



San Luis 2 Land Port of Entry BIM and BIM-Based Facilities Management Services

**U.S. General Services Administration
Public Buildings Service
Office of the Chief Architect
National 3D-4D-BIM Program**

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A complete copy of this announcement is available at <http://www.gsa.gov/bim>. Click the BIM Solicitations link on the left.

Program Background and Project Description

Program Background:

In July 2003, the Office of the Chief Architect (OCA) established the National 3D-4D-BIM Program. To date, OCA has initiated over 70+ capital projects across the nation using an array of 3D, 4D, and Building Information Modeling (BIM) technologies in support of GSA business needs. The power of visualization, coordination, simulation, and optimization from three-dimensional (3D), four-dimensional (4D), and BIM computer technologies allow GSA to more effectively meet customer, design, construction, and program requirements. GSA is committed to a strategic and incremental adoption of 3D, 4D, BIM technologies (www.gsa.gov/bim).

Project Description:

Project Name: San Luis 2 Land Port of Entry (New Construction)

Building Type: Land Port of Entry (border station)

Location: San Luis, AZ

Approximate Area: Roughly 30,000 gsf spread among several small buildings, and approximately the same amount of additional square footage in the canopy areas.

Year Built: Under construction, anticipated completion September 2009.

Project Summary:

This project is construction of a new land port of entry (border station) on the Arizona border with Mexico.

The current GSA Computer Maintenance and Management System (CMMS) does not adequately capture the required equipment information necessary for the effective management and operation of its facilities. GSA has a desire to enhance its building information database with this information to create a more robust and effective building management environment, enabling coordinated commissioning activities and facility management (e.g., maintenance schedules, maintenance coordination, mechanical operation, etc.) across building life-cycle phases.

The phase of work covered by this solicitation is limited to creation of a mechanical, electrical and plumbing model, and population of applicable fields during the construction process as submittals identify specific products and installation details. GSA shall provide a spatial program BIM, developed through Final Concept, as a basis for the MEP model.

Objectives for this BIM Solicitation:

- To create a BIM(s) that contains a selected population of critical mechanical, electrical, and plumbing objects for building services such as HVAC, BAS, and Lighting that may be utilized for building design, construction, and operation. The model will support services such as spatial validation, clash detection, and building operations and maintenance activities. The model shall include several buildings within the Land Port of Entry.
- To populate the critical mechanical, electrical, plumbing, and civil objects with the appropriate performance requirements and as-built information. The object attribute information that is captured will be used throughout the building lifecycle and integrated into the GSA CMMS (which is an in-house developed application). Systems integration with the GSA CMMS is not part of this scope.
- To assist the GSA in developing Best Practices that will be incorporated into GSA's BIM Guide Series. It is the intention of the government to develop the Best Practices in a collaborative way so that future use of BIM for similar applications yields high quality deliverables in the most efficient manner.

Scope of Services

The following sections describe the services requested through this solicitation. The contractor shall coordinate and seek approval from the GSA COTR regarding the equipment *object types*, elements, element attributes, and zones to be modeled (these are defined later in this section). Information on the specified equipment object types, elements, and element attributes, to be modeled will be provided to the contractor directly by GSA COTR as that information becomes available. All services listed below include the support of development of best practices guidelines for the GSA BIM Guide Series.

This BIM Scope of Work will be a Firm Fixed Price Contract.

1.0 Base Services

The contractor shall provide a BIM of the following components outlined in 1.1-1.7, using the existing spatial validation BIM as a starting point. The contractor shall properly use available "object information" that embody information about the building component requirements and properties (e.g., construction materials, functional information, dimensions, etc). Contractor shall coordinate with GSA to determine which buildings to model.

GSA shall provide the contractor with the 100% Construction Document AutoCAD files, the spatial validation BIM, and applicable MEP submittals (in either PDF or hard copy). Submittals will be provided as they become available during construction. Contractor shall assume that a Final Concept spatial program BIM (i.e., architectural and structural BIM) is available as a starting point.

Contractor shall coordinate with GSA COTR to determine the exact mechanical, electrical, and plumbing objects to model.

1.1. Site 3D Model/BIM

The contractor shall provide a 3D model and/or BIM of the surrounding landscape, extending to the boundaries of the Port of Entry.

1.2. MEP BIM

The contractor shall provide a MEP BIM that models the major *object types* for these disciplines. Contractor shall model MEP objects both within each building, between buildings, and entering the site. Contractor shall coordinate with GSA COTR to determine which objects to model in BIM. Contractor shall assume 30 object types shall be modeled.

Example *object types* are:

Mechanical: package units and other heating/air conditioning units, pumps, fans, ducts, controls, etc.

Electrical: electric panels, fluorescent lighting, fiber optics cables, cable trays, conduit, feeders, fire alarms, etc.

Plumbing: sprinkler systems, storage tanks, pumps, supply piping, transformers, gas lines, water supply piping, etc.

1.3. Modeling of Required Building Equipment Attributes (Performance Requirements)

The contractor shall populate the building elements modeled with equipment information that captures the performance requirements specified by the design team. In addition to the basic properties of name/description, dimensions, location, National CAD Standard acronym and *OmniClass* classification, an average of 15 equipment attributes (e.g. hp, gpm, rpm, power factor, etc.) should be anticipated for each object.

1.4. National CAD Standard

To ensure stability and conformity throughout the life cycle of all assets and repairs, the GSA desires to create a standard system of acronyms based upon the National CAD to identify equipment. The contractor shall coordinate with the GSA COTR to obtain the appropriate acronyms for the building equipment modeled. This information will be included in the list of attributes that is assigned to the required building elements.

1.5. *OmniClass*

The *OmniClass* Construction Classification System (known as *OmniClass* or OCCS) is a new classification system for the construction industry developed by the Construction Specification Institute (CSI). It builds upon MasterFormat for work results, UniFormat for elements, and EPIC (Electronic Product Information Cooperation) for structuring products. *OmniClass* is a reference library that will serve as the foundation upon which information is transferred between the BIM, COBIE, and GSA's CMMS (see Section 6.0). The contractor shall include the appropriate *OmniClass* classification in the list of attributes that is assigned to the

required building elements. The contractor(s) shall coordinate with the GSA COTR to ensure the correct application to *OmniClass* to the modeled elements.

1.6. Construction Operations Building Information Exchange (COBIE)

The Construction Operations Building Information Exchange (COBIE) is a buildingSMART initiative of the National Institute of Building Science's (NIBS) Facility Maintenance and Operations Committee, the Facility Information Council, the International Alliance for Interoperability, and the National Building Information Model Standard. It is a federal government sponsored effort to support the development of BIM via information exchange between the construction and operations phases. COBIE has several functions. First, it serves as a repository for important equipment information, as does the BIM model. Second, it allows for the collection and management of electronic construction submittals in various file formats, and enables the owner to ensure that the performance requirements for the project have been met.

The contractor shall coordinate the appropriate equipment information from the BIM with the COBIE system. As construction as-built data is submitted to COBIE by the general contractor, the BIM services contractor shall update the appropriate equipment attributes in the BIM model. The contractor shall coordinate with the GSA COTR to ensure the correct coordination between the BIM and COBIE.

Equipment information from COBIE and the BIM will be transferred directly into the GSA CMMS by the GSA facility management team. The contractor will coordinate with the facility management team to ensure the information to be transferred is complete and in the correct format.

2.0 OPTIONS

2.1. OPTION A

Execute Base Services (Sections 1.1-1.6). However, exercising Option A will require an additional 30 *object types* beyond the Base requirements to be modeled (for a total of 60 *object types*).

2.2. Option B

Architectural and Structural BIM

Contractor shall assume that a spatial program BIM is available as a starting point. Contractor shall further detail the architectural and structural BIM to accordance with the 100% Construction Documentation.

Architectural: The BIM(s) shall include slabs/floors, walls (exterior), roofs, doors, windows, etc.

Structural: The BIM(s) shall include trusses, beams, columns, joists, pre-cast systems, etc. (if applicable)

3.0 SPECIFICATIONS OF DELIVERABLES

3.1. BIM Modeling Plan

The contractor shall submit a BIM modeling plan within 60 days after the NTP. The modeling plan shall include how the contractor anticipates modeling the BIM. The BIM modeling plan must indicate (subject to GSA approval) objects and attributes to be included, and information source (e.g., construction documents, submittals).

The complete BIM model shall be submitted not later than July 1, 2009. GSA may inspect the model under development at any time between NTP and the due date for submission of the complete model.

3.2. Quality Control

The contractor shall provide Quality Control Reports based upon the chosen Options that verify the model(s) accuracy in accordance with the DST. They should identify the BIM modeling technological restrictions encountered during the modeling process, and the specific steps that will be taken to work around these restrictions.

The contractor shall provide biweekly narrative status reports to the GSA COTR via email. These reports should summarize completed tasks, upcoming tasks, risks, and mitigation plans.

The contractor shall be responsible for the quality, technical accuracy, and the coordination of all deliverables. The contractor shall, without additional compensation, correct or revise any errors or deficiencies.

Neither the Government's review, approval or acceptance of, nor payment for, the services required under this contract shall be construed to operate as a waiver of any rights under this contract or of any cause of action arising out of the performance of this contract.

3.3. Deliverables Specification Table (DST)

Option	Description	Examples
Base	Modeling Plan and QC Reports	.doc, .pdf
	Editable Site, MEP BIM Models on a native platform (30 object types)	.rvt, .pln, .dgn
Option A	Editable Site, MEP BIM Models on a native platform (60 object types)	.rvt, .pln, .dgn
Option B	Editable Architectural and Structural BIM on a native platform	.rvt, .pln, .dgn

4.0 EVALUATION FACTORS

The evaluation factors below will be considered when selecting the offeror for award. For each proposal pertaining to a particular project location, the bid package shall not exceed a total of ten pages. Cover and separation sheets are counted and any page after the tenth page will not be considered.

4.1. Cost

Offeror shall indicate a firm fixed price in Appendix A.

4.2. Personnel and Past Performance

This factor measures the relevancy of the offeror's past experience to the requirements of this project. The offeror shall identify key personnel, key subcontractors, and a proposed schedule for the project, as well as a detailed plan describing how the offeror intends to execute the work. The offeror shall identify key positions in their organization they intend to utilize for the project and shall provide a rationale for selecting these positions as being "key". The offeror shall provide resumes for its key personnel. Resumes must document recent and relevant experience (within the past five years).

Offerors shall provide a description of all relevant BIM Modeling projects that had like or similar requirements over the past three years, in particular any experience relating to facility operations and maintenance. Provide descriptions including the project size, objectives, and deliverables. Images and diagrams may be used if available. In addition, this criterion measures the quality of the offeror's past performance for similar projects as defined herein. Quality is judged with respect to workmanship, administration, cost control, cooperation, and adherence to schedule and will be evaluated through reference checks made by the Government on relevant projects, completed or in progress, that include activity-specific experience.

4.3. Technical

This factor measures the offeror's demonstrated understanding of the project through a preliminary BIM Modeling Plan and QC Plan (see Sections 2.1-2.3). These plans should address operation and risk mitigation strategies with respect to the services and deliverables outlined in Sections 1.0. Outside references are encouraged.

5.0 GOVERNMENT FURNISHED INFORMATION

The government shall cooperate to the fullest extent possible in providing information that is known to exist. Information listed below will be made available to the contractor upon request via the GSA COTR.

5.1. Current drawings and Specifications

100% Construction Document level AutoCAD files, spatial validation BIM, and applicable MEP submittals (which may be either PDF or hard copy) will be provided.

5.2. Site Visit

The government will coordinate one site visit prior to the actual on-site scanning. The site visit schedule will be promulgated at a later time.

5.3. Data Access

The contractor may receive access to other data and information necessary to perform this work only if determined and facilitated by GSA and upon GSA's discretionary rights, resolve and approval.

5.4. Pre-Bid Conference

The CO, GSA COTR, and regional teams will hold a pre-bid teleconference on **Wednesday, August 20th, at 2pm ET**. Contractors bidding on any portion of this solicitation will have the opportunity to gain clarifications on that day. The teleconference number is **800-779-6152** and passcode is **BIM**.

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5.5. Site Access

The government will assist the contractor with obtaining security access to the site. The contractor shall be responsible for all administrative matters regarding applications for access.

5.6. Location of Modeling Services

Modeling services shall be performed within the United States. Contractor shall notify GSA COTR if modeling services are performed outside the US.

5.7. Notice To Proceed

Award of this contract will be predicated upon security clearance approvals which are conducted by security personnel at the project location. Therefore, although an award is made by GSA for performance under this contract, work may not commence until a Notice To Proceed is formally issued by the Contracting Officer. GSA assumes no financial obligation for the period between the award of the contract and the Notice To Proceed. If a Notice To Proceed is not issued due to security concerns, GSA reserves the right to terminate the contract without recourse.

5.8. Ownership and Rights in Data

GSA PBS shall have ownership of and rights to all data contained in BIMs and other deliverables developed and provided by the A/E in accordance with the applicable provisions of the A/E contract, including relevant clauses detailed under FAR 52.227 and GSA Order 3490.1. The contractor must comply with, but is not limited to, the following 3490.1 clauses:

All 3D, 4D, and Building Information Modeling-related information is considered to be Sensitive But Unclassified (SBU). SBU documents provided under contract are intended for use by authorized users only. In support of the contracted requirements, GSA will require contractors to exercise reasonable care when handling documents relating to SBU building information. Dissemination of any information provided for, generated by, and resulting from GSA projects is only allowed to authorized users. It is the responsibility of the person or firm disseminating the information to assure that the recipient is an authorized user and to keep records of recipients. Valid identification for non-Government users is required to receive SBU building information. For qualifying forms of identification, refer to GSA Order 3490.1.

The efforts required above shall continue throughout the entire term of the contract and for whatever specific time thereafter as may be necessary. Authorized users should store electronic information in a password protected (non-public) environment. Necessary record copies for legal purposes (such as those retained by the architect, engineer, or contractor) must be safeguarded against unauthorized use for the term of retention. Documents no longer needed shall be destroyed (such as after contract award, after completion of any appeals process or completion of the work). Destruction shall be done by burning or shredding hardcopy, and/or physically destroying CD's, deleting and removing files from the electronic recycling bins, and removing material from computer hard drives using a permanent erase utility or similar software. A Written Agreement of Disposal must be provided to the GSA upon contract completion.

For further detail, refer to GSA Order 3490.1, FAR 52.227, and other relevant data ownership and rights regulations. A copy of these documents may be obtained by contacting the GSA CO.

6.0 ADMINISTRATION

6.1. GSA Representatives

On behalf of the GSA Contracting Officer (CO), the GSA COTR is responsible for the general administration of this Work Order and review/acceptance of all task deliverables. The following individuals will serve as the Government points of contact concerning the contract negotiations, information exchange, submission review, and payment. Nothing said by the GSA COTR and/or the regional project team shall be construed to change contract requirements unless supported in writing by the CO.

Contracting Officer	COTR	Region 9
Collette Scott, Contracting Officer	TBD	TBD

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6.2. Payments

Payment terms shall be Net-30 following receipt of Deliverables. Invoices must be transmitted electronically to GSA Ft. Worth, TX. All invoicing questions should be directed to Ft. Worth at (817)-978-2397.

Appendix A – Bid Proposal Summary Sheet

Contractors shall use this form as an attachment to their bid proposals. Contractors are to insert bid costs for base deliverables.

Bid Sheet – San Luis II LPOE		
Option	Description	Cost
Base	Modeling Plan and QC Reports	\$
	Editable Site, MEP BIM Models on a native platform (30 object types)	
Base Bid:		\$
Option A	Editable Site, MEP BIM Models on a native platform (60 object types)	\$
Option B	Editable Architectural & Structural BIM	\$
Options Bid:		\$
Base + Options Bid:		\$
Contractor Name:		