

BUILDER™ Reference Data Guide

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Introduction

Welcome to BUILDER™

BUILDER, part of the Sustainment Management System, provides facility managers with the tools needed to generate the greatest impact from maintenance and rehabilitation activities, and to plan and defend maintenance budgets.

The primary measure used in BUILDER is the *condition index* (CI) rating, using a 0 to 100 point scale. After real property inventory has been subdivided into hierarchical levels of increasing fineness, down to the Component-Section level, the condition index for each Component-Section is computed from inspection data that records the type, severity, and density of each distress found.

Deterioration curves, developed from experience over time, show the optimal point at which work should be done to avoid more costly rehabilitation projects later.

Another measure available in BUILDER is the *functionality index* (FI), also on a 0 to 100 point scale in keeping with the SMS design philosophy. It is computed from assessment data that records the functionality issues present in a building. Based on the severity and density of those issues, building modernization requirements can be identified.

Based on condition index and/or functionality index scores, BUILDER can generate recommended work items automatically. Using cost books associated with BUILDER, cost estimates are attached to the work items. Managers can then choose which work items to fund. The cost of *not* funding work items can be determined using Scenarios.

With the assistance of the Scenarios simulation engine included as part of BUILDER, managers can develop long-range work plans based on a sound investment strategy. By providing an objective description of condition (a core BUILDER functionality) and an automated means of exploring various options under different budget scenarios (Scenarios), BUILDER and Scenarios together make multi-year work plans easier to formulate and funding requests easier to justify. The goal is optimal facility performance for the dollars invested.

For information, announcements, links to documents, and discussion forums, visit the SMS community user's group website at <https://www.sms.erdcdren.mil>.



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2/6/2020

Using this Guide

This guide explains how to create and use custom reference books in the Sustainment Management System with BUILDER™. The reference books contain reference data for asset costs, inflation factors, service life, and/or component importance index.

In addition to helping with custom reference books, this guide explains how to use cost modifiers and manage cost modifier libraries. Cost modifiers are multipliers or adders that can be applied at multiple BUILDER hierarchy levels in order to adjust Section replacement costs.

Understanding and using the BUILDER reference books can assist with inventory, condition assessment, work configuration, and work planning. Cost modifiers affect inventory.

Prerequisites

This guide assumes you are already familiar with the following guide, which can be downloaded from the user support site:

- *BUILDER™ Getting Started Guide*

Companion Guides

The following guides, downloadable from the user support site, can be useful for understanding the reference books and cost modifiers in context:

- *BUILDER™ Inventory Guide*
- *BUILDER™ Condition Assessment Guide*
- *BUILDER™ Work Configuration Guide*

Another useful guide is the *BUILDER™ Work Planning Guide*.

About Reference Data Configuration

This topic introduces (1) the reference books contained in BUILDER and (2) the concept of reference data configuration.

A collection of *reference books* in the BUILDER library enables BUILDER to calculate current and future replacement values, estimate remaining service life, and apply higher or lower importance to selected Component-Sections. The reference books are

- **Cost Book.** Specifies replacement costs for Component-Sections and/or Buildings.
- **Inflation Book.** Specifies yearly inflation rates into the future. BUILDER uses these to calculate future replacement costs.
- **Service Life Book.** Specifies expected service life for Component-Sections. This reference data, along with data from inspections, is used to calculate remaining service life and to produce deterioration curves.
- **Component Importance Index (CII) Book.** Specifies the importance level for individual Component-Sections.

Each of these reference books has a default version named Reference, which is associated with the asset tree at the top level and can not be deleted or modified. Custom versions of the reference books can be developed and then selected to be used instead of Reference, either in the entire asset tree or in only part of it. Users with sufficient permission can customize the reference data by creating a new reference book of the desired type and then modifying the data contained in it, in a process called *reference data configuration*.

Permissions Note: Depending on the operation (e.g., adding vs. deleting a book), configuring reference data requires either Work Planner or Master Planner permission for the Organization or Site that the reference book applies to. The ability to assign a custom reference book to an Organization or Site depends on your permissions for that Organization or Site.

To see configuration steps for a reference type, start at one of the links below:

- [About Cost Books](#)
- [About Inflation Books](#)
- [About Service Life Books](#)
- [About CII Books](#)

Cost Data

About Cost Books

BUILDER has an embedded cost module, used in the critical areas of work planning and condition assessment, that assigns replacement values to inventory. The data used by the cost module is contained in one or more *cost books*.

A default cost book is provided for the asset tree as a whole and is all that is required. Optionally, a customized inflation book can be used in place of the default, or multiple customized cost books can be associated with different Organizations or Sites in the tree. This topic explains how to do this.

Permissions Note: Depending on the operation (e.g., adding vs. deleting a book), configuring reference data requires either Work Planner or Master Planner permission for the Organization or Site that the reference book applies to. The ability to assign a custom reference book to an Organization or Site depends on your permissions for that Organization or Site.

BUILDER's embedded cost module contributes to multiple BUILDER functions:

- Inventory: Provides inventory replacement costs for all levels of the BUILDER hierarchy.
- Condition index calculations: Replacement costs are used as weighting factors in rolling up CIs in the inventory hierarchy.
- Work planning: For work planning, the cost module provides initial programming cost estimates for proposed maintenance, repair, and rehabilitation projects

The replacement cost data used by the cost module is contained in one or more *cost books*. Multiple cost books can be associated with different Organizations or Sites in the tree, as desired.

Cost Calculations

How costs are calculated is described in ["About Replacement Cost Calculation" on page 22](#).

If you are interested in more information about the formulas used in generating reference data, see the References training module in the **PRODUCTS > BUILDER > Training Modules** section of the SMS community user's group website at <https://www.sms.erdcdren.mil>.

Replacement Cost Data

The replacement cost data used by BUILDER's cost module is contained in one or more *cost books*. Multiple cost books can be associated with different Organizations or Sites in the tree, as desired (see ["Assign a Cost Book to an Organization or Site" below](#)).

Default Cost Book

The one default cost book provided with BUILDER is named "Reference." It cannot be edited, and it is associated with the top level of the asset tree. The scope of its data, therefore, is the entire asset tree.

You can choose to depend exclusively on the data in Reference, or you can create one or more custom cost books.

Custom Cost Book(s)

You can manage cost data by using custom cost books. To create custom cost data, you can either

- a. Edit an existing cost book (except for Reference), or
- b. Create one or more new cost books. You can use Reference, or another existing cost book, as the starting point for the new cost book.

By assigning a custom cost book to an Organization or Site, you can control the scope of that cost book, applying custom values to either all or part of the asset tree.

Note: The only data that you can change in the cost book is the replacement cost.

Assign a Cost Book to an Organization or Site

You can create multiple cost books, and assign a separate book to any Organization or Site within your permissions scope, as desired. This is done as follows:

1. In Inventory mode, navigate to and select the Organization or Site to assign the cost book to.
2. At the **General Information** tab, select the cost book from the dropdown menu in the **Reference Settings** section (requires elevated permissions).

Number: Name:

General Info. Contact Info. Assessment History

Index Data

Metric	Value
CI	69
FI	99
PI	78
FCI	66

Calculated Data

PRV: \$230,453,281,506

Reference Settings

Cost Book:

Inflation Book:

Service Life Book:

Policy Sequence:

Prioritization Scheme:

CII Set:

FCI Goal:

Cost Modifier Library:

3. Activate **Save** on the content area toolbar.

Cost Book Tasks

Tasks you can perform are to

[View a Cost Book](#)

[Add a Cost Book](#)

[Edit Cost Book Data](#) (unit costs, general multiplier, or specific multipliers)

[Delete a Cost Book](#)

[Assign a Cost Book to an Organization or Site](#)

Other Related Links

[About Replacement Cost Calculation](#)

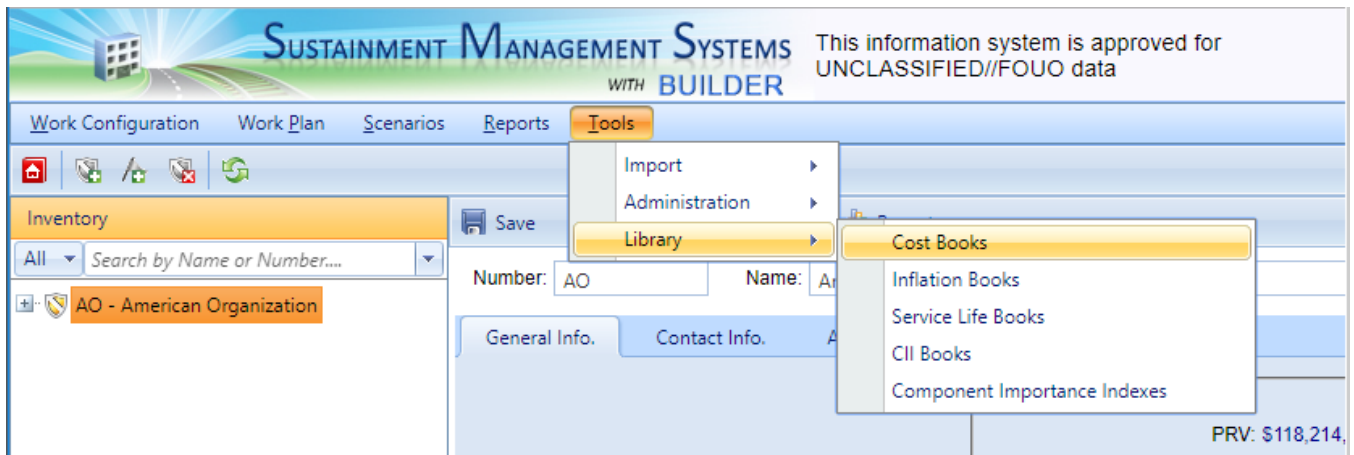
View a Cost Book

This topic covers how to view the default cost book (Reference) or a custom cost book. The topic ["Edit Cost Book Data" on page 17](#) explains how to add or edit data in a cost book.

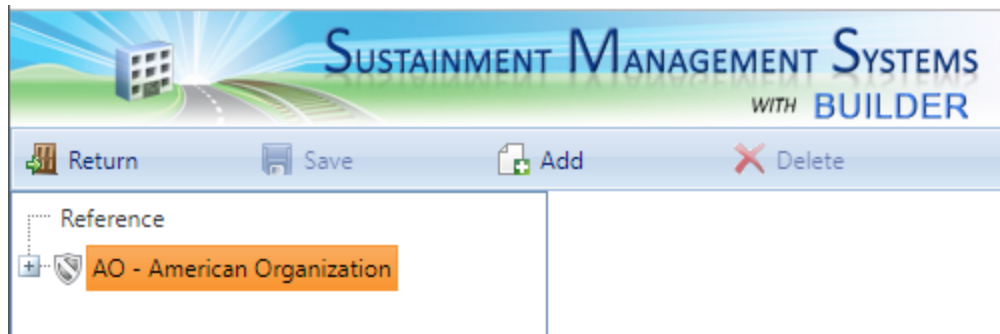
Permissions Note: Depending on the operation (e.g., adding vs. deleting a book), configuring reference data requires either Work Planner or Master Planner permission for the Organization or Site that the reference book applies to. The ability to assign a custom reference book to an Organization or Site depends on your permissions for that Organization or Site.

To view a cost book,

1. Starting at the main menu, select **Tools > Library > Cost Books**.



The Cost Management window will open, showing just the top level of the asset tree.



2. To view the Reference cost book, activate "Reference" above the name of the topmost Organization (see screenshot above). *The contents of the Reference cost book will appear in the content area.*

Note: The Reference cost book can be viewed, but not deleted or edited.

- To view a different cost book, expand the navigation tree and select the cost book you wish to view. *The contents of the cost book will appear in the content area.*

As an example, the screenshot below shows a Reference cost book.

The screenshot shows the SUSTAINMENT MANAGEMENT SYSTEMS WITH BUILDER interface. The navigation tree on the left includes 'Reference' and 'ABC2'. The main content area displays the 'Reference' cost book with the following details:

- Cost Book: Reference
- Inflation Set: Reference
- Minimum Cost: \$65.00
- Minimum Paint Cost: \$35.00
- Setup Cost: \$935.10
- Cost Source:

The 'Unit Costs' tab is active, showing a table of building use items. The table has three columns: Building Use, Current Cost, and Units. The data is as follows:

Building Use	Current Cost	Units
000000 - CATCODE UNKNOWN	\$0.10	SF
11110 - FW RUNWAY PAVE	\$19.46	SF
11110 - RUNWAY / FIXED WING	\$19.46	SF
111100 - FW RUNWAY PAVE	\$19.07	SF
11111 - FW RUNWAY UNPAV	\$1.14	SF
111111 - RUNWAY	\$19.46	SF
111115 - OVERRUN, PAVED	\$8.01	SF
11112 - RUNWAY LEVER WING - UNREPAVED	\$1.11	SF

The interface also includes a footer with 'Page size: 100' and '3713 items in 38 pages'.

High-Level Data

The following data is shown in the high-level fields appearing in the header above the **Unit Costs** tab:

- **Cost Book.** Shows which cost book is shown in the content pane.
- **Inflation Set (Read-Only).** Identifies which inflation book is being used in connection with the cost book. Which inflation book is being used is set in the Inventory tree, in the **Reference Settings** section of an Organization or Site's **General Info** tab. If no custom inflation book has been created, then the Reference inflation book will be used.

Note: The **Unit Costs** tab declares that "if this is a custom cost book, inflation is included in cost calculations."

- **Cost Source.** Cost data publisher name.
- **Minimum Cost.**

- **Minimum Paint Cost.**
- **Setup Cost.**
- **Level.** Indicates **Building** vs. **Component-Section**.
- **Activity.** Indicates **Replace** vs. **Demolish** (for Building), or the applicable Component-Section activity option.
- **System.** This appears only when the selected Level is Component-Section, and shows the System the Component-Section is in.

Unit Costs Tab


The Unit Costs table shows current cost and unit of measure for each **Building Use** type. If the Component-Section level is being displayed, there will be additional columns such as **Material or Equipment Type** and **Component Type**.

Filters

To use filters to reduce the view of the data,

1. Enter a search term or number in one of the fields at the top of the data table, under **Building Use**, **Current Cost**, or **Units**.

Building Use	Current Cost	Units
<input type="text"/>	<input type="text"/>	<input type="text"/>
000000 - CATCODE UNKNOWN	\$0.10	SF
11110 - FW RUNWAY PAVE	\$19.46	SF
11110 - RUNWAY / FIXED WING	\$19.46	SF

2. Activate the corresponding  filter button to the right of the field containing the search term / number.
3. Select an option from the dropdown list. As soon as you activate it, the filter operation will be performed.

For example, here are the results of entering "runway" into the filter field and selecting the **Contains** filter option:

Add
 Delete

Cost Book:
 Inflation Set:
 Cost Source:

Minimum Cost:
 Minimum Paint Cost:
 Setup Cost:

Level:
 Activity:

Unit Costs
 General Multipliers

Unit Costs should reflect basic costs prior to Location-Specific (Area Cost Factor) factors being applied. However, if this is a custom cost book, inflation is included in cost calculations.

	Reset	Building Use	Current Cost	Units
		<input type="text" value="runway"/>	<input type="text" value=""/>	<input type="text" value=""/>
	Reset	11110 - FW RUNWAY PAVE	\$3.14	SF
	Reset	11110 - RUNWAY / FIXED WING	\$19.46	SF
	Reset	111100 - FW RUNWAY PAVE	\$19.07	SF
	Reset	11111 - FW RUNWAY UNPAV	\$1.14	SF
	Reset	111111 - RUNWAY	\$19.46	SF
	Reset	11112 - RUNWAY / FIXED WING - UNSURFACED	\$1.11	SF

Page Navigation

At the bottom of each page of data is page navigation, and the option to select the page size (in number of records) to view at one time. Additionally, at the right you can see how many items are in the cost book—or in the filtered set if one or more filters have been applied to the data—and the total number of pages spanned by that data.

[Reset](#) 12317 - OVERHEAD COVER, MISCELLANEOUS \$70.42 SF

1 2 3 4 5 6 7 8 9 10 ... Page size: 100 3483 items in 35 pages

Multiplier Tabs

General Multipliers

The **General Multipliers** tab shows the general multiplier to be applied to all costs. This is to cover costs including but not limited to supervision/administration, overhead, design, and contract management.

Level:

Activity:

Unit Costs General Multipliers

General multiplier to apply to all costs:

Includes supervision/administration, overhead, design and contract management

Specific Multipliers

Note: Specific multipliers do not apply at the Building level.

Specific multipliers account for the extra cost involved to replace, remove, paint, or inspect a Component-Section in a Building that is historic, high security, housing, or has additional access constraints or difficulties. Any given Component-Section can be assigned as many simultaneous specific multipliers as apply; however, they can be viewed only one multiplier category at a time, shown in the rightmost column of the data table at the **Specific Multipliers** tab.

Related Links

[About Cost Books](#)

[Add a Cost Book](#)

[Edit Cost Book Data](#) (unit costs, general multiplier, or specific multipliers)

[Delete a Cost Book](#)

[Assign a Cost Book to an Organization or Site](#)

[About Replacement Cost Calculation](#)

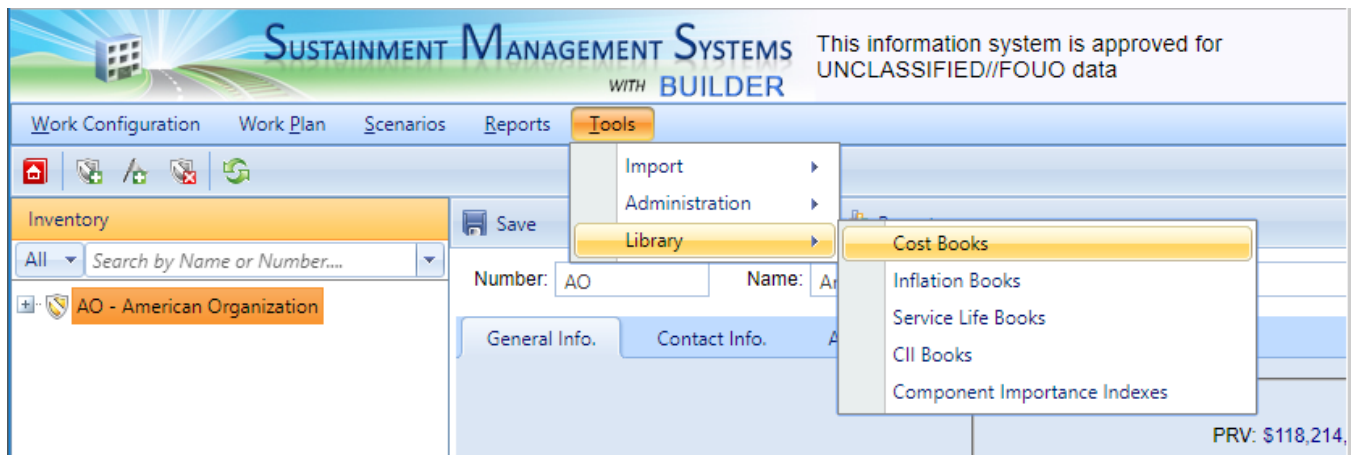
Add a Custom Cost Book

This topic covers how to add a custom cost book. The topic ["Edit Cost Book Data" on page 17](#) explains how to add or edit data in a cost book.

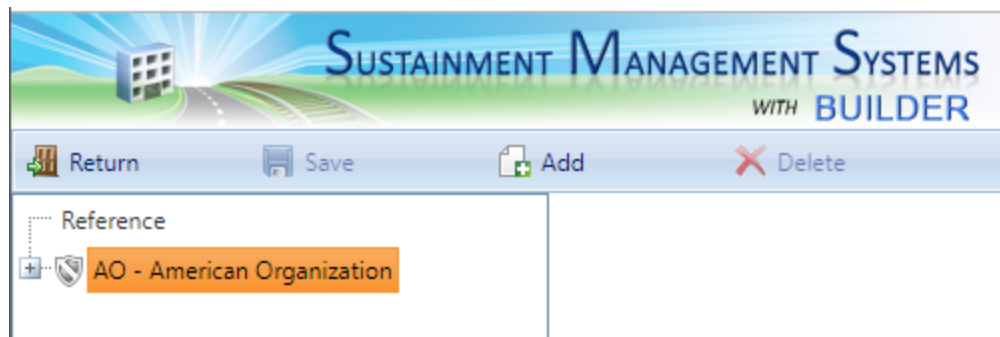
Permissions Note: Adding a custom cost book requires Work Planner permission level or above at the target Organization or Site.

To add a cost book,

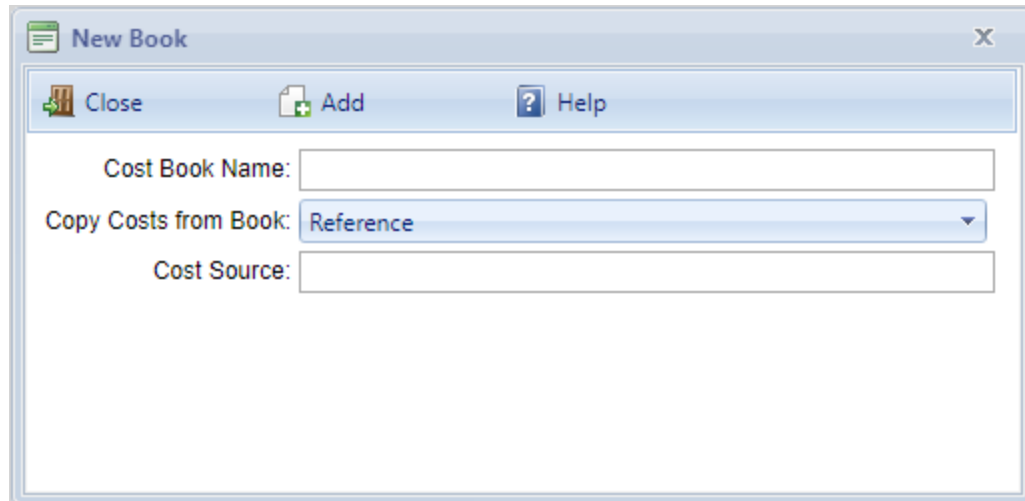
1. At the main menu, select **Tools > Library > Cost Books**.



The display will change to the Cost Management page, showing just the top level of the asset tree.



2. You can expand the tree in the left portion of the window to reveal what (if any) cost books are available in the database. Initially, only one cost book, Reference, is available. The Reference cost book cannot be deleted or edited. It is the ultimate foundation of all other cost books you create.
3. Navigate to and select the Organization or Site where the new cost book should be applicable. *This will dictate the scope of the new cost book.*
4. Activate the **Add** button on the toolbar above the navigation tree. *The "New Book" popup will appear.*



New Book

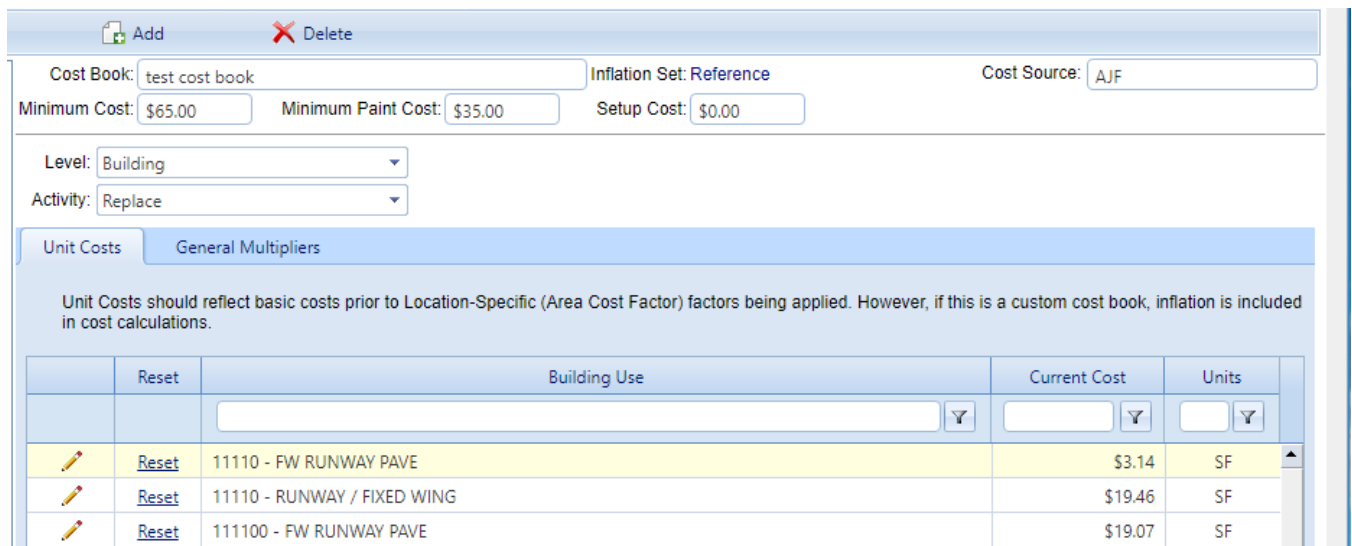
Close Add Help

Cost Book Name:

Copy Costs from Book: Reference

Cost Source:

5. Enter the name of the new cost book in the first field.
6. In the second field, activate the dropdown and select the cost book to copy costs from.
7. In the "Cost Source" field, enter the name of the cost data publisher.
8. Activate **Add** on the popup toolbar. *The new cost book, which initially mirrors the cost book it was copied from, will appear in the content pane.*



Add Delete

Cost Book: test cost book Inflation Set: Reference Cost Source: AJF

Minimum Cost: \$65.00 Minimum Paint Cost: \$35.00 Setup Cost: \$0.00

Level: Building

Activity: Replace

Unit Costs General Multipliers

Unit Costs should reflect basic costs prior to Location-Specific (Area Cost Factor) factors being applied. However, if this is a custom cost book, inflation is included in cost calculations.

	Reset	Building Use	Current Cost	Units
		<input type="text"/>	<input type="text"/>	<input type="text"/>
	Reset	11110 - FW RUNWAY PAVE	\$3.14	SF
	Reset	11110 - RUNWAY / FIXED WING	\$19.46	SF
	Reset	111100 - FW RUNWAY PAVE	\$19.07	SF

9. For how to add and edit cost book information, see ["Edit Cost Book Data" on page 17](#).

To assign the new custom cost book to an Organization or Site, see ["Assign a Cost Book to an Organization or Site" on the next page](#).

Assign a Cost Book to an Organization or Site

You can create multiple cost books, and assign a separate book to any Organization or Site within your permissions scope, as desired. This is done as follows:

1. In Inventory mode, navigate to and select the Organization or Site to assign the cost book to.
2. At the **General Information** tab, select the cost book from the dropdown menu in the **Reference Settings** section (requires elevated permissions).

Number: Name:

General Info. Contact Info. Assessment History

Calculated Data

PRV: \$230,453,281,506

Index Data

Metric	Value
CI	69
FI	99
PI	78
FCI	66

Reference Settings

Cost Book:

Inflation Book:

Service Life Book:

Policy Sequence:

Prioritization Scheme:

CII Set:

FCI Goal:

Cost Modifier Library:

3. Activate **Save** on the content area toolbar.

Related Links

[About Cost Books](#)

[View a Cost Book](#)

[Edit Cost Book Data](#) (unit costs, general multiplier, or specific multipliers)

[Delete a Cost Book](#)

[Assign a Cost Book to an Organization or Site](#)

[About Replacement Cost Calculation](#)

Edit Cost Book Data

This topic covers how to add or edit data in a custom cost book. If the custom book still needs to be created, the topic ["Add a Custom Cost Book" on page 13](#) explains how.

Permissions Note: Editing a custom cost book requires Master Planner permission level or above at the target Organization or Site.

Objective: Edit cost book data

Tasks:

- A. [Open a custom cost book](#)
- B. [Navigate data fields](#)
- C. [Edit data](#)
- D. [Save changes](#)

Steps for each of the tasks are listed below.

Task: Open a Custom Cost Book

To open a custom cost book,

1. Starting at the main menu, select **Tools > Library > Cost Books**.
2. Expand the navigation tree and select the cost book whose data you wish to edit.

Task: Navigate Data Fields

You can use one or a combination of the navigation options described below to bring desired cost book records into view: Level, Activity, filters, and/or page navigation.

Level

The **Level** field as a dropdown list select the inventory hierarchy level to be displayed in the table (Building or Component-Section).

Export Import

Cost Book: Inflation Set:

Minimum Cost: Minimum Paint Cost: Setup Cost:

Level:

Activity:

Unit Costs General Multipliers

Unit Costs should reflect basic costs prior to Location-Specific (Area Cost Factor) factors being app

Reset

Activity

Below the **Level** field is **Activity**, with a dropdown list to select the activity to be displayed (Replace or Demolish).

Delete Export Import

Cost Book:

Minimum Cost: Minimum Paint Cost:

Level:

Activity:

Unit Costs General Multipliers

Unit Costs should reflect basic costs prior to Location-Specific (Area Cost Factor) factors being app

Filters

You can apply a filter in as many or as few of the filterable columns as you wish. A message at the lower right corner of the table will show how many records matching the selected filter(s) were found.

Note: Which columns are displayed depends on the Level and Activity selected.

To use filters to reduce the view of the data,


1. Enter a search term or number in one of the fields at the top of the data table. (Example is for Level = Component-Section, Activity = Replace.)

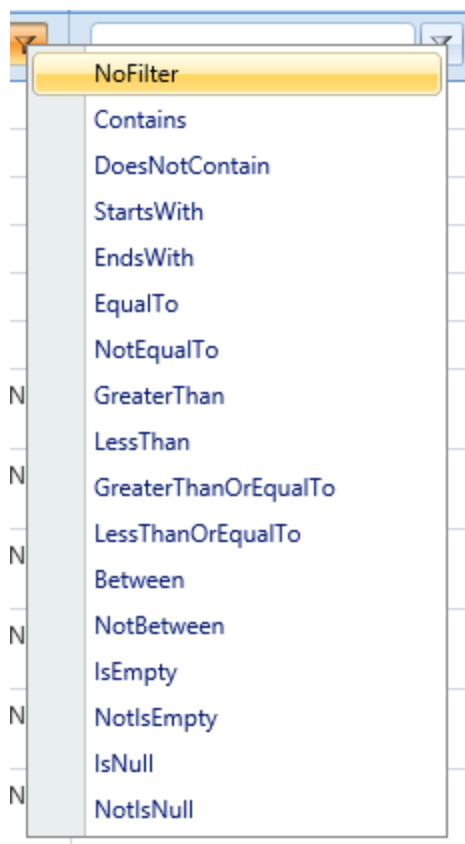
Multipliers

Specific Multipliers

ct basic costs prior to Location-Specific (Area Cost Factor) factors being applied. However, if this is a custom cost book, inflation is included in cost calculations.

Component	Material or Equipment Type	Component Type	Current Cost
<div></div>	<div></div>	<div></div>	<div></div>
A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Foundation Wall	\$9.06
A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	General	\$74.95

2. Activate the corresponding  filter button to the right of the field containing the search term / number.
3. Select an option from the dropdown list. As soon as you activate an option, that filter operation will be performed.



4. To further restrict the view using filters, you can type a search term or number into the filter field of any one of the remaining empty filterable columns, repeating this list of steps.

Page Navigation

At the bottom of the table, the **Page size** field allows you to select how many records to see on one page (from pre-set options). Page navigation allows you to

select a page number, or to step forward or backwards through the pages of records.

Task: Edit Data

Current Cost

In the Unit Costs table at the Unit Costs tab, only the values in the **Current Cost** column can be edited. The cost book name may also be edited.

To change the current cost,

1. Locate its record in the Unit Costs data table.
2. Activate the pencil icon in the first column of that record.
3. Change the decimal value in the **Current Cost** column.
4. Activate the blue checkmark icon in the first column. (Alternatively, activate the red Do Not Enter icon to cancel.)

Note: Activating Reset in the second column will reset the Current Cost in that record to its Reference value.

General Multiplier

At the **General Multipliers** tab, change the decimal value in the field labeled **General multiplier to apply to all costs**.

Specific Multipliers

Note: Specific multipliers are available for Component-Sections only, not for Buildings.

To change a specific multiplier,

1. At the **Specific Multipliers** tab, select a multiplier type from the dropdown list. *The rightmost column header in the Specific Multipliers data table will change to match.*

Specific Multipliers

Select Specific Multiplier: AdditionalAccess

Description: The base cost to value if

Component Material Equipment Type

Historic
HighSecurity
Housing
AdditionalAccess
PerFloor


this

2. Locate the desired record in the Specific Multipliers data table. Each record represents a Component-Section type.
3. Activate the pencil icon in the first column of that record.
4. Change the value of the multiplier in the rightmost column. The cost of repair or replacement (depending on the selected Activity) performed on a Component-Section of that type will be multiplied by the multiplier value that you enter and save, in addition to being multiplied by the General Multiplier.
5. Activate the blue checkmark icon in the first column. (Alternatively, activate the red Do Not Enter icon to cancel.)



Name of Cost Book

To change the name of the cost book itself, edit the name in the **Cost Book** field just below the main toolbar.

Task: Save Changes

Activate  **Save** on the main toolbar as desired to save as you go along.

When finished making changes,

1. Activate  **Save** on the main toolbar.
2. Activate  **Return** on the main toolbar. *You should be returned to the location in the inventory, condition, or functionality ribbon you came from.*

Related Links

[About Cost Books](#)

[View a Cost Book](#)

[Add a Cost Book](#)

[Delete a Cost Book](#)

[Assign a Cost Book to an Organization or Site](#)

[About Replacement Cost Calculation](#)

Delete a Cost Book

This topic explains how to delete a custom cost book. The original Reference cost book can not be deleted.

Permissions Note: Deleting a cost book requires Master Planner permission for the Organization or Site that the cost book applies to.

To delete a cost book,

1. At the main menu, select **Tools > Library > Cost Books**.
2. Expand the tree in the navigation until you find the cost book to be deleted.
3. Select the cost book.
4. Activate the **Delete** button on the toolbar above the navigation tree.

The screenshot shows a software interface with a toolbar at the top containing 'Return', 'Save', 'Add', and 'Delete' buttons. The 'Delete' button is highlighted with a red rectangle. On the left, a navigation tree shows 'Reference' expanded, with 'test cost book' selected under 'AO - American Organization'. The main panel displays the following fields:

- Cost Book: test cost book
- Inflation Set: Reference
- Minimum Cost: \$65.00
- Minimum Paint Cost: \$35.00
- Setup Cost: \$0.00
- Level: Building (dropdown)
- Activity: Replace (dropdown)

At the bottom, there are two tabs: 'Unit Costs' and 'General Multipliers'.

5. In the "Delete Cost Book" confirmation popup, activate the **OK** button.
(Alternatively, activate the **Cancel** button to cancel the operation.)
6. To exit the cost book window, activate **Return** on the main toolbar.

Related Links

[About Cost Books](#)

[View a Cost Book](#)

[Add a Cost Book](#)

[Edit Cost Book Data](#) (unit costs, general multiplier, or specific multipliers)

[Assign a Cost Book to an Organization or Site](#)

[About Replacement Cost Calculation](#)

About Replacement Cost Calculation

Replacement Cost Level: Building vs. Component-Section

Only two levels of replacement costs are editable: the costs for Buildings, and the costs for Component-Sections. In the remainder of the asset tree, a Component's cost is determined by totaling the costs of the Component-Sections belonging to it. Similarly, a System's cost is determined by totaling the costs of the Components belonging to it.

Replacement Cost Formula

Generally the cost to replace, remove, or paint a Component-Section is determined by the following formula:

Total Cost = (Quantity) x (Unit Cost) x (Area Cost Factor) x (General Multiplier) x (Aggregate Specific Multiplier) x (Inflation Factor)

where the Aggregate Specific Multiplier is the product of the applicable individual specific multipliers and the Area Cost Factor is taken from the Site data. See ["Explanation of Factors and Multipliers" below](#) for more about contributing factors and multipliers.

The cost to demolish a Building uses the same formula, with the Aggregate Specific Multiplier = 1.0.

Replacement Cost Data Source

BUILDER uses building replacement cost data from the Tri-Service Military Construction Program in the Reference cost book, and the method described above is essentially the same as the method described in Technical Manual 5-800-4, *Programming Cost Estimates for Military Construction*, to estimate the replacement cost of each Building. See <https://www.wbdg.org/ffc/army-coe/technical-manuals-tm/tm-5-800-4> for the text of this technical manual.

Explanation of Factors and Multipliers

Area Cost Factor

Costs relative to a specific geographic location are determined by applying a multiplier called the *Area Cost Factor* to a base construction cost. The BUILDER database of Area Cost Factors is the same database used in the Tri-Service Automated Cost Engineering System (TRACES) and is set in the Site data.

The Area Cost Factor accounts for the following geographic differences in costs:

- local costs of construction labor, equipment, and materials
- weather, climate, and seismic requirements
- labor availability

The Area Cost factor is set at the Site inventory page (requires elevated permissions level).

General Multipliers

Each general multiplier, applied to all costs of a given level and activity type, is to cover costs including but not limited to supervision/administration, overhead, design, and contract management.

Specific Multipliers

Specific multipliers account for the extra cost involved to replace, remove, paint, or inspect a Component-Section in a Building that is historic, high security, housing, or has additional access constraints or difficulties. Any given Component-Section can be assigned as many simultaneous specific multipliers as apply.

Inflation Factor

The inflation factor is computed based on the base year of the cost data and the inflation rates given in the default [inflation book](#). If the cost data corresponds to the data in the Reference cost book, then the cost module uses a fixed year for the base year. If you add your own cost book and enter a unit cost different from the Reference set, then the cost module saves the year in which you input that data as the base year for inflation computations.

Repair Costs

Repair costs are handled differently from replacement costs. The cost module calculates repair costs for Component-Sections as a function of current condition index and the replacement cost computed as above using an algorithm derived through ERDC-CERL's research.

Related Links

[About Cost Books](#)

[View a Cost Book](#)

[Add a Cost Book](#)

[Edit Cost Book Data](#) (unit costs, general multiplier, or specific multipliers)

[Delete a Cost Book](#)

[Assign a Cost Book to an Organization or Site](#)

Cost Modifiers

About Cost Modifiers

Cost modifiers are multipliers or adders that can be applied at multiple BUILDER hierarchy levels in order to adjust Section replacement costs. Modified costs will roll up through the hierarchy and also affect CI roll-up weights, work plan item costs, and Scenario costs.

The ability to apply cost multipliers and adders from the Site level down to the individual Section level provides great flexibility and control in accounting for factors that affect costs. Common factors that change costs include security, health and safety, and containment requirements.

Cost modifiers are created and managed in *cost modifier libraries*. These cost modifier libraries can be created at the Organization or Site level. The modifiers in a library can then be assigned on the **Cost Modifiers** tab of Sites, Complexes, Buildings, Systems, Components, or Sections.

When a cost modifier is assigned to a Site, Complex, Building, System, or Component, that modifier is "inherited" down the BUILDER hierarchy and calculated for all child Sections below the parent level at which the modifier was assigned. A modifier can also be assigned at the Section level, in which case it only applies to that individual Component-Section. A Section can inherit one or more cost modifiers from a parent as well as have its own modifier applied. For example, if the Building multiplier is 2, the System multiplier is 2, and the Section multiplier is 2, the Section cost will be multiplied by a factor of 8 (2x2x2).

Cost Modifier Types

The cost modifier types listed below are applied in addition to Area Cost Factor, the General Multiplier for the cost book, and any specific multipliers for the cost book.

The cost multiplier is a multiplying factor applied to all child Sections. For example, if a Building has a 1.5 cost multiplier, then the 1.5 multiplier will be applied to all Sections below the Building in the hierarchy.

Cost Adder

The cost adder is a fixed cost applied to all child Sections. For example, if a Building has a \$2700 cost adder, then all Sections within that Building will be assigned a \$2700 cost adder.

Assigning Cost Modifiers

You have the option to create and name multiple cost modifier libraries (this requires elevated permissions). In the Inventory navigation tree, you can assign separate cost modifier libraries as desired to different Organizations and Sites.

Once an active cost modifier library has been selected for an Organization or Site, the modifiers in the library can be assigned to BUILDER inventory.

Cost Modifier Tasks

[View a Cost Modifier Library](#)

[Add a Cost Modifier Library](#)

[Edit a Cost Modifier Library](#)

[Delete a Cost Modifier Library](#)

[Add, Edit, or Delete a Cost Modifier](#)

View a Cost Modifier Library

To view a cost modifier library,

1. Select **Tools > Library > Cost Modifiers** from the main menu.
2. Expand the navigation tree at the left to show existing cost modifier libraries.
3. Activate an existing library. *The **Cost Modifier Library** tab will be displayed in the content area.*

Cost Modifier Library

Library Name: Walters Test

Define Cost Modifiers for the selected Organization or Site.

Create new Cost Modifier

		Modifier Scope	Modifier Type	Modifier Name	Modifier Value	Is Active	Times Assigned	Modifier Description
		<input type="text"/> Y	<input type="text"/> Y	<input type="text"/> Y	<input type="text"/> Y	<input type="checkbox"/> Y	<input type="text"/> Y	<input type="text"/> Y
		Building	Multiplier	Test Bldg Mult	1.80	<input checked="" type="checkbox"/>	1	
		Site	Adder	Test Site Adder	2000.00	<input checked="" type="checkbox"/>	1	
		Building	Adder	Test Bldg Adder	4000.00	<input checked="" type="checkbox"/>	1	
		Complex	Multiplier	Test Complex Mult	1.75	<input checked="" type="checkbox"/>	1	
		System	Adder	Test System Adder	5000.00	<input checked="" type="checkbox"/>	1	
		System	Multiplier	Test System Mult	2.10	<input checked="" type="checkbox"/>	1	
		Component	Multiplier	Test Comp Mult	2.25	<input checked="" type="checkbox"/>	1	
		Complex	Adder	Test Complex Adder	3000.00	<input checked="" type="checkbox"/>	1	
		Section	Adder	Test Section Adder	1000.00	<input checked="" type="checkbox"/>	1	
		Component	Adder	Test Comp Adder	6000.00	<input checked="" type="checkbox"/>	1	
		Site	Multiplier	Test Site Mult	1.25	<input checked="" type="checkbox"/>	1	
		Section	Multiplier	Test Section Multiplier	2.50	<input checked="" type="checkbox"/>	2	description test text

The table of cost modifiers has following columns:

- **Delete.** If the icon in this column is activated, it will delete the cost modifier (row).
- **Edit.** Activating the pencil icon allows users with sufficient permissions to edit the cost modifier.
- **Modifier Scope.** Shows the scope (BUILDER hierarchy level) where the cost modifier applies.
- **Modifier Type.** Multiplier vs. adder.
- **Modifier Name.** Identifying name assigned to the modifier.
- **Modifier Value.** For an adder, the value represents a dollar amount. For a multiplier, it is what the cost should be multiplied by.
- **Is Active.** Boolean (true/false) value indicating whether the modifier is "turned on." If a modifier is changed to inactive (unchecked), any existing cost modifier assignments of this type will remain in place but will not be displayed in the New Modifier Assignment window and *will not be used in calculations*. Also, the modifier will no longer be available for selection in the New Modifier Assignment window. You can use active/inactive to test how different modifiers affect replacement costs without having to unassign and reassign the modifiers each time.

- **Times Assigned.**
- **Modifier Description.** This field is provided for descriptive text.

Each of the columns except for the delete and edit columns allows you to apply a filter on any or all of the columns to potentially reduce the number of cost modifier records displayed on the screen.

Related Links

- [About Cost Modifiers](#)
- [Add a Cost Modifier Library](#)
- [Edit a Cost Modifier Library](#)
- [Delete a Cost Modifier Library](#)
- [Add, Edit, or Delete a Cost Modifier](#)

Add a Cost Modifier Library

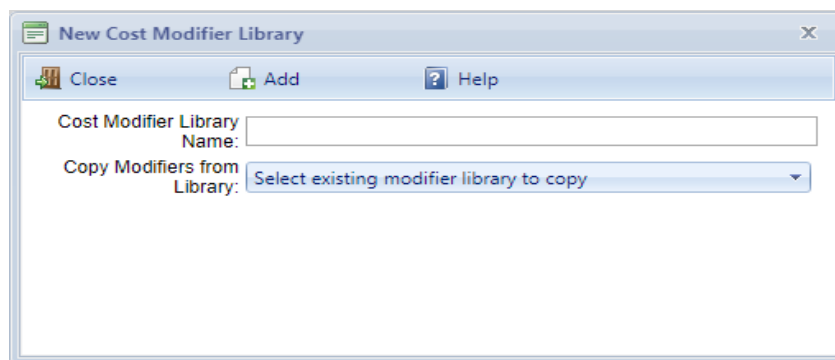
A cost modifier library can be created for any Organization or Site in the BUILDER hierarchy.

To add a cost modifier library,

1. Select **Tools > Library > Cost Modifiers** from the main menu.
2. Expand the navigation tree and select the Organization or Site where the library is to apply.

Note: the library will only be available at the at the BUILDER hierarchy level at which it is created, as well as at any child Organizations or Sites.

3. Activate **Add** in the toolbar. *The "New Cost Modifier Library" popup will display.*



4. Enter the name of the new library in the first field.

5. If you want to copy modifiers from an existing library, select that library from the dropdown list in the second field. If instead you want to start with an empty library and not copy modifiers from another library, leave the default option selected ("Select existing modifier library to copy") in the second field.
6. Activate **Add** on the popup toolbar.

The Cost Modifiers window will display, with the name of the library at the top. You can now edit the library name, create new cost modifiers to include in the library, or edit existing modifiers.

The columns of the cost modifier library are described in ["View a Cost Modifier Library" on page 26](#).

To add, edit, or delete a cost modifier record, see ["Add, Edit, or Delete a Cost Modifier" on page 31](#).

Related Links

[About Cost Modifiers](#)

[View a Cost Modifier Library](#)

[Edit a Cost Modifier Library](#)

[Delete a Cost Modifier Library](#)

[Add, Edit, or Delete a Cost Modifier](#)

Edit a Cost Modifier Library

To edit a cost modifier library,

























1. Select **Tools > Library > Cost Modifiers** from the main menu.
2. Expand the navigation tree at the left to show existing cost modifier libraries.
3. Select the library you wish to edit. *The **Cost Modifier Library** tab will be dis-*

played in the content area.

Cost Modifier Library

Library Name:

Define Cost Modifiers for the selected Organization or Site.

		Modifier Scope	Modifier Type	Modifier Name	Modifier Value	Is Active	Times Assigned	Modifier Description
		<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value=""/>
		Building	Multiplier	Test Bldg Mult	1.80	<input checked="" type="checkbox"/>	1	
		Site	Adder	Test Site Adder	2000.00	<input checked="" type="checkbox"/>	1	
		Building	Adder	Test Bldg Adder	4000.00	<input checked="" type="checkbox"/>	1	
		Complex	Multiplier	Test Complex Mult	1.75	<input checked="" type="checkbox"/>	1	
		System	Adder	Test System Adder	5000.00	<input checked="" type="checkbox"/>	1	
		System	Multiplier	Test System Mult	2.10	<input checked="" type="checkbox"/>	1	
		Component	Multiplier	Test Comp Mult	2.25	<input checked="" type="checkbox"/>	1	
		Complex	Adder	Test Complex Adder	3000.00	<input checked="" type="checkbox"/>	1	
		Section	Adder	Test Section Adder	1000.00	<input checked="" type="checkbox"/>	1	
		Component	Adder	Test Comp Adder	6000.00	<input checked="" type="checkbox"/>	1	
		Site	Multiplier	Test Site Mult	1.25	<input checked="" type="checkbox"/>	1	
		Section	Multiplier	Test Section Multiplier	2.50	<input checked="" type="checkbox"/>	2	description test text

The Cost Modifiers window will display, with the name of the library at the top. You can now edit the library name, create new cost modifiers to include in the library, or edit existing modifiers.

The columns of the cost modifier library are described in ["View a Cost Modifier Library" on page 26](#).

To add, edit, or delete a cost modifier record, see ["Add, Edit, or Delete a Cost Modifier" on the facing page](#).

Related Links

[About Cost Modifiers](#)

[View a Cost Modifier Library](#)


[Add a Cost Modifier Library](#)

[Delete a Cost Modifier Library](#)

[Add, Edit, or Delete a Cost Modifier](#)

Delete a Cost Modifier Library

To delete a cost modifier library,

1. Select **Tools > Library > Cost Modifiers** from the main menu.
2. Expand the navigation tree at the left to show existing cost modifier libraries.
3. Select the library you wish to delete. *The **Cost Modifier Library** tab will be displayed in the content area.*
4. Activate the  **Delete** button on the toolbar.
5. In the confirmation popup window, activate the **OK** button. (Alternatively, activate **Cancel** to abandon the deletion.)

Related Links

[About Cost Modifiers](#)

[View a Cost Modifier Library](#)

[Add a Cost Modifier Library](#)

[Edit a Cost Modifier Library](#)

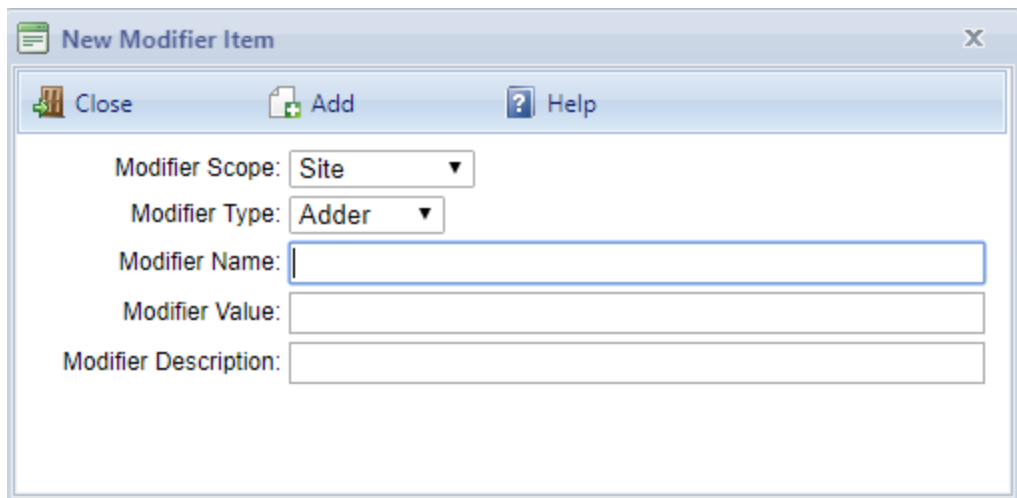
[Add, Edit, or Delete a Cost Modifier](#)

Add, Edit, or Delete a Cost Modifier

Add a Cost Modifier

To add a cost modifier,

1. In the Cost Modifier window, activate **Create New Cost Modifier**. *The "New Modifier Item" popup will appear.*



New Modifier Item

Close Add Help

Modifier Scope: Site ▼

Modifier Type: Adder ▼

Modifier Name:

Modifier Value:

Modifier Description:

2. Enter the following information:
 - **Modifier Scope.** The level in the BUILDER hierarchy at which the modifier can be assigned. For example, if you select **System**, the modifier can only be assigned to a System.
 - **Modifier Type.** The modifier can either be a multiplying factor (Multiplier) or a fixed cost (Adder) that will be applied to all child Sections below the parent level at which the modifier is assigned.
 - **Modifier Name.** Any alphanumeric value. For example, "Site Security Multiplier". Single quotes (') are not allowed.
 - **Modifier Value.** Must only be a numeric value; decimal values are allowed. Examples of valid Multiplier values: .5, 2, 3.25, 5.02. Examples of valid Adder values: 100, 198.88, 2500.00.
 - **Modifier Description.** Optional; any alphanumeric value.
 - **Optional Checkbox.** A customized checkbox may also appear, if enabled in BUILDER's Application Settings. More information about this checkbox is available in the Builder Administrator documentation in the description about Cost Modifier Configuration in the Advanced tab of Application Settings.
3. Activate **Add** on the popup toolbar. *The new modifier is added to the list of modifiers in the Cost Modifiers window, and two additional columns are displayed for the modifier:*
 - **Is Active.** Indicates whether a modifier is active; default is active (checked). If a modifier is changed to inactive (unchecked), any existing cost modifier assignments of this type will remain in place but will not be displayed in the New Modifier Assignment window and **will not be used in calculations**. Also, the modifier will no longer be available for selection in the "New Modifier Assignment" popup. You can use active/inactive to test how different modifiers affect replacement costs without having to unassign and reassign the modifiers each time. For example, if a modifier is assigned to a Building and you want to see what the costs would be without the modifier, you can uncheck "Is Active" in the Cost Modifiers Library window. The modifier will no longer appear in the list of modifiers assigned to the Building and will not be included in cost calculations. To once again display the modifier and include it in calculations, return to the Cost Modifier Library window and check "Is Active."
 - **Times Assigned.** The number of times the modifier has been assigned.

Edit a Cost Modifier

To edit a cost modifier,

1. In the Cost Modifier window, select the modifier you wish to edit.
2. Activate the pencil icon to the left of the row. *The appearance of the row will change.*
3. Edit **Modifier Name**, **Modifier Value**, **Is Active**, and/or **Modifier Description**.
4. Activate the blue checkmark icon to save your changes.

Delete a Cost Modifier

1. In the Cost Modifier window, select the modifier you wish to delete.
2. Activate the delete (X) icon to the left of the row. *The "Confirm Action" popup window will appear.*

Note: Deleting a modifier will also remove all assignments of that modifier in the BUILDER hierarchy.

3. Activate **OK** to confirm the deletion.

Related Links

[About Cost Modifiers](#)

[View a Cost Modifier Library](#)

[Add a Cost Modifier Library](#)

[Edit a Cost Modifier Library](#)

[Delete a Cost Modifier Library](#)

Inflation Rate Data

About Inflation Books

BUILDER has an embedded inflation module that is used in tandem with the cost module for work planning cost estimates and for inventory. The data used by the inflation module is contained in one or more *inflation books*.

A default inflation book is provided for the asset tree as a whole and is all that is required. Optionally, a customized inflation book can be used in place of the default, or multiple customized inflation books can be created in association with different Organizations or Sites in the tree. This topic explains how to do this.

Permissions Note: Depending on the operation (e.g., adding vs. deleting a book), configuring reference data requires either Work Planner or Master Planner permission for the Organization or Site that the reference book applies to. The ability to assign a custom reference book to an Organization or Site depends on your permissions for that Organization or Site.

Inflation Data

The inflation data used by the inflation module is contained in one or more *inflation books*. Multiple custom inflation books can be associated with different Organizations or Sites in the tree, as desired.

Default Inflation Book

The default inflation book provided with BUILDER is named "Reference." It cannot be edited, and it is associated with the top level of the asset tree. The scope of its data, therefore, is the entire asset tree.

You can choose to depend exclusively on the data in Reference, or you can create one or more custom inflation books.

Custom Inflation Book(s)

To create custom inflation data, you can either

- a. Edit an existing inflation book (except for Reference), or
- b. Create one or more new inflation books. You can use Reference, or another existing inflation book, as the starting point for the new inflation book.

By assigning a custom inflation book to an Organization or Site, you can control the scope of that inflation book, applying custom values to either all or part of the asset tree.

Note: The only data that you can change in the inflation book is the inflation rate for each year, from the present forward.

Inflation Factor Used in Cost Books

The inflation factor used in cost books is computed based on the base year of the cost data and the inflation rates given in the default Reference inflation book. If the cost data corresponds to the data in the Reference cost book, then the cost module uses a fixed year for the base year. If you add your own cost book and enter a unit cost different from the Reference set, then the cost module saves the year in which you input that data as the base year for inflation computations.

Assign an Inflation Book to an Organization or Site

You can create multiple inflation books, and assign a separate book to any Organization or Site within your permissions scope, as desired. This is done as follows:

1. In Inventory mode, navigate to and select the Organization or Site to assign the inflation book to.
2. At the **General Information** tab, select the inflation book from the dropdown menu in the **Reference Settings** section (requires elevated permissions).

Number: Name:

General Info. Contact Info. Assessment History

Calculated Data

PRV: \$230,453,281,506

Index Data

Metric	Value
CI	69
FI	99
PI	78
FCI	66

Reference Settings

Cost Book:

Inflation Book:

Service Life Book:

Policy Sequence:

Prioritization Scheme:

CII Set:

FCI Goal:

Cost Modifier Library:

3. Activate **Save** on the content area toolbar.

Inflation Book Tasks

Tasks you can perform are to

[Add an Inflation Book](#)

[Edit Inflation Data](#)

[Delete an Inflation Book](#)

[Assign an Inflation Book to an Organization or Site](#)

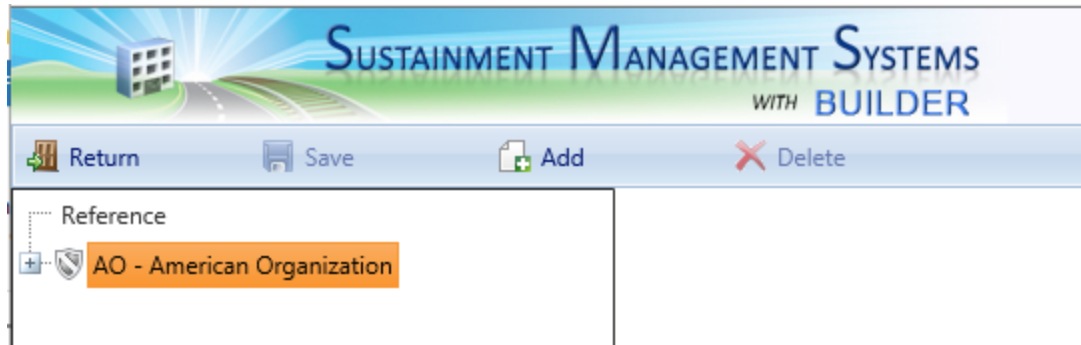
Add a Custom Inflation Book


A custom inflation book is relatively easy to create; it contains much less information than a cost book, for example. The default display shows the current year plus ten more, but you can project farther out if you wish by marking the **Show All** checkbox. This topic explains how to create a custom inflation book and change inflation rate data.

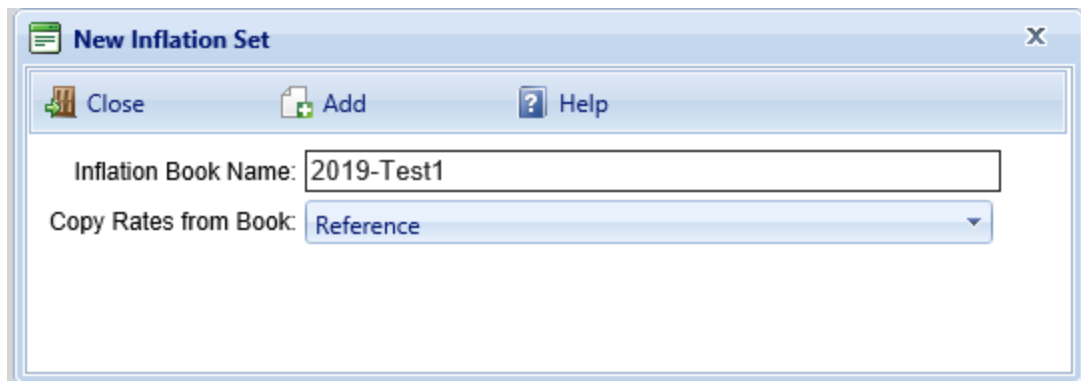
Permissions Note: Adding a custom inflation book requires Work Planner permission level or above at the target Organization or Site.


To add a custom inflation book,

1. At the main menu, select **Tools > Library > Inflation Books**. The display will change to the inflation book page:



2. Expand the navigation tree and navigate to the Organization or Site you wish to attach the custom inflation book to.
3. Activate  **Add** on the main toolbar. *The "New Inflation Set" popup will appear.*
4. In the **Inflation Book Name** field, enter a name for the new book.





5. At the **Copy Rates from Book** field, select from the dropdown list another inflation book to copy from.
6. Activate  **Add** on the popup toolbar. *A table of inflation rates for the current year forward will appear in the content pane.*

 Delete

Inflation Book:

☐ Show All

Year	Rate	
2019	<input type="text" value="0.02"/>	
2020	<input type="text" value="0.02"/>	
2021	<input type="text" value="0.02"/>	
2022	<input type="text" value="0.02"/>	
2023	<input type="text" value="0.02"/>	
2024	<input type="text" value="0.02"/>	
2025	<input type="text" value="0.02"/>	
2026	<input type="text" value="0.02"/>	
2027	<input type="text" value="0.02"/>	
2028	<input type="text" value="0.02"/>	
2029	<input type="text" value="0.02"/>	

7. Edit fields in the **Rate** column as desired.
8. When finished, activate  **Save** on the main toolbar.
9. Activate  **Return** on the main toolbar. *You should be returned to the location in the inventory, condition, or functionality ribbon you came from.*

To assign the new custom inflation book to an Organization or Site, see ["Assign an Inflation Book to an Organization or Site" below](#).

Assign an Inflation Book to an Organization or Site

You can create multiple inflation books, and assign a separate book to any Organization or Site within your permissions scope, as desired. This is done as follows:

1. In Inventory mode, navigate to and select the Organization or Site to assign the inflation book to.

2. At the **General Information** tab, select the inflation book from the dropdown menu in the **Reference Settings** section (requires elevated permissions).

Number: Name:

General Info. Contact Info. Assessment History

Calculated Data

PRV: \$230,453,281,506

Index Data

Metric	Value
CI	69
FI	99
PI	78
FCI	66

Reference Settings

Cost Book:

Inflation Book:

Service Life Book:

Policy Sequence:

Prioritization Scheme:

CII Set:

FCI Goal:

Cost Modifier Library:

3. Activate **Save** on the content area toolbar.

Related Links

[About Inflation Books](#)

[Edit Inflation Data](#)

[Delete an Inflation Book](#)

[Assign an Inflation Book to an Organization or Site](#)

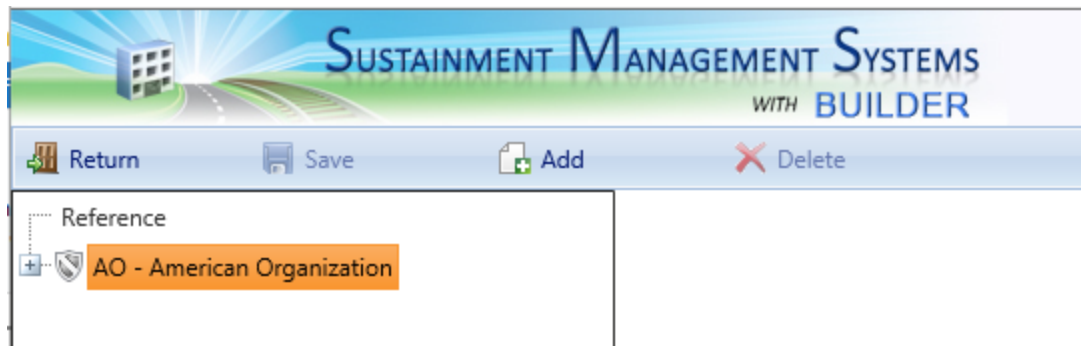
Edit Inflation Data

This topic explains how to edit a custom inflation book. The original Reference book cannot be edited.

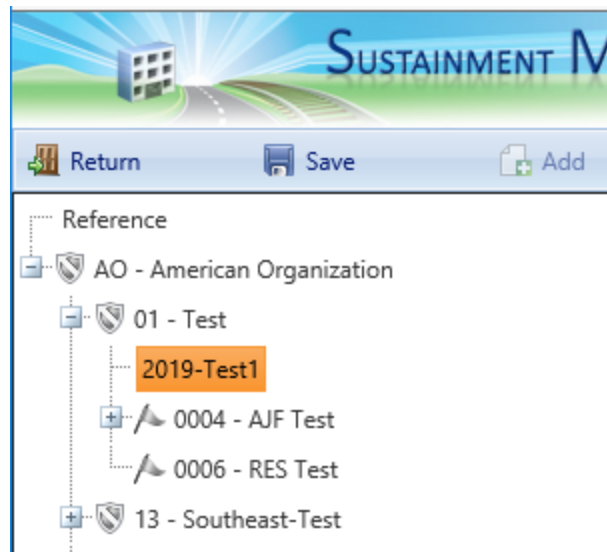
Permissions Note: Editing a custom inflation book requires Master Planner permission level or above at the target Organization or Site.

To edit a custom inflation book,

1. At the main menu, select **Tools > Library > Inflation Books**. *The display will change to the inflation books page:*



2. Expand the navigation tree, then navigate to and select the inflation book you wish to edit, as shown directly below. *A table of inflation rates for the current year forward will appear in the content pane.*




3. To see additional years of data, mark the **Show All** checkbox above the table.

4. To change inflation rates: Edit fields in the **Rate** column as desired.

MANAGEMENT SYSTEMS
WITH BUILDER



This information system is approved for UNCLASSIFIED

 Delete

Inflation Book:

☐ Show All

Year	Rate	
2019	<input type="text" value="0.02"/>	
2020	<input type="text" value="0.02"/>	
2021	<input type="text" value="0.02"/>	
2022	<input type="text" value="0.02"/>	
2023	<input type="text" value="0.02"/>	
2024	<input type="text" value="0.02"/>	
2025	<input type="text" value="0.02"/>	
2026	<input type="text" value="0.02"/>	
2027	<input type="text" value="0.02"/>	
2028	<input type="text" value="0.02"/>	
2029	<input type="text" value="0.02"/>	

5. To change the name of the inflation book: Edit the name in the **Inflation Book** field above the inflation data table (just below the main toolbar).
6. When finished, activate  **Save** on the main toolbar.
7. Activate  **Return** on the main toolbar. *You should be returned to the location in the inventory, condition, or functionality ribbon you came from.*

Related Links

[About Inflation Books](#)

[Add an Inflation Book](#)

[Delete an Inflation Book](#)

[Assign an Inflation Book to an Organization or Site](#)

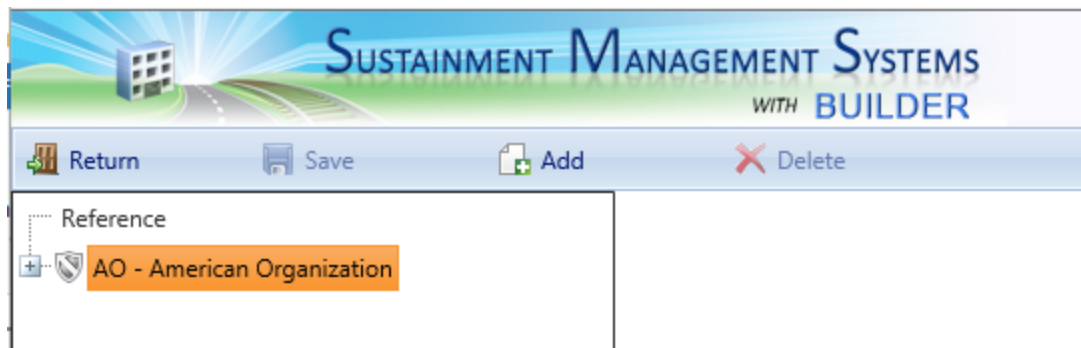
Delete an Inflation Book

This topic explains how to delete a custom inflation book. The original Reference inflation book cannot be deleted.

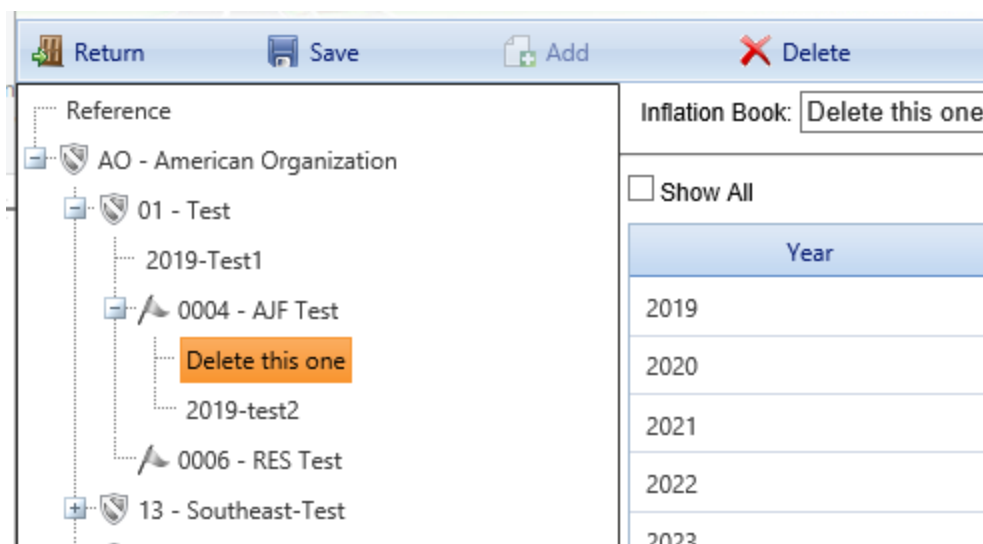
Permissions Note: Deleting an inflation book requires Master Planner permission level or above at the target Organization or Site.

To delete an inflation book,


1. At the main menu, select **Tools > Library > Inflation Books**. *The display will change to the inflation books page:*



2. Expand the navigation tree, then navigate to and select the inflation book you wish to delete, as shown directly below.



3. Activate **Delete** on the main toolbar.

4. In the confirmation popup, activate the **OK** button. (Alternatively, activate the **Cancel** button to cancel the operation.)
5. Activate  **Return** on the main toolbar. *You should be returned to the location in the inventory, condition, or functionality ribbon you came from.*

Related Links

[About Inflation Books](#)

[Add an Inflation Book](#)

[Edit Inflation Data](#)

[Assign an Inflation Book to an Organization or Site](#)

Service Life Data

About Service Life Books

Data regarding the service life expectancy, in years, of all types of Building Component-Sections is built into BUILDER. The data BUILDER uses is contained in one or more *service life books*.

A default service life book is provided for the asset tree as a whole and is all that is required. Optionally, a customized service life book can be used in place of the default, or multiple customized service life books can be created in association with different Organizations or Sites in the tree. This topic explains how to do this.

Permissions Note: Depending on the operation (e.g., adding vs. deleting a book), configuring reference data requires either Work Planner or Master Planner permission for the Organization or Site that the reference book applies to. The ability to assign a custom reference book to an Organization or Site depends on your permissions for that Organization or Site.

BUILDER comes with its own data regarding the service life expectancy, in years, of all types of Building Component-Sections. It uses the expected service life data to

- estimate the remaining service life of a Component-Section on the basis of its life expectancy and condition
- estimate the rate of deterioration in the condition index of a Component-Section when no more than one inspection has been recorded

With respect to the latter point, the service life expectancy data is useful in calculating a current CI when only one inspection is available. Where multiple inspections have been recorded, BUILDER can compute a CI trajectory based on the past inspections.

Service Life Data

The service life data used by BUILDER is contained in one or more *service life books*. Multiple service life books can be associated with different Organizations or Sites in the tree, as desired.

Default Service Life Book

The default service life book provided with BUILDER is named "Reference." It cannot be edited, and it is associated with the top level of the asset tree. The scope of its data, therefore, is the entire asset tree.

You can choose to depend exclusively on the data in Reference, or you can create one or more custom service life books.

Custom Service Life Book(s)

To create custom service life data, you can either

- a. Edit an existing service life book (except for Reference), or
- b. Create one or more new service life books. You can use Reference, or another existing service life book, as the starting point for the new service life book.

By assigning a custom service life book to an Organization or Site, you can control the scope of that service life book, applying custom values to either all or part of the asset tree.

Note: The only data that you can change in the service life book is the service life and paint life for each Component-Section desired.

Assign a Service Life Book to an Organization or Site

You can create multiple service life books, and assign a separate book to any Organization or Site within your permissions scope, as desired. This is done as follows:

1. In Inventory mode, navigate to and select the Organization or Site to assign the service life book to.
2. At the **General Information** tab, select the service life book from the drop-down menu in the **Reference Settings** section (requires elevated permissions).

Number:
Name:

General Info.
Contact Info.
Assessment History

Index Data

Metric	Value
CI	69
FI	99
PI	78
FCI	66

Calculated Data

PRV: \$230,453,281,506

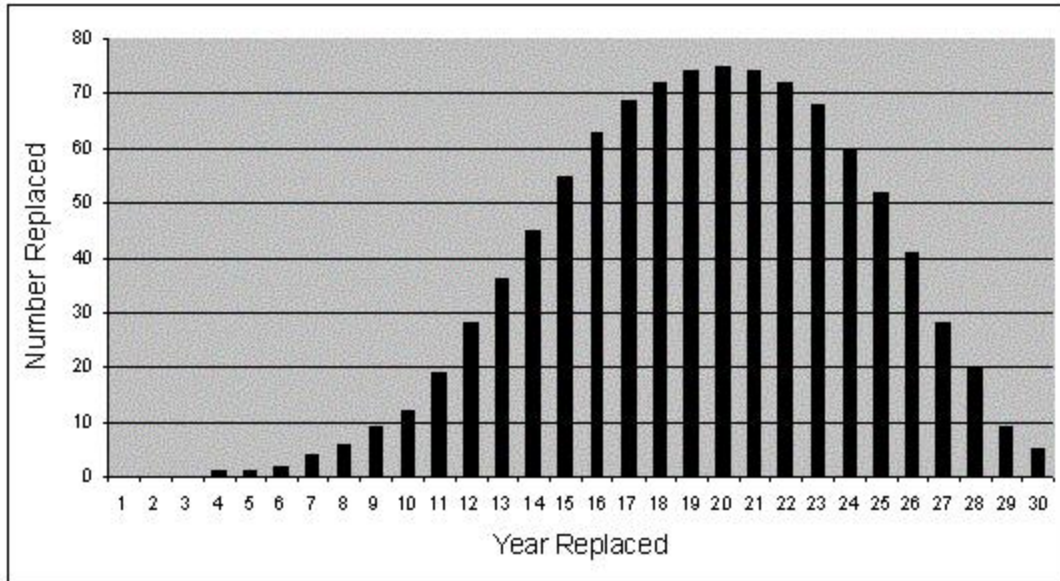
Reference Settings

Cost Book:
Inflation Book:
Service Life Book:
Policy Sequence:
Prioritization Scheme:
CII Set:
FCI Goal:
Cost Modifier Library:

3. Activate **Save** on the content area toolbar.

Example

An example of how service life data is gathered and used may be helpful. Suppose the BUILDER service life data indicates that a heavy grade carpet under moderate traffic levels has a life expectancy of 20 years. The 20 years is obviously an average of some sort, and you should know that the average is determined more by the experiences and judgment of multiple facility managers than by statistically accurate field data. Gathering statistically valid data is virtually impossible, even for the manufacturer of a specific carpet type, but especially for the BUILDER database which must match service life with a very generic Component-Section type. If you installed a heavy grade carpet into 1000 Buildings where the traffic level would be classified as moderate and you tracked how many years each carpet remained in the Building before it was replaced, the graph of your data might look something like shown below (keep in mind that this is simply a conceptual picture and does not represent actual data.).



You can see from this simple graph that by year 20, the majority of the carpet in the 1000 Buildings has been replaced. You can also see that all along the way, some of the carpet is being replaced sooner than 20 years and some later than 20 years. What makes the difference? Many factors may affect how long a particular carpet may be in use: level of daily and periodic cleaning, climate, actual quality of the carpet and of its installation, mission requirements of the tenant, etc. For those factors which affect the condition of the carpet, BUILDER attempts to relate an estimated remaining service life for a specific carpet Component-Section with the condition index of that Section. The CI of the carpet at any given age gives a good indication of whether the carpet will last less than or more than the average life span. When you perform the process of rolling up CIs for your inventory, one of the computations in the series is to recompute the remaining service life of the Component-Section based on its current CI, its rate of deterioration during the time between its last two condition assessments, and the expected service life of the item.

As you can see, the expected service life is a key component in determining two important measures of how well a particular Component-Section is doing. The two are its current condition index and its remaining service life. Service life is used to determine an expected deterioration rate in estimating current condition in the absence of sequential condition assessment data. It is also used in the models that compute remaining service life on the basis of current CI and rate of deterioration.

Source of Service Life Data

The service life data in BUILDER's Reference set was derived from data collected during many years of research at ERDC-CERL, both during the BUILDER project and by an earlier study that resulted in the Maintenance Resource Prediction Model (MRPM), which has served as the foundation for a number of facility maintenance models. Your experience, however, may be different in terms of how long items last in your Buildings. For example, your Buildings may be in a very wet, windy climate and the roof surfaces may need to be replaced more often, paint may need to be applied more often, wood windows may need to be replaced sooner than the data indicates. BUILDER allows you to edit the service life data to reflect your knowledge and experience with the various Building Components you manage.

Service Life Book Tasks

Tasks you can perform are to

[Add a Service Life Book](#)

[Edit Service Life Data](#)

[Delete a Service Life Book](#)

[Assign a Service Life Book to an Organization or Site](#)

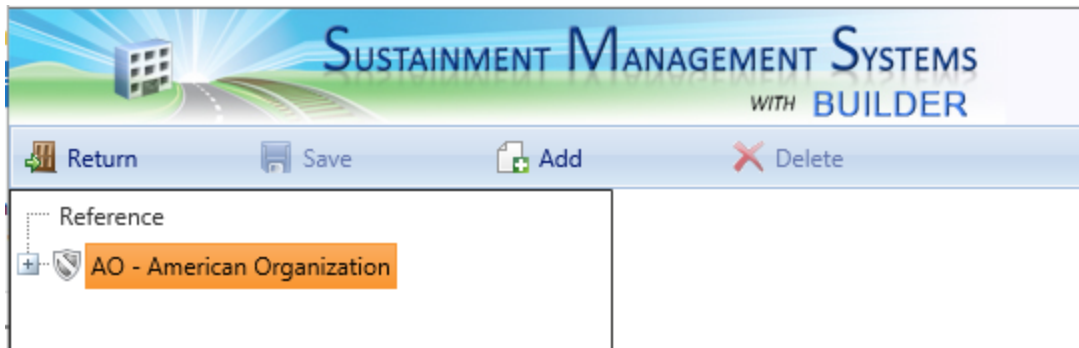
Add a Service Life Book


This topic explains how to create a custom service life book. The topic [Edit Service Life Data](#) explains how to add or edit data in a custom service life book.

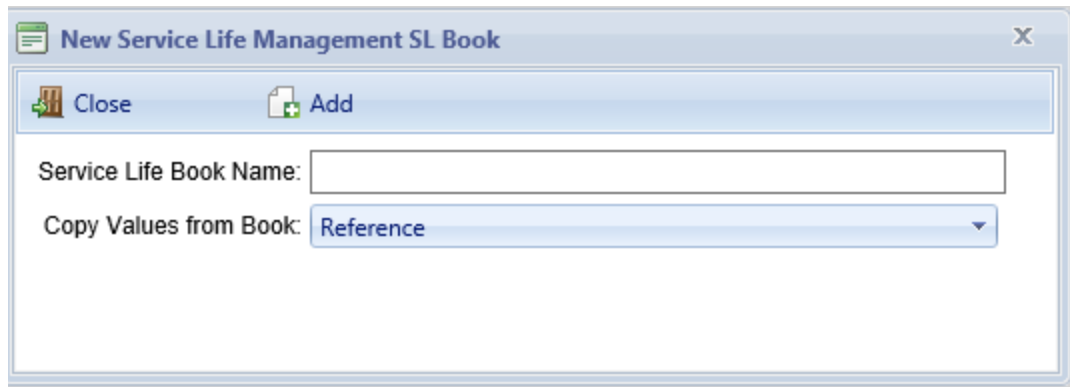
Permissions Note: Adding a custom service life book requires Work Planner permission level or above at the target Organization or Site.


To add a custom service life book,

1. At the main menu, select **Library > Service Life Books**. The display will change to the service life book page:



2. Expand the navigation tree and navigate to the Organization or Site you wish to attach the custom service life book to.
3. Activate  **Add** on the main toolbar. *The "New Service Life Management SL Book" popup will appear.*
4. In the **Service Life Book Name** field, enter a name for the new book.



5. At the **Copy Values from Book** field, select from the dropdown list another service life book to copy from.
6. Activate  **Add** on the popup toolbar. *A table of service life data will appear in the content pane.*

 Delete



Service Life Book: 2019-Test1

Level: Component Section

System: A10 FOUNDATIONS

Years of Service Life (SL), Paint Life (PL) for System's Components

Component	Material / Equipment	Component Type	SL	PL
A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Foundation Wall	100	8
A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	General	100	8
A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Grade Beams	100	8
A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Other	100	8
A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Strip Footing	150	8

7. To change service life: Edit fields in the **SL** column as desired. For more detail about bringing desired fields into view, see the "Navigate Data Fields" section in [Edit Service Life Data](#).
8. To change paint life: Edit fields in the **PL** column as desired.
9. When finished, activate  **Save** on the main toolbar.
10. Activate  **Return** on the main toolbar. *You should be returned to the location in the inventory, condition, or functionality ribbon you came from.*

To assign the new custom service life book to an Organization or Site, see ["Assign a Service Life Book to an Organization or Site" below](#).

Assign a Service Life Book to an Organization or Site

You can create multiple service life books, and assign a separate book to any Organization or Site within your permissions scope, as desired. This is done as follows:

1. In Inventory mode, navigate to and select the Organization or Site to assign the service life book to.
2. At the **General Information** tab, select the service life book from the drop-down menu in the **Reference Settings** section (requires elevated permissions).

Number: Name:

General Info. Contact Info. Assessment History

Calculated Data

PRV: \$230,453,281,506

Index Data

Metric	Value
CI	69
FI	99
PI	78
FCI	66

Reference Settings

Cost Book:

Inflation Book:

Service Life Book:

Policy Sequence:

Prioritization Scheme:

CII Set:

FCI Goal:

Cost Modifier Library:

3. Activate **Save** on the content area toolbar.

Related Links

[About Service Life Books](#)

[Edit Service Life Data](#)

[Delete a Service Life Book](#)

[Assign a Service Life Book to an Organization or Site](#)

Edit Service Life Data

This topic covers how to add or edit data in a custom service life book. If the custom book still needs to be created, the topic ["Add a Service Life Book" on page 48](#) explains how.

Permissions Note: Editing a custom service life book requires Master Planner permission level or above at the target Organization or Site.

Objective: Edit service life data

Tasks:

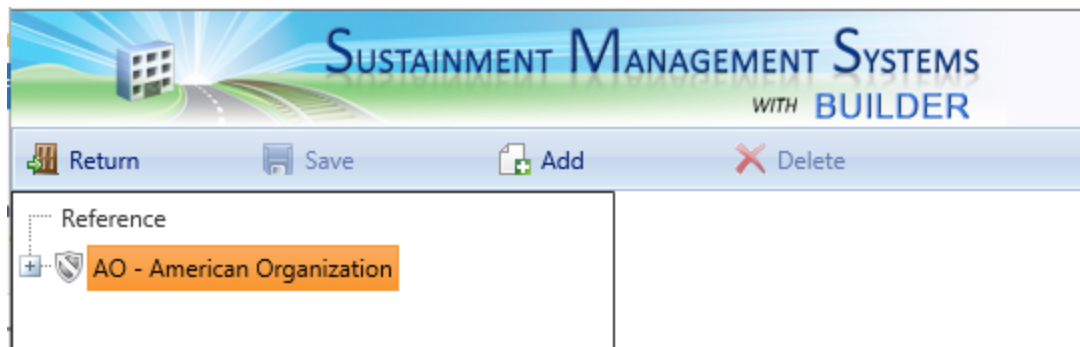
- A. [Open custom service life book](#)
- B. [Navigate data fields](#)
- C. [Edit data](#)
- D. [Save changes](#)

Steps for each of the tasks are listed below.

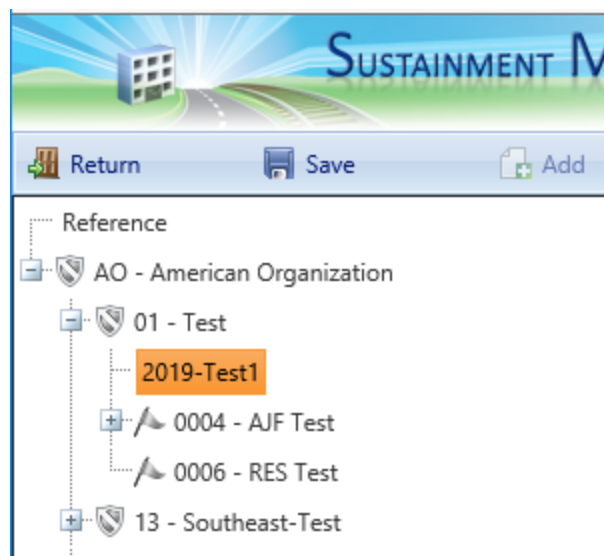
Task: Open a Custom Service Life Book

To open a custom service life book,

1. At the main menu, select **Tools > Library > Service Life Books**. *The display will change to the service life books page:*



2. Expand the navigation tree, then navigate to and select the service life book you wish to edit, as shown directly below. *A table of service life and paint life will appear in the content pane.*



 Delete

Service Life Book:

Level:

System:

Years of Service Life (SL), Paint Life (PL) for System's Components

Component	Material / Equipment	Component Type	SL	PL
A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Foundation Wall	<input type="text" value="100"/>	<input type="text" value="8"/>
A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	General	<input type="text" value="100"/>	<input type="text" value="8"/>
A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Grade Beams	<input type="text" value="100"/>	<input type="text" value="8"/>
A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Other	<input type="text" value="100"/>	<input type="text" value="8"/>
A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Strip Footing	<input type="text" value="150"/>	<input type="text" value="8"/>

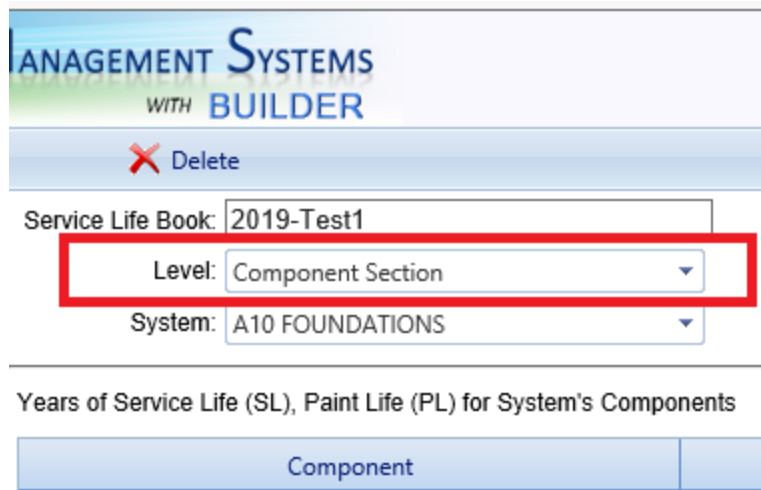
Task: Navigate Data Fields

You can use one or a combination of the navigation options described below to bring desired service life records into view Level, System, and/or page navigation.


Level

Just below the name of the service life book is the **Level** field with a dropdown list select the inventory hierarchy level to be displayed in the table.

Note: Currently the only level available is Component-Section.



ANAGEMENT SYSTEMS
WITH BUILDER

 Delete

Service Life Book:

Level:

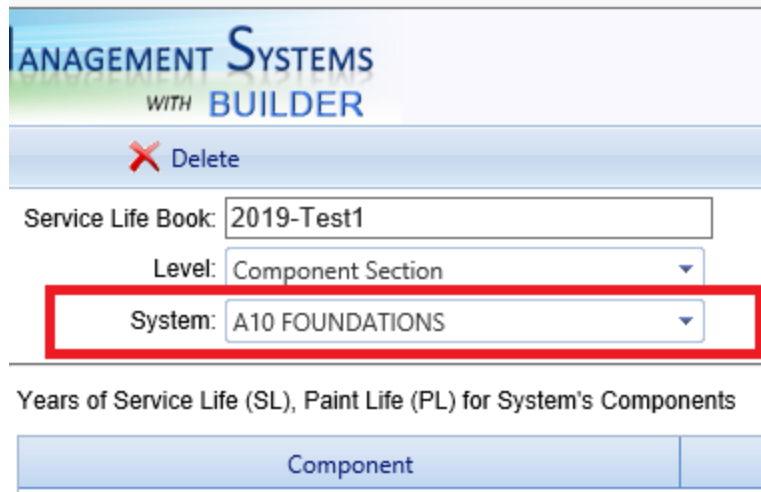
System:

Years of Service Life (SL), Paint Life (PL) for System's Components

Component

System

Below the **Level** field is **System**, with a dropdown list to select the system to be displayed.



The screenshot shows the 'Management Systems WITH BUILDER' interface. At the top, there is a 'Delete' button with a red 'X' icon. Below it, there are three fields: 'Service Life Book' with the value '2019-Test1', 'Level' with the value 'Component Section', and 'System' with the value 'A10 FOUNDATIONS'. The 'System' field is highlighted with a red rectangular box. Below these fields, there is a section titled 'Years of Service Life (SL), Paint Life (PL) for System's Components' which contains a table with a header 'Component'.

Page Navigation


At the bottom of the table, the **Page size** field allows you to select how many records to see on one page (from pre-set options). Page navigation allows you to select a page number, or to step forward or backwards through the pages of records.

Task: Edit Data



In the service life table, only the values in the **SL** and **PL** columns can be edited. The service life book name may also be edited.

1. To change service life: Edit fields in the **SL** column as desired.
2. To change paint life: Edit fields in the **PL** column as desired.
3. To change the name of the service life book: Edit the name in the **Service Life Book** field just below the main toolbar.

Task: Save Changes

Activate  **Save** on the main toolbar as desired to save as you go along.

When finished making changes,

1. Activate  **Save** on the main toolbar.
2. Activate  **Return** on the main toolbar. *You should be returned to the location in the inventory, condition, or functionality ribbon you came from.*

Related Links

[About Service Life Books](#)

[Add a Service Life Book](#)

[Delete a Service Life Book](#)

[Assign a Service Life Book to an Organization or Site](#)

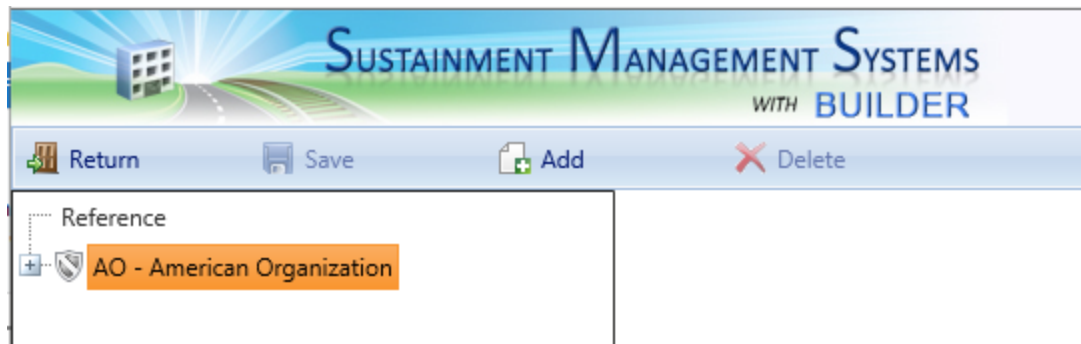
Delete a Service Life Book

This topic explains how to delete a custom service life book. The original Reference service life book cannot be deleted.

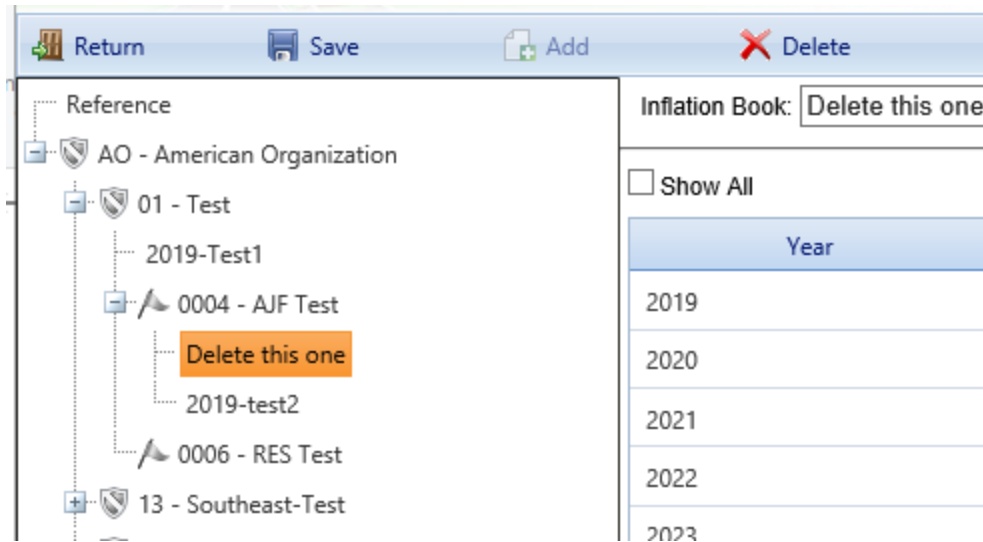
Permissions Note: Deleting a service life book requires Master Planner permission level or above at the target Organization or Site.

To delete a service life book,

1. At the main menu, select **Tools > Library > Service Life Books**. *The display will change to the service life books page:*



2. Expand the navigation tree, then navigate to and select the service life book you wish to delete, as shown directly below.



3. Activate **Delete** on the main toolbar.
4. In the confirmation popup, activate the **OK** button. (Alternatively, activate the **Cancel** button to cancel the operation.)
5. Activate **Return** on the main toolbar. *You should be returned to the location in the inventory, condition, or functionality ribbon you came from.*

Related Links

[About Service Life Books](#)

[Add a Service Life Book](#)

[Edit Service Life Data](#)

[Assign a Service Life Book to an Organization or Site](#)

Component Importance Index Data

About Component Importance Index (CII) Books

The component importance index can be used to rank the relative importance of components against one another. An example of its use is in Work Configuration to hold different Component-Sections to different thresholds, or to prioritize them differently based on relative importance.

Beginning in BUILDER Version 3.5, users with sufficient permission can use one or more custom CII books to set the component importance index for Component-Sections. This task is optional, because a default CII book is provided for the asset tree as a whole and is all that is required. This topic explains how to create one or more custom CII books and assign them to selected Organizations and/or Sites.

Permissions Note: Depending on the operation (e.g., adding vs. deleting a book), configuring reference data requires either Work Planner or Master Planner permission for the Organization or Site that the reference book applies to. The ability to assign a custom reference book to an Organization or Site depends on your permissions for that Organization or Site.

CII Data

The component importance index data used by the CII module is contained in one or more *CII books*. Multiple custom CII books can be associated with different Organizations or Sites in the tree, as desired.

Default CII Book

The default CII book provided with BUILDER is named "Reference," and it sets all items to a CII of 0.50. Reference cannot be edited, and it is associated with the top level of the asset tree. The scope of its data, therefore, is the entire asset tree.

You can choose to depend exclusively on the data in Reference, or you can create one or more custom CII books.

Custom CII Book(s)

To create custom CII data, you can either

- a. Edit an existing CII book (except for Reference), or
- b. Create one or more new CII books. You can use Reference, or another existing CII book, as the starting point for the new CII book.

By assigning a custom CII book to an Organization or Site, you can control the scope of that CII book, applying custom values to either all or part of the asset tree.

Assign a CII Book to an Organization or Site

You can create multiple CII books, and assign a separate book to any Organization or Site within your permissions scope, as desired. This is done as follows:

1. In Inventory mode, navigate to and select the Organization or Site to assign the CII book to.
2. At the **General Information** tab, select the CII book from the dropdown menu in the **Reference Settings** section (requires elevated permissions).

Number: Name:

General Info. | Contact Info. | Assessment History

Calculated Data

PRV: \$230,453,281,506

Index Data

Metric	Value
CI	69
FI	99
PI	78
FCI	66

Reference Settings

Cost Book:

Inflation Book:

Service Life Book:

Policy Sequence:

Prioritization Scheme:

CII Set:

FCI Goal:

Cost Modifier Library:

3. Activate **Save** on the content area toolbar.

CII Book Tasks

Tasks you can perform are to

[Add a Custom CII Book](#)

[Edit CII Data](#)

[Delete a CII Book](#)

[Assign a CII Book to an Organization or Site](#)

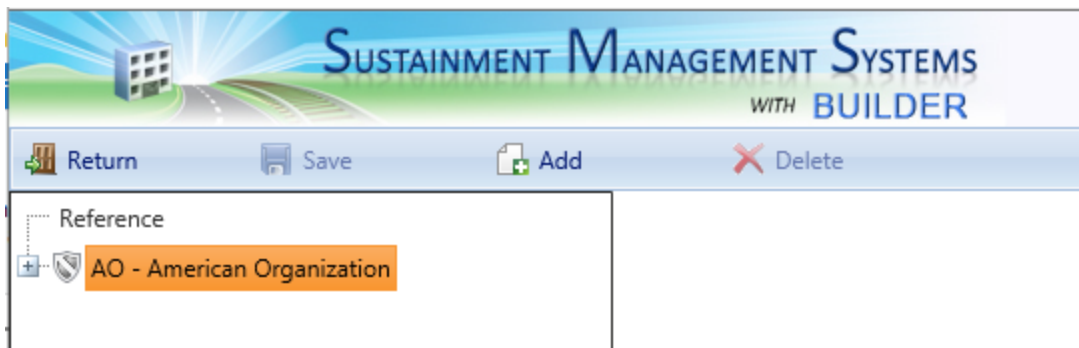
Add a Custom CII Book


This topic explains how to create a custom component importance index (CII) book.

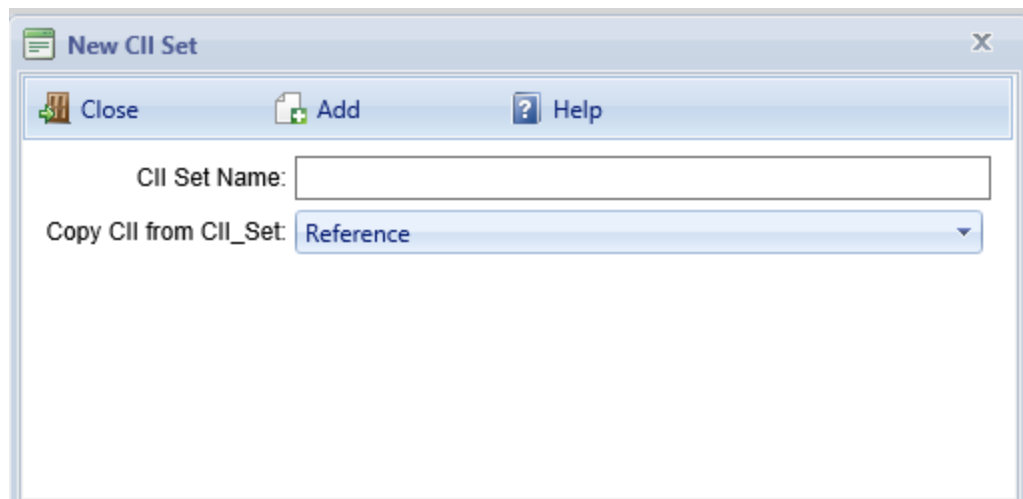
Permissions Note: Adding a custom CII book requires Work Planner permission level or above at the target Organization or Site.


To add a custom CII book,


1. At the main menu, select **Library > CII Books**. The display will change to the CII book page:



2. Expand the navigation tree and navigate to the Organization or Site you wish to attach the custom CII book to.
3. Activate  **Add** on the main toolbar. *The "New CII Set" popup will appear.*
4. In the **CII Set Name** field, enter a name for the new book.



- At the **Copy CII from CII_Set** field, select from the dropdown list the CII set (book) to copy from.
- Activate  **Add** on the popup toolbar. *A table of CII data will appear in the content pane.*
















 Delete



CII Set:



Level:

System:

CIIs



	Reset	Component	Material	C Type	CII
		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Reset	A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Foundation Wall	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	General	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Grade Beams	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Other	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Strip Footing	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101001 WALL FOUNDATIONS	Unknown	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101002 COLUMN FOUNDATIONS & PILE CAPS	Column Pier	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101002 COLUMN FOUNDATIONS & PILE CAPS	Column Pier - Concrete	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101002 COLUMN FOUNDATIONS & PILE CAPS	Column Pier - Steel	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101002 COLUMN FOUNDATIONS & PILE CAPS	Column Pier - Wood	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101002 COLUMN FOUNDATIONS & PILE CAPS	General	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101002 COLUMN FOUNDATIONS & PILE CAPS	Other	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101002 COLUMN FOUNDATIONS & PILE CAPS	Pile Cap	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101002 COLUMN FOUNDATIONS & PILE CAPS	Spread Footing	0.50
	Reset	A1010 STANDARD FOUNDATIONS	A101002 COLUMN FOUNDATIONS & PILE CAPS	Unknown	0.50

Page size:

65 items in 2 pages

- Change data in the CII column as desired. For how to narrow the selection of data fields and how to edit the CII column, see ["Edit CII Data" on page 62](#).
- When finished, activate  **Save** on the main toolbar.
- Activate  **Return** on the main toolbar. *You should be returned to the location in the inventory, condition, or functionality ribbon you came from.*

Assign a CII Book to an Organization or Site

You can create multiple CII books, and assign a separate book to any Organization or Site within your permissions scope, as desired. This is done as follows:

1. In Inventory mode, navigate to and select the Organization or Site to assign the CII book to.
2. At the **General Information** tab, select the CII book from the dropdown menu in the **Reference Settings** section (requires elevated permissions).

Number: Name:

General Info. Contact Info. Assessment History

Calculated Data

PRV: \$230,453,281,506

Index Data

Metric	Value
CI	69
FI	99
PI	78
FCI	66

Reference Settings

Cost Book:

Inflation Book:

Service Life Book:

Policy Sequence:

Prioritization Scheme:

CII Set:

FCI Goal:

Cost Modifier Library:

3. Activate **Save** on the content area toolbar.

Related Links

[About CII Books](#)

[Edit CII Data](#)

[Delete a CII Book](#)

[Assign a CII Book to an Organization or Site](#)

Edit CII Data

This topic covers how to add or edit information in a custom component importance index (CII) book. If the custom book has not been created yet, see the topic ["Add a Custom CII Book" on page 59](#).

Note: A CII book is also called a "CII set" (for example, at an Organization or Site's **Reference Settings**).

Permissions Note: Editing a custom CII book requires Master Planner permission level or above at the target Organization or Site.

Objective: Edit CII data

Tasks:

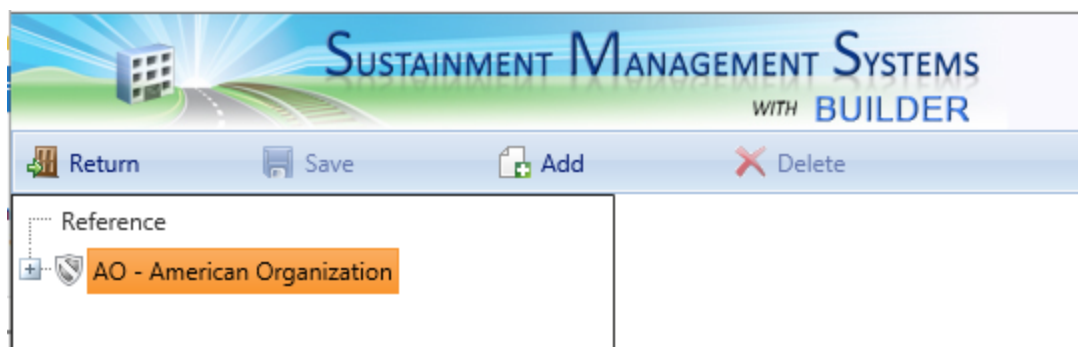
- A. [Open a custom CII book](#)
- B. [Navigate data fields](#)
- C. [Edit table data](#)
- D. [Save changes](#)

Steps for each of the tasks are listed below.

Task: Open a Custom CII Book

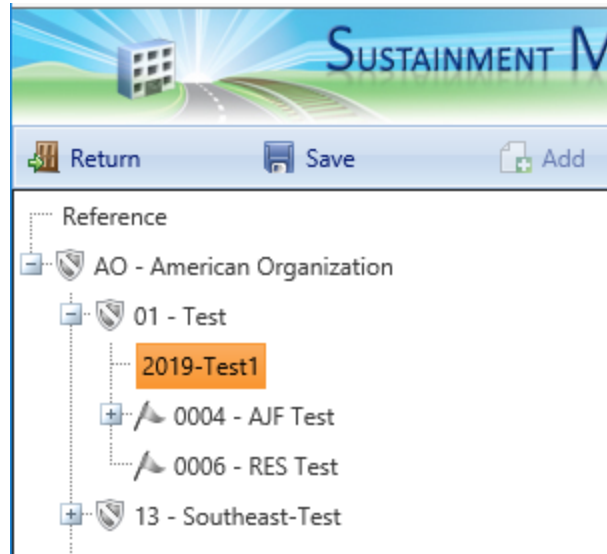
To open a custom CII book,

1. At the main menu, select **Tools > Library > CII Books**. *The display will change to the CII books page:*



2. Expand the navigation tree, then navigate to and select the CII set you wish

to edit, as shown below. *A table of CII data will appear in the content pane.*



Task: Navigate Data Fields

You can use one or a combination of the navigation options described below to bring desired CII records into view: Level, System, filters, and/or page navigation.

Level

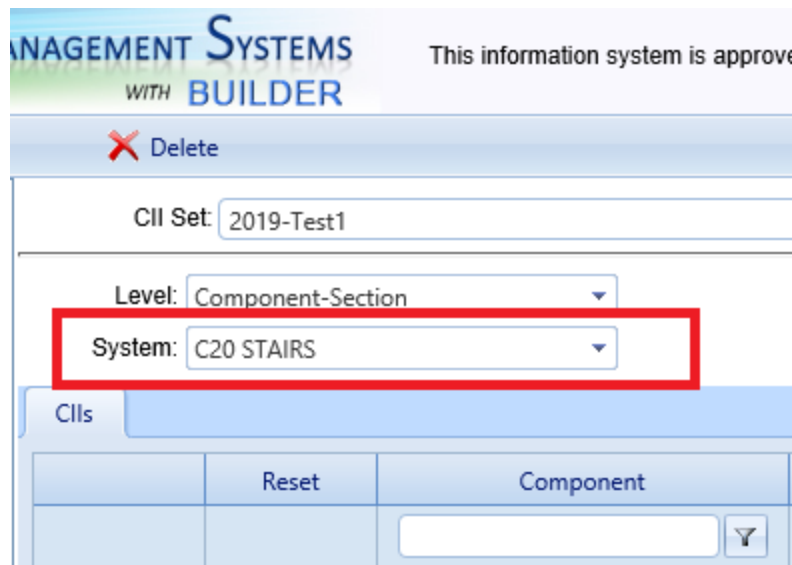
Just below the name of the CII book is the **Level** field with a dropdown list select the inventory hierarchy level to be displayed in the table.

Note: Currently the only level available is Component-Section.

CII	Reset	Component
		<input type="text"/>

System

Below the **Level** field is **System**, with a dropdown list to select the System to be displayed.

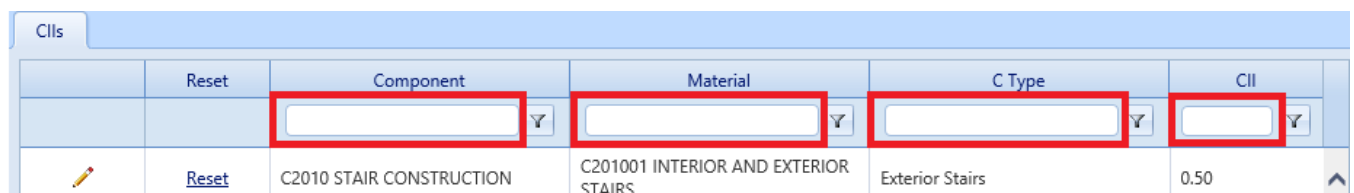


Filters


You can apply a filter in as many or as few of the filterable columns as you wish. A message at the lower right corner of the table will show how many records matching the selected filter(s) were found.

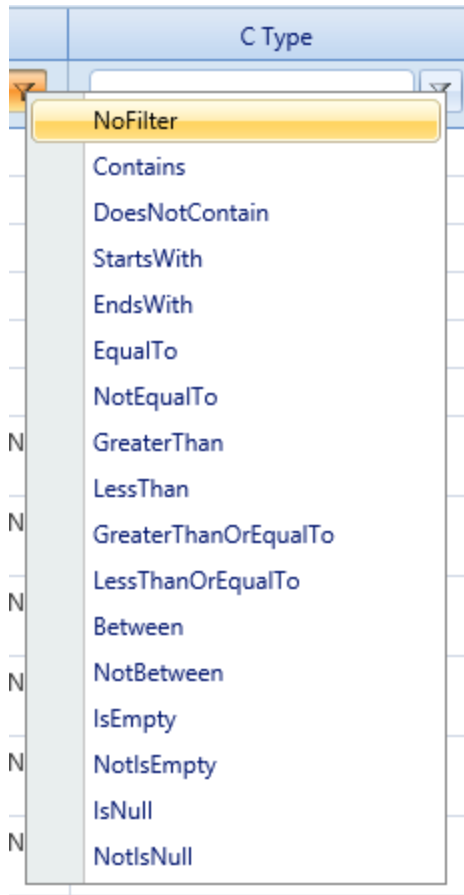
To use filters to reduce the view of the data,

1. Enter a search term or number in one of the fields at the top of the data table, under **Component**, **Material**, **CType**, or **CII**.



	Reset	Component	Material	C Type	CII
	Reset	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Reset	C2010 STAIR CONSTRUCTION	C201001 INTERIOR AND EXTERIOR STAIRS	Exterior Stairs	0.50

2. Activate the corresponding  filter button to the right of the field containing the search term / number.
3. Select an option from the dropdown list. As soon as you activate an option, that filter operation will be performed.



4. To further restrict the view using filters, you can type a search term or number into the filter field of any one of the remaining empty filterable columns, repeating this list of steps.

Page Navigation

At the bottom of the table, the **Page size** field allows you to select how many records to see on one page (from pre-set options). Page navigation allows you to select a page number, or to step forward or backwards through the pages of records.

Task: Edit Data

In the CII table, only the values in the **CII** column can be edited. The CII book name may also be edited.

To change the value of a Component of a given material and type,


1. Locate its record in the CII data table.
2. Activate the pencil icon in the first column.
3. Change the decimal value in the **CII** column.

4. Activate the blue checkmark icon in the first column. (Alternatively, activate the red Do Not Enter icon to cancel.)



Note: Activating Reset in the second column will reset the CII in that record to its Reference value.

To change the name of the CII book itself, edit the name in the **CII Set** field just below the main toolbar.

Task: Save Changes

Activate  **Save** on the main toolbar as desired to save as you go along.

When finished making changes,

1. Activate  **Save** on the main toolbar.
2. Activate  **Return** on the main toolbar. *You should be returned to the location in the inventory, condition, or functionality ribbon you came from.*

Related Links

[About CII Books](#)

[Add a Custom CII Book](#)

[Delete a CII Book](#)

[Assign a CII Book to an Organization or Site](#)

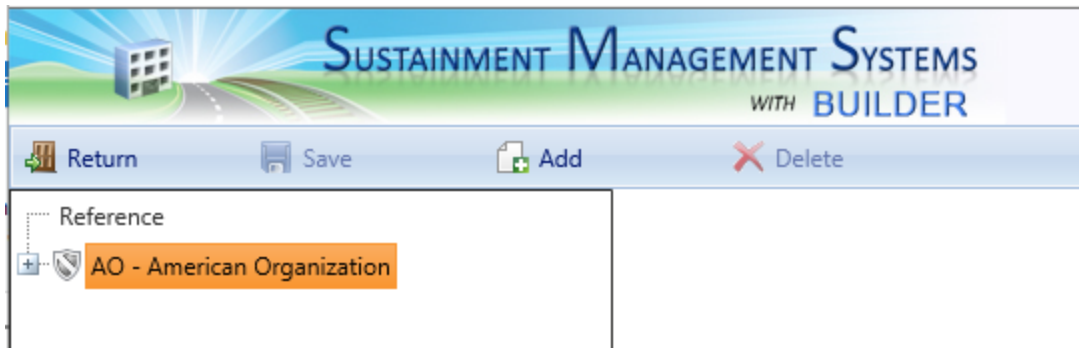
Delete a CII Book

This topic explains how to delete a custom component importance index (CII) book. The original Reference CII book cannot be deleted.

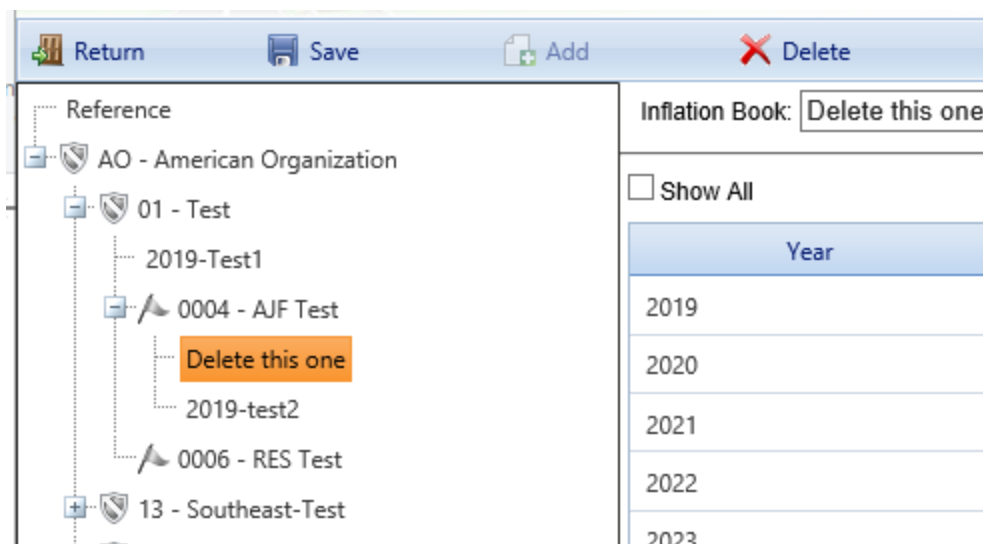
Permissions Note: Deleting a CII book requires Master Planner permission level or above at the target Organization or Site.

To delete a CII book,

1. At the main menu, select **Tools > Library > CII Books**. *The display will change to the CII books page:*



2. Expand the navigation tree, then navigate to and select the CII book you wish to delete, as shown directly below.



Activate **Delete** on the main toolbar.

1. In the confirmation popup, activate the **OK** button. (Alternatively, activate the **Cancel** button to cancel the operation.)
2. Activate **Return** on the main toolbar. *You should be returned to the location in the inventory, condition, or functionality ribbon you came from.*

Related Links

[About CII Books](#)

[Add a Custom CII Book](#)

[Edit CII Data](#)

[Assign a CII Book to an Organization or Site](#)

Glossary

Administrator

A user with BUILDER or ROOFER Administrator Role can administer users, assign users to Roles, and change software configuration settings.

Area Cost Factor

A multiplier that adjusts national average labor/material/equipment costs to better reflect local costs. For example, in a remote area with high shipping costs and a tight labor market, the Area Cost Factor might be 1.3. The Area Cost Factor is generally a number between 0.8 and 1.2 for continental U.S. locations, but it can be even greater than 2.0 in high-cost geographic locations.

ATFP

Antiterrorism Force Protection

BCCI

Building Component Condition Index - a condition rating for the target Building Component. For each Component, the BCCI is computed by taking the average of its Sections' CIs, weighted by replacement cost

BCI

Building Condition Index - a condition rating for the overall Building. For each Building, the BCI is computed by taking the average of its Systems' CIs (SCIs), weighted by replacement cost.

BFI

Building Functionality Index - computed from the results of a functionality assessment.

BPI

Building Performance Index - a measure of a Building's overall performance, derived from a weighted combination of the BCI and BFI, where the lower of the two values is given two-thirds of the weight and the higher of the two values is given one-third of the weight. If no functional assessment has been performed, the BFI is assigned a value of 100.

BRED

BUILDER Remote Entry Database (BuilderRED)

BUR

Built-up Roofing

CCI

Coating Condition Index

CI

Condition Index

CII

Component Importance Index. This index may be used to rank the relative importance of components against one another. An example of its use is in Work Configuration to hold different Component-Sections to different thresholds, or to prioritize them differently based on relative importance.

CM

Corrective Maintenance

CMC

Component material category

Complex CI

Complex Condition Index - a condition rating for the target Complex. The Complex CI is computed by taking the average of the BCIs of each Building in the Complex, weighted by replacement cost.

CSCCI

Component Section Coating Condition Index

CSCI

Component-Section Condition Index - a condition rating for the target Component-Section. The CSCI is computed by using the assessment data to calculate a deduct value, then subtracting that deduct value from the maximum possible rating of 100. The deduct value computation differs for each condition assessment method.

Equipment Make

The series, collection or line that the equipment is included in, if applicable. For example, a Trane® gas furnace might be designated as S9V2, XC95, or XV95.

ERDC-CERL

U.S. Army Engineer Research and Development Center, Construction Engineering Research Laboratory

ESC

Emergency Service Call

FAFI

Functional Area Functionality Index

FCA

Facility Condition Assessment

FCI (ROOFER)

Flashing Condition Index. In ROOFER the FCI, as determined by inspection and/or algorithm, is used in the calculation of the Roof Condition Index (RCI).

FEMA

Federal Emergency Management Agency

FI

Functionality Index

HABS

Historic American Buildings Survey

HAER

Historic American Engineering Record

HPSB

High Performance and Sustainable Building

IAQ

Indoor air quality

ICI (ROOFER)

Insulation Condition Index

Icon Color

Icon color designates the condition of an SMS element, or whether it has yet been inspected at all. If the icon is gray, no inspection has been performed. Red, amber, and green icons indicate a red-, amber-, or green-level average condition of all sublevels below the designated icon, assuming that a rollup has been performed.

Inspection Supervisor

A user with Inspection Supervisor Role has all the rights of an Inspector, and can also create inspection schedules

Inspector

Person who performs inspections to be input into BUILDER or ROOFER. As a permissions Role, Inspectors can input and edit inventory information in Inventory mode, and can input and edit inspection information from the Condition Assessment screen.

Inventorior

A user with Inventorior Role can add and edit records below the Building level.

KBI

Knowledge-Based Inspection

M&R

Maintenance and Rehabilitation

Master Planner

A user with Master Planner Role has all the rights of a Work Planners, and can also generate multi-year work plan scenarios, and edit any and all data saved by other users of the program. Master Planner is the highest level of user privileges.

MBH

1,000 BTU/hour

MCI (ROOFER)

Membrane Condition Index

MDI

Mission Dependency Index - measures the relative importance of a Building

MOA

Memorandum of Agreement

MOU

Memorandum of Understanding

NAGPRA

Native American Graves Protection and Repatriation Act

PCBs

Polychlorinated biphenyls

PCI (ROOFER)

Panel Condition Index. The PCI is one component making up the Roof Condition Index (RCI) for a metal panel roof, along with the Insulation Condition index (ICI) if applicable, and the Flashing Condition Index (FCI).

PI

Performance Index. See also: BPI. The Performance Index is a weighted combination of the CI value and the FI value, with the lower of the two values being given two-thirds of the weight and the higher of the two values being given one-third of the weight.

PM

Preventative Maintenance

PM inspection

Preventative maintenance inspection

POM

Program Objectives Memorandum

PRV

Plant Replacement Value. For an inventory item above the Building level, this number will be the aggregate of the PRV of all Buildings included in that item.

RCI (ROOFER)

Roof Condition Index

RML

Remaining Maintenance Life

RPIE

Real property installed equipment

RSL

Remaining Service Life

SCCI

Subcomponent condition index, produced when using direct rating in a preventative maintenance (PM) inspection

SCI

System Condition Index - a condition rating for a Building System. For each System, the SCI is computed by taking the average of its

Components' CIs, weighted by replacement cost.

SCI (ROOFER)

Substrate Condition Index

Site CI

Site Condition Index - a condition rating for the target Site. The Site CI is computed by taking the average of the BCIs of each Building at the Site, weighted by replacement cost.

SMS

Sustainment Management System

SOW

Statement of Work

SP

Single Ply

SR

Shingle Roofing

SRM

Sustainment, Restoration, and Modernization

STIG

Security Technical Implementation Guide (DoD)

Stop gap repair

Repair that will keep the CI at its current level for one year, without further deterioration.

SUCI

Sample Unit Condition Index

UM

Unit of Measure. Examples: Each; LF (linear feet)

Work item

A discrete work activity applied to a single managed object such as a Component-Section, intended to improve its life cycle performance.

Work plan

A collection of work items and/or work projects planned for a Building, Site, Complex, or Organization.

Work planner

A user with Work Planner Role has all the rights of an Inspection Supervisors, and can also create and edit work plans, standards, policies, prioritization schemes, and RSL and cost books.

Work project

A grouping of work items to be managed, prioritized, funded, and executed as a single work effort. The work items selected for the work project need not be in the same System or even in the same Building. An example of a work project would be a renovation effort that affects multiple Systems in a Building.

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