.~~

~~Assume one (1) 200-pair cat-5 cable for telephone/ TDM service and one (1) 48-strand single-mode fiber optic cable to the service provider.~~

RFP Attachment G, Transit Criteria, Section 4.3.17.2.2. Broward County Transit (BCT) Owned Backbone Cable

Revised as follows:

Facility shall accommodate entrance of backbone cable described in Section 8.3 of this document, the Fare Collection fiber (see Section 8.15 for additional requirements), telephone and data

service, and the County's Traffic fiber network. ~~Six (6~~Eight (8) 4-inch conduits shall be run from the ~~Building Entrance (BE)~~TCC to the designated communications manhole to receive the cables from the right of way (ROW). ~~Contractor~~The Design-Build Firm shall be responsible for coordinating the tie from the ROW work and make final connection to the facility. Cables shall be extended from the building entrance to the main equipment room, following NEC requirements for maximum amount of exposed OSP allowed to be in the building (i.e. 50'). ~~Contractor~~The Design-Build Firm will extend conduit infrastructure or transition to allowable cable type to meet NFPA requirements.

RFP Attachment G, Transit Criteria, Section 4.3.17.2.3. Communication Rooms

Revised as follows:

4.3.17.2.3. Train Control and Communication ~~Rooms~~(TCC) Room

~~Communication rooms~~The TCC room within the facility will be sized and spaced in accordance with BICSI Telecommunication's Distribution Methods Manual (TDMM). ~~Telecommunications rooms will be tied together with a minimum of two (2) 4" conduits, and appropriate innerduct within conduits for fiber ties between rooms. One conduit shall contain (3) - 1 ¼" inch HDPE innerducts.~~ ~~Communication~~The TCC room equipment power will be tied to a building Uninterruptable Power Supply (UPS), which will be sized to maintain all equipment loads active for a minimum of 15 minutes. UPS shall be tied to the building generator. Building UPS shall be sized to accommodate all ~~Communication Room Loads, Main Equipment~~TCC Room loads, Outlets to serve service provider active equipment in the MPOE, and OCC equipment, including all equipment housed in the consoles and the video wall. UPS shall be sized to accommodate 50% spare capacity. Provide ~~communications rooms~~the TCC room with a telecommunications grounding system, power, and stand-alone air conditioning unit of sufficient size to maintain 70°F temperature for equipment installed at time of construction plus 50% future equipment growth. Provide ladder rack overhead and provide plywood on all walls, Provide dedicated 240V and 120V power overhead with Twist lock lugs for each equipment cabinet and rack. Furnish Power Distribution units for all racks including empty racks designated for future growth.

The ~~main equipment~~TCC room ~~(TCC)~~ will house many of the ~~headend~~head end equipment for the various systems. Rack space will be organized and assigned based on function. Equipment cabinets and racks shall not contain more than one operational system, and additional system racks shall be grouped and organized to accommodate the amount of planned and future needs. Size of the equipment room shall be sized based on the equipment and clearances to be placed therein. ~~Provide communications rooms with a telecommunications grounding system, power, and stand-alone air conditioning unit(s) of sufficient size to maintain 70°F temperature for equipment installed at time of construction plus 50% future equipment growth. Provide ladder rack overhead and provide plywood on all walls, Provide dedicated 240V and 120V power overhead with Twist lock lugs for each equipment cabinet and rack. Furnish Power Distribution units for all racks including empty racks designated for future growth.~~

~~Provide a minimum of two (2) Twelve strand 50-micron Multimode Fiber Optic (MMFO) Cables between each commination room and the main equipment room.~~

~~Provide a minimum of two (2) Twenty-four strand Single-mode Fiber Optic (SMFO) Cables between each commination room and the main equipment room.~~

~~Provide a minimum of one 50-pair category 5 copper cable between each commination room and the main equipment room. Terminate using rack-mounted 110-blocks~~

RFP Attachment G, Transit Criteria, Section 4.3.18.2. Access Control (ACS)

Revised as follows:

- The Design-Build Firm shall provide card readers with integrated door position switches, electromechanical and electromagnetic locks, request to exit hardware, standalone access controllers, and ACS network equipment (switches) for the Facility. ~~Contractor~~The Design-Build Firm shall provide an access control and alarm monitoring system (ACAMS) that integrates with intelligent field panels and door controllers.

RFP Attachment G, Transit Criteria, Section 4.3.19.3. Air Conditioning System for Train Control and Communicastions (TCC) Room

Revised as follows:

Each system shall meet the following criteria: system capacity per Design, to be coordinated and verified by the ~~Contractor~~Design-Build Firm, air-cooled split direct-expansion (DX) computer room-type air conditioning (CRAC) units with the indoor units located within the Data Server Room and the outdoor condenser units mounted on the roof with refrigerant piping connecting both indoor and outdoor units.

RFP Attachment G, Transit Criteria, Section 4.3.21. Fire Protection

Revised as follows:

A wet-pipe, Automatic Sprinkler (AS) Fire Protection System, per NFPA 13, shall provide full coverage to all spaces within the Building, unless noted otherwise. The ~~Contractor~~Design-Build Firm shall provide a Siamese type Fire Department Connection (FDC) on the East side of the Building. The current available municipal water main pressure is sufficient to supply the most hydraulic demanding head in the ceiling of the 2nd floor. However, Fire Pump requirements shall be verified by the ~~Contractor~~Design-Build Firm using actual certified water flow tests.

RFP Attachment G, Transit Criteria, Section 4.3.25.1. Service and Inspection Position

Revised as follows:

This ULWP/ Safety Platform design in combination with End Car Safety Gates, is the safest and most functional approach to rooftop access systems. ~~As with any rooftop access approach – OCS power interlocks must be used for the safety of workers.~~ The ULWP shall be served by a 2000 lbs. (min) parts and material lift capable of handling larger tool boxes. The ULWP height and access shall be coordinated with both the selected streetcar vehicle and the work and storage mezzanine. These areas (if possible) should be at the same level but can be at different elevations if necessary to maintain other functionally imperative clearances (see Functional Clearances~~). Access to the UPLA shall be from the Work Mezzanine and fully integrated with a safety OCS lockout system that only allows access when OCS is in a safe off position.~~).. This streetcar position shall be covered by a 2 ton bridge

crane.

RFP Attachment G, Transit Criteria, Section 4.3.25.4. Mezzanine Level Specialty Shop Areas

Revised as follows:

These shops and staging areas shall be covered by the same 2 ton bridge crane that serves the ULWP ~~and shall be fully coordinated with the OCS components for lockout safety.~~. The crane will be located to accommodate removal and replacement (R&R) of major roof-mounted equipment.

RFP Attachment G, Transit Criteria, Section 4.3.27. Electrical Services

Revised as follows:

Streetcars will move in and out of the VMSF under the vehicle OESS power. Though no OCS is to be installed in the VMSF building under this contract, the DBF shall include in its design of the building, the wire tension loads for the possible future installation of an overhead dc contact wire system in the building.

A separate traction substation will be provided ~~on the VMSF site for the shop with shop tracks~~in the VMSF building, to supply 750 VDC hotel power to the vehicles on each track. This power supply is electrically isolated from the yard and mainline tracks. Individual, lockable, manual disconnects will be provided for each section isolation switch to remove ~~traction~~shop power when required for maintenance. The shop substation negative return will be solidly grounded to the building ground network for safety purposes. The dc power supply installation shall include the transformer/ rectifier (480 Vac to 750 Vdc), dc breakers, dc controls, and safety interlocking circuits.

~~Streetcars can move in and out of shop utilizing OESS power. Shop power at 750 V dc shall be made available in both bays at level commensurate with the receptacles on the streetcar vehicles.~~

The power rating of this dc power supply shall meet the power required to operate all ac and dc auxiliary vehicle loads, including charging of the OESS, for all cars in the building. The DBF shall coordinate the power requirements with the vehicle supplier.

DC power from the dc power supply shall be routed in PVC underground conduit to local Shop Vehicle Power Units (SVPU), located at the carside at each bay in the shop. Where conduit is routed above ground, FRE conduit shall be protected from damage by mobile machinery, such as forklifts, or other accidental damage, or a combination, thereof. Refer to Section 5.2.5 for additional details.

Each SVPU shall incorporate a dc power on/off control, a lockable feature to prevent unauthorized activation of the dc power, relay interlocking circuits, power on/ power off indicating lights, an emergency disconnect button, and a dc cable rack for stowing the cable, when not in use. The emergency disconnect button shall, at any SVPU, de-energize all dc power in the VMSF.

SVPU interlocking circuits shall provide redundant safety in case the technician does not turn off dc power before disconnecting the cable from the vehicle. The interlock circuits shall allow the dc power to be energized, at the SVPU only when the cable is plugged into the vehicle receptacle. In addition, the interlock contacts shall be arranged on the receptacle/ plug to break before the power contacts separate when removing the plug.

The dc power cable shall be between 10 feet and 20 feet in length, with final length to be determined based on the location of the SVPU with respect to the vehicle receptacle. The DBF shall coordinate the final location of the SVPU location with the Department and the car builder. The cables are to be provided by the DBF. The cord cap (plug) for each power cable, which will mate with the receptacle on the vehicle, shall be furnished to the DBF by the car builder. The DBF shall be responsible for installing the cord caps on the power cables and installing the power cables on each SVPU. Two spare cables with cord caps are to be supplied by the DBF.

RFP Attachment G, Transit Criteria, Section 4.3.27.2. Building Power Distribution System

Revised as follows:

The Building Power Distribution System shall utilize the following standards for electric power distribution:

- 480 V AC for VMSF traction power substation

RFP Attachment G, Transit Criteria, Section 4.3.27.2.1. Electrical Surge Suppression

Revised as follows:

The ~~Contractor~~Design-Build Firm shall provide 10% spares (as a minimum, unless noted otherwise, one of each device, for further details refer to RFP Attachment H – Vol 3B, Technical Requirements for Transit Construction) and parts to facilitate maintenance and replacement of Equipment damaged during electrical surges.

RFP Attachment G, Transit Criteria, Section 4.3.27.2.5. Power Distribution for Electrical Driven Equipment

Revised as follows:

The ~~Contractor~~Design-Build Firm shall provide 480 V, 3-phase power from FP&L and provide required step-down transformers and distribution network within a suitable electric room for this purpose.

RFP Attachment G, Transit Criteria, Section 4.3.27.2.10. Photo-Voltaic Solar Electric Generating Power Plant

Revised as follows:

The ~~Contractor~~Design-Build Firm shall provide a Photo-Voltaic Electrical Power System (P-V) in accordance with the requirements on NEC Art. 690, with all required components for a fully operational system, including but not limited to: hard-crystalline type solar collector photo-voltaic panels; wiring; and DC-AC inverters.

RFP Attachment G, Transit Criteria, Section 4.3.28.5.2. Operations Control Center Functionality

Revised as follows:

Two operations control stations, one supervisory station (that can serve as a training station~~)~~), and one security monitoring station must be accommodated ~~in the main room~~.

RFP Attachment G, Transit Criteria, Section 5.1.10. Substation Enclosure

Revised as follows:

The enclosure shall comply with the requirements of Florida Building Code and other applicable state and local requirements for structural, environmental, and fire resistance requirements. All exit doors will be fitted with panic bars.

Air Conditioning (A/C) shall be provided for personnel comfort and all TPSS equipment. A/C design will include ambient heat loads expected on a sunny day with ambient temperatures ~~exceeding 104~~of110 degrees F ~~(40 degrees C).~~. Air conditioning shall be adequate to maintain the inside temperature ~~within normal working limits from 20~~at 75 degrees ~~C to 30 degrees C under worst~~F with this ambient ~~conditions of project locale~~temperature. The equipment shall be designed to function without air conditioning for up to 8 hours.

RFP Attachment G, Transit Criteria, Section 5.3.14. OCS Grounding and Bonding

Revised as follows:

All OCS support structures will be connected to a~~a~~one or more buried ground ~~rod~~rods to provide 25 ohms or less resistance from each support to ground. Surge arresters shall be grounded via 5 ohm, max, resistance to ground.

RFP Attachment G, Transit Criteria, Section 7.1. General

Revised as follows:

Section 7 describes the criteria for the train control system that includes, but is not limited to, streetcar location detection, signaling and route controls, drawbridge interface including track circuits, rail proximity detectors, Magnetic Trip Stops (MTS) and provisions for the Bridge Control Desk Facility and panel, train-to-wayside communications (TWC), traffic signal interfaces and associated interfaces with other operational systems. ~~Streetcar movements shall be controlled by traffic signal controllers in the mixed traffic area. Train control system shall be used in areas of exclusive right of way, train only movements or special situations as described later~~The signal

interface to the bridge shall include controls and interfaces for operating the bridge and prohibiting streetcar operations when the bridge is open as well as prohibiting the opening of the bridge when the streetcar is on the bridge track circuit.

All signal locations and equipment shall be installed per signal standard, manufactures recommendations and best practices including; equipment grounding, installation of precast foundations, ductbanks, handholds, pullboxes, earth boxes, cables, impedance bonds for traction power return, battery backup and inverters for signal equipment and Point detectors and throw rods for embedded switch machines. Control Panels shall be included within Train Control, Signal, and/or TWC cases for local control of switch machines and signals.

RFP Attachment G, Transit Criteria, Section 7.3. Functional Design Requirements

Revised as follows:

The VMSF Yard train control system shall be fully signaled in both directions and include powered switches, track circuits, bar signals and TWC loops. Two (2) VMSF Yard diagrams are shown below within this document; Diagram 1a (Base) and Diagram 1a (Alternate 2 – Loop).

RFP Attachment G, Transit Criteria, Section 7.4. Operational Design Requirements

Revised as follows:

~~The train-to-wayside communication (TWC)~~TWC system will have provision for the manual entry of codes for pre-determined routes. The train-to-wayside system will then proceed to automatically activate (request) and set wayside powered track switch machines as appropriate for the route when the powered switch is clear of other rail vehicles. Individual manual switch control and override capability will also be provided.

These streetcar commands include designated wayside functions, such as throw switches, interface to traffic signal controllers, activate separate warning signs and signals, grade crossing warning devices ~~and~~, supervise the operation of the vehicles passenger doors at stations, activate the pantograph for on and off wire operations as well as pass the streetcar ID and location to the control center.

~~W~~with the Streetcar properly birthed over the TWC loop, the operator will be provided the functionality to open the passenger doors. This function shall prohibit the ability to open any doors that are not protected or would open to vehicle traffic. ~~The Contractor shall coordinate this functionality~~Furthermore, at specific stations #3, #6 and #13 the TWC system shall verify that the pantograph is in the proper (Raised/ Lowered) position. The Design-Build Firm shall coordinate these functions with the streetcar manufacture.

Additional track circuits for the New River Drawbridge shall be added to monitor streetcar movement from the previous station stop up to the track circuit protecting the operation of the bridge, ~~and~~as well as a track circuit departing the bridge to the next station stop for indication.

Where streetcars require a left turn or a right turn (or any other exclusive movement) at a signalized intersection, in conflict with vehicular or pedestrian traffic, bar signals will be required to establish right-of-way. Bar signals along the route will be requested via TWC loops and

controlled by the traffic signal controller located at each signalized intersection depending on streetcar movements. The bar signal shall allow controlled movement of transit vehicles to proceed safely through the intersection. The traffic signal controller shall determine when the vehicle requires priority. The TWC system's principle method of communication with the traffic controller will be through a dry contact closure.

At locations outside of signalized intersections, such as cross-overs and the entrance of the VMSF, the bar signals will be controlled by the wayside train control cabinet when activated by the streetcar ~~train-to-wayside communications~~TWC system.

~~Movement of traffic and pedestrians will be controlled at standard, signalized intersections. The Design-Build Firm shall provide for video detection devices for the traffic signal controller. The TWC system will interface with the traffic control system through a dry contact closure and be the principle method of interface between the traffic controller and signaling system for detection and actuation of the necessary exclusive streetcar signaling.~~

TWC loops will be used for streetcar tracking within the control center~~.~~ as well as passenger information systems. Each loop shall report to the control center software the streetcars ID, Destination and controls. Figures 7-1a-Base, 7-1a-ALT #2, 7-1b, 7-1c and 7-1d does not illustrate the minimal number of TWCs for streetcar tracking. ~~Additional~~TWC Loops shall ~~be designed into the project such that loops are not more than 1000' apart.~~:

1. Be located at all station stops.
2. Be located prior to any interlocking signal.
3. Be located for priority requests for special moves through intersections (Check-in/ Check-out).
4. Located along the street care route such that loops are not more than 1000' apart.

The Design-Build Firm shall incorporate the following additional requirements into the final design of the train control system:

1. All Switches shall be power operated.
2. The Yard shall be fully signalized.
3. The Design-Build Firm shall provide a list of all TWC codes and corresponding routes throughout mainline and Yard. A single route number shall be provided for normal revenue service. TWC Codes shall be used to route streetcars to specific tracks in the yard. A pole mounted route selection shall be provided as a backup method for failed loops within the yard.
4. Train Control circuits at turnback locations shall be designed to automatically return powered switches to the normal position once the streetcar have completed the move through the interlocking.
5. Due to space constraints along the Streetcar Right Of Way (ROW), the Design-Build Firm shall coordinate for approval with the Department the size and location of all Train Control house, cases, and equipment. Efforts shall be made to reduce the number of cases were practical. For Example:

    a. Streetcar TWC loop at station #12 shall be hard wired to TWC case at station #7.
    b. Streetcar loop and signal equipment at station #5 shall be installed within a common signal case and located on the south side of Streetcar station #13.
    c. Streetcar power switches at NE 3rd Avenue and Las Olas shall be control by a switch control panel case located at the SE corner of NE 3rd Avenue and Las Olas.

d. TWC loops controls for check-in and check-out for SE 3rd Ave. and SE 2nd St. shall be installed within the TWC Case at Streetcar station #6.
e. TWC equipment may be installed within the Traffic Cabinet.

1. The TWC Loop for the signals located at the intersections of N Andrews Ave, NE 4th street, and Brickell Avenue, shall request both bar signals at N Andrews Ave and NE 4th St, and Brickell Ave and 4th St intersections. This will provide a continuous movement through both intersections
2. The Design-Build Firm shall coordinate with the Department to determine which option will be designed and installed for the Turnback interlocking prior to Streetcar station #4 (SE 6th Street). The two options are:

a. Full closure of the street

i. Design-Build Firm shall reverse the turnback.

b. Vehicle traffic in one direction (east)

i. Design-Build Firm shall design and install the turnback as shown in the design criteria and provide a traffic signal controlled by the TWC.

The following figures provide an overall concept of the locations and equipment that needs to be provided.

Figure 7-1a updated

Figure 7-1a – BID ALT #2 added

Figure 7-1 b updated

Figure 7-1 c updated

Figure 7-1d updated

RFP Attachment G, Transit Criteria, Section 7.8. Signal Cabinets and House

Revised as follows:

7.8 SIGNAL CABINETS AND ~~BUNGALOWS~~HOUSE

Signal cabinets shall be used along the ROW and signal ~~bungalows~~house used for the signal circuits under SE 3rd Avenue Bridge. All installations shall minimize impacts to ROW (exact locations to be approved by the Department). The Signal Cabinets and ~~Bungalows~~house which include signal switches indications and controls or bridge circuits shall be addressable as a communication node. The Signal Train Control equipment used for the movement of trains housed inside the signal cabinets and ~~bungalows~~signal house shall include, but is not limited to:

All cabinets and ~~bungalows~~signal house shall be stainless steel and include lightning protection and grounding and all equipment and wiring necessary for a complete and fully operational signal system, including all vital circuitry, and communications back to the OCC.

The ~~bungalow~~signal house shall be, at minimum:

A typical ~~bungalow~~signal house is illustrated in Figure 7-2.

FIGURE 7-2: Typical Signal ~~Bungalow~~House

RFP Attachment G, Transit Criteria, Section 7.9.1. Mixed Traffic (Standard Traffic Signals)

Revised as follows:

Where the streetcar operates in mixed traffic, streetcar movements through traffic intersections will be controlled by the traffic controller signal system. ~~Where~~ The Train Control System will control the signals and switches ~~need to be controlled~~ for ~~routing streetcars onto and off a~~ particular streetcar ~~route,~~routes through interlockings as well crossing the movable bridge. In all situations a TWC system including Bar Signals will be provided~~. to govern the movement of the streetcar.~~ Train Control system and traffic controllers shall be ~~provided~~interconnected in areas ~~relating to~~were the train ~~only movement,~~movements/ cross-overs~~, or unsignalized (stop controlled)~~ are within traffic intersections.

RFP Attachment G, Transit Criteria, Section 7.10.1. Streetcar Signal Operations

Revised as follows:

Prior to any construction, a Traffic Signal Report shall be submitted that includes the following:

- Traffic signal standard of operation plan~~,~~;
- Concept of operation~~,~~; and
- The intersection simulation ~~testing shall be provided as part of the upgrade.~~ results.

RFP Attachment G, Transit Criteria, Section 7.10.1.1. Communications/ Fiber

Revised as follows:

Traffic signal upgrade shall include a new 144 strand FOC south of New River along the streetcar alignment for connection to the traffic signals. This cable shall be different from the SCADA cable. The cable shall be provided with 12 strand laterals and associated splices, patches, terminations and enclosures~~.~~, see RFP section VI.Q.1. for additional requirements.

RFP Attachment G, Transit Criteria, Section 7.10.1.4. Train to Wayside Communications (TWC)

Revised as follows:

7.10.1.4 TRAIN TO WAYSIDE ~~(TWC)~~ COMMUNICATIONS (TWC)

Connections between the TWC system and the traffic controllers will either provide a single request or a "check-in and check-out" sequence for turning and special routes through selected intersections. In addition, the TWC controller cabinets shall send the information to the OCC. ~~TWC cabinets shall be located in proximity to the traffic controllers.~~ Each cabinet shall have individual locking compartments.

RFP Attachment G, Transit Criteria, Section 7.11.1. General

Revised as follows:

The auto routing features shall be requested via the ~~Train to Wayside Communications (~~TWC~~)~~ system. This includes bar signal requests and switch routing and vehicle IDs being reported to SCADA. Additional loops shall be designed and installed along the route so that the maximum distance between reporting loops shall be less than 1000' ~~in each direction~~.

RFP Attachment G, Transit Criteria, Section 7.12.1. Bridge Interlocks

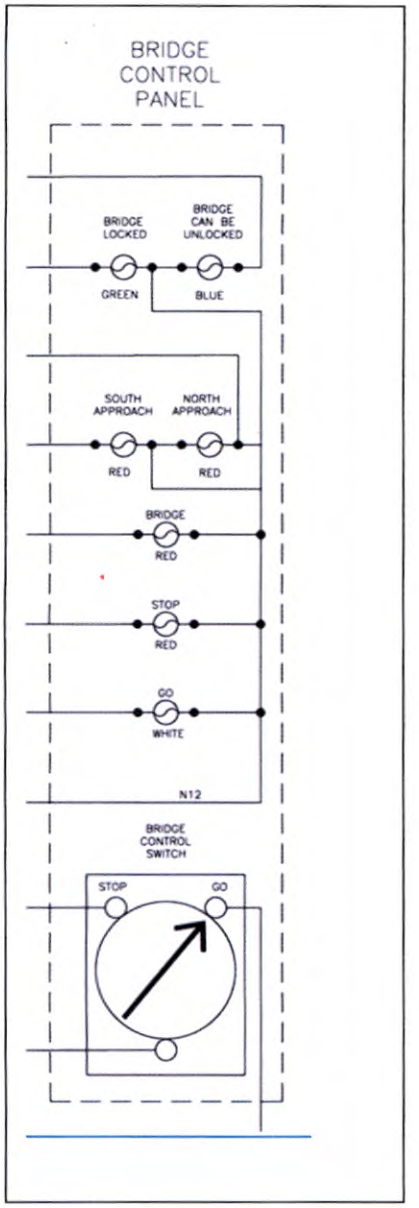
Revised as follows:

The SE 3rd Avenue Bridge over the New River will be of Bascule design and will require ~~coordination~~an interface for the streetcar approaches to the bridge as well as the bridge circuit. The purpose of bridge ~~coordination~~interface is to avoid a streetcar being on the approach grade to the drawbridge when the bridge tender is desiring to raise the bridge.

The bridge design shall include:

- Magnetic Trip Stop (MTS) Devices to prevent the Streetcar from entering the open bridge deck limits. The ~~system~~ Design-Build Firm shall ~~be fully compatible with the~~ provide to the vehicle supplier the related vehicle equipment, (magnetic trip stop antennas and on-board devices ~~that are designed and~~) to be installed on the ~~Streetcar.~~vehicle ensure that the streetcar will be enforced to stop prior to the bridge. The Design-Build Firm will coordinate the design with the vehicle supplier prior to the installation of the on-board equipment performed by the vehicle supplier. The MTS devices shall be active when the bar signal is horizontal. The Design-Build Firm Systems Integrator shall be responsible for the proper function of the entire MTS system to include the testing of the vehicle and wayside devices.

~~The~~The Bridge and train control interface design shall include the following Bridge Control Desk controls and indications~~:~~ as shown to the right:



RFP Attachment G, Transit Criteria, Section 8.1. General

Revised as follows:

A Backup Control Facility will be located at ~~Broward County Transit located at 3201 W. Copans Road, Pompano Beach~~Ravenswood Bus Maintenance Facility, 5201 Ravenswood Rd, Fort Lauderdale, FL~~, 33069~~ 33312.

The functionality of the OCC shall include:

1. Reporting of streetcar information to include but not limited to status, identification, and location.

2. Automatically send pre-determined emails and pre-recorded voice messages to provide notification of emergency situation.

The OCC system hardware shall be Commercial Off-the-Shelf (COTS).

RFP Attachment G, Transit Criteria, Section 8.1.1. General Display Requirements

Revised as follows:

The ~~Contractor~~Design-Build Firm shall provide additional graphical engineering and software support during the Contract period.

RFP Attachment G, Transit Criteria, Section 8.1.3.. Track Diagram Configuration Requirements

Revised as follows:

The ~~Contractor~~Design-Build Firm shall be responsible for designing and implementing a standard overview display diagram that shall reflect the total track alignment.

RFP Attachment G, Transit Criteria, Section 8.1.4. Console Workstation LCD Monitor Graphics Requirements

Revised as follows:

- Zoom –The ~~Contractor~~Design-Build Firm shall submit a design in the DDG, to the Department for review and approval, which outlines each zoom level.
- Graphic Leveling (Declutter) –The ~~Contractor~~Design-Build Firm shall provide Department with a list of graphic leveling groups, for review and approval, during the design review process.
- The ~~Contractor~~Design-Build Firm definition of the icons and their corresponding textual description shall be documented and subject to review and acceptance by Department.

RFP Attachment G, Transit Criteria, Section 8.1.5. Data Capture and Reporting

Revised as follows:

Through analysis, the ~~Contractor~~Design-Build Firm shall determine what change-of-state data shall be collected, including, but not limited to:

RFP Attachment G, Transit Criteria, Section 8.1.6. Playback

Revised as follows:

The system shall employ a COTS ~~(Commercial Off-the-Shelf)~~ relational database (RDBMS).

Report Generation tool shall be a ~~contractor~~Design-Build Firm supplied COTS product that works with the supplied RDBMS.

RFP Attachment G, Transit Criteria, Section 8.1.7. VMSF & Wayside Subsystems

Revised as follows:

The Design-Build Firm shall procure the appropriate CAD/-AVL ~~equipment for five (5) Streetcar vehicle~~components from ISR Transit for ~~delivery~~five (5) Streetcar vehicles and shall also deliver the components to the Streetcar vehicle supplier. The Design-Build Firm shall coordinate the CAD/-AVL equipment installation and testing activity with the Street vehicle supplier.

RFP Attachment G, Transit Criteria, Section 8.1.7.1. AVL Equipment requirements

Revised as follows:

The following describes relevant system functionality of the components from ISR Transit to be provided for integration with the existing Broward County CAD-AVL system:

1. The location of the Wave Streetcars will be monitored based on GPS only.
2. Streetcars will only report their position via Cellular Link to the OCC servers.

The following describes the software and hardware components from ISR Transit to allow for the inclusion of the Wave Streetcars into the existing Broward County Transit's CAD-AVL system:

A. System Software

2. Fleet Track CAD/AVL software

B. Streetcar Onboard Components

1. Mobile Data Terminal – MDT Touch Series with 7" (minimum) diagonal, 800 x 480 (minimum) WVGA, TFT color LCD touch screen
2. Mobile Data Computer – SPM 5000 VLU/GPS Unit
3. GPS Antenna – Multiband for 800 MHz to 6 GHz frequency systems for operation on all cellular bands, all PCS bands and both 2.4 GHz & 5 GHz 802.11 bands along with GPS.
4. Necessary Power Conversion Equipment
5. Necessary Cables

C. OCC Components

1. Server
2. Solid-State Storage
3. Work Station
4. Cellular Connectivity
5. Semi-Rugged Laptop Computer for System Diagnostics – 14" High Definition (720p) LED touchscreen display

The Design-Build ~~Firm~~Firm's System Integrator shall ~~provide a Vehicle Systems Integration Engineer to be~~ be responsible for integration of the onboard CAD-AVL equipment with the OCC System and Broward County's existing CAD-AVL System, as well as oversight of the installation ~~and integration~~ of the onboard CAD~~/~~-AVL equipment on the ~~vehicle. The CAD/AVL system shall be integrated with the built-in display on the vehicles~~Streetcars.

Figure 8-~~1~~1a and 8-1b illustrates the typical architecture and functioning of the communication system.

Figure 8-1a updated.

RFP Attachment G, Transit Criteria, Section 8.2. Central Computer System

Revised as follows:

The Central Computer system shall be comprised of redundant servers~~, two (2) servers~~ located at the Streetcar Operations Center and ~~two (2) servers~~ at ~~the Traffic Management Center~~Ravenswood Bus and Maintenance Facility for the backup OCC. Computer hardware, software and related components shall be procured to fully meet the requirements specified in the RFP Attachment H, Technical Requirements for Transit Construction, including ~~200% expandability for~~an expanded streetcar system ~~expansion~~with 200% additional data points.

RFP Attachment G, Transit Criteria, Section 8.3. Fiber Optic Backbone

Revised as follows:

In addition to the 144 strand fiber optic cable for streetcar system, a single mode 144 strand fiber optic cable shall be provided south of New River for traffic signals as described in Section 7.10.1.1.

Any interconnection with the Broward County Traffic Management Network will occur at the OCC at the VMSF. Broward County Traffic Management Network fiber shall be independent of the Wave Streetcar ~~rail~~ fiber. Any communication between the two shall be through network equipment located at the OCC.

RFP Attachment G, Transit Criteria, Section 8.4. Operations Control Room

Revised as follows:

In addition to work stations shown on diagram, an additional non-controlling training workstation shall be supplied in one of the training ~~room~~rooms to be determined during final design.

RFP Attachment G, Transit Criteria, Section 8.5. Passenger Information System (PIS)

Revised as follows:

The PIS System shall incorporate a feature that will allow the OCC to interrupt the default display to post a custom message to passengers at any given Station (each display board must be addressable).

The PIS shall be capable of displaying text or graphic images on a screen of high intensity light emitting diodes (LED). The display shall have minimum 3 lines of text at 64 characters per line. A custom message may occupy all 180 characters of the sign. Any message displayed on the PIS must be readable and viewable at any location on platform; maximum reading distance are 90 feet for 3" letters, 60 feet for 2" letters.. The PIS software application shall allow the messages to be sent to a specific individual station, a group of stations, or all stations from OCC.

RFP Attachment G, Transit Criteria, Section 8.7. Closed Circuit Television (CCTV) and Video Recording

Revised as follows:

The video shall support viewing through regular internet browser. NVRs are to be located at each TPSS, Station, and at the OCC. Each NVR at the TPSS Comm node and Station Comm node shall record local (nearby) cameras for 72 hours, whereas OCC records all cameras in system for 30 days.

The dispatcher viewing the camera feed shall have the ability to start ~~an~~the event ~~recorder~~recording function that will archive the camera feed until the dispatcher ends the event recording.

RFP Attachment G, Transit Criteria, Section 8.7.3. CCTV Cameras along Streetcar Route

Revised as follows:

~~The Design-Build firm shall provide cameras at not less than (8) locations (2 cameras per location) along the Streetcar route that are monitored by the CCTV system.~~ It is the Design-Build firm's responsibility to ensure that the CCTV system will provide complete coverage of entire ~~rail~~ alignment system for the entire right-of-way width.

RFP Attachment G, Transit Criteria, Section 8.9. Station Communication Node (SCN) Cabinet

Revised as follows:

~~A~~Station communication ~~interface cabinet (CIC)~~node (SCN) cabinets shall be located at all streetcar stations, TPSS(s), Signal Houses, and other designated locations as stated or requested. ~~The CIC shall be used as a communication node which to be used as a termination point for all cabling including fiber optic cables as well as other communication equipment such as switches, patch panel for splicing. The communication interface cabinet (CIC)~~The SCN cabinet shall be sized to accommodate switches, patch panel, power equipment and all equipment necessary for a fully operational system. ~~The communication equipment cabinet shall include but not limited to:~~

Communication nodes shall be used as termination location for video recording equipment, as required, and other communication equipment. Communication Nodes shall interface with the SCADA ductbank. Communication nodes shall include fiber patch panel for splicing and racks for switch installation. Communication nodes shall be rated for outdoor usage and NEMA 3R rated unless specifically intended for indoor installation. The communication node cabinet shall include but is not limited to:

- Power supply unit to work off ac power supply including UPS system to power ~~CIC~~SCN for a minimum of two hours;

The ~~communication interface~~SCN cabinet ~~(CIC)~~ shall be, at minimum:

FIGURE 8-9: Typical ~~CIC~~SCN Cabinet

RFP Attachment G, Transit Criteria, Section 8.9.1. SECTION DELETED

Revised as follows:

~~8.8.0Communication Nodes~~

~~**Communication nodes shall be located at streetcar stations, TPSSs, and other designated locations. Communication nodes shall be used as termination location for video recording equipment, as required, and other communication equipment. Communication Nodes shall interface with the SCADA ductbank. Communication nodes shall include fiber patch panel for splicing and racks for switch installation. Communication nodes shall be rated for outdoor usage and NEMA 3R rated unless specifically intended for indoor installation.**~~

RFP Attachment G, Transit Criteria, Section 8.10. Internet Protocol (IP) Telephones

Revised as follows:

- All ~~CIC~~SCN cabinets - connection only.

RFP Attachment G, Transit Criteria, Section 8.12.2. General Requirements of the SCADA System

Revised as follows:

2. Concrete encased ductbank~~, including 2–3" spares~~;

RFP Attachment G, Transit Criteria, Section 8.12.3. Functional Requirements

Revised as follows:

The OCC shall be the only ~~location~~system to initiate and perform remote commands through the RTU. This includes VPN off-site remote access.

The OCC system shall be configured with redundant SCADA servers, ~~two (2) servers~~located at the Streetcar Operations Center and ~~two (2) servers~~ at the ~~Traffic Management Center.~~Ravenswood Bus and Maintenance Facility for the backup OCC, which are fully synchronized to include live RTU data, calculations, closed loop control algorithms, historical data, alarms, reports, and database changes.

The SCADA system design shall achieve all controls, indications, and alarms shown in Table 8.12.4 Typical SCADA Points Listing, including the following operational objectives:

RFP Attachment G, Transit Criteria, Section 8.13. WI-FI and WI-MAX Systems

Revised as follows:

The Design-Build Firm shall provide a Wi-Fi (IEEE 802.11 standard) system with all areas of the ~~VMS~~VMSF building and ~~site~~yard. The design shall provide overlapping antennae coverage that limits Wi-Fi transmissions to 100 feet ~~or less~~beyond the property fence line.

The Design-Build Firm shall provide a Wi-MAX (IEEE 802.16 standard) reaching all points within the VMSF building and the yard, including the vehicles ~~within the rail yard.~~. Each Streetcar vehicle shall be addressable through the Wi-Max system.

RFP Attachment G, Transit Criteria, Section 8.14. Integrated Communication Systems

Revised as follows:

The Design-Build Firm shall coordinate ~~Systemwide~~system-wide communications with vehicle communication systems. Communication with vehicles through Wireless and TWC systems must be compatible. In addition certain data generation protocols, and data handling and storage must be integrated; including, but not limited to:

1. On-board control systems.
2. On-board CCTV Systems – Download ~~and~~through Wi-Max at the VMSF, with long-term storage at the OCC from the on-board ~~event~~digital video recorder ~~at the VMSF~~.
3. Automatic Passenger Counting (APC) - Download through Wi-Max at the VMSF, with long-term storage at the OCC.
4. Automatic Vehicle Locator (AVL) and TWC – Real time integration with the Station ~~PIS~~Communication Systems.
5. Transit Signal Priority Communications – Real time integration with Traffic Signal Controller and TWC systems.

Other integrated systems include:

1. SCADA monitoring and control of TPSS with OCC.
2. SCADA monitoring and control of Signal and Route Control systems with OCC.
3. SCADA monitoring ~~off~~of the bridge indications.
4. SCADA monitoring ~~off~~of the traffic signal indications.
5. SCADA monitoring of the fare collection system indications.

RFP Attachment G, Transit Criteria, Section 8.15. Fare Collection

Revised as follows:

All data from the Fare Collection equipment shall be transmitted over a secure and dedicated fiber optic/ system-wide network via the CTS. The secure network shall ~~be a single mode FO cable loop system in a dedicated conduit~~utilize separate strands from the backbone Fiber Optic System. Any point in the system that could be subject to an unauthorized Optical Tap must be physically hardened

to prevent intrusion; including lockable cubicles within the platform communications cabinet. ~~Minimum cable size requirement shall be 62.5 micron strands, and minimum 12 strand cable.~~ The secure network loop shall terminate at a dedicated server in a secured cabinet within the OCC equipment room.

RFP Attachment G, Transit Criteria, Section 9.1. General

Revised as follows:

~~Tickets will~~The system shall be designed so that tickets can be validated by ~~either~~the onboard validation machines, or future ticket validation machines to be located at each streetcar stop, or both. Multi-Function Vending Machines (MFVM) will feature options for "validate now" ~~-and-~~ "validate at a later time". The Ticket Validation Machines and Multi-Function Vending Machines will communicate independently to the back office via channels to be defined by the Design-Build Firm and accepted by the Department.

All interfaces to existing legacy systems ~~will~~shall be detailed in the design phases and provide trip information, financial information and reporting information at a minimum to these legacy systems. The Design-Build Firm shall provide all interface requirements with the Systems Integration Design Document specified in the TRTC Section 813.2.

Bus-to-streetcar transfers will require validation. Currently, transfers are subject to a ~~50c~~50 cents upgrade within 3 hours of transfer and $1.00 beyond the 3 hours. Coordination with the Department for the exact transfer amount will be required during the design phase. Transfers, passes, smart cards and proof of fare payment through smart phone apps will be subject to inspection onboard.

The back office for the Wave fare collection system will be through the system that the County is currently in the process of procuring. There will not be a separate back office for the Wave Streetcar system. The data will be sent in a format to be defined during the design process to meet the County standards for assimilation of this data.

Broward County requires that the smart card issued by Miami-Dade County, known as the EZ Card, be accepted for use on the Wave streetcar and shall be subject to all of the data transfers that are required for any other media allowed on the Wave Streetcar system.

The Design-Build Firm, using a ~~recognized~~ transit fare collection systems supplier with demonstrated multiple delivery of transit fare collection systems in the USA, shall be responsible for the design, procurement, installation, integration, testing, and commissioning of a system comprised of these major components; along with all items necessary to produce a "fit for purpose" working system:

- All data from the wayside Fare Collection equipment shall be transmitted over a secure and dedicated fiber optic/ system-wide network. The secure network shall be a single mode FO Fiber Optic Single Mode cable loop system in a dedicated conduit. Any point in the system that could be subject to an unauthorized Optical Tap must be physically hardened to prevent intrusion; including lockable cubicles within the platform communications cabinet.
- All data from the on-board Fare Collection equipment to the County's back office Fare Collection system shall be transmitted over secure communications link to be furnished

by the Design-Build Firm.

- The Design-Build Firm Systems Integrator shall be responsible for the integration and testing of the Wave Streetcar Fare Collection System with the County's back office system.
- Software to operate the system. Software must be capable of communications with a local bank to process all transactions. This will include data encryption, configurable to meet the bank requirements. Software shall also provide all the data necessary for reconciliations and reporting to the back end. Furthermore the software shall integrate with legacy ~~systems~~system as necessary for full system integration to be defined at design time with Broward County's back office system.

RFP Attachment G, Transit Criteria, Section 9.2.1. General

Revised as follows:

- Support third party smart cards or media like the EZ Card issued by Miami Dade County

RFP Attachment G, Transit Criteria, Section 9.2.3.1. MFVM Keys and Locks

Revised as follows:

The ~~Contractor~~Design-Build Firm shall provide ten sets of keys (A, B, & C, each uniquely numbered).

RFP Attachment G, Transit Criteria, Section 9.2.6.1. Bill Validator

Revised as follows:

The MFVM shall be configurable by ~~BCT~~Broward County Transit, the final operator, to inhibit the acceptance of any denomination and insertion orientation; as delivered, the MFVMs shall accept $1, $5, $10, and $20.

RFP Attachment G, Transit Criteria, Section 9.2.12. Magnetic Strip Reader

Revised as follows:

These validations shall be part of the communications to the fare collection back office for appropriate accounting of the products purchased.

RFP Attachment G, Transit Criteria, Section 10.1.2. Streetcar Stop Amenities

Revised as follows:

The streetcar stops are to have the following and as defined RFP Attachment V, Streetcar Station Stop Details under normal circumstances:

- A shelter for patrons with a polycarbonate translucent roof system. Number of shelters for

each platform shall be per the RFP Attachment V, Streetcar Station Stop Details. ~~Vegetated landscape structures; Flame Vine (Pyrostegia Venusta) is the desired plant material, but alternatives may include Bengal Clock Vine, Agentine Amazon Vine, or Brazilian Golden Vine; plant size and spacing shall provide adequate coverage for the landscape structure;~~

- Art panel structures; two types at each platform, consisting of high-strength poly-carbonate translucent panels, station specific embedded graphics and color pallets to be chosen by representatives of the varying city districts in which stations are located.
- Future expansion for the shelters ~~and landscape structures;~~;
- Station Sign Bands; edge-lit ~~with a station specific/ artistic background~~ and matching aesthetics to the platforms art panel structure; characters to be highly visible per ADA regulations;
- ~~Station Art Bands; edge-lit with a station specific/ artistic background; to be coordinated with City Art Program;~~
- Advertisement Banners, as shown on the design criteria drawings; size and location to be compatible with shelter and art panel design and coordinated with the City of Ft. Lauderdale, FDOT, and Broward County Transit;
- An approximately 100 SF streetcar operator ADA compliant restroom facility shall be included at the south terminus station located on S. Andrews Avenue between SE 16th Street and SE 17th Street;

RFP Attachment G, Transit Criteria, Section 10.1.3. Length of Streetcar Stop

Revised as follows:

The length of the level platform area at the streetcar stop ~~is dependent upon the location of the doors on the streetcar vehicle.~~shall not exceed 80 feet. The level boarding area is 14 inches above the top of ~~the nearest track~~rail to provide passenger access to all doors of the streetcar from a level surface.

RFP Attachment H.1. Volume 1 Track and Miscellaneous, Section 800.1 General

Revised as follows:

The Wave Streetcar project will pursue Envision Silver ~~(minimum)~~verification and LEED Silver ~~(minimum)~~ certification levels, as a minimum requirement defined in Attachment ____.H.6 Volume 4 Sustainability.

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.1 General

Revised as follows:

Provide signal equipment that has a history of at least five years of successful revenue service on at least three different properties in North America unless otherwise approved by Engineer of record and the Department:

A. Track circuits; ~~and~~

B. Power supplies;
C. Signals
D. Magnetic Trip Stops and;
~~B.~~E. Proximity Sensors.

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.1.1 Delivery, Storage, and Handling

Revised as follows:

Submit a ~~Construction Work Plan (CWP) for Control of Materials. The CWP~~Tracking and Inventory Management Plan (TIMP) that describes the method proposed for inventory management and on-site materials tracking during the construction of this project. The TIMP shall include provisions to ensure materials, equipment, parts, and components processed through the Design-Build Firm's receiving operations are identified, free from damage, traceable to acceptance criteria, and meet Contract requirements.

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.1.4.2. Product Data and Samples

Revised as follows:

Product data shall be provided for all major system components and equipment, to include but not limited to the following:

L. **Signal Wire and Cable**
M. Magnetic Trip Stops (MTS)
N. Rail Proximity Detectors

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.1.2. General Circuit Requirements

Revised as follows:

Vital circuits using vital fail safe components and closed loop design principles shall be provided for at least the following circuits:

J. Overrun protection at interlockings (Magnetic Trip Stops (MTS))
K. Bridge Interface Design
L. Signal Control

The Interlocking Control ~~Subsystem~~System will be an ungrounded system. Ground detectors will be provided for both AC and DC energy busses.

The ~~ATP Subsystem will~~Train Control System shall be immune to Electromagnetic Interference

(EMI) as much as is possible by current industry standards.

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.2.5. Magnetic Trip Stops (MTS)

Revised as follows:

811.2.5. Magnetic Trip Stops (MTS)

The Magnetic Trip Stop (MTS) system shall be used at all interlocking signals and at prior to the bridge island circuit. The primary use will be to activate the emergency braking of streetcar vehicles at bar signals displaying "STOP", a horizontal bar. The MTS wayside devices shall:

- Be controlled by the train control systems and correspond to the bar signal indication.
- Use a polarized DC magnetic to transmit a polarized magnetic field to streetcar's MTS antennas attached to each end of the vehicles.
- The MTS system shall be designed and installed per the manufactures recommendations this includes isolating the traction power return so that false MTS activations do not occur.
- The design shall be coordinated with the vehicle manufacture for design and installation on the streetcar.
- Systems Integration testing shall include use of the streetcar vehicle.

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.2.6. Track Circuit Requirements

Revised as follows:

~~**Traction Power Return**~~

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.2.7.4. TWC Loop Antennas

Revised as follows:

~~Trains~~Streetcar vehicles traveling at track speed (the posted speed limit) shall be able to transmit four complete data messages per antenna lobe, even if other transponders are over other loops controlled by the same interrogator.

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.2.9.2.4. External Signal Cable

Revised as follows:

Cable Installation

A. Installation of wire and cable shall conform to AREMA C&S Manual, Part 10.4.1, Recommended Instructions for Wire and Cable Installation and Maintenance, except where these ~~Specifications~~Requirements require more stringent installation practices.

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.2.9.2.7. Bar Signal Housing

Revised as follows:

~~Use~~ The Bar Signal Housings shall be constructed with:

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.2.9.2.8. Bar Signal Painting

Revised as follows:

The Bar Signal Painting shall be constructed with:

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.2.9.2.10. Embedded Point Indicator

Revised as follows:

The Embedded Point Indicator shall be constructed with:

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.2.9.2.11. Embedded Point Indicator Mounting Base

Revised as follows:

The Embedded Point Indicator Mounting Base shall be:

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.2.9.2.13. Embedded Point Indicator

Revised as follows:

811.2.9.2.13. Magnetic Trip Stops (MTS)

The Magnetic Trip Stop (MTS) system shall be used at all interlocking signals and at prior to the bridge island circuit. The MTS wayside devices shall:

- Be controlled by the train control systems and correspond to the bar signal indication

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.2.9.2.14. DC Power Supplies

Revised as follows:

DC Power Supplies shall have:

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.2.9.4. System Integration Testing

Revised as follows:

~~**829.0.0.0811.2.9.4 System Integration Testing**~~

~~All systems including the Operations Control Center, connected together as designed, shall be operated and tested for normal operations and selected abnormal operations.~~

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 811.2.10.5. System Integration Testing

Revised as follows:

811.2.10.5 System Integration Testing

The Systems Integration Testing (SIT) shall be a high level testing phase in which all software functionality and integration between Streetcar onboard, wayside train control, vehicle traffic control, movable Bridge systems along with the Operations Control Center are tested and the integrity and operations of these systems function safely within the same environment.

Prior to SIT, all systems and sub-systems including the Operations Control Center, connected together as designed, shall be operated and tested and signed off for completeness and found to operate for normal and abnormal situations.

The Design-Build Firm shall develop a Systems Implementation Plan and Systems Integration Processes that includes test cases for SIT testing that use standard streetcar systems techniques, such as:

- Systems Implementation Team
  - Management Processes, meetings
  - Implementation Team roles and responsibilities
  - Clearly Define Responsibilities
  - Systems Implementation Schedule
- Systems Integration Diagram
- Establishment of an Interface Control Program
  - Establish a System Architecture of vital and non-vital functions
  - Develop ICDs for tracking Open Interfaces
- Systems Installation and Testing
  - Inspections and Corrections
  - Factory Testing
  - Field Testing
  - Field Integration testing
  - Ready for systems integration testing review
  - Transition to Full Operations
- Systems Integration Tests and Evaluation criteria, verifying that Train Controls vital functions and integration to non-vital functions meets systems technical requirements.
- Operational Tests and Evaluation criteria, verifying that system meets operational performance requirements between Train Control systems and other systems.

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 812.1.1. Function

Revised as follows:

The sales and transaction data will be sent to the county's back office as soon as available, in an encrypted format that will be supplied to the county for processing.

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 812.1.2. MVFM Requirements

Revised as follows:

Functionality needs to include at a minimum the following:

N. **Provide audio output of messages and instructions to be ADA compliant.**
O. Contain a security and alarm system.
P. Be fully ADA compliant.
Q. Communicate over a network to send and receive data and commands with the ~~GenFare~~ Broward County's back office.

Security must include at the least:

O. Each MFVM shall be equipped with an alarm system ~~as described in Section 15.17~~ for indicating unauthorized intrusion, burglaries, and faults to the SCADA system.
P. While the outer doors are secured, the MFVM shall remain operational and undamaged after experiencing a kick, punch, or other impact resulting in a concentrated load of 400

pounds to one square inch to any part of the enclosure.

Q. Must provide all transaction and sales data in a secured manner to the county's back office.

Furthermore, the MFVM shall accept a transfer with the appropriate surcharge of either 50 cents or $1.00 depending in the time allotted to be used either as a credit/ debit, stored value, or cash payment.

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 812.1.5. Control Data System

Revised as follows:

~~**812.1.5 —Central Data System**~~

~~CDS capacity and performance shall meet the following criteria:~~

~~A. **The system shall have adequate capacity to retain data until redundant copies have been made and verified.**~~
~~B. System shall have at least 100% excess storage and processing capacity, to be demonstrated by actual system operation.~~
~~C. Support for a minimum of 500,000 daily data transactions.~~
~~D. The hardware shall support and be compatible with all proposed software, and effectively process all events and transactions from the devices that are being furnished and shall provide sufficient capacity to accommodate a 50% increase in the number of devices and transactions.~~
~~D. The Design-Build Firm shall provide redundant CDS installations at separate locations and provide immediate, automatic fail-over between sites to ensure the CDS remains available whenever unplanned and planned outages of the production CDS occur. The redundant operations shall enable continued operation of critical security and transaction functions without degradation that is obvious to the user.~~
~~D. In combination, the two (primary and backup/ disaster recovery) CDS sites shall satisfy the availability requirements defined in Section 2.~~
~~D. CDS hardware configuration shall support the project equipment supplied under the Contract as initially configured at start of revenue service, and additional locations and equipment as without requiring expansion of the CDS hardware.~~
~~D. The CDS shall perform data processing, report generation, system monitoring, data communications, database updates, and all other required functions at speeds and response times suitable for the required task. Users of system devices shall perceive no response or functional delays due to equipment interaction with the CDS, and CDS users shall not experience unreasonable delays.~~

~~The Design-Build Firm shall supply all necessary software applications and shall design and configure all application programs and the database for optimal system performance. The Design-Build Firm shall install all software necessary for system operation that successfully provides adherence to the specifications and performance requirements herein.~~

~~D. The Design-Build Firm shall provide licenses for all third party software and core software in accordance with requirements stated herein without additional charge for the life of the equipment.~~

D. CDS licenses and software shall permit no less than 50 concurrent users.
D. Any software specifically written for this project shall become the property of the agencies.
D. All user access to the CDS shall terminate, and users logged out, after an agency adjustable period of inactivity.
D. The CDS shall allow control of designated system operational functions from remote locations.
D. The CDS software shall control and monitor system logins, both for the system as a whole and its separate functions. All accesses shall be controlled, recorded, and reported to specific locations as identified within these requirements. Access privileges for individual users shall be settable by the system administrator. The CDS shall provide high-level security to fare tables, media layout functions and associated files to ensure protection from unauthorized access, tampering, or transmission.
D. As delivered and licensed to the appropriate agencies, the software and database structures for the CDS shall have the capacity to support multiple equipment types for the Wave Streetcar project but also provide future capacity to support multiple fare collection equipment types for all transit operations within Broward County.

Provide 1 Maintenance Test Station

All user interactions with the CDS shall utilize standard browser interfaces on any personal computer with authorized access to the network and the CDS. The CDS shall employ industry-standard and common user interfaces such as pull-down menus, context-sensitive selections, fill-in-the-blank input and query forms, and other such means typical of database systems. The Design-Build Firm shall utilize open standard protocols for communication among the CDS components and between the external users. No proprietary or custom-designed protocols shall be applied. External data communications shall be web-based. The Design-Build Firm shall utilize the available networks for communications between CDS and other components. The Design-Build Firm shall be responsible for identifying and specifying any upgrades to the network necessary to support communications between the CDS and other system components. The Design-Build Firm shall submit a document describing network requirements, including any upgrades that shall be required for System operation for procurement and installation.

The CDS shall employ a centralized relational database manager based on Oracle® version 11(g) or agency approved equivalent.

The CDS shall interface with systems, both internal and external to the agencies, including external interfaces with Legacy Systems, bankcard payment entities, The Design-Build Firm-supplied web portals, and other aspects of the system described herein. Interface with the CDS shall be limited through security and appropriate password authorization. Every interface with the CDS shall contain safeguards (software and/or hardware) to prevent unauthorized access to modification of data.

The system shall track failed transmissions and provide diagnostic messages that include the SNMP message(s), the number of times transmission was attempted, and the device(s) affected. The CDS shall retain this information for reporting, statistical analysis, audit, problem resolution, unit, and network reliability calculations. The system shall track failed transmissions and provide diagnostic messages that include the SNMP message(s), the number of times transmission was attempted, and the device(s) affected. The CDS shall retain this information for reporting, statistical analysis, audit, problem resolution, unit, and network reliability calculations.

Based on password/ user ID security, any authorized user shall be able to download to any single device, any group of devices, and all devices:

- D. Fare tables (one active, two pending)
- D. New and updated application (executable) software files
- D. Security access codes
- D. Configuration files
- D. Operational parameters
- D. New and updated patron display screen text
- D. New and updated operator display text and selections
- D. Any other information necessary for the operation and maintenance of the devices.

The CDS shall be designed so that data is backed up to allow full recovery of the system (operating system, application software, database, utilities, and all data and transaction files) with no loss of data integrity. The system shall provide for the automatic archiving at user programmable time periods of all transaction data and critical core software to secure media without user intervention.

The CDS shall redundantly store all configuration, event, and transaction data. Redundancy shall be maintained throughout the system. The CDS shall redundantly store all configuration, event, and transaction data. Redundancy shall be maintained throughout the system.

The CDS shall implement appropriate security measures that are continuously active to prevent unauthorized intrusion to the operating system, applications, parameters, and other software modules, fully support PCI requirements, and support password protection.

From time of initial implementation through Final Acceptance of the System, the system shall satisfy all requirements of the family of PCI standards (including PA-DSS) to ensure continuing PCI compliance. At the start of installation through the conclusion of the Software Warranty period as defined by the Contract, the Design-Build Firm shall utilize a PCI certification expert (*i.e.*, currently identified by the PCI Council as a "Qualified Security Assessor") to certify the compliance with the standards in force at the time of Final Acceptance of the System.

A commercially available program shall protect the CDS from software viruses and malware. All incoming files from all sources, including but not limited to the agencies network communications, bankcard payment entity interface, removable data storage media readers, and all other external sources, shall be scanned prior to transfer to any CDS data storage device and memory. The CDS shall automatically apply updated definitions for the protection software within 48 hours of the OEM's release of the update.

The fare tables are an extensive set of database relations/ tables that define the policies and prices for each transaction type. The fare table entries shall include all elements that are necessary to properly define the entry and other required sales information and functionality to meet the requirements. Current and future fare tables shall be available for downloading to any or all equipment. This shall include the ability to load fare tables to a device, prior to the table's effective date. In addition, the system shall be able to retain no less than 2 fare tables, not including development and test instances, which are available for deployment. Each of these fare tables, at a minimum, shall retain no less than 3 effective dates. In addition, the system shall incorporate an automated process to copy any existing fare table effective-date to a new effective-date.

~~Consistent with Para. C (below), each entry in the Customer Account Database shall include the following:~~

~~D. The CDS shall support classification of customer accounts into no less than 50 categories, such as:~~

~~0. General Public~~
~~0. Corporate Sponsor~~
~~0. University~~
~~0. Social Service Agency~~
~~0. Employee~~

~~D. Each entry in the customer account database shall include at minimum:~~

~~0. Account Number (unique for each account)~~
~~0. Name~~
~~0. Address~~
~~0. Primary Phone~~
~~0. Secondary Phone~~
~~0. Mobile Phone (for SMS text messages)~~
~~0. Email Address~~
~~0. User Login ID (unique for each account)~~
~~0. User Password~~
~~0. Secret Question & Answer (no less than 3 per account)~~
~~0. Preferred Payment Method (i.e., tokenized payment card information)~~
~~0. Preferred Communication Method (primary/ secondary phone, SMS, email)~~
~~0. Special Fare Permissions (none, Half, Employee, Concession)~~
~~0. Special Fare Authorization Information (*e.g.*, case number, Medicare)~~
~~0. Account Category~~
~~0. Preferred Language~~

~~D. For each data field in the Customer Account shall be able to designate whether the field is required or optional and whether the field is restricted to agency specific use only.~~
~~D. The CDS shall allow account holders and authorized users to create, modify, and delete customer accounts. All changes to Customer Account data, including the user making the change, shall be recorded in the CDS database.~~
~~D. Access to Customer Account data shall be strictly password controlled and limited to authorized users.~~
~~D. The CDS shall encrypt all Customer Account data stored in the CDS database.~~

~~The CDS shall store no payment method data (such as credit/ debit card numbers) covered by PCI DSS requirements in the Customer Account database. The CDS shall store no payment method data (such as credit/ debit card numbers) covered by PCI DSS requirements in the Customer Account database.~~

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 812.1.6. Central Data System Commissioning

Revised as follows:

~~Central Data System Commissioning~~

~~The Design-Build Firm shall design, supply, and install all CDS application software, database tables, configure the software as necessary, and test the installed CDS to confirm that it functions as required in this contract. The Design-Build Firm shall design, supply, and install all CDS hardware, configure as necessary, and test the installed hardware to confirm that it functions as required in this contract.~~

RFP Attachment H.2. Volume 2A Systems: Traction Power Supply and Distribution, Signal and Route Control, Fare Collection, Systems Integration, Section 813.2.2. Systems Integration Design

Revised as follows:

The Design-Build Firm's systems design integration shall:

A. Provide the Systems Integration Procedure which shall:

3. List all major system components (e.g., track, train control, traction power and OCS, communications, fare collection, electrical, mechanical, etc.) and their interfaces.

RFP Attachment H.3. Volume 2B Systems Communications, Section 840.1 General

Revised as follows:

The Communications Systems also includes the Central Control Systems located at the Operation Control Center and the Ravenswood Bus and Maintenance Facility described in section 840.3.

RFP Attachment H.3. Volume 2B Systems Communications, Section 840.2.7 Horizontal Cabling

Revised as follows:

Communications horizontal cabling shall include all cables connecting the Communication Nodes to individual devices associated with voice, data, and video.

A. Subsystems containing devices associated with voice, data, and video shall include, but not be limited to, the following:

3. Fare Collection System ~~- ticket vending machines (TVM);~~ Multi-Function Vending Machines (MFVMs)

RFP Attachment H.3. Volume 2B Systems Communications, Section 840.3.2 OCC System Requirements

Revised as follows:

A Backup Control Facility will be located at ~~Broward County Traffic Management Center (TMC) located at 2300 West Commercial Boulevard~~Ravenswood Bus and Maintenance Facility, 5201 Ravenswood Rd, Fort Lauderdale, FL~~, 33309.~~ 33312. Therefore, a Backup OCC System is required at the ~~TMC. Servers, LAN,~~ PF. The redundant OCC system equipment ~~cabinets, workstations and consoles~~and the redundant communication servers specified in other sections shall be ~~provided and~~ installed at ~~the TMC. For example, as clarification, the OCC system shall be comprised of redundant servers, two (2) sets of servers at the VMSF and two (2) sets of servers at the TMC for the backup OCC System~~this location.

The OCC System equipment required for both the VMSF and ~~TMC~~Ravenswood Bus and Maintenance Facility locations are as follows:

A. OCC Servers

1. The Design-Build Firm shall provide, install and test ~~two (2)~~ redundant OCC front end processors, FEP Server 1 (at VMSF) and FEP Server 2~~,~~ (at backup facility), which shall handle all communications to remote processors (PLCs, signal processors) located at stations, TPSS, and wayside facilities.
2. The Design-Build Firm shall provide, install and test ~~two (2)~~ redundant OCC application servers, APP Server 1 (at VMSF) and APP Server 2~~,~~ (at backup facility), which shall provide the required functions including CTC, Train Information System, Train Dispatching, Incident Reporting, SCADA, AMS, and SMM.
3. The Design-Build Firm shall provide, install and test two (2) redundant OCC relational database management system servers, RDBMS Server 1 and RDBMS Server 2 at the VMSF, and RDBMS Server 3 and RDBMS Server 4 at the backup facility, which shall handle all DCRS functions.
4. The Design-Build Firm shall provide, install and test one (1) storage array with redundant storage units and network interfaces to the RDBMS Servers at the VMSF and backup facilities.

D. Overview Display Wall (Required for the VMSF location only)

2. Each display screen shall be a 55-inch diagonal unit with a narrow bezel designed to be integrated into the Overview Display Wall and a resolution of 1920x1080 at 60 Hz or better for each screen.
3. The bezel gap between neighboring displays shall be 3.5 mm or less.

RFP Attachment H.3. Volume 2B Systems Communications, Section 840.3.2.1.5. Reliability

Revised as follows:

This definition shall be included in the Availability Plan submittal and shall describe how a failure within each category shall affect system availability and reliability.

A. Emergency Failures – An emergency failure is defined as any hardware or software failure that prevents the monitoring and control of revenue operations from the OCC and/or affects emergency response. The following describes emergency failures:

1. Loss of more than one OCC Workstation located within the OCC, System Manager's Office, Training Room, or Communications Room (server room) at the Vehicle Maintenance and Storage Facility (VMSF) and ~~Traffic Management Center (TMC);~~ Ravenswood Bus and Maintenance Facility;

RFP Attachment H.3. Volume 2B Systems Communications, Section 840.3.5.14 Supervisory Control and Data Acquisition System

Revised as follows:

Servers and workstations shall be provided at the OCC located within the Wave Streetcar Vehicle Maintenance and Storage Facility (VMSF) and the Backup OCC located within the ~~Broward County Traffic Management Center (TMC~~Ravenswood Bus and Maintenance Facility.

RFP Attachment H.3. Volume 2B Systems Communications, Section 840.4.1 General

Revised as follows:

The CTS shall provide data, video and voice communications between the Operations Control Center OCC and facilities including, but not limited to, the following:

A. Rail Signaling;
B. ~~Automatic Vehicle Location Monitoring and Control System (AVL);~~

RFP Attachment H.3. Volume 2B Systems Communications, Section 840.6.3.2.1.5. Passenger Information Signs

Revised as follows:

B. Display:

1. The PIS shall be capable of displaying text or graphic images on a screen of high intensity ~~amber~~ light emitting diodes (LED).
2. The PIS shall have the following characteristics:

a. Multiple font styles and character heights.
~~b. Minimum of two lines of text, with a minimum of 15 characters per line when the character height is 2.0 inches.~~
b. The display shall have minimum 3 lines of text at 64 characters per line. A custom message may occupy all 180 characters of the sign. Any message displayed on the PIS must be readable and viewable at any location on platform; maximum reading distance are 90 feet for 3" letters, 60 feet for 2" letters..
c. Automatic and manual display intensity (dimming) control with a minimum 64 levels of adjustment.
~~d. Monochrome amber – one LED per pixel.~~
d. Full color matrix.
e. LED viewing angle of 120 degrees.
f. Multiple display effects including flash, scroll, roll, and graphics.

RFP Attachment H.3. Volume 2B Systems Communications, Section 840.7.4.2.6.1. Functional Requirments

Revised as follows:

The NVRs shall provide scalable storage.

RFP Attachment H.4. Volume 3A Vehicle Maintenance and Storage Facility Building, Equipment, and Furnishings, Page 1 of 280

Revised as follows:

The Wave Streetcar project will pursue Envision Silver ~~(minimum)~~verification and LEED Silver ~~(minimum)~~ certification levels, as a minimum requirement defined in Attachment~~.~~ H.6 Volume 4 Sustainability. Related design and specifications shall be included in the project documents.

RFP Attachment H.4. Volume 3A Vehicle Maintenance and Storage Facility Building, Equipment, and Furnishings, Section 860.1.6. Reel Bank, GO

Revised as follows:

Equipment Identifier: ~~77007~~7710

RFP Attachment H.4. Volume 3A Vehicle Maintenance and Storage Facility Building, Equipment, and Furnishings, Section 860.6.3.19. Cart, Sanding

Revised as follows:

860.1.1.1 CART, SANDING

CART, SANDING, Equipment Identifier: 5909

Manufacturer make and model shall be submitted for review and acceptance.

RFP Attachment H.4. Volume 3A Vehicle Maintenance and Storage Facility Building, Equipment, and Furnishings, Section 860.6.3.19.2. Features/Performance/Construction

Revised as follows:

860.6.3.19.2. Features/Performance/Construction

The cart/ sanding shall include the following:

RFP Attachment H.4. Volume 3A Vehicle Maintenance and Storage Facility Building,

Equipment, and Furnishings, Section 860.6.4. Fabricated Equipment

Revised as follows:

Provide labor and materials for fabricated equipment, as indicated, in accordance with provisions of Contract Documents. Equipment items as listed below (by Equipment Identifier):

A. Rack, storage, stand, HVAC (Ref. 860.6.~~3.194~~.1)
B. Rack, storage, truck (Ref. 860.6.~~3.194~~.2)
C. Workbench, severe use, 6 feet (Ref. 860.6.~~3.194~~.3)

RFP Attachment H.4. Volume 3A Vehicle Maintenance and Storage Facility Building, Equipment, and Furnishings, Section 860.6.8.2. Quality Assurance

Revised as follows:

Manufacturer Qualifications:

A. Obtain roller shades through one source from a single manufacturer.
B. Minimum twenty (20) years experience in manufacturing products comparable to those ~~specified~~required in this section.

Installer Qualifications:

A. Installer trained and certified by manufacturer with a minimum of ten (10) years experience installing products comparable to those ~~specified~~required in this section.

RFP Attachment H.5., Volume 3B Vehicle Maintenance and Storage Facility Mechanical, Electrical, Plumbing and Fire-Protection, Section 880 VMSF MEP's

Revised as follows:

The Wave Streetcar project will pursue Envision Silver ~~(minimum)~~verification and LEED Silver ~~(minimum)~~ certification levels, as a minimum requirement defined in Attachment ~~_____~~ H.6 Volume 4 Sustainability. Related design and specifications shall be included in the project documents.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.1 General

Revised as follows:

The Design-Build Firm shall incorporate the requirements provided in the TRTC into the plans, specifications, and shop drawings submitted under this contract for review by the Department. ~~The Wave Streetcar project will pursue Envision Silver (minimum) and LEED Silver (minimum) certification levels as defined in Attachment _____. Related design and specifications shall be included in the project documents.~~

The Wave Streetcar project will pursue Envision Silver verification and LEED Silver certification levels, as a minimum requirement defined in Attachment H.6 Volume 4 Sustainability. Related design and

specifications shall be included in the project documents. The Project is currently registered with the Institute for Sustainable Infrastructure (ISI) and U.S. Green Building Council (USGBC). All Envision verification fees and LEED certification fees are to be included in the Design-Build team's proposal and project costs.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.2.1 General

Revised as follows:

It is the goal of this Project, as much as is feasible and practical; to construct a "green" infrastructure project that meets the Institute for Sustainable Infrastructure's (ISI) Envision™ Rating System version as follows:

A. ENVISION version 2.0
B. Rating Goal: Minimum Silver ~~certification~~verification level
C. Quality Assurance: The Department has elected to pursue Envision™ ~~certification~~verification for the Project, with a goal of minimum Silver ~~certification~~verification level.

Envision ~~certification~~verification is subject to various and possibly contradictory interpretations and achieving an Envision ~~certification~~verification involves factors beyond the Engineer/Architect's control.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.2.4 Contractor Responsibilities

Revised as follows:

The Department has elected to pursue Envision™ ~~certification~~verification for the Project. The Design-Build Firm's Envision™ Project Manager and team shall coordinate, manage and document Envision™ credits pursued by the Project. The Department's identified credits for achievement are included in the ISI Envision 2.0 credits list included in ~~Appendix – Envision™ Documents~~Reference Document 1.6.

The Design-Build Firm shall provide any documentation for ~~these~~any credits as identified in the Envision™ Guidance Manual that is related to the Design-Build Firm's scope of Work. If the Design-Build Firm is not able to meet the criteria and documentation requirements, the Design-Build Firm shall contact the Department for direction. The Project is currently registered with ISI Envision 2.0 rating system.

A. Envision™ Training – The Design-Build Firm's Envision™ Project Manager, Design Task Leads, and team involved in Envision™ coordination, management and documentation shall attend ~~an~~a 1 day (8-hour) project specific, Envision™ Training Session prior to preconstruction meeting.
B. ENVISION Action Plan:

    1. ENVISION Action Plan shall be submitted ~~within 30 days after notice to proceed.~~with the Pre-60% submittal.

C. ENVISION Documentation Electronic File Structure

3. The Envision documentation shall include the ENVISION Credit Checklist as furnished in ~~Appendix _____~~, Reference Document 1.6, applicable product data for material selection, final calculations, certifications for construction practices, procurement data, cumulative calculations and other items as identified in the approved ENVISION Action Plan and Envision Guidance Manual.
4. Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with environmental action plans for the following:

    a. Waste reduction progress reports complying with ~~Section 01 74 19 –~~890.3 Construction Waste Management.

5. Some ENVISION credits are inherent in the design provided and require no further submittal or documentation.

    d. Some ENVISION credits involve material selection ~~and are identified within the technical sections.~~.

D. ENVISION Project Management and Coordination: the Design-Build Firm shall identify and assign one person on Design-Build Firm's staff to be the ENVISION Project Manager who shall be responsible for ENVISION issues compliance and coordination.

1. Responsibilities: Carefully review Contract Documents for ENVISION issues, coordinate work of trades, subcontractors, and suppliers; instruct workers relating to ENVISION issues; and oversee Project ENVISION Goals.

    b. Provide records ~~in secure FTP site location, available~~ for review by Department.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.2.5 Administrative Requirements

Revised as follows:

Respond to questions and requests from Department and ~~and~~ the Institute for Sustainable Infrastructure (ISI) regarding ENVISION credits that are the responsibility of the Design-Build Firm, that depend on product selection or product qualities, or that depend on the Design-Build Firm 's procedures until the ISI has made its determination on the project's ENVISION ~~certification~~verification application.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.2.7 Completion of Documentation

Revised as follows:

The Design-Build Firm shall keep the ~~Project Team~~Department apprised of progress during each step of the documentation completion process.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.2.8 Envision Checklists

Revised as follows:

ENVISION credits as identified in ENVISION Credits Spreadsheet~~, Attachment _____ are contract requirements and shall be incorporated~~, Reference Document 1.6 are included as guidance related to levels of achievement of achievable credits and shall be used by the Design-Build Firm to determine targeted achievement levels and credit achievement in full compliance with the ENVISION Guidance Manual.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.3.6 Construction Waste Management Plan

Revised as follows:

Waste Identification: Indicate anticipated types and quantities of ~~[demolition] [landdemolitionland-clearing] [and] [construction]~~ waste generated by the Work. Include estimated quantities and assumptions for estimates.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.3.7 Construction Waste Management Plan Implementation

Revised as follows:

Implement waste management plan as accepted by the Department.

E. Land-clearing debris is not considered construction, demolition, or renovation waste that can contribute to waste diversion for LEED certification, but is applicable to some Resource Allocation credits within Envision.

Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

A. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
B. Comply with environmental ~~controls specified in Division 01 Section 01 50 00 Temporary Facilities, Construction Controls and Facilities~~requirements.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.4.1 General

Revised as follows:

Project is designed to sustainable rating minimum requirement of Silver certification level in accordance with LEED Rating System for New Construction (NC) Version 3.0~~.~~ and is currently registered with USGBC. Project team may pursue LEED v4 as an option.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.4.4 Description

Revised as follows:

~~Table below summarizes~~ LEED ~~prerequisites and~~ credits ~~required for project implementation~~identified in the LEED Certification Checklist, Reference Document 1.6 are included as guidance related to levels of achievement of achievable credits and shall be used by the Design-Build Firm to determine targeted achievement levels and ~~locates~~credit achievement in full compliance with the LEED Guidance Manual. Specific requirements to meet LEED criteria ~~addressed~~shall be included in technical specifications ~~and~~, General Conditions~~.~~

~~Where reference indicates "Design" criteria, Prerequisites or Credits shall be provided in~~ , and Contract Documents.

A. The Design-Build ~~Firmis~~Firm is responsible for ensuring LEED implementation is not modified or omitted through substitutions or proposed alternates to design without prior approval of ~~Architect and Owner~~the Department.

No variations or substitutions to LEED credits are allowed without written consent from ~~Owner's Representative and Owner~~the Department.

~~. Should issues arise in meeting requirements of LEED credit identified for this project in attached LEED Checklist, [Design-Build Firm] [Construction Manager] bring to attention of Owner and Owner's Representative.~~

~~. In case of conflict between requirements defined in this Section and requirements found within the technical submission, this Section shall take precedence.~~

Respond to questions and requests from ~~Owner's Representative~~the Department and GBCI regarding LEED credits that are responsibility of the Design-Build Firm and depend on product selection or product qualities, or that depend on the Design-Build Firm's procedures until determination is received by GBCI regarding project's LEED certification application.

Complete and upload LEED Online forms and required backup documentation for credits that are assigned to the Design-Build Firm.

~~LEED for New Construction Prerequisites and Credits~~		~~Design/ Specification Section~~
~~Sustainable Sites~~		
~~Prerequisite 1~~	~~Construction Activity Pollution Prevention~~	~~Civil~~
~~Credit 1~~	~~Site Selection~~	~~Design~~
~~Credit 2~~	~~Development Density and Community Connectivity~~	~~Design~~
~~Credit 3~~	~~Brownfield Redevelopment~~	~~Design~~
~~Credit 4.1~~	~~Alternative Transportation: Public Transportation Access~~	~~Design~~
~~Credit 4.2~~	~~Alternative Transportation: Bicycle Storage and Changing Rooms~~	~~Design~~
~~Credit 4.3~~	~~Alternative Transportation: Low-Emitting and Fuel Efficient Vehicles~~	~~Design~~
~~Credit 4.4~~	~~Alternative Transportation: Parking Capacity~~	~~Design~~
~~Credit 5.1~~	~~Site Development: Protect or Restore Habitat~~	~~Design~~
~~Credit 5.2~~	~~Site Development: Maximize Open Space~~	~~Design~~
~~Credit 6.1~~	~~Stormwater Design, Quantity Control~~	~~Design~~
~~Credit 6.2~~	~~Stormwater Design: Quality Control~~	~~Design~~

Credit 7.1	Heat Island Effect: Non-Roof	Design
Credit 7.2	Heat Island Effect: Roof	
Credit 8	Light Pollution Reduction	Design

Water Efficiency

Prerequisite 1	Water Use Reduction	Design
Credit 1	Water Efficient Landscaping	Design
Credit 2	Innovative Wastewater Technologies	Design
Credit 3	Water Use Reduction	Design

Energy and Atmosphere

Prerequisite 1	Fundamental Building Commissioning	Design
Prerequisite 2	Minimum Energy Performance	Design
Prerequisite 3	Fundamental Refrigerant Management	Design
Credit 1	Optimize Energy Performance	Design
Credit 2	On-Site Renewable Energy	Design
Credit 3	Enhanced Commissioning	Design
Credit 4	Enhanced Refrigerant Management	Design
Credit 5	Measurement and Verification	Design
Credit 6	Green Power	Design

Materials and Resources

Prerequisite 1	Storage and Collection of Recyclables	Design
Credit 1.1	Building Reuse: Maintain Existing Walls, Floors and Roofs	Design
Credit 1.2	Building Reuse: Maintain Interior Non-Structural Elements	
Credit 2	Construction Waste Management	01 74 19
Credit 3	Materials Reuse	
Credit 4	Recycled Content	
Credit 5	Regional Materials	
Credit 6	Rapidly Renewable Materials	
Credit 7	Certified Wood	

Indoor Environmental Quality

Prerequisite 1	Minimum IAQ Performance	Design
Prerequisite 2	Environmental Tobacco Smoke Control	Design
Credit 1	Outdoor Air Delivery Monitoring	Design
Credit 2	Increased Ventilation	Design
Credit 3.1	Construction IAQ Management Plan: During Construction	01 81 21
Credit 3.2	Construction IAQ Management Plan: Before Occupancy	01 81 22
Credit 4.1	Low Emitting Materials: Sealants and Adhesives	
Credit 4.2	Low Emitting Materials: Paints and Coatings	
Credit 4.3	Low Emitting Materials: Flooring Systems	
Credit 4.4	Low Emitting Materials: Composite Wood and Agrifiber Products	
Credit 5	Indoor Chemical and Pollutant Source Control	Design
Credit 6.1	Controllability of Systems: Lighting	Design
Credit 6.2	Controllability of Systems: Thermal Comfort	Design
Credit 7.1	Thermal Comfort: Design	Design
Credit 7.2	Thermal Comfort: Verification	Design
Credit 8.1	Daylight and Views: Daylight	Design
Credit 8.2	Daylight and Views: Views	Design

~~**Innovation in Design (ID) and Regional Priority Credits (RCP)**~~

~~ID Credit 1.1~~	~~[ID Credit]~~	~~[Reference]~~
~~ID Credit 1.2~~	~~[ID Credit]~~	~~[Reference]~~
~~ID Credit 1.3~~	~~[ID Credit]~~	~~[Reference]~~
~~ID Credit 1.4~~	~~[ID Credit]~~	~~[Reference]~~
~~ID Credit 1.5~~	~~[ID Credit]~~	~~[Reference]~~
~~ID Credit 2~~	~~LEED Accredited Professional~~	~~Design~~
~~RPC Credit 1.1~~	~~[Determined by zip code – up to 4 of 6]~~	~~[Reference]~~
~~RPC Credit 1.2~~	~~[Determined by zip code – up to 4 of 6]~~	~~[Reference]~~
~~RPC Credit 1.3~~	~~[Determined by zip code – up to 4 of 6]~~	~~[Reference]~~
~~RPC Credit 1.4~~	~~[Determined by zip code – up to 4 of 6]~~	~~[Reference]~~

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.4.5 Contractor's Responsibilities

Revised as follows:

LEED Project Management and Coordination:

A. Prior to Preconstruction Conference, identify and assign one person on the Design-Build Firm's staff to be LEED Project Manager responsible for LEED issues, compliance and coordination.
C. Responsibilities:

3. Provide records in secure jobsite location, available for review by ~~Owner's Representative or Owner~~the Department.
4. Provide Action Plans, Progress Reports and final documentation according to specified requirements and schedule.
5. Assist ~~Owner's Representative and Owner~~the Department in preparation of submission to GBCI.

LEED Implementation Plan:

A. Submit LEED Implementation Plan ~~within 30] days after notice to proceed.~~with Pre-60% submittal..

LEED Records:

A. Maintain comprehensive LEED file ~~[~~on-site, electronically~~]~~ with ~~verification~~certification documentation for each LEED construction credit for which responsible.

5. File is to be made available to ~~Owner or Owner's Representative~~the Department upon request throughout duration of project.

B. Some LEED credits are inherent in design provided and require no additional submittals or documentation.

1. Notify ~~Owner's Representative~~the Department in advance of selection of specified material or use of permissible construction methods resulting in deviation from LEED

designer intent.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.4.6 Submittals

Revised as follows:

LEED Implementation Plan:

A. Submit the following applicable preconstruction documents ~~within [30] days of Notice to Proceed~~with the Pre-60% submittal.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.4.7 LEED Calculations

Revised as follows:

Incorporate and document LEED credits as identified in LEED credit checklist as required by Contract Documents and in compliance with applicable LEED Reference Guide.

~~LEED credits not identified elsewhere in the Contract documents and those requiring further instruction are specified below.~~

~~A. Refer to applicable LEED Reference Guide for additional definitions and requirements.~~

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.4.9 Coordination Meetings

Revised as follows:

Schedule minimum of ~~[~~three~~]~~ onsite LEED kick-off and coordination meetings.

A. LEED General Design-Build Firm Workshop ~~held within 30] days of Notice to Proceed.~~, Kick-off meeting..

Meetings shall be attended by: the Design-Build Firm's designated individual responsible for LEED documentation and ~~Owner's representative~~the Department.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.4.10 Access to LEED Online

Revised as follows:

Notify ~~Owner's Representative and Owner~~the Department in writing and provide required qualifications for proposed change to assigned LEED personnel.

Project Team LEED Administrator shall provide website access to appointed LEED representative for the Design-Build Firm.

A. Project Team LEED Administrator shall forward e-mail invitation to the Design-Build Firm's representative via LEED Online.

1. Recipient shall accept invitation, be provided access to project LEED website, and access assigned credits.

B. The Design-Build Firm shall be responsible for logging on and for confirming access to assigned credits ~~within first 30 days of construction~~.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.4.11 Completion of LEED Online Forms and Uploads

Revised as follows:

When LEED requirements associated with the Design-Build Firm's assigned credits have been met, the Design-Build Firm ~~representative~~ shall be responsible for, but not limited to, completing form and uploading required information to project LEED website.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.5.4 Preconstruction Conference

Revised as follows:

After award of Contract and prior to the commencement of the Work, schedule and conduct meeting with ~~Owner and Owner's Representative~~the Department to discuss the proposed IAQ Management Plan and to develop agreement relative to details of IAQ Management During Construction procedures.

RFP Attachment H.6. Volume 4 Sustainability, Sectin 890.5.6 Construction IAQ Mangement

Revised as follows:

Source Control:

A. Preconditioning:

4. Do not ventilate within limits of Work unless otherwise accepted by ~~Owner's Representative~~the Department.

RFP Attachment L, Streetcar Regulations Plan

Revised as follows:

Updated permitting flowchart, track access permitting envelope map, planting guidelines for streetcar alignment, miscellaneous changes.

RFP Attachment O.2., Contract Data Requirements List (CDRL) Submittals (DRAFT)

Revised as follows:

Document completely revised

RFP Attachment Q, U.S. DOT Federal Transit Administration Contract Requirements

Revised as follows:

Document completely revised

RFP Attachment T, Draft Vehicle Specifications

Revised as follows:

Minor edits

RFP Attachment EE, Construction Segments Map

Revised as follows:

New attachment

RFP Reference Document 1.3., Construction Segments Map

Revised as follows:

Reference document deleted.

RFP Reference Document 1.5., LEED Certification and Envision Verification Checklists

Revised as follows:

Reference document revised

RFP Reference Document 1.8, TIGER Grant Award

Revised as follows:

New Reference document

RFP Reference Document 1.9, 2015-10-07 Hydrant Flow Test 1801 SW 1st Ave

Revised as follows:

New Reference document

RFP Reference Document 1.10, 2016-04-25 ADA Sidewalks Evaluation Memo and Exhibits

Revised as follows:

New Reference document

RFP Reference Document 2.1, Concept Design Drawings

Revised as follows:

New Reference documents as follows:

2016-06-15 Wave FPL Relocation Plans
2016-06-15 Wave Gas Relocation Plans
2016-06-15 Wave Telecom Relocation Plans
2016-06-30 Wave Utility Relocation Plans Consolidated

RFP Reference Document 8.2.1., 1994-11-21 FDOT Bridge ID 864071 Scour Evaluation Report Phase 1

Revised as follows:

New Reference document

RFP Reference Document 8.2.2., 2012-07-11 FDOT Bridge ID 864071 Hydraulic Analysis Report

Revised as follows:

New Reference document

RFP Reference Document 8.2.3., 2014-04-07 FDOT Bridge ID 864071 Stage 5 Bridge Priority and Phase 4 Countermeasures

Revised as follows:

New Reference document

RFP Reference Document 8.2.4., 2009-06-29 FDOT Bridge ID 864071 3rd Ave Bridge Inspection Report

Revised as follows:

New Reference document

RFP Reference Document 8.2.5., 2012-06-26 FDOT Bridge ID 864071 3rd Ave Bridge Inspection Report

Revised as follows:

New Reference document

RFP Reference Document 8.2.7., 2014-06-26 FDOT Bridge ID 864071 3rd Ave Bridge Inspection Report

Revised as follows:

New Reference document

RFP Reference Document 9.1.8, 1957-12 SE 3rd Avenue Bridge over New River Part 1 of 3

Revised as follows:

New Reference document

RFP Reference Document 9.1.9, 1957-12 SE 3rd Avenue Bridge over New River Part 2 of 3

Revised as follows:

New Reference document

RFP Reference Document 9.1.10, 1958-10 SE 3rd Avenue Bridge over New River Part 3 of 3

Revised as follows:

New Reference document

RFP Reference Document 9.1.11, 1990-12-29 New River Seawall Reinforcement on North Bank

Revised as follows:

New Reference document

RFP Reference Document 9.1.12, 1995-02-27 Bulkhead Rehabilitation Riverwalk Area 5

Revised as follows:

New Reference document

RFP Reference Document 10.6.18, FPL As-Builts with notes 2013-06-13

Revised as follows:

New Reference document
