

Digital Project Delivery

**Alberta Infrastructure
Asset Information Management (AIM)
Small Projects Requirements**

Change History

Date	Version	Description
October 2018	V001	First Release
August 2019	V002	Minor Revisions
June 2023	V003	Revisions of Consultant/Contractor Scope

Table of Contents

Change History	1
Table of Contents	2
Asset Information Management Objectives	3
1. AIM Point of Contact	4
2. AIM Meetings	4
3. AIM Execution Plan (AEP)	4
4. AIM Requirements	5
4.1 General	5
4.2 Asset Information Collection (AIC) Forms	5
4.3 Required Assets	5
4.4 Reality Capture	6
4.5 As-Built Drawings	7
4.6 Record Drawings	7
5. AIM Submittals	8
5.1 General	8
5.2 Progress AIM Submittals	8
5.3 Formal AIM Submittals	8

Asset Information Management Objectives

The Province's objective for the use of Asset Information Management (AIM) is to capture, manage, and exchange asset information to increase efficiency for the Province's Facility and Operations Management. The objective of the AIM requirements is the digital delivery of this asset information for projects using standardized data collection forms.

1. AIM Point of Contact

- .1 The Consultant and Contractor shall each designate one individual as the single point of contact who is accountable to the Province for the digital AIM Deliverables.
- .2 This individual is accountable for coordination of asset information collection, data input, and updates provided to the Province.
- .3 This individual shall also be accountable for the following activities:
 - .1 Ensuring compliance with the Province's AIM Small Project Requirements.
 - .2 Coordinating and submitting asset information to the Province

2. AIM Meetings

- .1 The Consultant and Contractor shall each hold one AIM kickoff meeting within two (2) weeks of project award.
- .2 The Consultant and Contractor shall each lead and facilitate recurring AIM project meetings with project team members, including the Province, at a frequency defined in the AIM execution plan.

3. AIM Execution Plan (AEP)

- .1 The AEP is a process management document created in consultation with the Proponent and the Province. The Consultant and Contractor shall each:
 - .1 Use the AEP template (GOA-AI-TSB-SPE_AEP_Template) provided by the Province as the basis for the AEP, with additional modifications according to the needs of the Proponent.
 - .2 Revise the AEP to reflect changes to the following:
 - .1 Roles and Staffing
 - .2 AIM Collaboration Procedures
 - .3 Quality Control Procedures
 - .4 Delivery and Updates
 - .5 Reality Capture Methods (Applicable to Contractor only)
 - .3 Deliver the AEP to the Province in accordance with Section 6 *AIM Submittals*.
 - .4 Resubmit the AEP to the Province following any revisions for review and confirmation of acceptance.

4. AIM Requirements

4.1 General

- .1 The International System of Units (S.I.) shall be used in all AIM documentation. The unit for linear dimensioning is the millimetre, except where the scope requires the use of the metre, such as in site plans. Integers shall indicate millimetres. Decimal numbers with three decimal places shall indicate metres.
- .2 All data collected according to the AIM Requirements shall use English as the default language.

4.2 Asset Information Collection (AIC) Forms

- .1 General
 - .1 Information contained within the AIC forms shall be consistent with all contract documents and progress concurrently with the project schedule.
 - .2 The formatting, formulas and layout within the AIC forms shall not be edited. Any unauthorized editing may result in errors within the form templates, loss of information and a noncompliant AIC Form workbook deliverable.
 - .3 Pick-lists contained within the AIC Forms workbook shall not be edited or overridden with manual entry.
 - .4 Additional rows shall be inserted as required in the locations specified on the forms only. Rows inserted in locations not specified may result in errors within the form templates.
 - .5 Forms must be populated digitally and submitted to the Province in the original XLSX format; PDF or scanned copies will not be accepted.
- .2 The Consultant and Contractor shall each capture the required data outlined in the Province's AIC Forms in accordance with *Appendix 001- AIC Form Instructions* for all assets affected by the work.

4.3 Required Assets

- .1 The list of building assets to capture in the AIC Forms cannot be stated for all buildings due to the varying design and scope for different buildings. The list of required assets for the project scope is to be developed collaboratively between the Consultant, the Contractor, and the Province.
- .2 The Consultant shall:
 - .1 Collaborate with the Province and Facility Management Staff to define a project specific list of required assets.
 - .2 Use the Maintainable Asset List template provided by the Province as the basis for the list of required assets, with additional modifications according to the needs of the Consultant.

- .3 Deliver the Maintainable asset list to the Province in accordance with Section 5 *AIM Submittals*.
 - .4 Ensure all identified assets, known during the design scope, are captured in the AIC Forms.
 - .5 Deliver the AIC forms, containing all required design information, to the Province in accordance with Section 5 *AIM Submittals*.
- .3 The Contractor shall:
- .1 Review the Maintainable Asset List provided by the Province and propose any modifications.
 - .2 Ensure all identified assets, finalized during the construction scope, are captured in AIC forms.
 - .3 Deliver the AIC forms, containing all required construction information, to the Province in accordance with Section 5 *AIM Submittals*.

4.4 Reality Capture

- .1 Reality Capture photographs produced by the Contractor are intended to capture the as-built conditions of the facility as detailed below. The Reality Capture photographs are not intended or required to be incorporated into the Record Drawings. They are for visual record only.
- .2 Methods, planning, organization and storage of Reality Capture photographs shall be detailed in the AEP for review and confirmation of acceptance by the Province.
 - .1 The Contractor shall provide the following digital photographs of the installed as-built conditions of all building elements at a minimum:
 - .1 Rooms/Spaces
 - .1 Photograph of each wall (north, east, south, and west views) prior to concealment.
 - .2 Additional photographs as needed to capture interiors of wall spaces, equipment, rough-in details or large wall sections.
 - .3 Photographs of each ceiling space (room quadrants: NE, SE, NW, SW views) prior to concealment. Break ceiling photographs of large areas into maximum of 200 square metre sections.
 - .4 Additional photographs as needed to capture interiors of ceiling spaces, equipment, rough-in details or large area ceiling sections.
 - .2 Floors/Slabs
 - .1 Photographs of each floor or slab (section quadrants: NE, SE, NW, SW views) prior to concealment/concrete pour. Break floor/slab photographs of large areas into maximum of 200 square metre sections. Minimum of 4 photographs are required per 200 square metre sections.
 - .2 Additional photographs as needed to capture details of floors or slabs, equipment, rough-in details or large floor area sections.

.3 Equipment

- .1 Photographs of all equipment and assets in the final installed location and orientation (minimum of one).
- .2 Minimum of one photograph of nameplate or equipment tag.

.3 Additional Reality Capture Methods

- .1 The optional use of panoramic photos, laser scanning or other reality capture technologies are encouraged. These methods can be used to supersede the above as-built photograph requirements at the discretion of the Province.
- .2 Use of any alternative reality capture options shall be detailed in the AEP for review and acceptability.

4.5 As-Built Drawings

- .1 The Contractor shall provide to the Province As-Built Drawings in an accurately scaled, measurable, and digital format (PDF, CAD, etc).
- .2 All mark-ups, notes, and annotations shall be added on the electronic drawings using the digital mark-up or annotation tool in the software and must be discernible from the original Contract Documents.
- .3 No hand-written, hand- drawn, or scanned mark-ups shall be accepted.
- .4 As-Built Drawings shall contain:
 - .1 The accurate representation of all assets in the COBie file, including:
 - .1 As-built quantity and size.
 - .2 As-built orientation, location, and elevation.
 - .3 Connections to the appropriate systems.
 - .2 Routing of major services.
 - .3 Dimensional references to gridlines and/or major permanent building elements such as walls, ceilings, and floors.
- .5 The Contractor shall submit As-Built Drawings to the Province in accordance with Section 5- *AIM Submittals*.

4.6 Record Drawings

- .1 The Consultant shall incorporate all mark-ups indicated on the digital As-Built Drawings into the final set of Record Drawings.
- .2 All Record Drawings shall be delivered in both the native authoring software and PDF formats, in accordance with the Section 5- *AIM Submittals*.

5. AIM Submittals

5.1 General

- .1 All deliverables shall be named in accordance with the Project Codification Standard provided by the Province.
- .2 The AIM deliverables shall be produced in accordance with the Province's AIM Requirements for Small Projects.

5.2 Progress AIM Submittals

- .1 The Consultant shall provide the following submittals to the Province at all major design stages defined in the project schedule:
 - .1 Current version of the Maintainable Asset List
 - .2 Updates to the AEP
 - .3 Updates to the AIC Forms
- .2 The Contractor shall provide the following submittals to the Province with application for payment as defined in the project schedule:
 - .1 Updates to the AEP
 - .2 Updates to the AIC Forms
 - .3 Updates to the Digital As-Built Drawings

5.3 Formal AIM Submittals

- .1 The Consultant shall submit:
 - .1 The Final Design AIM Submittal Package shall be delivered as a part of the Tender package containing;
 - .1 Finalized Maintainable Asset List, in accordance with Section 4.3- *Required Assets*.
 - .2 Final Design Asset Information Collection (AIC) Forms, in accordance with Appendix 001- *AIC form instructions*.
 - .2 Finalized Record Drawings, in accordance with Section 4.6- *Record Drawings*, 30 days following Interim Acceptance of the Work.
- .2 The Contractor shall submit the Final Construction AIM Submittal Package to the Province at Interim Acceptance of the Work.
 - .1 The Final Construction AIM Submittal Package shall be delivered as a single compressed file containing;
 - .1 All completed Asset Information Collection (AIC) Forms.
 - .2 One sub-folder titled "Docs" containing all pertinent documents associated with the facility and its assets.

- .3 One sub-folder titled “Reality Capture” containing all digital photographs required in accordance with Section 4.4- *Reality Capture*.
- .4 One sub-folder titled “As-Built” containing all completed as-built drawings as required in accordance with section 4.5- *As-Built Requirements*.
- .5 Digital O&M Information, in accordance with Alberta Infrastructure’s Master Specification Section 01 78 23B- *Operation and Maintenance Data and Manuals*, at Interim Acceptance of the Work.