



Madawaska LPOE Scope of Work (SOW) for BIM Services

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

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Program Background and Project Description	3
Scope of Services	4
1.0 Base Services	4
1.1. Architectural BIM	4
1.2. Structural BIM.....	5
1.3. Site 3D Model/BIM	5
1.4. BIM Coordination Services.....	5
1.5. 4D Model for Construction Phasing.....	5
2.0 OPTIONS	5
2.1. Option A	5
2.2. Option B	6
3.0 SPECIFICATION OF DELIVERABLES.....	6
3.1. BIM Modeling Plans	6
3.2. Quality Control.....	6
3.3. Deliverables Specification Table (DST).....	7
4.0 EVALUATION FACTORS	7
4.1. Cost.....	7
4.2. Personnel and Past Performance.....	7
4.3. Technical.....	8
5.0 GOVERNMENT FURNISHED INFORMATION	8
5.1. Current drawings and Specifications.....	8
5.2. Site Visit	8
5.3. Data Access	8
5.4. Site Access.....	8
5.5. Location of Modeling Services	9
5.6. Ownership and Rights in Data.....	9
6.0 ADMINISTRATION.....	10
6.1. GSA Representatives.....	10
6.2. Payments	10

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: Madawaska Land Port of Entry (LPOE)

Building Type: Land Port of Entry

Location: Madawaska, ME

Project Phase: Early Design

Approximate Area: 30,000 SF

Project Summary:

The project is for an LPOE facility of approximately 30,000 SF of building program located in Madawaska, Maine. (See Appendix B). The existing facility is located on less than 1 acre at the foot of the International Bridge (circa 1926) which spans the St. John River at the location of Madawaska, Maine (pop 7500) and Edmundston, New Brunswick (pop 20,000). The site is bounded by the Montreal, Maine & Atlantic Rail Road (RR) which runs parallel to the top of the riverbank, and limits the existing LPOE site to approximately 150' of width. Beyond the RR are located two large Fraser Nexfor Paper mills, which bracket Bridge Street as it ascends the hill to connect with US Route 1. The current existing LPOE facility was constructed in the late 1950's, and is inadequate to accommodate current processing requirements.

The new facility program will bring CBP operations to current standard of performance, but requires significantly more site area to manage traffic for the multiple layers of inspection operations. In order to manage this, GSA conducted an extensive search for suitable sites within the vicinity of the bridge. A 10 acre site was identified approximately 3/8 mile from the bridge, which is the best option available. The 10 acre site will require traffic to pass along a secure corridor along the riverbank, before passing over an elevated roadway (which will need to be constructed as part of the GSA/CBP project) across the RR right of way, to reach the new site, which is located on a plateau approximately 30' above the current facility. A pedestrian processing facility will remain at the foot of the bridge to accommodate extensive pedestrian traffic between the towns and the mills.

A NEPA EIS study for this project was completed in 2007.

Objectives for this BIM Solicitation:

- To create a BIM(s) that contains a selected population of critical site, architectural, structural, mechanical, electrical, plumbing, and civil objects for communicating construction sequencing. The model(s) will support services such as clash detection, and construction phasing.
- To visualize, communicate, and validate the construction phasing schedule using 4D modeling
- To assist the GSA in developing Best Practices for the services/applications listed in sections 1.0-2.0 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. As part of a BIM Modeling Plans (Section 3.1), the contractor shall coordinate and seek approval from the GSA COTR regarding the building elements to be modeled (e.g., object types, building elements, element attributes, and zones). Information on the specified object types, elements, element attributes, and zones 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 site, architectural, and structural BIM for the proposed design and assist GSA and its stakeholders in the visualization, communication, and simulation of the building. 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). The contractor shall refer to GSA BIM Guide Series 02-Spatial Program Validation for a minimum list of required building elements to be modeled.

GSA shall provide the contractor with the most recent set of 2D drawings (Architectural and Structural) after GSA issues the Notice to Proceed, which will be Conceptual Design Phase drawings submitted by the A/E. There is a possibility that a spatial program BIM will be available for contractor's use, although this is not guaranteed. Contractor shall work with GSA COTR to determine if any existing BIMs are available.

1.1. Architectural BIM

The contractor shall provide an architectural BIM that contains all significant architectural elements. Building elements to be modeled include all exterior and interior walls, roofs, ceilings, doors, windows, and stairs.

1.2. Structural BIM

The contractor shall provide a structural BIM that contains all major structural elements, including slabs, columns, and beams. These elements shall be integrated into the architectural BIM in section 1.1, as is required by Section 3-Building Elements of the BIM Guide Series 02- Spatial Program Validation.

1.3. Site 3D Model/BIM

The contractor shall provide a 3D model and/or BIM of the surrounding landscape, buildings, and streetscape.

1.4. BIM Coordination Services

The contractor shall integrate and provide 3D geometry such that the model is compatible with clash detection software to enable design and construction coordination across architectural, structural, mechanical, electrical, plumbing, and/or civil disciplines, as project needs require. The contractor will inform GSA COTR of any conflicts after modeling the set of drawings issued by GSA COTR.

In addition to the conflict resolution services, the contractor shall deliver the final coordinated BIM to GSA.

1.5. 4D Model for Construction Phasing

The contractor shall provide a series of 3D-based diagrams, model snapshots, and 4D models to support the communication of the proposed construction phasing including, but not limited to, locations of traffic lane changes, location of construction work and staging areas. The contractor shall include any additional 3D geometry or BIM objects (in addition to the requirements established in Section 1.0) for project phasing, building upon BIM information included in Sections 3.1 and 3.2. Contractor shall coordinate with GSA COTR to determine level of detail, elements to be modeled, and types of activities to be modeled. The contractor shall base these diagrams upon the BIM models created from Section 1.1. Contractor shall coordinate with GSA COTR for phasing information.

Contractor shall develop several 4D models of different phasing alternatives. A minimum of three (3) scenarios shall be investigated. Contractor shall coordinate with GSA COTR to determine the phasing alternatives to be modeled.

2.0 OPTIONS

2.1. Option A

The contractor shall continue 4D modeling effort through 100% Construction Documents. Contractor shall provide feedback on constructability, opportunities with off-site and pre-fabrication of components. Contractor shall deliver a 4D model for purposes of communication to prospective bidders. Contractor shall coordinate with GSA COTR to determine level of detail, elements to be modeled, and types of activities to be modeled. The contractor shall base these diagrams upon the BIM models created from Section 1.5. Contractor shall coordinate with GSA COTR for phasing information.

2.2. Option B

The contractor shall continue 4D modeling effort throughout the construction phase. Contractor shall coordinate with the project's general contractor and subcontractors to coordinate sequences of work. Contractor shall coordinate with GSA COTR to determine level of detail, elements to be modeled, and types of activities to be modeled. The contractor shall base these diagrams upon the BIM models created from Section 1.5 and Section 2.1. Contractor shall coordinate with GSA COTR for phasing information.

3.0 SPECIFICATION OF DELIVERABLES

3.1. BIM Modeling Plans

The contractor shall submit BIM modeling plans for the base deliverable. The plans shall be due within 60 days after the NTP. The plans shall address how the contractor will meet the requirements of the Deliverables Specification Table (DST) shown in Section 3.3. The plans will describe the methods and means of how the contractor plans to meet the modeling requirements, including, but not limited to, the BIM-authoring tools that will be used, proposed methodologies for integrating the required equipment attributes into the BIM model (when applicable), and the proposed modeling schedule.

A preliminary BIM Modeling Plan that addresses all the Options listed shall be submitted as part of the contractor bid package. It should include, in addition to the parameters listed above, the table listed below, with the proposed Days After Receiving Order (DARO) completion time filled in.

Deliverables:	Completion Time (DARO)
Base	
Option A	
Option B	

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 (Through 100% FC)	Modeling Plan and QC Reports	.doc, .pdf
	Editable Architectural and Structural BIM, and Site 3D Model/BIM on a native platform	.rvt, .pln, .dgn
	Modeling Plan and QC Reports for 4D Model	.doc, .pdf
	Editable 4D Model	vfe, .nwd
	Editable BIM objects created for 4D model	.rvt, .pln, .dgn, .dwg
	3D-based diagrams and snapshots	.jpeg, .gif
	BIM Coordination Services with final coordinated model	.doc, .pdf, .rvt, .pln, .dgn
Option A (Through 100% CD)	Modeling Plan and QC Reports for 4D Model	.doc, .pdf
	Editable 4D Model	vfe, .nwd
	Editable BIM objects created for 4D model	.rvt, .pln, .dgn, .dwg
	3D-based diagrams and snapshots	.jpeg, .gif
	BIM Coordination Services with final coordinated model	.doc, .pdf, .rvt, .pln, .dgn
Option B (Through Construction)	Modeling Plan and QC Reports for 4D Model	.doc, .pdf
	Editable 4D Model	vfe, .nwd
	Editable BIM objects created for 4D model	.rvt, .pln, .dgn, .dwg
	3D-based diagrams and snapshots	.jpeg, .gif
	BIM Coordination Services with final coordinated model	.doc, .pdf, .rvt, .pln, .dgn

Contractors are to provide firm-fixed costs for each deliverable using the form in Appendix A. All bidders are to enter all costs (including travel cost) for the base and all optional requirements on this sheet and submit it with their proposal.

4.0 EVALUATION FACTORS

The evaluation factors below will be considered when selecting the contractor for award. For each proposal pertaining to a particular project location, the bid package shall not exceed a total of fifteen pages. Cover and separation sheets are counted and any page after the fifteenth page will not be considered. In addition to the fifteen pages, contractors shall fill out Appendix A and include it as an attachment to their proposal.

4.1. Cost

Offeror shall fill out boxes for Base services and all Options in Appendix A with a firm fixed price.

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** BIM Modeling projects that had like or similar requirements over the past three years. Provide descriptions including the project size, objectives, and deliverables. Images and diagrams may be used if available. Offerors shall submit all references from previous BIM Modeling projects. 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 3.1-3.2). These plans should address operation and risk mitigation strategies with respect to the services and deliverables outlined in Sections 1.0-2.0.

5.0 GOVERNMENT FURNISHED INFORMATION

Information listed below will be made available to the contractor upon request via the GSA COTR.

5.1. Current drawings and Specifications

Current drawings and specifications for each facility structure will be provided, if available, after GSA issues the Notice to Proceed.

5.2. Pre-Bid Conference

The CO, GSA COTR, and regional teams will hold a pre-bid teleconference on **Wednesday, August 20th, at 10am ET**. Contractors bidding on any portion of this solicitation will have the opportunity to gain clarifications on that day. The teleconference number is **888-889-1956** and passcode is **BIM**

5.3. Site Visit

The government will coordinate site visit(s) as often as necessary. Contractor shall coordinate with GSA COTR to determine logistics of the site visit(s).

5.4. Data Access

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

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

All modeling services shall be performed within the United States.

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. All email attachments must be encrypted. 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 1
Collette Scott, Contracting Officer	TBD	TBD
Physical Capital Asset Mgmt Division (PGE) 1800 F STREET NW Room: 4302	PBS Office of the Chief Architect & Capital Construction Programs 1800 F Street NW	Project Management Services Branch(1PCM) FEDERAL BUILDING
Washington, DC 20405	Washington, DC 20405	Boston, MA 02222-1047
collette.scott@gsa.gov		
202-501-9154		

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 and all options. Costs for options shall be ***in addition to*** the base bid.

Bid Proposal Summary Sheet – Madawaska LPOE		
Option	Description	Cost
Base (Through 100% FC)	Modeling Plan and QC Reports	
	Editable Architectural and Structural BIM, and Site 3D Model/BIM on a native platform	
	Modeling Plan and QC Reports for 4D Model	
	Editable 4D Model	
	Editable BIM objects created for 4D model	
	3D-based diagrams and snapshots	
	BIM Coordination Services with final coordinated model	
Total Base Bid:		\$
Option A (Through 100% CD)	Modeling Plan and QC Reports for 4D Model	
	Editable 4D Model	
	Editable BIM objects created for 4D model	
	3D-based diagrams and snapshots	
	BIM Coordination Services with final coordinated model	
Option B (Through Construction)	Modeling Plan and QC Reports for 4D Model	
	Editable 4D Model	
	Editable BIM objects created for 4D model	
	3D-based diagrams and snapshots	
	BIM Coordination Services with final coordinated model	
Total Options Bid:		\$
Total Bid (Base + Options):		\$
Contractor Name:		

Appendix B – Figures



Figure 1. Site Layout – Aerial Photo

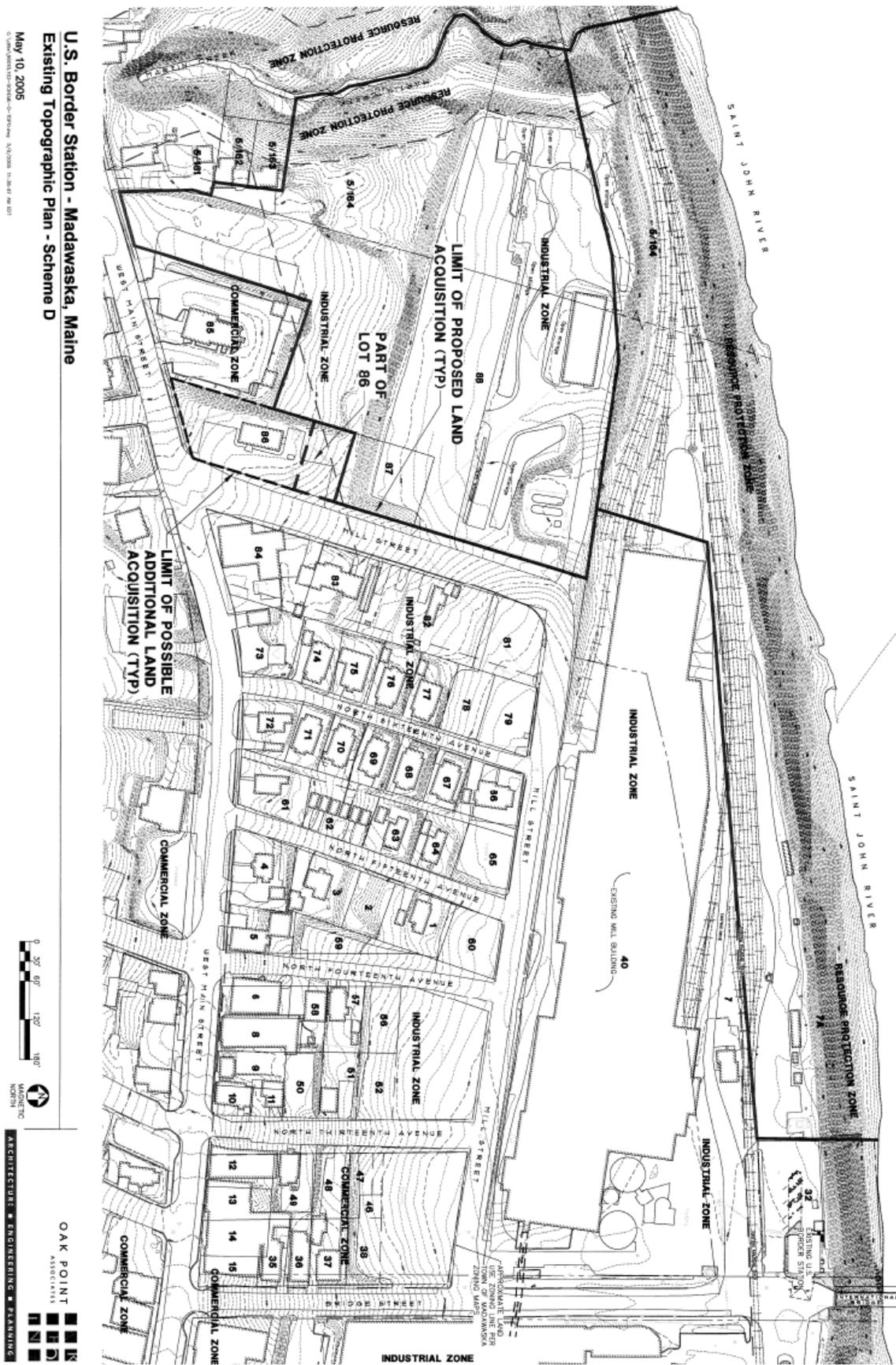


Figure 2. Site Layout – Existing Topographic Plan