Appendix P

Scope of Services Template

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Definitions

1. Project Description

Describe the project, its history, and how it came into being. Identify the stakeholders are and who is funding the project.

1.1 System Description

Describe the system being deployed by the project in general terms, but not in great detail. Minimize the use of acronyms.

1.2 Scope of the Project

This document specifies the work tasks for the contract vendor that provides the system. Describe any constraints or limitations on the project, such as the following example from the SunGuide^{SM} Software System project.

Include a figure depicting the boundaries of the project. These are typically the external interfaces to the project.

Figure P.1 – External System Interfaces

[INSERT FIGURE HERE]
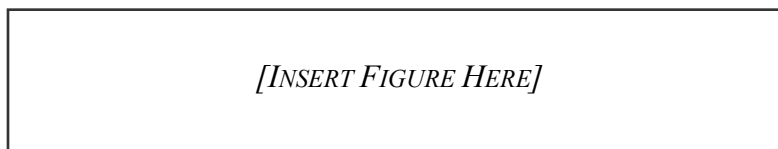
If appropriate, describe the phases of the project and the products of each phase. Be clear about who has responsibility for integrating the products. Use graphics if there are many deliverables and interfaces.

Figure P.2 – Products to be Integrated and Delivered in Phase X

INSERT FIGURE HERE
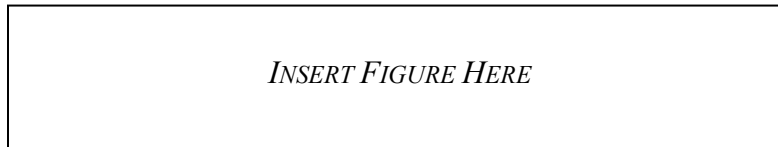
1.3   Technical Requirements

The functional requirements the system must meet should be specified in a separate document referred to as the *Requirements Specification*. All technical requirements are uniquely identified by a letter-number combination and address what functions the system must provide. In some cases, an architecture is assumed for the context of the requirement; however, it is the FDOT's intention to acquire the system in the most cost-effective manner possible. Off-the-shelf products that are already available in the public domain or public sector shall be considered first.

1.3.1   Responsibility for Requirements

In some cases, the FDOT may be responsible for implementing parts of the system or support structures to enable the system to meet a requirement. Since the system requirements are not vendor specific, clearly document and agree to who is responsible for meeting each requirement. An example of possible wording is provided below.

> *The system functional requirements have been developed by the FDOT and modified in accordance with conclusions reached during negotiations. The Requirements Specification has been developed by the FDOT and updated to include negotiation conclusions. Appendix X of this document lists each requirement and identifies the responsible party.*

1.4   Contract Type

Describe the type of contract that will be used. Examples include cost plus fixed fee, cost plus incentive fee, fixed price, lump sum, not to exceed, and others.

1.5   Software Ownership

If software is developed for the project, the ownership of the software must be clearly understood. An example of a paragraph addressing software that was developed at the FDOT's expense is provided below.

> *It is an objective for the FDOT to own the source code for System X, including complete documentation, training, and environmental development tools for Contract Vendor-trained, FDOT-designated personnel to maintain the software. Prior to the start of software design, the Contract Vendor shall provide a baseline for all software that is provided as the starting point for the System X software.*

2.   Applicable Documents

List all documents that are referenced by the scope of services document. Do not reference any documents that are not specifically identified in the scope of services document. Include the following paragraph.

> *The following documents, of the exact issue shown, form a part of this document to the extent specified herein. In the event of a conflict between the documents referenced herein and the contents of this Scope of Services, this document shall be considered the superseding requirement.*

Document	Publisher and Address
Document Title, revision number Date of Publication	Name of Publisher Address and contact telephone number Web site or e-mail contact as appropriate

3.   Statement of Work

The opening paragraph should explain that the contract vendor is responsible for providing a detailed statement of work (SOW) in a project work plan document that meets the requirements for managing the project contained in this section of the scope of services. A sample paragraph is provided below.

The SOW described in this section is a general guide and is not intended to be a complete list of all the work necessary to complete the project. One of the early deliverables by the contract vendor will be a detailed work plan. The SOW contains work tasks that are necessary to meet the FDOT's project requirements.

> *The selected Contract Vendor shall implement a comprehensive, fully integrated suite of software systems covering the general functional areas and specific requirements detailed in the Requirements Specification.*

3.1   Contract Obligations

Describe exactly what the FDOT is responsible for with regard to the contract. An example follows.

> *The FDOT will be responsible for:*
>
> - *Designating a project manager*
>
> - *Forming a project steering committee*
>
> - *Providing all existing documentation in the FDOT's possession on the equipment and systems required to interface with the system*
>
> - *Coordinating the documentation for an interface with other projects. Acquiring an interface control document (ICD) from other projects, if required*
>
> - *Reviewing, commenting, and approving the detailed work plan, design, test plans, test procedures, product submittals, documentation, and other deliverables*
>
> - *Monitoring the project's implementation progress and schedule*
>
> - *Providing reasonable facility access and staff support*

- *Providing transportation management centers (TMCs) with the recommended hardware, commercial software, and communication hardware at each deployment site*

- *Participating in requirements reviews, integration testing, acceptance testing, implementation, training, and status meetings*

- *Providing geographic information system (GIS) map databases in ArcView® format[1]*

3.2 Contract Vendor's General Obligations

List the general obligations the contract vendor has under the terms of the contract. An example follows for a hypothetical project.

> *The Contract Vendor and its subcontractors will be responsible for:*

- *Designating a project manager and key project team members*

- *Providing a master project schedule using the latest Primavera® software with significant milestones shown in three views: program evaluation and review technique (PERT), critical path method (CPM), and Gantt format*

- *Providing detailed software design and integration with complete software system design documentation, including the plug-in to Y communications and an ICD jointly coordinated by Company Y and the Contract Vendor*

- *Providing special test equipment needed for training and testing, and any other equipment needed to implement a complete and functioning system*

- *Providing development hardware and software in the Contract/Vendor software development and test laboratories*

- *Identifying the hardware requirements for system implementation, so the FDOT can furnish the computer-related equipment and networks for system integration and testing (SIT) for the TMC*

- *Scheduling and coordinating with the FDOT's System X project manager to ensure that adequate network infrastructure and data links are provided by the FDOT*

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[80] ArcView is a registered trademark of Environmental Systems Research Institute, Inc.

- *Acquiring all application and system software required to implement the functional capabilities of the project*

- *Integrating all software into an operational system*

- *Testing all functional capabilities of the system*

- *Providing network and workstation security*

- *Packing, shipping, insuring, and delivering all parts; training and maintenance materials; submittals; and documentation to the FDOT, as directed*

- *Implementing a rigorous, structured integration methodology*

- *Implementing a rigorous configuration management (CM) system*

- *Implementing and executing a formal software development process*

- *Providing staged installation, start-up, and checkout of the system using the FDOT's test bed or the FDOT- approved test bed*

- *Engineering and programming technical support for the FDOT during the contract period*

- *Completing documentation for all hardware (as applicable) and software training, including a complete operator/administrator manual; user and service documentation; and the drawings listed in Section X*

- *Inventory control and asset management of all hardware, software, and documentation*

- *Training FDOT-designated personnel*

- *Project management and control, including attending periodic progress meetings with and reporting to, the FDOT staff*

- *Maintenance and support of the system for the duration of the contract*

- *Standard warranty services for the duration of the contract*

- *Postimplementation maintenance support for delivered software within the contract period, renewable in one year increments*

- *Hardware for software development and factory integration and testing*

- *Providing all licenses that use the public domain software in Florida before the project award. The Contract Vendor shall provide the FDOT with all related licenses*

- *Create and maintain a project Web site during the contract period to:*

  o *Update project progress*
  o *Post documentation*
  o *Post meeting agendas, minutes, and action items*
  o *Provide demonstrations that have been approved by the FDOT*

3.3   Other Participants' Obligations

List any other participants in the project who have project obligations even though the scope of services is only for the contract vendor. This will clarify who exactly is responsible for what on the project. The third party could be another FDOT organization or another state's department of transportation (DOT).

3.4   Project Tasks

List all the work tasks to be performed. Do not list any system performance requirements. A graphic depiction of the task structure should be included in the introduction. For example, project management may consist of three or four subtasks, such as project manager, administrative support, meetings, and travel. This organization of the tasks and subtasks will provide the structure for collecting costs and reporting schedule status. The contract vendor is expected to follow this structure in developing a detailed work plan.

3.4.1   Task 1 – Project Management (Contract Vendor)

Describe the duties the project management function is to perform for the project. This should focus on the project reporting requirements. Always state the requirement as "at a minimum" so as not to limit what the contract vendor can do. For example:

> *At a minimum, the Contract Vendor's project manager will be responsible for:*

- *Organizing a project team, and identifying key team members and their specialties*

- *Providing periodic updates to the work plan and schedules. Changes to the work plan and schedules that exceed 10 percent of the baseline require approval by the FDOT.*

- *Submitting monthly project status reports detailing progress towards fulfilling the objectives in the work plan and its project schedule; highlighting items on the critical path; and reporting on the status of risk mitigation efforts*

- *Continue listing the major work tasks for the project management function.*

3.4.1.1 Administrative Reports

List the administrative reports required by the project and the frequency for submission. A contract deliverable requirements list (CDRL) identifies all deliverables. For example, the following text might be used for the CDRL:

The FDOT requires the deliverables indicated below from the Contract Vendor in order to monitor progress and ensure compliance. (Refer to Section X.)

- ***Detailed Work Plan** – The Contract Vendor shall develop a detailed work plan listing all the tasks the Contract Vendor will perform to fulfill the requirements of the X contract. At a minimum, the work plan shall contain a detailed work breakdown structure (WBS) that is keyed to the level of cost and schedule reporting. The work plan may incorporate the staffing plan and schedule, or it may reference them.*

- ***Risk Management Plan** – The Contract Vendor shall develop a risk management plan that identifies project risks and possible ways to mitigate those risks. The Contract Vendor shall report on the status of each identified risk in the monthly progress report until that risk is fully mitigated. Risks shall be classified as: 1) cost, 2) schedule, and/or 3) technical. Even though the contract is limited to a maximum budget that may be adjusted through an amendment process, it is critical that the Contract Vendor keep the FDOT informed of any potential impacts to cost and what steps the Contract Vendor is taking to mitigate the cost impact. It is in the FDOT's best interest for the Contract Vendor to meet their cost and schedule commitments, and the FDOT will actively support the Contract Vendor in achieving those commitments. When new risks are identified, revisions to the risk management plan shall be issued.*

The Contract Vendor shall, at a minimum, address the following potential risk areas:

o *Development of new software modules*
o *Platforms for integration and testing*
o *Adequate technology transfer of the system*
o *Stability of hardware suppliers*
o *Inability of hardware suppliers to meet NTCIP standards*
o *System security*

- **Staffing Plan** – *The Contract Vendor will identify the key individuals to be involved in the project during negotiations and indicate in the staffing plan the number of personnel assigned to each element of the WBS. A key individual is defined as a person who is a task leader or individual contributor with specialized knowledge applicable to the project. No key individual may be removed or substituted on the project without approval by the FDOT.*

- **Detailed Schedule (PERT with CPM and Gantt Summary)** – *The Contract Vendor shall develop a detailed PERT diagram based on the WBS and work plan that, at a minimum, identifies:*

o *Earliest start dates for a tasks*
o *Latest start dates for tasks*
o *Earliest finish dates for tasks*
o *Latest finish dates for tasks*
o *Schedule float time in days*
o *Duration of tasks in days, where the minimum increment is one day*
o *Task names and task numbers*
o *Resource(s) needed*
o *Critical path information*

The PERT chart shall be used to generate the CPM and Gantt charts. The Contract Vendor shall edit the CPM and Gantt charts to show major tasks only, and shall clearly identify the key project milestone dates. The PERT chart shall be used to manage the critical path. Project baseline schedule and costs shall not be changed without the FDOT's approval. The summation of schedule changes relative to a baseline of less than 10 percent shall not warrant a change in baseline.

- **Draft and final documentation as required**

- ***Monthly Progress Reports** – The Contract Vendor shall prepare a progress report each month to be provided to the FDOT by the fifth day of the next month. The progress report shall include the following items:*

  o *An updated project schedule with explanations of any deviations from the planned delivery schedule. The explanations shall include the anticipated impact of any delays and a plan for returning to the target schedule. All delays shall be factored into the project schedule as soon as the Contract Vendor's project manager is aware of them. In addition, all changes to the schedule since the last progress report shall be identified.*

  o *An updated list of all correspondence transmitted and received*

  o *An updated documentation schedule that highlights the documents to be transmitted for review during the next two reporting periods*

  o *A summary of pending and upcoming Contract Vendor and FDOT activities during the next two reporting periods along with required completion dates*

  o *Updates to risks previously identified or newly identified risks and recommended mitigation strategies*

  o *Status of unresolved contract questions and change requests*

  o *A description of current and anticipated project problem areas or risks and the steps to be taken to resolve each problem*

  o *The status of the critical path and deliverables listed in the CDRL.*

3.4.1.2   Administrative Meetings

List all the administrative meetings that the contract vendor is expected to attend. If possible, list where the meetings will be held and the duration of each meeting.

3.4.1.3   Transmittal of Deliverables

Describe how deliverable documentation will be handled and processed. Pay particular attention to addressing how unresolved conflicts will be disposed of. These refer to comments made by the FDOT on documents that the vendor disagreed with or refused to change. It is important that the time to respond to comments and close out a deliverable is dependent on the timeliness of the document. It makes no sense to continue to argue and edit a document months after its applicability has past such as a design document for a software package that was already installed and tested.
It is recommended that each deliverable have two review and comment cycles. For example, the preliminary draft and draft cycle, and the preliminary final and final cycle. If, after so many weeks, the contract vendor does not agree to change something in a document requested by the FDOT, the scope of services should provide a method to accept the document as is with discrepancies noted. This documentation can be used later to withhold payment for services or some other appropriate action.

Also state exactly how the FDOT will signify final acceptance of a deliverable. Will it by letter, by e-mail, or by a signature on the cover of the final submittal?

3.4.1.4 Change Procedures

Describe the process for contract change. Basically, the contract vendor will issue an engineering change proposal (ECP) that is reviewed by the FDOT Change Management Board (CMB). The ECP explains the need for change, what the change is, the benefit to the FDOT for making the change, and the cost of the change. It is also a good idea to ask the contact vendor to provide a basis for each cost estimate to help the CMB evaluate the cost effectiveness of the change.

3.4.2   Task N

Describe the next major task. At a minimum, for a design/build project, the tasks should include the following:

- Conceptual design
- Detailed design
- Integration and test planning
- Milestone demonstrations
- Technical reviews
- Training
- Documentation
- Final acceptance
- Corrective action plan (i.e., correcting system requirements that fail during testing
- Post acceptance support

A suggested section for the corrective action plan is provided below.

> *The FDOT will review and approve the corrective action plan. In some cases, the Contract Vendor may request a deviation or waiver for the requirement(s) not met. The FDOT has the discretion to approve the request, and will seek either consideration or a contract adjustment.*

> - ***Deviation*** *– The Contract Vendor may request a deviation from a stated requirement if the system can be shown to provide an equivalent functionality. A formal deviation request shall be submitted in accordance with the process and format described in the final acceptance test plan. The FDOT has the discretion to accept or reject a deviation request. If accepted, the requirement will be rewritten to reflect the new functionality and documentation will be revised accordingly.*

> - ***Waiver*** *– The Contract Vendor may also request a waiver for a requirement that is not met due to a design or implementation error. A waiver may be granted by the FDOT to accept the system as-is with the proviso that the problem will be fixed in accordance with the Contract Vendor-furnished, FDOT-approved corrective action plan within the approved schedule. If a fix for the problem proves impractical for the Contract Vendor, the FDOT may grant the waiver to accept the system as-is if the Contract Vendor provides commensurate consideration for the lack of specified functionality and there is an acceptable work-around procedure for the FDOT. The FDOT may also reject the waiver request and require that the Contract Vendor meet its obligations under the contract.*

> - ***Warranty*** *- The Contract Vendor shall warrant that the system provides the functionality that will meet the FDOT's requirements and will be operable during the contract period.*

3.4.2.1   Software Ownership

An example of how to address a project that has a significant amount of software that is both newly developed for the FDOT and also pre-existing and, thereby, owned by another party is provided below.

The FDOT shall have full ownership of any works of authorship, inventions, improvements, ideas, data processes, computer software programs, and discoveries (hereafter called intellectual property) conceived, created, or furnished under this contract, with no rights of ownership to the Contract Vendor. The Contract Vendor shall fully and promptly disclose to the FDOT all intellectual property conceived, created, or furnished under this contract. The Contract Vendor hereby assigns to the FDOT the sole and exclusive right, title, and interest in and to all intellectual property conceived, created, or furnished under this contract, without further consideration. This contract shall operate as an irrevocable assignment by the Contract Vendor to the FDOT under this contract, including all rights therein in perpetuity. The Contract Vendor shall not copyright or patent any intellectual property conceived, created, or furnished under this contract without the express written consent of the FDOT. The Contract Vendor agrees to execute and deliver all documents requested by the FDOT to effect the assignment of intellectual property to the FDOT or the registration or confirmation of the FDOT's rights in or to intellectual property under the terms of this contract.

The foregoing shall not apply to any preexisting software, or other work of authorship used by the Contract Vendor, to create a deliverable, but which exists as a work independent of the deliverable, unless the preexisting software or work was developed by the Contract Vendor pursuant to a previous contract with the FDOT or a purchase by the FDOT under the contract.

The software ownership shall include the source code and documentation. At all times, the FDOT shall have access to the source code and its documentation for the purpose of modification, enhancement, or distribution. The FDOT shall distribute the software to state agencies as required and may distribute the software to other states.

The following table lists the various software modules to be modified or developed along with the source for the module, as well as who will own the software module after the development efforts are complete.

Table N identifies the software modules' ownership of the FDOT and [INSERT THE OTHER PARTY], including enhancements, modifications, and new modules. The module list is not exhaustive.

Table N – Software Ownership Modules (if appropriate)

Modules	Module Source	Ownership
Release 1		

3.5   Project Schedules

Provide a high level GANTT chart of the major milestones required by the project. It is expected that the contract vendor will provide a more detailed schedule in their work plan that will be based on the project milestones identified here.

4.   Contract Deliverable Requirements List

Provide a tabular list of all documents that are required. Provide a unique numerical identification code for each deliverable for tracking purposes. It is suggested that a draft and final be indicated by a decimal value, for example a preliminary draft work plan might be deliverable 1-1.1, the draft might be 1-1.2, the preliminary final might be identified as 1-1.3 and the final as 1-1.4. A deliverable that is expected to have many revisions may be listed as 1-2.n.

Table P.1 – Contract Deliverable Requirements List (CDRL)

Deliverable Number	Title	Due Date	Data Item Description (DID)
Document Number	Document Name	Specify when the document is required. This is usually stated relative to some point in the contract, such as the notice to proceed (NTP) or 10 working days after receipt of comments.	DID Reference (Refer to *Section 5.1* below.)

4.1 Data Item Descriptions

In some cases, the FDOT may have a specific format in mind for a document and the exact format is provided in a data item description (DID). List as many DIDs as required. If a document is listed as a deliverable but has no DID associated with it, then the contract vendor is free to use their own format for the deliverable. Each DID should have a unique identifier that can be used in the CDRL table to link it to the deliverable.

5. Notes

This section is provided for any further information required for clarification of the scope of services. If there is nothing to add to the scope of services document, still include this section and state there are no notes at the time of publication.

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