

## Alaska Railroad Corporation: As-Built Standard

### Purpose

The purpose of this document is to provide guidance on the preparation of high quality as-built drawings and specifications that exhibit as-built conditions of the project. As-builts are an official record of the project at the time construction is completed. The original “as-designed” Contract drawings and specifications are revised to show all additions, deletions, and other changes made during construction of the project. Changes may come from necessary design modifications, differing site conditions, material availability, Contractor-requested changes, requests for information, and many other reasons. Accurate as-builts are important for project operation and maintenance and future modifications, particularly for project features which are hidden from view.

### Terms

#### *Redline*

The process of marking up a drawing or specification that reflects any modifications.

#### *As-Built Drawings*

The Contractor-submitted redlined drawings that show the as-built condition of the project drawings.

#### *Shop Drawings*

Drawings that come from a Contractor, supplier, manufacturer, subcontractor, consultants, or fabricator. Shop Drawings are typically required for pre-fabricated components. The Shop Drawing is the manufacturer’s or Contractor’s drawn version of information shown in the Contract documents. The Shop Drawing normally shows more detail than the Contract documents and is drawn to explain the fabrication and installation of the items.

#### *Specification Redlines*

The Contractor-redlined specifications that show all changes in the Contract Special Conditions and Supplemental Conditions, which cannot reasonably be captured in the As-Built Drawings.

#### *Record Drawings*

After the Owner approves the Contractor-submitted As-Built Drawings, they become the Record Drawings.

#### *Record Survey*

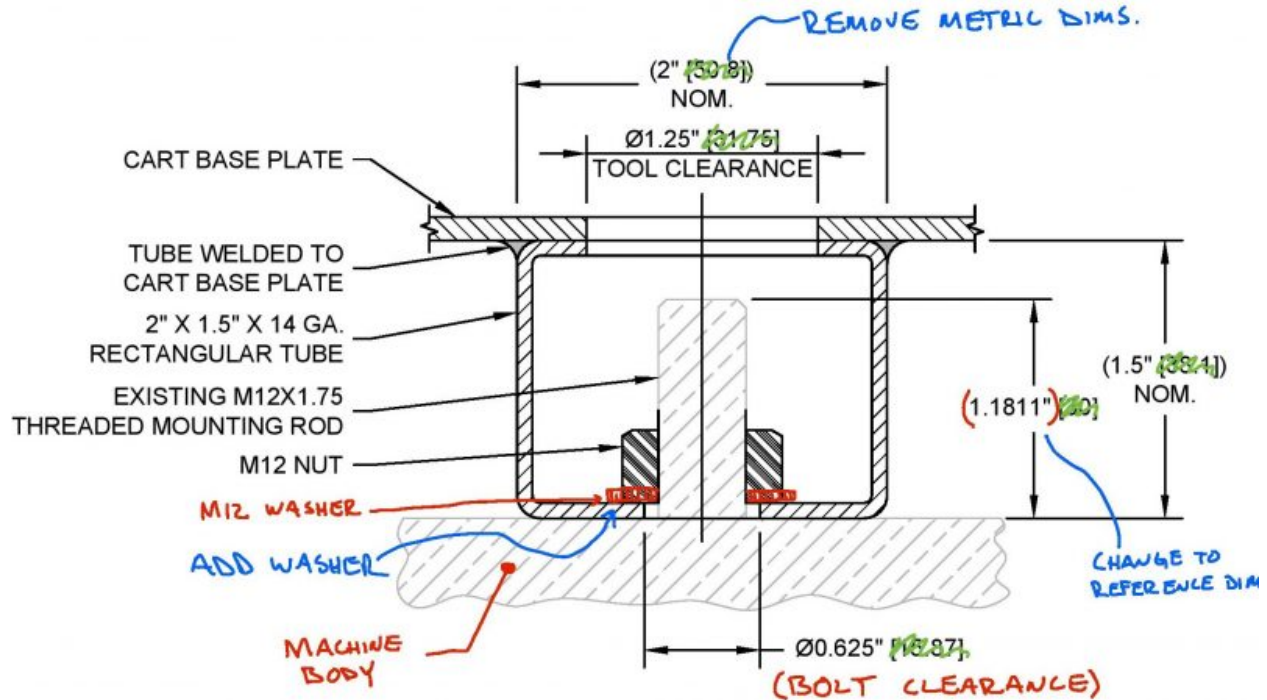
If the project requires of the Contractor a final survey of the Project as outlined in the Contract, this is hereby referred to as a Record Survey.

### As-Built Drawings

Three base colors should be used to markup (also known as “redline”) the drawings to show as-built conditions: red, green, and blue. Their uses are described below and an example shown in [Figure 1 - As-Built Example](#).

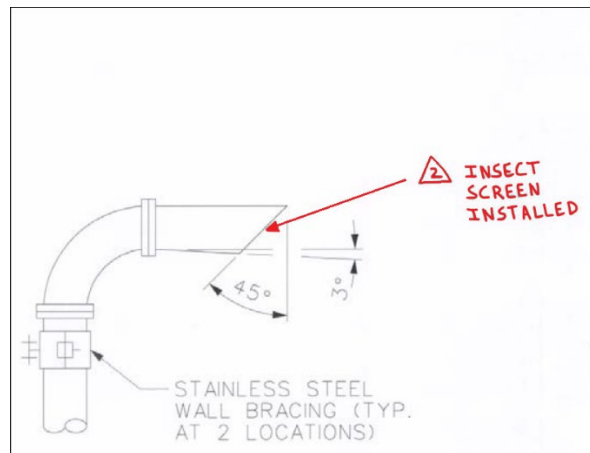
- **Red** – Items to be added to the drawing.
- **Green** – Items to be deleted from a drawing.

- **Blue** – Comments that are not to be added to the drawing.



*Figure 1 - As-Built Example*

To identify revisions, markups will include a delta triangle near the revised section of the drawing for all changes (see **Figure 2 - Delta Triangle Example**). When several items in a table or drawing view (e.g., sections, details, plans, profiles, elevations, etc.) are changed or completely redrawn, a single delta triangle may be placed near the title for the table or drawing view. This same method may be used for general revisions to entire drawing sheets when a major portion of the drawing is changed. When only a few items are revised, added or deleted, a delta triangle will be placed near each item requiring revision. Each delta triangle will contain an identification number that corresponds to an entry in the issue block that describes the revision, as in **Figure 3 - Delta Triangle Entries**.



*Figure 2 - Delta Triangle Example*

△	REVISED AS-BUILT
△	INSECT SCREEN INSTALLED
△	ADD 2" GATE VALVE
△	DRAIN REMOVED
Mark	Description

**Figure 3 - Delta Triangle Entries**

Changes to be captured in As-Built Drawings include, but are not limited to:

- All changes of details
- All changes of dimensions
- All changes in levels
- Any additions
- Updates to notes
- Utilities, existing and diverted

Each drawing should have an As-Built stamp from a Contractor employee which includes whether or not changes or required, name of the employee, signature of the employee, company, and date. An example is shown in [Figure 4 - Typical As-Built Stamp](#). Each drawing shall contain a stamp, even if there are no changes to the drawing.

<b>AS-BUILT</b>	
CHANGES REQUIRED	YES _____ NO _____
Name (Print)	_____
Signature	_____
Company (Print)	_____
Date	_____

**Figure 4 - Typical As-Built Stamp**

### As-Built Specifications

Any changes to the Contract specifications that cannot be reasonably captured in the As-Built Drawings should be provided to the Owner in document form and affixed with an As-Built stamp as well.

### Record Survey

A Record Survey may be required to capture the changes as a result of the Project. If so, the Record Survey will supersede coordinate tables and utility profiles shown on the Contract drawings.

## Shop Drawings

All Shop Drawings should be incorporated into the As-Built Drawings. Incorporation of a Shop Drawing may require revising drawings to reflect the correct dimensions and details of a project feature. If revising an existing drawing to incorporate the Shop Drawing isn't feasible, the Contractor should attach the Shop Drawing to the As-Built Drawings.

## Submittal and Acceptance of As-Built Drawings and Specifications

### Submittal of As-Builts

Upon completion of the Project, the Contractor will submit the As-builts that show the as-built conditions of the project to the Project Manager for review. Acceptable formats are 11"x17", hardcopy or digital, such as in Bluebeam or Adobe.

### Review of As-Builts

The Project Manager or designee will perform a review of the As-builts. From the review, the Project Manager will consolidate comments identifying issues that need to be resolved prior to Owner acceptance. Items to be reviewed include, but are not limited to:

- Proper use and placement of delta triangles
- Adequate details and notes have been provided to convey revision intent
- Complete and accurate population of the Issue Block describing revisions
- Adherence to Contract Specifications and guidance relating to markups (e.g., markup colors, additions, deletions, relocations, etc.)
- Addition or replacement of new or substantially revised drawings due to Contract changes
- Modifications into the appropriate location
- Correct dimensions and details transferred from shop drawings

### Resolve Issues with As-Builts

The Contractor will address, resolve and document all issues identified by the Owner during review, including if multiple review cycles are required.

### Acceptance of As-Builts

When the Owner determines that the Contractor has met the requirements, the As-Builts will be accepted. It should be noted that it may be necessary to perform several iterations of the review, comment and resolution process prior to acceptance. Upon acceptance, the Owner will pay the As-Built item of the Contract.