

State of Florida
Department of Transportation



DISTRICT SIX
Exhibit A
Scope of Services

Final – 04/15/2014

SunGuide Transportation Management Center (TMC)
Control Room Retrofit Project

Financial Project Number(s): 434834-1-92-01 Proposal/Contract Number: RFP-DOT-13/14-6138

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

TABLE OF CONTENTS

List of Acronyms	4
List of Definitions	5
List of Definitions	5
Section 1 – Project Objectives, Overview and Duration	6
1.1 Introduction	6
1.2 Project Objectives	6
1.3 Project Overview	6
1.4 Contract Duration	9
Section 2 – General Requirements	10
2.1 Proposer Responsibility	10
2.2 Department Responsibility	10
2.3 Governing Regulations.....	10
2.4 Value Added Benefits.....	11
2.5 Verification of Existing Conditions.....	11
2.6 Transition Plan	12
2.7 Project Schedule	14
2.8 Submittals	15
2.8.1 Design Plans, Design Documentation and Specifications	15
2.8.2 Material and Equipment List.....	18
2.8.3 Shop Drawings.....	18
2.9 Key Personnel/Staffing.....	18
2.10 Meetings and Progress Reporting.....	18
2.11 Quality Management Plan (QMP)	19
2.11.1 Design	19
2.11.2 Construction	19
2.12 Computer Automation	19
2.13 Testing, Integration and Acceptance Requirements	20
2.13.1 Material Testing.....	20
2.13.2 Factory Acceptance Test (FAT)	20
2.13.3 Project Acceptance Test Period.....	20
2.13.4 Final Acceptance.....	21
2.14 Warranty Services.....	21
2.15 Repair of Damage to Existing Facility or Equipment.....	21
2.16 Component Manual Documentation Requirements	22
2.17 Training Requirements.....	22
2.18 Partial Use Prior to Project Acceptance	23
2.19 Coordination with the Department.....	23
2.20 Rules and Regulations	23
2.21 Sub-Contractor(s)/Sub-Consultant(s).....	24
2.22 Communications	24
2.23 Safety and Security	24
2.24 Timely Completion of Service	25
2.25 Property of the Department.....	26
2.26 Non-compliance	26
2.27 Suspension of Work	27
2.28 Notifications.....	27
2.29 Project Records.....	27
2.30 Documentation of Uncompleted Work	27
2.31 Inspections	27
2.32 Additional Work	28

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

2.33	Award of the Contract	28
2.34	Schedule of Values	29
2.35	Public Records/Florida Statute Chapter 119 Guidance.....	30
Section 3 – Technical Requirements		30
3.1	Monitors	30
3.1.1	24” Computer Display Monitors.....	31
3.1.2	32” Computer Display Monitors.....	31
3.1.3	65” Display Monitors (Flat Screen TV)	32
3.2	Control Center Keyboard	33
3.3	SLERS Remote Base Controller	33
Section 4 – Appendices		35
- Video Wall Display Cubes (Mitsubishi Series VS-67PE75L Model) Information		
- Specifications		
- 90% Plans		
- Division I General Requirements and Covenants		
- Control Room Finish Rendering		

LIST OF TABLES

TABLE 1 - PROJECT SCHEDULE	15
---	-----------

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

List of Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
CADD	Computer Aided Design and Drafting
CAP	Community Awareness Program
CD	Compact Disk
CEI	Construction Engineering and Inspection
CPAM	Construction Project Administration Manual
CPM	Critical Path Method
DBE	Disadvantaged Business Enterprise
EEO	Equal Employment Opportunity
EFB	Electronic Field Book
EOR	Engineer of Record
FBC	Florida Building Code
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
ITS	Intelligent Transportation System
JGS	Job Guide Schedule
LED	Light Emitting Diode
MUTCD	Manual on Uniform Traffic Control Devices
NEC	National Electric Code
NTP	Notice to Proceed
OSHA	Occupational Safety and Health Administration
PCT	Proposed Contract Time
PPM	Plans Preparation Manual
QA	Quality Assurance
QC	Quality Control
QMP	Quality Management Plan
RFP	Request for Proposal
SLERS	Statewide Law Enforcement Radio System
SXGA+	Super Extended Graphics Array Plus
UL	Underwriters Laboratories

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

List of Definitions

- **Contract**

All documents, exhibits and attachments specifying services to be performed/provided by the Proposer, Lump Sum Amounts Proposed for these services and how the Proposer shall be compensated for these services, executed by both the Proposer and the Department.
- **Proposer**

The Proposer retained by the Department to perform the Contractual Services described in this Contract.
- **Department**

State of Florida Department of Transportation, District Six Traffic Operations Office, Intelligent Transportation System Unit.
- **Notice to Proceed**

A letter issued by the Department authorizing the start of the Contract. There shall be one (1) Notice to Proceed issued for the initial Contract. For any additional work that may be added to this Contract by Supplemental Agreement an additional Notice to Proceed shall be issued. If Letters of Authorization/Task Work Orders/Purchase Orders are required under this Contract, then the Proposer shall not commence work until receipt of the Letter of Authorization/Task Work Order/Purchase Order from the Department or the Department's Project Manager (or his/her designee).
- **Department Observed Holidays**

The following holidays are observed by the Department. If any of these holidays fall on a Saturday, the preceding Friday is observed. If any fall on a Sunday, the following Monday is observed.

 - New Year's Day
 - Martin Luther King Day
 - Memorial Day
 - Independence Day
 - Labor Day
 - Veteran's Day
 - Thanksgiving day and the following day
 - Christmas Day

Be advised that some of these holidays are date specific while others are day or week specific, and as such, may vary from year to year.
- **Business Hours**

Typically 8:00 A.M. through 5:00 P.M., Monday through Friday in which the Department conducts routine business. However, the SunGuide TMC is operational twenty four (24) hours per day, seven (7) days a week, three hundred and sixty five (365) days a year.
- **Non-Business Hours**

Typically holidays, weekends, and night time frames in which the Department is closed to conducting routine business

Section 1 – Project Objectives, Overview and Duration

1.1 Introduction

It is the intent of the Department to select a qualified Proposer to retrofit the existing TMC Control Room as per the project requirements specified within this Contract documents. The qualified Proposer shall provide design, installation, integration, testing, documentation, training and warranty services for the SunGuide Transportation Management Center (TMC) Control Room Retrofit Project.

1.2 Project Objectives

The SunGuide TMC is a regional command center that houses the Department's Intelligent Transportation System (ITS) Operations staff who monitor traffic, disseminate traveler information and dispatch incident management services twenty-four (24) hours per day, seven (7) days a week, three hundred and sixty five (365) days a year. The main objectives of the Control Room retrofit are:

- Meet the Department's current operational needs in terms of replacing the outdated equipment and consoles;
- Support additional TMC operations growth in preparation of the on-going and upcoming Express Lanes projects by reorganizing the floor plan and relocating the video wall to add additional workstation consoles;

1.3 Project Overview

The Proposer shall provide the following services as described in the Contract documents:

- Finalize the TMC Control Room reconfiguration design and develop final design documentation required for Project construction (100% plans, sign and sealed plans, Release For Construction (RFC) plans, shop drawings, design calculations, transition plan, etc.) based on the 90% plans and specifications provided with the Contract documents;
- Execute a two-staged transition plan to accomplish a smooth transition with minimum disruptions to the existing TMC Operations staff, systems and equipment during Project construction phase;
- Obtain all necessary permits to perform the work;
- Remove and dispose the existing workstation consoles;
- Furnish and install new workstation consoles and chairs – eighteen (18) Response model and six (6) Strategy model;
- Reuse and install seven (7) existing Statewide Law Enforcement Radio System (SLERS) radio remotes, pedals, cabling and other ancillary equipment for the new workstations consoles;
- Furnish and install eight (8) new SLERS radio remotes, pedals, cabling and other ancillary equipment for the remaining new workstations consoles;
- Remove and salvage of existing workstation computer equipment to the Department for reuse;
- Furnish and install new workstation computer equipment consisting of one hundred and sixty three (163) monitors (2 units of 65" size monitors; 10 units of 32" size monitors; 151 units of 24" size monitors) , twenty four (24) central control keyboards, cabling and other peripherals;
- Furnish and install wall mount monitors, cables to the CPUs (location to be determined during the design process) and mounting brackets;

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

- Remove and dispose existing carpet tiles in the Control Room and offices adjacent to the Control Room;
- Furnish and install new carpet tiles in the Control Room and offices adjacent to the Control Room;
- Remove and dispose existing lighting fixtures;
- Furnish and install new indirect/direct light fixtures, and task lighting into new consoles;
- Evaluate and upgrade existing power and back-up UPS capabilities to support new work elements including the video wall relocation;
- Furnish and install all necessary electrical components e.g. power outlets, low voltage cabling, conduit raceway system, etc., necessary to support the new work elements including the video wall relocation;
- Demolish existing wall surrounding the video wall display cubes and remove floor finish in the equipment room behind the video wall display cubes to facilitate the relocation of the video wall display cubes;
- Disassemble and relocate the existing video wall display cubes and support structure;
- Furnish and install all mounting hardware and support structure components necessary to add an additional row on the top consisting of seven (7) new video wall display cubes;
- Construct new wall with acoustical wall tile and vinyl base around the relocated video wall;
- Construct new soffit;
- Extend the cable trench and provide new conduits;
- Construct the floor finish behind the relocated video wall;
- Furnish and install one (1) additional row of seven (7) sixty-seven (67) inches diagonal screen size video wall rear access cubes with cross-lenticular screens. The new video wall cubes shall be from same manufacturer make and model as the existing video wall display cubes. The existing video wall display cubes are Mitsubishi VS-67PE75L model (see Appendices for a copy of the manufacturer specifications). The Proposer shall procure the new video wall display cubes within thirty (30) days of receiving the Notice to Proceed (NTP) from the Department;
- Furnish and install new fiber optic based DVI cables for connecting the video wall display cubes (all 28 cubes) with the existing video wall controller system located in the TMC server room using the cable trench located underneath the control room;
- Remove and dispose existing video wall cables;
- Furnish and install all ancillary communications and power cabling as necessary to make the video wall operational;
- Integrate and configure the proposed video wall display cubes with the existing video wall controller system and with existing video wall display cubes to ensure a seamless video wall system;
- Demonstrate that the new video wall display cubes are fully functional and operational and seek approval from the Department with respect to the quality of image and graphics displayed on the system;
- Perform all required fabrication work including final fit and finish as needed for the installation of the video wall display cubes. Perform all necessary aesthetic work as

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

necessary to ensure that the SunGuide TMC video wall is restored to original condition or better condition, including but not limited to dry wall construction, painting, flooring, carpeting, fabric based facade work that matches with the existing video wall decor, etc. Any damages to the existing FDOT equipment or facility as a result of the Proposer's Work shall be repaired by the Proposer at no additional cost to the Department;

- Modify existing automatic sprinkler protection to allow for additional sprinkler coverage for the Control Room;
- Furnish and install additional fire protection mechanisms/features e.g. fire sprinklers and others to meet all applicable standards and guidelines;
- Evaluate, test and balance the HVAC systems for the temporary Control Rooms during the transition period, Control Room, equipment room, and UPS room upon completion of construction phase of the Project;
- Provide spare parts - one complete (1) projection module (engine without the housing) for the video wall display cubes;
- Perform testing and training using manufacturer trained technicians; and
- Provide warranty services.

Note to the Proposer on Video Wall Display Cubes: As part of the SunGuide TMC Video Wall Replacement Phase 1 Project, the Department contracted with Audio Visual Innovations (AVI) Inc. to install the existing video display wall cubes and support structure. Through the SunGuide TMC Video Wall Replacement Phase 1 Project, the Department also purchased a full system warranty on the existing video wall display cubes and support structure from AVI, Inc. which expires on May 7, 2016. The Proposer shall note that the current full system warranty will be voided if the relocation of the video wall work is performed by anyone other than AVI, Inc. The Proposer shall retain AVI, Inc. for the relocation, expansion and integration of the video wall display cubes to ensure that the current full system warranty is valid. Below is the contact information for AVI Inc.:

Patrick A. Henry
6301 Benjamin Road, Suite 101
Tampa, Florida 33634
Email: Patrick.henry@avispl.com
Phone: (678) 567-2753
Fax: (800) 244-8630

Note to the Proposer on SLERS Radios: The SunGuide TMC is part of the SLERS and operates over two channels using five base radios. The base radios are located in the IT Computer Room. The remotes connect by "voice over internet" (VoIP) to the base units. The SLERS radios are M7300 Control Stations utilizing a CS-7000 Desktop stations going to IDA (IP) Remotes (MDL 431-24-66M). The existing radio system was installed and is maintained by Harris Corporation and their local representative, Communications International, Inc. (CII), with a full system warranty that expires July 2, 2015. The Proposer shall note that the current full system warranty will be voided if the relocation of the SLERS remotes/radio system is performed by anyone other than Harris Corporation or their representative. The Proposer shall retain Harris Corporation for the relocation, expansion, integration and programming of the SLERS remotes to ensure that the current full system warranty is valid. Below is the contact information for Harris Corporation:

Piroscka Ventura
8323 NW 12 Street, Suite 200
Doral, Florida 33126

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

Email: pventu01@harris.com

Phone: 305-775-0714

The Proposer shall be responsible for complying with all applicable local ordinances, codes, and regulations. The Proposer shall acquire and properly display, without cost to the Department, all necessary construction permits and/or Licenses. All work shall meet the National Electric Code (NEC) and Florida Building Code (FBC).

The Proposer shall secure all the permits, make arrangements for all the connections, etc., on relevant issues that will be required for designing, installing and operating the Project elements. Based on preliminary research, it is anticipated that the Proposer shall need to obtain permits from the City of Sweetwater, Miami-Dade County and State Fire Marshall's office for this Project. This information is provided as a reference only and the Proposer is responsible to perform independent permit needs assessment and procure permits as necessary based on the work described in this Scope of Services document. The Proposer shall provide all required documentation and coordinate with all agencies as necessary to obtain the required permits to complete the Project. The Proposer shall be responsible for all permit application fees for this Project. The Proposer shall ensure that adequate permit review and approval time from all permit review agencies are allocated in the Project schedule.

The Proposer shall be responsible for performing all electrical related work for the installation of the Project elements. The Proposer shall make any required changes, additions or upgrades to the existing electrical panels, wiring, outlets and connectors that the Proposer may deem necessary to adequately power all of the equipment proposed for this Project. Any changes and/or additions must be formally submitted to the Department for approval in the form of proposed plan sheets, signed and sealed by an Electrical Engineer registered in the State of Florida. Any changes to the electrical building wiring shall be in accordance with all applicable local codes/permits and comply with NEC. The Proposer shall design and install each Project element to protect personnel from exposure to high voltage during equipment construction, operation, and maintenance.

The Proposer shall be responsible for all tools and equipment necessary for accessing, removing and installing Project elements. These include hydraulic lift platforms, ladders or other tools necessary to perform the jobs described in the Contract documents.

All work persons employed by the Proposer for performing work on this Project, shall be skilled in the relevant aspect of installation, operation, maintenance, and repair of the equipment used on this Project by evidence of their experience and factory or manufacturer certifications. No part or attachment shall be substituted or applied contrary to the manufacturer's recommendations and standard practices.

The Proposer shall be responsible for the storage of the new Project elements prior to the installation. The SunGuide TMC building shall not be used for storage of the new Project elements prior to installation. The Proposer shall remove and dispose the existing workstation consoles, carpeting and other elements that are replaced by the Project within twenty-four (24) hours from removing from the TMC.

The Proposer shall ensure that all doors and exits are accessible at all times during the construction and installation process.

The Proposer shall ensure that an aesthetic appearance is attained after the installation of the Project elements. The Proposer shall restore all disturbed areas per the Project requirements. This includes, but is not limited to dry wall construction, painting, flooring, carpeting, fabric based facade work that matches with the existing control room decor, furniture, lighting, etc.

The Department shall be the final authority having jurisdiction regarding issues of structural integrity and aesthetic appearance.

1.4 Contract Duration

The Department has established a Contract Duration of 300 calendar days for the subject Project

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

from the Notice to Proceed issued by the Department. **The official Proposed Contract Time will be the one submitted with the Technical Proposal.**

Section 2 – General Requirements

2.1 Proposer Responsibility

The Proposer shall be responsible for design, preparation of all documentation related to the acquisition of all permits, demolition, construction and installation on or before the Project completion date indicated in the Proposal.

The Proposer shall examine the Contract documents and the site of the proposed work carefully before submitting a Proposal for the work contemplated and shall investigate the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished and as to the requirements of all Contract documents.

The Proposer shall demonstrate good Project management practices while working on this Project. These include communication with the Department, CEI and others as necessary, management of time and resources, and documentation.

2.2 Department Responsibility

The Department will provide contract administration, management services, construction engineering inspection services, and quality acceptance reviews of all work associated with the development and preparation of the contract plans, permits, and construction of the improvements.

2.3 Governing Regulations

The services performed by the Proposer shall be in compliance with all applicable Manuals and Guidelines including the Department, FHWA, AASHTO, and additional requirements specified in this document. Except to the extent inconsistent with the specific provisions in this document, the current edition, including updates, of the following Manuals and Guidelines shall be used in the performance of this work. Current edition is defined as the edition in place and adopted by the Department at the date of advertisement of this contract with the exception of the Standard Specifications for Road and Bridge Construction (Divisions II & III), Special Provisions and Supplemental Specifications, Manual on Uniform Traffic Control Devices (MUTCD), Design Standards and Revised Index Drawings. The Proposer shall use the edition of the Standard Specifications for Road and Bridge Construction (Divisions II & III), Special Provisions and Supplemental Specifications, Design Standards and Revised Index Drawings in effect at the time the bid price proposals are due in the District Office. The Proposer shall use the 2009 edition of the MUTCD (as amended in 2012). It shall be the Proposer's responsibility to acquire and utilize the necessary manuals and guidelines that apply to the work required to complete this Project. The services will include preparation of all documents necessary to complete the Project as described in this document.

The RFP documents and the successful proposal, form an integral part of the Contract documents. The most stringent criteria contained in any of the items defined as Contract documents shall govern the design and construction. The Department reserves the right to interpret what constitutes the most stringent criteria within the contract.

1. Florida Department of Transportation Roadway Plans Preparation Manuals (PPM)
<http://www.dot.state.fl.us/rddesign/PPMManual/PPM.shtm>
2. Florida Department of Transportation Design Standards
<http://www.dot.state.fl.us/rddesign/DesignStandards/Standards.shtm>
3. Florida Department of Transportation Standard Specifications for Road and Bridge Construction (Divisions II & III), Special Provisions and Supplemental Specifications
<http://www.dot.state.fl.us/specificationsoffice/Default.shtm>
4. Florida Department of Transportation Structures Manual

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

- <http://www.dot.state.fl.us/structures/DocsandPubs.shtm>
5. Florida Department of Transportation Current Structures Design Bulletins
<http://www.dot.state.fl.us/structures/Memos/currentbulletins.shtm>
 6. Florida Department of Transportation Computer Aided Design and Drafting (CADD) Manual
<http://www.dot.state.fl.us/ecso/downloads/publications/Manual/default.shtm>
 7. Florida Department of Transportation Computer Aided Design and Drafting (CADD) Production Criteria Handbook
<http://www.dot.state.fl.us/ecso/downloads/publications/CriteriaHandBook/>
 8. Florida Department of Transportation Production Criteria Handbook CADD Structures Standards
<http://www.dot.state.fl.us/ecso/downloads/publications/CriteriaHandBook/>
 9. Instructions for Design Standards
<http://www.dot.state.fl.us/structures/IDS/IDSportal.pdf>
 10. Florida Department of Transportation American with Disabilities Act (ADA) Compliance – Facilities Access for Persons with Disabilities Procedure
<http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/625020015.pdf>
 11. Florida Department of Transportation Florida Sampling and Testing Methods
<http://www.dot.state.fl.us/statematerialsoffice/administration/resources/library/publications/fstm/disclaimer.shtm>
 12. Florida Department of Transportation Design Bulletins and Update Memos
<http://www.dot.state.fl.us/rddesign/Bulletin/Default.shtm>
 13. Florida Department of Transportation Utility Accommodation Manual
<http://www.dot.state.fl.us/specificationsoffice/utilities/UAM.shtm>
 14. Florida Department of Transportation Traffic Engineering Manual
<http://www.dot.state.fl.us/TrafficOperations//Operations/Studies/TEM/TEM.shtm>
 15. Florida Department of Transportation Intelligent Transportation System Guide Book
http://www.dot.state.fl.us/TrafficOperations/Doc_Library/Doc_Library.shtm
 16. Florida Statutes
<http://www.leg.state.fl.us/Statutes/index.cfm?Mode=View%20Statutes&Submenu=1&Tab=statutes&CFID=14677574&CFTOKEN=80981948>

2.4 Value Added Benefits

The Proposer may choose to provide value added benefits for this Project. All value added benefits being proposed by the Proposer shall be identified in the Technical Proposal. A value added benefit does not allow the Proposer to alter/change/modify the requirements of this scope of services document, specifications, standards or established Department policies but shall enhance the Project elements i.e. additional warranty period, maintenance support, additional spare parts, etc. The Department will not pay extra for the value added benefit, but shall be provided by the Proposer, if proposed in the technical proposal.

2.5 Verification of Existing Conditions

The Proposer shall be responsible for verification of existing conditions, including research of all existing Department records and other information. By execution of the contract, the Proposer specifically acknowledges and agrees that the Proposer is contracting and being compensated for performing adequate investigations of existing site conditions sufficient to support the design developed by the Proposer and that any information is being provided merely to assist the Proposer in completing adequate site investigations. Notwithstanding any other provision in the Contract documents to the

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

contrary, no additional compensation will be paid in the event of any inaccuracies in the preliminary information.

2.6 Transition Plan

The Proposer shall develop a transition plan to accomplish a smooth transition with no disruptions to the existing TMC Operations staff, systems and equipment during the Project construction and installation phase. The Proposer shall adopt a two-phased transition approach:

- Phase 1: Transition of TMC Operations staff, systems and equipment from existing Control Room to a temporary area in advance to the construction phase of Project
- Phase 2: Transition of TMC Operations staff, systems and equipment from the temporary area to the Control Room after completion of the construction phase of the Project.

The following guidelines shall be used by the Proposer when developing the Transition Plan:

- The Proposer shall procure all necessary materials, equipment and system components as approved by the Department in advance to start of the transition period. The transition period shall not begin until all the necessary materials, equipment and system components are procured, staged and ready for installation. There shall be no downtime allowed for TMC operations during transition phases. The Proposer shall have all systems up and running prior to implementing each of the transition phases.
- The Proposer shall prepare the temporary Control Rooms. At this time, the Department is considering using Room Numbers 213 and 232 in the SunGuide TMC as the temporary Control Rooms. However, the Proposer shall finalize and prepare the temporary Control Rooms after a detailed evaluation and in coordination with the Department. The Proposer shall develop and submit an evaluation checklist along with their recommendation and seek approval from the Department. The checklist shall contain the evaluation criteria to ensure that the selected rooms can be used as a temporary Control Rooms. At a minimum, the evaluation shall include, but not limited to:
 - Availability and operational status of the phone lines.
 - Availability and operational status of the network connections.
 - Availability of space necessary for housing 24X7 operations for ten (10) temporary TMC Operator staff.
 - Layout of the temporary operations staff in the temporary control rooms.
 - Availability and operational status of the electrical infrastructure including back-up UPS capabilities to support the temporary TMC Operations. The Proposer shall be required to provide temporary UPS to support the temporary Control Rooms computer equipment.
 - Rebalancing of HVAC to support the additional staff in the temporary Control Rooms. The Proposer shall be required to provide temporary portable AC units to supplement the HVAC system, if necessary.
 - Others conditions deemed necessary by the Proposer and the Department for the staging the temporary control rooms.
- The Department will provide all temporary computers that are required for the temporary Control Rooms. However, the Proposer shall be responsible for installation and setting up of the computers and other temporary infrastructure in the temporary Control Rooms. The Proposer shall coordinate with the Department for obtaining the temporary computers two (2) weeks prior to the transition.

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

- The Department will be responsible for the IT network connections, and phone connections in the temporary Control Rooms. The Proposer shall work with the Department for any issues relating to these items.
- The Department will provide all furniture (workstations, chairs, tables, etc.) for the temporary Control Rooms. The Proposer shall coordinate with the Department and will be responsible for the setting up this furniture in the temporary Control Rooms.
- The Proposer shall ensure that the temporary control rooms are ready and fully equipped. Install the Department's temporary computer equipment; rearrange existing furniture (if needed); setup of phone equipment, handheld radio equipment and others; check overall communications and power connectivity; integrate the new equipment with the existing systems prior to Phase 1 of the Transition Plan.
- The Proposer shall coordinate with the Department to ensure that the actual transition of staff from the existing TMC control room to the temporary Control Rooms occurs during a TMC operator staff shift period.
- During the transition period, the Proposer shall be responsible for all operational issues that occur within the temporary control rooms. The Proposer shall repair and rectify any issues arising out of the Proposer supplied Project Elements and Work (faulty equipment supplied, issues due to integration with existing system, etc.) within four (4) hours to ensure that the TMC operations downtime is minimal. The Proposer shall be liable for liquidated damages of five hundred dollars (\$500.00) per hour for exceeding this downtime requirement. For all Department provided equipment, the Proposer shall actively coordinate with the Department to repair and rectify the issue. The Proposer is not responsible for the Department provided equipment.
- The Proposer shall execute phase 2 of the Transition Plan upon completion of the Control Room construction and installation work. The Department will procure and configure the new computer processors (CPUs) required for the Control Room. The Proposer shall coordinate with the Department to obtain the new computer processors (CPUs) and shall install them in the Control Room. The Proposer shall procure and install the new monitors and remaining computer equipment peripherals.
- The Proposer shall ensure that the Control Room is ready and fully equipped with the new computer equipment; setup of phone equipment, radio equipment and others; new lighting; new carpet; overall communications and power connectivity; integrate the new equipment with the existing systems; and other construction and installation activities prior to Phase 2 of the Transition Plan.
- The Proposer shall coordinate with the Department to ensure that the actual transition of staff from the temporary control rooms to the Control Room occurs during a TMC operator staff shift period.
- The Proposer shall detail all the sequence of overall construction work activities and transition plan phases 1 and 2 in a logical manner, which includes but not limited to transportation and storage of the new equipment; disconnect, remove and dispose existing equipment and components; setup of temporary control room operations; setup of new equipment and components; install communications and power connectivity; integrate with the existing systems; calibrate new system components; perform testing activities; troubleshoot, repair and replace all faulty equipment to ensure that the Control Room is fully operational and other steps as determined by the Proposer for accomplishing the task.
- The Proposer shall note that the carpet installation for the offices area (adjacent to the Control Room) shall be towards the end of the construction and installation work. The

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

Proposer shall perform the carpet installation work during non-working hours (weekends) when the TMC staff is not present. The Proposer shall perform all necessary work including, but not limited to moving the furniture, computer equipment, files and others prior to replacing the carpet and back to their original location after the completion of the work (or as approved by the Department).

- The mezzanine floor area of the Control Room currently houses FHP dispatch personnel. The Proposer shall plan and install a temporary barrier/curtain or similar mechanism for the Control Room mezzanine floor area to prevent disruption to the FHP staff. The Proposer as part of the Transition Plan shall develop this option further and seek approval from the Department prior to execution. The temporary barrier shall also prevent the mezzanine level from dust, airborne construction material and also eliminate noise disturbances to the FHP staff.

The Proposer shall submit the draft #1 transition plan for the Department's review and approval within 15 days of Contract NTP; draft #2 transition plan along with 100% plans; and final transition plan along with the final plans. The Proposer shall update the transition plan based on comments obtained from the Department during the submittal reviews.

The Proposer shall be allowed a maximum of sixty (60) consecutive calendar days for the entire transition period (begin of phase 1 to completion of phase 2). The transition period start time begins when the existing system and Control room operations are offline for temporary relocation and the transition period end time stops with the new system and Control room operations are fully integrated, functional and operational. The Proposer shall be liable for liquidated damages of five thousand dollars (\$5,000.00) per day for exceeding this transition period requirement.

The Proposer shall coordinate with the Department for the actual working hours for the transition, which may include work to be performed in the weekends and/or after hours to ensure minimum disruption to the Department. The actual transition of the system shall be coordinated with the Department during the transition plan approval process.

2.7 Project Schedule

The Proposer shall develop and submit to the Department, a Project Schedule based on the Critical Path Method (CPM). The Project Schedule shall show the required sequence of all activities including those that are concurrent and those that must be complete before others can be started. The schedule shall include all activities, including but not limited to the following:

- Acquiring the required permits with sufficient review and approval time
- Developing system specifications, plans and design documentation submittals
- Providing adequate time for Department's and other agency review of submittals
- Procuring materials, equipment and components
- Transitioning existing TMC Operations staff, systems and equipment to a temporary location during the Project construction and installation phase
- Construction and installation activities along with milestones
- Transitioning relocated TMC Operations staff, systems and equipment to the Control Room upon completion of the Project construction and installation activities
- Testing, integration and final acceptance

The Proposer's schedule shall allow at a minimum of twenty-eight (28) calendar days review time (or more time if requested by the Department or permitting agency) for the Department's and other agency review of each design component submittal or re-submittal. The review time will begin upon receipt of a

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

complete submittal or re-submittal. The twenty-eight (28) day review time shall be clearly presented in the project schedule. The Proposer shall provide satisfactory written responses to all review comments for each submittal or re-submittal, within fourteen (14) calendar days of the date the review comments are provided to the Proposer. Any delays to progress on the project due to incomplete submittals or re-submittals or due to clarifications or corrections in response to review comments, shall be the responsibility of the Proposer, and will not be considered sufficient reason for time extensions. The review period commences upon the Department's receipt of the valid submittal or re-submittal and terminates upon the transmittal of the submittal back to the Proposer.

The Proposer shall follow the maximum allowable time below to schedule activities for the Project.

Table 1 - Project Schedule

Activity	Maximum Allowable Completion Time
Draft #1 Transition Plan and shop drawings for video wall display cubes	15 days from Notice to Proceed (NTP)
100% Design Plans, Draft #2 Transition Plan, Draft Test Plans, Draft Electrical Report and other draft design documentation, Shop drawings for other early procurement items	60 days from Notice to Proceed (NTP)
FDOT/Other Agency Review Period – 100% submittals (28-day review period)	88 days from NTP
Final Design Plans, Final Transition Plan, Final Test Plans, Final Electrical Report, Shop Drawings and other design documentation	118 days from NTP
FDOT/Other Agency Review Period – Final submittals (28-day review period)	146 days from NTP
Transition Phase 1 activities	150 days from NTP
Construction and installation activities	210 days from NTP
Transition Phase 2 activities	210 days from NTP
System Acceptance Testing, Training, Documentation, Final Acceptance and Contract Close-out	End of Proposer's Proposed Contract Time

2.8 Submittals

2.8.1 Design Plans, Design Documentation and Specifications

Design Plans: All Design plans are to be prepared in accordance with the latest design standards and practices, FDOT's Standard Specifications, Design Standards, FDOT's Plans Preparation Manual (PPM), and shall be accurate, legible, complete in design, drawn to the scale indicated in the FDOT's manuals and furnished in reproducible form. All Plans shall conform to the requirements for Electronic Delivery as specified by FDOT's CADD Manual.

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

All structures plans shall be prepared in accordance with the latest Structures Design Guidelines, AASHTO standards, and other Department standards, policies, procedures and directions from the State and District Structures Design Engineer.

Plans must meet the minimum contents of a particular phase submittal prior to submission for review. The particular phase of each submittal shall be clearly indicated on the cover sheet. Component submittals must be accompanied by sufficient information for adjoining components or areas of work to allow for proper evaluation of the component under review.

Design Documentation: The Proposer shall provide design documentation to the Department with each submittal consisting of design calculations and other supporting documentation developed during the development of the plans. The design calculations submitted shall adequately address the complete design of all elements.

The design notes and computation sheets shall be fully titled, numbered, dated, indexed, and signed by the designer and the checker. Computer output forms and other oversized sheets shall be folded to a standard size 8½" x 11". The data shall be in a hard-back folder for submittal to the Department. At the Project completion, a final set of design notes and computations, signed by the Proposer, shall be submitted with the record set of plans and tracings.

Specifications: Department Specifications may not be modified or revised. The Proposer shall also include all Technical Special Provisions, which will apply to the work in the Proposal. Technical Special Provisions shall be written only for items not addressed by Department Specifications, and shall not be used as a means of changing Department Specifications.

Before construction activities can begin, the Proposer shall prepare and submit a signed and sealed Construction Specifications Package for the Project, containing all applicable Division II and III Special Provisions and Supplemental Specifications from the Specifications Workbook in effect at the time the Bid Price Proposals were due in the District Office. The Specifications Package shall be prepared, signed and sealed by the Proposer's Engineer of Record who has successfully completed the mandatory Specifications Package Preparations Training.

The website for completing the training is at the following URL address:

<http://www2.dot.state.fl.us/SpecificationsEstimates/PackagePreparation/TrainingConsultants.aspx>

Specification Workbooks are posted on the Department's website at the following URL address:

<https://www2.dot.state.fl.us/SpecificationsPackage/Utilities/Membership/login.aspx?ReturnUrl=%2fspecificationspackage%2fDefault.aspx>.

The signed and sealed Specifications Package shall also include individually signed and sealed Technical Special Provisions for any and all work not addressed by Department Specifications. Upon review by the Department, the Construction Specifications Package will be stamped "Released for Construction" and initialed and dated by the reviewer.

Any subsequent modifications to the Construction Specifications Package shall be prepared, signed and sealed as a Supplemental Specifications Package, subject to the same process for submittal, review, and, release for construction, as described above, for the original Construction Specifications Package. Construction work affected by Supplemental Specifications Packages shall not begin until stamped "Released for Construction" Supplemental Specification Package is obtained.

The Proposer shall provide copies of required review documents as listed below.

- 7 copies of Draft #1 Transition Plan document
- 100% Plans

7 sets of 11" X 17" plans

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

7 sets of design documentation – structures, electrical calculations report, transition plan, etc.

7 copies of Specifications Package

- Final Plans

7 sets of 11" X 17"

7 sets of design documentation – structures, electrical calculations report, transition plan, etc.

7 copies of Specifications Package

- Construction Set:

1 set of 11" X 17" signed and sealed plans

7 sets of 11"X 17" copies of the signed and sealed plans

1 set of signed and sealed specifications package

7 copies of signed and sealed specifications package

1 set of signed and sealed design documentation

7 copies of signed and sealed design documentation – structures, electrical calculations report, transition plan, etc.

Final signed and sealed plans will be delivered to the Department's Project Manager prior to construction of any component. The Department's Project Manager will send a copy of final signed and sealed plans to the appropriate office for review and comment. Once all comments have been satisfactorily resolved as determined by the Department, the Department's Project Manager will initial, date and stamp each submittal as "Released for Construction". Only signed and sealed plans which are stamped "Released for Construction" by the Department's Project Manager are valid and all work that the Proposer performs in advance of the Department's release of Plans will be at the Proposer's risk.

- Record Set:

The Proposer shall furnish to the Department, upon Project completion, the following:

1 set of 11" X 17" signed and sealed plans

7 sets of 11 "X 17" copies of the signed and sealed plans

7 sets of final design documentation (if different from final component submittal)

2 (two) Final Project CD's

The Proposer's Professional Engineer in responsible charge of the Project's design shall professionally endorse (signed and sealed and certified) the record prints, the special provisions and all reference and support documents. The professional endorsement shall be performed in accordance with the FDOT PPM.

The Proposer shall complete the record set as the Project is being constructed. The record set becomes the as-builts at the end of the Project. All changes shall be signed/sealed by the EOR. The record set shall reflect all changes initiated by the Proposer or the Department in the form of revisions. The record set shall be submitted on a Final Project CD upon Project completion.

The CEI shall perform a review of the record set prior to final acceptance in order to complete the record set. The CEI shall certify the final plans as per Section 4.5.7 of Chapter 4 of the Preparation and Documentation Manual (TOPIC No. 700-050-010).

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

2.8.2 Material and Equipment List

The material and equipment lists shall identify the quantity, manufacturer, description, catalog number or other identification, and options and special features for each item furnished. A unique identification number shall be indicated for each item on the Material and Equipment lists.

Copies of catalog cuts sheets and manufacturers' descriptive literature shall be submitted with each copy of the material and equipment lists for all manufactured items. Descriptive literature shall be adequate to determine if the equipment and material meet the requirements of the Plans and Specifications. The Proposer shall clearly note any deviations, changes, additions or other modifications to the descriptive literature that are appropriate to reflect the exact equipment intended for use.

Approval by the Department of the Materials and Equipment list and submittal data shall not relieve the Proposer of any of its responsibility under the Contract for the successful completion of the work in conformity with the requirements of the Plans and Specifications. The Proposer shall submit seven (7) copies of all required submissions. The Materials and Equipment list shall be submitted along with the 100% Plans submittal.

2.8.3 Shop Drawings

The Proposer shall be responsible for the preparation and approval of all Shop Drawings. Shop Drawings shall be in conformance with the FDOT PPM when submitted to the Department and shall bear the stamp and signature of the Proposer's Engineer of Record (EOR), and Specialty Engineer as appropriate. The Department shall review the Shop Drawing(s) to evaluate compliance with Project requirements and provide any findings to the Proposer. The Department's procedural review of shop drawings is to assure that the Proposer's EOR has approved and signed the drawing, the drawing has been independently reviewed and is in general conformance with the plans. The Department's review is not meant to be a complete and detailed review. Upon review of the shop drawing, the Department will stamp "Released for Construction" or "Released for Construction as noted" and initialed and dated by the reviewer.

Shop Drawing submittals must be accompanied by sufficient information for adjoining components or areas of work to allow for proper evaluation of the Shop Drawing(s) submitted for review.

A minimum of twenty-eight (28) calendar days shall be scheduled for shop drawing reviews. The Proposer shall submit seven (7) copies of all required submissions.

2.9 Key Personnel/Staffing

The Proposer work shall be performed and directed by key personnel identified in the technical proposal by the Proposer. Any changes in the indicated personnel shall be subject to review and approval by the Department's Project Manager. The Proposer shall have available a professional staff that meets the minimum training and experience set forth in Florida Statute Chapter 455.

2.10 Meetings and Progress Reporting

The Proposer shall anticipate periodic meetings with the Department personnel and other agencies as required for resolution of design and/or construction issues. These meetings may include:

- Department's technical issue resolution
- Permit agency coordination

During design, the Proposer shall meet with the Department's Project Manager on a monthly basis and provide a one (1) month look-ahead of the activities to be completed during the upcoming month. During construction, the Proposer shall meet with the Department's Project Manager on a weekly basis and provide a one (1) week look-ahead for activities to be performed during the coming week. The

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

Proposer shall, on a monthly basis, provide a written progress report that describes the activities of the work performed on each task during the previous month.

2.11 Quality Management Plan (QMP)

2.11.1 Design

The Proposer shall be responsible for the professional quality, technical accuracy and coordination of all design, drawings, specifications and other services furnished by the Proposer under this Contract.

The Proposer shall provide a Design Quality Management Plan, which describes the Quality Control (QC) procedures to be utilized to verify, independently check, and review all design drawings, specifications, and other documentation prepared as a part of the Contract. In addition, the QMP shall establish a Quality Assurance (QA) program to confirm that the Quality Control procedures are followed. The Proposer shall describe how the checking and review processes are to be documented to verify that the required procedures were followed. The QMP may be one utilized by the Proposer, as part of their normal operation or it may be one specifically designed for this Project. The Proposer shall submit a QMP within fifteen (15) working days following issuance of the written Notice to Proceed. A marked up set of prints from the Quality Control review will be sent in with each review submittal. The responsible Professional Engineer(s) that performed the Quality Control review, as well as the QA manager will sign a statement certifying that the review was conducted.

The Proposer shall, without additional compensation, correct all errors or deficiencies in the design, drawings, specifications and/or other services.

No fabrication, casting, or construction will occur until all related design review and shop drawing review comments are resolved.

2.11.2 Construction

The Proposer shall be responsible for developing and maintaining a Construction Quality Control Plan in accordance with Section 105 of Standard Specifications which describes their Quality Control procedures to verify, check, and maintain control of key construction processes and materials.

The sampling, testing and reporting of all materials used shall be in compliance with the Sampling, Testing and Reporting Guide (STRG) provided by the Department. The Proposer will use the Department's database(s) to allow audits of materials used to assure compliance with the STRG. The Department has listed the most commonly used materials and details in the Department's database. When materials being used are not in the Department's database list, the Proposer shall use appropriate material details from the STRG to report sampling and testing. Refer to the "Access Instruction for LIMS" for more information on how to gain access to the Department's databases:

<http://www.dot.state.fl.us/statematerialsoffice/quality/programs/qualitycontrol/contractor.shtm>

Prepare and submit to the Engineer a Job Guide Schedule (JGS) using the Laboratory Information Management System (LIMS) in accordance with Section 105 of Standard Specifications.

The Department shall maintain its rights to inspect construction activities and request any documentation from the Proposer to ensure quality products and services are being provided in accordance with the Department's Materials Acceptance Program.

2.12 Computer Automation

The Project shall be developed utilizing computer automation systems in order to facilitate the development of the contract plans. Various software and operating systems were developed to aid in

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

assuring quality and conformance with FDOT policies and procedures. The Proposer's role and responsibilities are defined in the Department's CADD Manual. The Proposer will be required to submit final documents and files which shall include complete CADD design and coordinate geometry files in format, as described in the FDOT CADD Manual.

2.13 Testing, Integration and Acceptance Requirements

The Proposer shall be responsible for testing all Project elements to determine conformance to all requirements as specified in the Contract documents. Testing shall provide verification and documentation that all requirements as defined in the Contract documents are met. A Test Plan shall be developed by the Proposer to provide a mechanism that ensures that all contract requirements have been tested successfully and verified. The detailed test plan shall be submitted along with the 100% and final design plan submittals for the Department's review and approval.

Any deviations or changes to the approved Test Plan contents shall be resubmitted for review and approval by Department at least thirty (30) calendar days prior to any planned test activity stage. No tests shall be conducted until the Department has approved the test plan. A representative from the Department or designee shall be present during ALL testing.

The Proposer shall make a request in writing at least fourteen (14) days prior to the proposed testing, and schedule them only if permission is granted by the Department. Testing shall take place only on weekdays, unless the Department allows the test to be conducted and/or continued on weekends and non-working days. The Proposer shall be responsible for conducting and documenting the test results. The Department's representative will sign test results documentation at the end of each test. The signature of the Department's representative implies proof of presence. Seven (7) copies of the documented test results shall be submitted to the Department for approval within fourteen (14) days following completion of the test.

All Project elements furnished by the Proposer shall be subject to monitoring and testing to determine conformance with all applicable requirements and to ensure proper operation, and integration with the SunGuide TMC. All equipment required for conducting tests shall be supplied by the Proposer.

The Department reserves the right to examine and test any or all materials furnished by the Proposer for the Project to determine if they meet the Contract documents. If the Department decides that any material used in the construction of this project is defective or otherwise unsuitable, and the workmanship does not conform to the design or specifications of this Contract, the Proposer shall replace such defective parts and material at no additional cost to the Department.

A summary of all tests shall be produced at the completion of the Project to ensure that all requirements as defined by the Contract documents are satisfied. Testing of the Project elements shall include and be completed in the following order:

2.13.1 Material Testing

The Proposer shall perform sampling and testing on site as well as off-site locations such as batch plants, structural steel fabrication plants, etc. in accordance with the Contract documents.

2.13.2 Factory Acceptance Test (FAT)

For the video wall display cubes, a factory acceptance tests shall be conducted prior to the installation of the equipment and shall be performed at the equipment manufacturer's facility or at an independent testing laboratory. The Proposer shall notify the Department a minimum of 30 days in advance of the time the tests are to be conducted so that the Department can make arrangements for their representative to be present. The Department has the sole authority to require attendance and participation in the factory acceptance test process. The equipment to be tested and installed shall be new and produced within six (6) months of the test date. Test results shall be packaged and submitted to the Department for review.

2.13.3 Project Acceptance Test Period

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

The Proposer shall commence a ninety (90) day Project Acceptance Test upon the successful completion of installation and integration of the Project elements. This test is intended to demonstrate that the Project elements are properly installed, are free from problems, exhibit stable and reliable performance, and comply with the Contract documents.

The TMC Operations staff located at the SunGuide TMC will operate from the Control Room during the Project Acceptance Test Period and report any failures to the Department's Project Manager or designee. In the event of a failure, during any portion of the Project Acceptance Test Period, the Proposer shall respond with a qualified technical representative on site to determine and correct any problems within twenty-four (24) hours, following notification by the Department. The Department's PM or designee shall report the failure(s) to the Project CEI and the Proposer. **Upon correction of the problem(s) and resumed operation of the component, as per the Contract documents, to the satisfaction of the Department's PM, the test shall be restarted for another ninety (90) days.**

During the Project Acceptance Test Period, the Proposer shall be responsible for the maintenance, and replacement of faulty Project elements. The Proposer shall replace any component that fails to function properly due to defective materials and/or workmanship. The Proposer shall replace the failed component without disrupting the entire system's operation. The Proposer shall notify the Department, once the replacement of failed component is completed. The Proposer shall be responsible for all costs associated with the replacement of the components during the Project Acceptance Test Period.

If at any time during the Project Acceptance Test Period, the Proposer, after given notice by the Department, shall fail to promptly repair and/or make good any defect or damage in the work within the time period stated in the request, then the Department shall have the right to cause such defect or damage to be repaired and made good by the Department and to charge to the Proposer the Department incurred cost of all labor, materials, management and other incidental expenses necessary to such repair and making good. The Proposer shall pay the said cost to the Department.

If any spare components supplied under the Project are used to replace failed components during the Project Acceptance Test Period, the Proposer shall replace the required spare parts/components inventory with new unused spare parts/components before the Final Acceptance of the Project.

2.13.4 Final Acceptance

For this Project, Final Acceptance shall be issued upon satisfactory completion of the Project Acceptance Test Period. The Project will be inspected and issued Final Acceptance upon approval and verification by Department's PM or designee that the project requirements have been met 100% to the full intent of the Contract documents. **The Proposer shall be fully responsible for the maintenance and support of all equipment furnished and installed by the Proposer until the time of Final Acceptance.**

2.14 Warranty Services

The Proposer warrants to the Department that all services, work materials, parts and supplies, furnished under the Contract shall be free from defects in material and/or workmanship upon delivery, and all services shall be performed in a competent manner and in accordance with good trade practices and local, state and federal codes.

The Proposer shall transfer the warranty documentation to the Department prior to Final Acceptance of the Project. For this project, the Proposer shall provide an extended manufacturer's warranty on all system components and work performed for a period of three (3) years post Final Acceptance of the Project or as specified in the specifications provided with this Scope of Services document, whichever is longer.

2.15 Repair of Damage to Existing Facility or Equipment

Any damage caused by the Proposer to the existing TMC facility and features including, but not limited to electrical, structural, plumbing, air conditioning, walls, carpeting, doors, or furniture shall be repaired or replaced with equal or better components at no additional cost to the Department.

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

Any damage caused by the Proposer to any existing video wall equipment (e.g. back-end electronics, cables, etc.), and electrical service as well as all the hardware and software components of the SunGuide TMC shall be replaced with equal or better new components at no additional cost to the Department.

All repair work shall conform to the governing regulations listed in the Contract documents and shall be approved by the Department.

2.16 Component Manual Documentation Requirements

The Proposer shall submit four (4) print copies bound in 3-ring type binders with appropriate labeling and two (2) electronic copies on CDs/DVDs of the below Project documentation to the Department:

Installation Manuals: For Project elements, where available, the Proposer shall provide manufacturer's Installation Manuals. The installation manual will indicate clearly and pictorially the installation procedures for all components, assemblies and subassemblies.

User Manual: For Project elements, where available, the Proposer shall provide manufacturer's User Manuals. The user manual will describe, in sufficient level of detail, how the equipment is to be operated and maintained. The user manual will include such pertinent operational information as control layouts, displays, etc., for properly operating a fully functioning unit.

Manufacturer Specifications: For Project element, where available, the Proposer shall provide specifications prepared by the manufacturer for the products supplied by the Proposer.

Other Documents: Other manufacturer-developed documents which may help the Department with the operations and maintenance of the Project elements shall be included in the documentation submittal.

2.17 Training Requirements

The Proposer shall prepare a training course designed to familiarize the trainees with the design, operation and maintenance requirements of the Project elements furnished under this Contract. All training shall be coordinated and conducted prior to the Project Acceptance Test. The Proposer may use the SunGuide TMC conference rooms for providing the required training. An alternate location as approved by the Department may be used. The Proposer is required to provide any required audio visual equipment and training material necessary to provide the required training. The Proposer shall provide training for up to 3 sessions with each session being available for up to 10 attendees. All training material shall be provided to the Department for review and approval prior to conducting each training session. The training shall be delivered on dates mutually agreeable to the Proposer and to the Department.

The training materials shall include an introductory level briefing to familiarize attendees with the proposed Project elements. Where applicable, the materials shall include:

- Details of system components;
- Theory of operation of components;
- Operating procedures;
- Installation guidelines;
- Testing guidelines;
- Calibration guidelines;
- Maintenance guidelines;
- Trouble-shooting and repair guidelines;
- Performance and operating parameters; and,
- Hardware and software configuration details.

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

The training shall include both demonstration and “hands-on” equipment training. On-site training shall be provided to demonstrate the operation and maintenance of the equipment. The instructor(s) shall have a minimum of five (5) years’ experience in training personnel. The Proposer shall record a digital DVD format video of the lecture portions of the course. The video recorded lectures shall become the property of the Department.

2.18 Partial Use Prior to Project Acceptance

The Department, based on justification of public interest, may order any completed or partially completed portion of the Project placed in service. Such action shall not be deemed an acceptance of the Project in whole or in part, nor shall such action be construed as a waiver by the Department of any provision of the Contract for this Project. The Proposer shall have no right to additional compensation or extension of time for completion of the work or any other concession because of the use of the Project or any part thereof prior to Final Acceptance of the completed Project.

2.19 Coordination with the Department

All aspects of the Contract shall be coordinated through the Department’s Project Manager and the CEI. All authorizations and approvals shall be in writing and executed by the Department prior to the commencement of work.

The Project Manager is Ms. Alexandra Lopez

- Located at:

**Florida Department of Transportation District 6
1001 Northwest 111th Avenue
Miami, Florida 33172**

The Project work to be performed shall occur at the below address:

**SunGuide TMC
Florida Department of Transportation District 6
1001 Northwest 111th Avenue
Miami, Florida 33172**

The Department may change the Department’s Project Manager at any time during the term of the Contract. In the temporary absence of the Department’s Project Manager from the office, the Department shall authorize another individual to perform the Department’s Project Manager’s duties.

2.20 Rules and Regulations

- The Proposer shall be responsible for the contractual services being performed/provided by the Proposer as described in this Contract. These responsibilities shall be carried out through planning, assignment, coordination, inspections, quality control, operations, reporting, and other forms of administrative management required to optimize services and support in compliance with terms specified in this Contract.
- The Proposer certifies that the services that they provide under this Contract shall include, but not be limited to any of the following which are applicable: those operations necessary for mobilization, the movement of personnel, equipment, supplies, expertise, incidentals, permits, notifications, and fees associated with such notifications, if any.
- The Proposer shall furnish to the Department the services required as the lump sum amounts that are depicted in the “Exhibit C”, Price Proposal attached hereto and made a part hereof.
- The Proposer’s lump sum amounts shall include all materials and labor required to perform the service, mobilization costs, travel costs, equipment/tools/vehicles/machinery necessary to perform the work, licenses, supplies, overhead, administrative expenses, profits, insurance, Proposer’s

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

warranty, operating margin, administrative costs, training, insurance, and all other incidentals necessary to perform the required services.

- If the procedural regulations referenced herein are revised or superseded before the services by the Proposer are rendered, compliance with the most up to date version and/or amendments/statutes will be required.
- All contractual services being performed/provided by the Proposer as described in the Contract must be performed under the direction of a person qualified or licensed as specified in the Contract and any other local, state and federal laws, regulations and guidelines that apply to the type of services being performed.
- The Proposer shall adhere to all other applicable local, state and federal laws, regulations, and guidelines pertaining to the type of services being provided in the contractual services as described in the Contract.
- The Proposer's work shall be performed and/or directed by the key personnel identified by the Proposer in their technical proposal submitted to the Department.
- The Proposer shall ensure that their employees, Sub-Contractor(s)/Sub-Consultant(s) do not allow any unauthorized personnel to enter the Department property or buildings under this Contract. This shall include, but not be limited to: personal visitors, family members, friends, persons not employed by the Proposer or other employees not identified to the Department.
- All Proposer's personnel/ Sub-Contractor(s)/Sub-Consultant(s) shall be required to wear the applicable markings/emblems/identifications while performing/providing the services identified in this Contract. The Proposer's personnel/ Sub-Contractor(s)/Sub-Consultant(s) must sign in at the SunGuide TMC and obtain a Department identification in order to be admitted to SunGuide location. No personnel will be allowed to enter any Department location without an identification.

2.21 Sub-Contractor(s)/Sub-Consultant(s)

It may be necessary for the Proposer to subcontract portions of the work. All Sub-Contractor(s)/Sub-Consultant(s) whether it is an individual or a firm must be approved and qualified by the Department prior to the initiation of any work. The Proposer shall be fully responsible for the satisfactory completion of all subcontracted work. The Proposer shall provide the Department or the Department's Project Manager (or his/her designee) with a list of the names for all Sub-Contractor(s)/Sub-Consultant(s) or employees who shall be performing the work as required, in the Technical Proposal and prior to the work being performed on-site.

2.22 Communications

The Proposer shall be required to submit the following items to the Department: Name of the Proposer's Supervisor(s)/Project Manager(s) assigned to the Contract, along with the contact information i.e. telephone number(s), email address, and cellular phone number(s). The Department shall be advised at all times as to the identification and means of contacting along with phone numbers and email addresses of the Proposer's Supervisor(s)/Project Manager(s), and two (2) additional back-up personnel during the term of the Contract. Cellular phone number(s) for all personnel responsible for answering and responding to the needs of the Department in accordance with the contractual services being performed/provided by the Proposer as described in the Contract shall be supplied.

The Proposer's Project Manager/Supervisor shall respond by telephone within one (1) hour after receiving a call from the Department and/or the Department's Project Manager (or his/her designee), and if required shall be present at the location in question within twenty four (24) hours after being contacted by the Department and/or the Department's Project Manager (or his/her designee).

The Proposer shall respond to emergencies and provide immediate service.

2.23 Safety and Security

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

- The Proposer shall be responsible for ensuring that all their safety practices are in accordance with OSHA (Occupational Safety and Health Administration) rules and regulations.
- The Proposer shall utilize proper safety measures to ensure the protection for persons and property at all times in accordance with all local, state and federal laws, regulations and guidelines pertaining to providing the required services.
- The Proposer shall ensure that all equipment used is maintained in a safe and efficient manner in accordance with all local, state and federal laws, regulations and guidelines pertaining to providing the required services.
- The Proposer shall be responsible for any injury to person(s) or damages to property(ies) that may occur while performing any of the contractual services being performed/provided by the Proposer under this Contract. The Department assumes no liability for any injury to person(s), damages to property and/or equipment at the Department property/site.
- At the conclusion of a workday, the Proposer/Proposer's Personnel must leave the work area so that no safety hazard is present. The Department assumes no liability for any equipment or personnel belongings or effects left on the Department property/site overnight.
- The Proposer is solely responsible for providing safety equipment and procedures for the protection of employees and the other TMC users throughout the area(s) that the contractual services being performed/provided by the Proposer as described in the Contract or other additional services performed when requested by the Department.
- If any deficiency may cause harm to life, property or violate any rules or regulations such as, but not limited to, Americans With Disabilities Act (A.D.A), Occupational Safety and Health Administration (O.S.H.A.) or otherwise contained herein, the Department may take immediate corrective action(s) as required, and the Proposer shall be responsible for the burden of any of these direct and any associated and/or indirect costs.
- The Proposer guarantees that upon completion of the services required by the Contract the work areas shall be left in a clean, sanitary and safe condition.

2.24 Timely Completion of Service

The Proposer by acceptance of this Contract hereby guarantees that they shall comply with all scheduled times and requirements as specified in this Contract and any subsequent additions. The Proposer shall not be under any obligation to any liability for failure to carry out any of the terms of this Contract to the extent that such failure shall be due to:

- The operation and effect of rules, regulations or orders promulgated by any commission, municipality, or governmental agency of any state or the United States or subdivision thereof.
- A restraining order, injunction, or similar decree of any court.
- Any extreme condition or natural disasters as listed below:
 - Hurricane
 - Storm
 - Flood
 - Tornado
 - Earthquake
 - War
 - Fire
 - Sabotage
 - Or any other cause (not including labor problems of Proposer) not within the control of Proposer, and which, by the exercise of reasonable diligence, Proposer is unable to prevent.

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

2.25 Property of the Department

All work performed by the Proposer pursuant to this Contract, including, but not limited to the preparation of all plans, specifications, maps, computer files and/or reports prepared or obtained under this Contract, as well as all data collected, together with summaries and charts derived therefrom, shall be considered works made for hire and shall become the property of the Department upon completion or termination without restriction or limitation on their use and shall be made available, upon request, to the Department or the Department's Project Manager (or his/her designee) at any time during the performance of such services and/or upon completion or termination of this Contract. Upon delivery to the Department or the Department's Project Manager (or his/her designee) of said document(s), the Department shall become the custodian thereof in accordance with Chapter 119, Florida Statutes. The Proposer shall not copyright any material and products or patent any invention developed under this Contract.

The Proposer guarantees that upon termination of any personnel under this Contract that they shall bear the responsibility of immediately returning all Department property (if applicable) to the Department or the Department's Project Manager (or his/her designee). In the event that the Proposer is unable to return the said items they shall notify the Department or the Department's Project Manager (or his/her designee) and bear any costs associated with ensuring the security of the Department.

2.26 Non-compliance

- Failure to resolve discrepancies within a reasonable time frame may result in Proposer placement in non-compliance status as described in the Non-Compliance sections of this Contract and the Florida Department of Transportation Contractual Services Standard Agreement.
- Failure by the Proposer to comply with safety requirements in accordance with OSHA, those identified by the Department, those stated in this Contract, and those that may later be added, shall result in the immediate suspension of work, Proposer placement in non-compliance status and/or Contract termination.
- Failure by the Proposer to comply with the rules and regulations stated in this Contract and those that may later be added shall result in the immediate suspension of work, Proposer placement in non-compliance status and/or Contract termination.
- The parties recognize that timely performance by the Proposer is of the essence. Should the Proposer fail to perform the work specified in this Contract and cause the Department to intervene to complete the work as specified, all costs incurred by the Department shall be charged to the Proposer and shall result in the immediate suspension of work, Proposer placement in non-compliance status and/or Contract termination.
- If the Department and/or the Department's Project Manager (or his/her designee) determines that the performance of the Proposer is not satisfactory, the Department may terminate this Contract as described in the State of Florida Department of Transportation Contractual Services Standard Agreement. Any necessary default action will be processed in accordance with the Department of Management Services Rule 60A-1.006(3).
- In either event, intervention, or default, all payment to the Proposer shall stop during the time involved and the Department shall hold all payment due to the Proposer until cost to the Department is satisfied. The Department reserves the right to deduct such costs from any payment due to the Proposer.
- If the Proposer fails to comply with the provisions of the section entitled Proposer Responsibilities in this Contract and it is not immediately corrected, the Department shall construe that the Proposer is in non-compliance and shall result in the immediate suspension of work, Proposer placement in non-compliance status and/or Contract termination.

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

- If at any time during the course of this Contract the Department's Project Manager (or his/her designee) brings to the attention of the Proposer a violation of any of the sections in this Contract and the violation is not corrected within the twenty four (24) hours, the Department shall construe that the Proposer is in non-compliance and shall result in the immediate suspension of work, Proposer placement in non-compliance status and/or Contract termination.

2.27 Suspension of Work

- The Department or the Department's Project Manager (or his/her designee) may suspend the contractual services being performed/provided by the Proposer as described in this Contract, wholly or in part, for such period or periods as may be deemed necessary due to natural causes, or construction in areas or for any other reason deemed necessary by the Department or the Department's Project Manager (or his/her designee)
- Work shall also be suspended at the discretion of the Department or the Department's Project Manager (or his/her designee) at such time that the Proposer fails to comply with any or all provisions in this Contract.
- The Proposer shall not be entitled to extra compensation or adjustments to the Contract unit prices because of suspension or deletion of work caused by the condition described in this section. Suspension of Work shall be ordered by the Department or the Department's Project Manager (or his/her designee) in writing, giving the reason for the suspension. The invoice payments shall be adjusted accordingly.

2.28 Notifications

- The Proposer shall provide the Department with a Project Manager for the life of the contract. Any changes to the Proposer's Project Manager or any of the other indicated personnel in charge of the work shall be subject to review and approval by the Department in writing before performing any billable services.
- The Proposer guarantees that any personnel with a suspended or revoked license, or otherwise does not meet the qualifications of this Contract shall immediately be removed and replaced by another qualified person.
- The Proposer guarantees that any personnel who is found to have falsified records including, but not limited to documentation of time worked, damage reports or any other reports either written or verbal provided under this Contract shall immediately be removed and replaced by another qualified person.
- The Department reserves the right to require the Proposer to relieve an employee from duty assignments, and/or bar an employee from further service under this Contract. No reason need be given by the Department's Project Manager (or his/her designee).

2.29 Project Records

The Proposer shall maintain complete and accurate project records, in hard copy of all activities and any other events relating to the Contract.

2.30 Documentation of Uncompleted Work

The Proposer shall document any uncompleted work and provide copies to the Department's Project Manager (or his/her designee) within one (1) business day that the work was supposed to be completed.

2.31 Inspections

- The Department or the Department's Project Manager (or his/her designee) may inspect, at any time, the condition/utilization of equipment, vehicles, articles, supplies and chemicals that may be applicable to this Contract.

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

- The Department or the Department's Project Manager (or his/her designee) may determine if these equipment, vehicles, articles, supplies and chemicals are fit for their intended use and may place any equipment, vehicles, articles, supplies and chemicals out of service if they are damaged or otherwise not suitable for the task.
- The Department or the Department's Project Manager (or his/her designee) may make a performance inspection at any time.
- The Department or the Department's Project Manager (or his/her designee), at its discretion, may perform simultaneous inspections with the Proposer and/or random inspections after a Proposer inspection to evaluate the Proposer's work for correctness and quality,
- Should these Department or Department's Project Manager (or his/her designee) inspections find any discrepancies, the Proposer shall have twenty-four (24) hours to resolve them. Failure to resolve these discrepancies within this time frame may result in Proposer placement in non-compliance status as described in the Non-Compliance sections of this Contract and the FDOT Contractual Services Standard Agreement.
- The Department or the Department's Project Manager (or his/her designee) may perform periodic inspections on the Proposer's safety throughout the area that the services are being performed/provided. However, maintaining the safety required throughout the work zone shall be the sole responsibility of the Proposer, and in no way relieve him/her of final responsibility for providing safety equipment and procedures for the protection of employees and the public throughout the work areas.
- The Department or the Department's Project Manager (or his/her designee) shall have the right to visit the site/area/department location where the services are being performed/provided by the Proposer for inspection of the work and the products of the Proposer at any time.

2.32 Additional Work

- In the event that the Department request's additional work not covered under this Contract, a Supplemental Agreement signed by both the Proposer and the Department shall be executed and a Notice to Proceed issued prior to any additional work being undertaken.
- The Proposer shall work closely with the Department in developing services for any additional work. The original Contract may be amended to include any additional services required within the intent of the original Contract.
- Before making any additions or deletion to the work described in this Contract, and before undertaking any changes or revisions to such work, the parties shall negotiate any necessary cost changes and shall enter into a Supplemental Agreement covering such work and compensation. Reference herein to this Contract shall be considered to include any Supplemental Agreement(s).
- The Department may authorize any unforeseen work which is essential to the satisfactory completion of the completion within the intent of the original scope of work. No unforeseen work shall be performed by the Proposer without prior authorization.
- Any excess amounts exceeding the total Contract amount shall require a Supplemental Agreement supplied by the Department and signed by both parties prior to the work being performed. Supplemental Agreements may extend the Contract price beyond the original Contract limit if approved by the Department. Execution of this Supplemental Agreement does not guarantee that the work will be authorized.

2.33 Award of the Contract

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

- The Department shall award this Contract to the responsive, responsible Proposer whose references check out and has not been debarred, suspended or terminated from any other Contract and who receives the highest combined score on their technical and price proposal.
- The Department reserves the right to award this Contract in whole or in part.
- The Department reserves the right to award this Contract to one (1) or more Proposers in the best interest of the state.
- For the purpose of award, after the proposals are opened and read, the price points shall be computed based on the "Grand Total". This total will be based on those items with a quantity specified.
- In the event of any discrepancy in the "Grand Total" and lump sum amount of an item, the lump sum amount shall govern.

In addition, upon execution of this Contract the Proposer agrees to the following terms and conditions:

- The Proposer agrees that they shall provide the services for the periods required under this Contract.
- The Proposer agrees that they shall provide payment to all personnel/Sub-Proposer(s)/Sub-Consultant(s) performing the services required under this Contract.
- The Proposer agrees that they are an independent Proposer with respect to the services being provided under this Contract and shall be responsible for providing any salary or other benefits to the Employees/Sub-Contractor(s)/Sub-Consultant(s) performing the services required under this Contract.
- The Proposer agrees that they shall be responsible for making all appropriate tax, social security, Medicare and other withholding deductions and payments required of employers by this Contract and any other local, state and federal laws, regulations and guidelines that apply to the type of services being performed.
- The Proposer agrees that they will provide worker's compensation insurance coverage for its employees and will make all appropriate unemployment tax payments and shall provide general liability insurance for the duration of this Contract.
- The Proposer shall not bill the Department for the required services under this Contract more than the lump sum amounts established in the "Exhibit C", Price Proposal for the type of services being performed.
- That this employer is an equal opportunity employer and refers employees, regardless of race, sex, color, religion, creed, ancestry, national origin, disability, age, marital status or other protected class status pursuant to applicable law.
- That the Department shall retain the right to accept or reject any employee covered under this Contract.
- The Proposer agrees to comply with all laws, ordinances, regulations and code requirements applicable to the work contemplated herein.
- The Proposer agrees that any liquidated damages, penalties, and/or fines imposed on the Department or the Proposer for failure to obtain any and all required licenses and/or permits shall be borne by the Proposer.
- That the Proposer has thoroughly read, understands and agrees to all the terms and conditions of this Contract.

2.34 Schedule of Values

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

Upon award of the Contract, the Proposer shall submit a Schedule of Values to the Department within fifteen (15) days from Notice-to-Proceed for review and approval. The Schedule of Values is intended to provide sufficient breakdown of the costs of work and such other information as to enable FDOT to easily evaluate the progress of work and the value thereof. The Schedule of Values shall be based on "Exhibit C", Price Proposal.

No invoices shall be submitted prior to Department approval of the Schedule of Values. The Schedule of Values will be used to distribute the project costs in relation to the Project Schedule, which will then become the basis for computing and/or verifying the Contractor's progress payments requests. The Proposer will be responsible for invoicing the Department based on current invoicing policy and procedure. Invoicing will be based on the completion or percentage of completion of major, well-defined tasks as defined in the Price Proposal and subsequent Schedule of Values. Upon receipt of the invoice, the Department's Project Manager will make judgment on whether or not work of sufficient quality and quantity has been accomplished by comparing the reported percent complete against actual work accomplished. Final payment will be made upon final acceptance by the Department of the Project. Tracking DBE participation will be required under normal procedures according to the CPAM.

2.35 Public Records/Florida Statute Chapter 119 Guidance

The Vendor shall allow public access to all documents, papers, letters, or other material subject to the provisions of Chapter 119, Florida Statutes, made or received by the Contractor in conjunction with this Contract. Specifically, if the Contractor is acting on behalf of a public agency, the Contractor must:

- (1) Keep and maintain public records that ordinarily and necessarily would be required by the Department in order to perform the services being performed by the Contractor.
- (2) Provide the public with access to public records on the same terms and conditions that the Department would provide the records and at a cost that does not exceed the cost provided in chapter 119, Florida Statutes, or as otherwise provided by law.
- (3) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law.
- (4) Meet all requirements for retaining public records and transfer, at no cost, to the Department all public records in possession of the Contractor upon termination of the contract and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the Department in a format that is compatible with the information technology systems of the Department.

Failure by the Vendor to grant such public access shall be grounds for immediate unilateral cancellation of the Agreement by the Department. The Vendor shall promptly provide the Department with a copy of any request to inspect or copy public records in possession of the Contractor and shall promptly provide the Department a copy of the Contractor's response to each such request.

Section 3 – Technical Requirements

The contractor shall follow the functional design and construction criteria specified in this section for the implementation of the project.

All electronic equipment shall be of solid-state and modular construction. Individual electrical components in any module shall be removable and replaceable without resultant damage or reducing the life of the module or equipment. The design shall be such as to prevent reversed assembly or installation of connectors, fasteners, etc. Interlocks shall be installed to prevent possible malfunction or personnel hazards that might occur by improper installation of equipment connectors or exposure to hazardous voltages or laser light levels. Each item of equipment shall be designed to protect personnel from exposure to high voltage during equipment operation, adjustment, and maintenance.

3.1 Monitors

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

3.1.1 24" Computer Display Monitors

The 24" computer display monitors shall have the following attributes:

Display

- Diagonally viewable size is 23.8 in.
- Aspect Ratio is widescreen (16:9)
- In-plane switching, anti-glare with hard coat 3H
- Optimal Resolution is:
 - 3840 x 2160 at 60 Hz (DP1.2)
 - 3840 x 2160 at 30 Hz HDMI
- Backlight technology is LED
- Contrast Ratio is:
 - 1000:1 (typical)
 - 2 Million:1 (Max) Dynamic Contrast Ratio)
- Brightness is:
 - 350 cd/m² (typical)
- Response time is 8 ms (gray to gray)
- Viewing angle is 178° vertical / 178° horizontal
- Color support
 - Color Gamut (typical): Adobe RGB 99%, sRGB 100%
 - 1.07 Billion colors (8 Bits +AFRC)
- Pixel Pitch is 0.137 mm
- Pixel per inch (PPI) is 185
- Display type is widescreen flat panel display
- Display screen coating is antiglare with hard-coating 3H

Electrical

- Voltage Required is 100 to 240 VAC / 50 or 60 Hz ± 3 Hz / 2.1 A (typical)
- Power consumption
 - Operational is 90 W (typical) / 120W (maximum)
 - Standby / Sleep is less than 1.2W

Environmental

- Temperature Range Operating is 32° to 104° F
- Temperature Range Non-Operating
 - Storage: -4° to 140° F
 - Shipping -4° to 140° F
- Humidity Range Operating is 10% to 80% (non condensing)
- Humidity Range Non-operating
 - Storage is 5% to 90% (non-condensing)
 - Shipping is 5% to 90% (non-condensing)

Warranty – 3 years

3.1.2 32" Computer Display Monitors

The 32" computer display monitors shall have the following attributes:

Display

- Diagonally viewable size is 31.5 in.

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

- Aspect Ratio is widescreen (16:9)
- Panel Type, IGZCO LCD, In plan switching, anti-glare with hard coat 3H
- Optimal Resolution
 - 3840 x 2160 at 60 Hz (DP 1.2)
 - 3840 x 2160 at 30 Hz HDMI
- Backlight technology is LED
- Contrast Ratio
 - 1000:1 (typical)
 - 2 Million:1 (Max) (Dynamic Contrast Ratio)
- Brightness is 350 cd/m² (typical)
- Response time is 8 ms (gray to gray)
- Viewing angle is 176° vertical / 176° horizontal
- Color support
 - Adobe RGB 99%, sRGB 100%
 - 1.074 billion colors (10 bits)
- Pixel Pitch is 0.182 mm
- Pixels per inch (PPI) is 140
- Display type is widescreen flat panel display
- Display screen coating is antiglare with hard-coating 3H

Electrical

- Voltage Required is
 - 100 to 240 VAC
 - 50 or 60 Hz ± 3 Hz
 - 1.8 A (typical)
- Power consumption
 - Operational is 100 (typical) / 170W (maximum)
 - Standby / Sleep is less than 1.2W

Environmental

- Temperature Range Operating is 32° to 95° F
- Temperature Range Non-Operating
 - Storage: -4° to 140° F
 - Shipping -4° to 140° F
- Humidity Range Operating is 10% to 80% (non condensing)
- Humidity Range Non-operating
 - Storage is 5% to 90% (non-condensing)
 - Shipping is 5% to 90% (non-condensing)

Warranty – 3 years

3.1.3 65" Display Monitors (Flat Screen TV)

The 65" display monitors shall have the following attributes:

Design

- Type: LED
- Bezel width: 0.3" thin

Video

- Screen Size: 64.5 in.
- Resolution: 3840 x 2160

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

- Clear Motion Rate: 1200
- UHD Up Scaling: Quadmatic Picture Engine

Features

- Smart Hub: Yes
- Processor: Quad Core
- APPS Platform: Yes

Electrical

- Power: AC110-120v 60 Hz

System

- DTV Tuner: ATSC / Clear QAM

3.2 Control Center Keyboard

The control center keyboard is used at each control room workstation to select CCTV images and control pan, tilt, zoom for that image. It has an LCD display with adjustable contrast and color-coded tactile elastomeric keys. The selectable keyboard protocols have a recommended standard of RS-232/ADnet (RS-485) for control of various matrix switching systems.

This keyboard shall have direct control of RS-232 devices via remappable keys. Cameras, presets, patterns, views, and auxiliaries can be controlled and all system activities, including tours, salvos, and alarms, can be controlled directly by this keyboard.

The control center keyboard shall have the following attributes:

- Variable-speed and vector-solving joysticks
- LCD with adjustable contrast
- Selectable keyboard protocols, RS-232 or ADnet (RS-485), for control of various matrix switching systems
- Passcode protection for programming functions
- Lens, tour, salvo, and alarm control
- ADnet (RS-485) mode
- RS-485 control of MegaPower LT
- Direct control of RS-232 devices via remappable keys
- RS-232 for MegaPower 48 Plus and MegaPower 3200 systems
- Video recorder control (DVRs and VCRs)
- Power requirement: 12 VDC
- Power consumption: 3VA
- Operating temperature: 32 – 122 F
- Warranty – 3 years

3.3 SLERS Remote Base Controller

Each workstation is equipped with a remote base controller to communicate over the available two channels on the Statewide Law Enforcement Radio System (SLERS). The remote base controllers connect over voice over internet protocol (VoIP) to the existing M7300 control stations located at the SunGuide Transportation Management Center. The remote base controllers shall have the following attributes:

- Input Voltage: 117/230 Vac \pm 20% (50/60 Hz)
- Standby Voltage: 12 – 15 Vdc
- Standby Current @ 13.8 Vdc: 287 mA (TX), 645 mA (RX), 267 mA (standby)
- Input Power (max): 8.5 W (TX), 20 W (RX), 8.5 W (Standby)

Request for Proposal - Exhibit A, Scope of Services
SunGuide TMC Control Room Retrofit Project

- Temperature Range: 0 to +60 deg C
- Temperature Range with LCD: 0 to +50 deg C
- Relative Humidity: 90% at 50 deg C
- Line impedance: 600 ohms (4-wire RX); 600 or > 5k ohms (4-wire TX or 2-wire)
- Line audio output: -20 dBm to +10 dBm into a 600 ohm load
- Tx hum & noise: -55 dB (ref. +10 dBm)
- Threshold of compression: -20 dBm adjustable
- Speaker audio output: 3 W into 4 ohms
- Distortion (at rated speaker output): < 3%
- RX hum & noise: -55 dB
- Frequency response: +1, -3 dB (300 to 3000 Hz except at notch frequency)
- Rx Compression: With an audio increase of 30 dB beyond the start of compression the output increases less than 3 dB
- Tx Compression: With an audio increase of 30 dB beyond the start of compression the output increases less than 15 to 17 dB
- Line Control: 2 or 4 wire audio
- Notch filter depth: > 45 dB (RX), > 45 dB (TX)

Section 4 – Appendices

- Video Wall Display Cubes (Mitsubishi Series VS-67PE75L Model) Information
- Specifications
- 90% Plans
- Division I General Requirements and Covenants
- Control Room Finish Rendering